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# SESSIONAL PAPERS

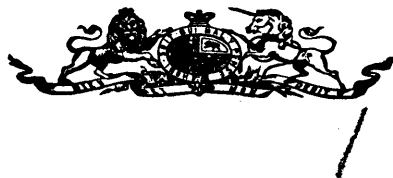
VOLUME 7

FOURTH SESSION OF THE EIGHTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1899



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VOLUME XXXIII

89.1032

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(This volume is bound in two parts.)

1. Report of the Auditor General, for the year ended 30th June, 1898. Presented (in part) 7th April, 1899, by Hon. W. S. Fielding. Presented, complete, 26th April, 1900.  
*Printed for both distribution and sessional papers.*

### CONTENTS OF VOLUME 2.

2. Public Accounts of Canada, for the fiscal year ended 30th June, 1898. Presented 23rd March, 1899, by Hon. W. S. Fielding. . . . .*Printed for both distribution and sessional papers.*
- 2a. Estimates of sums required for the service of Canada, for the year ending on the 30th June, 1900. Presented 24th April, 1899, by Hon. W. S. Fielding.  
*Printed for both distribution and sessional papers.*
- 2b. Supplementary Estimates for the year ending 30th June, 1899. Presented 12th June, 1899, by Hon. W. S. Fielding. . . . .*Printed for both distribution and sessional papers.*
- 2c. Supplementary Estimates for the year ending 30th June, 1900. Presented 18th July, 1899, by Hon. W. S. Fielding. . . . .*Printed for both distribution and sessional papers.*
- 2c. Further Supplementary Estimates for the year ending 30th June, 1900. Presented 7th August, 1899, by Hon. W. S. Fielding. . . . .*Printed for both distribution and sessional papers.*
3. List of Shareholders of the Chartered Banks of the Dominion of Canada, as on 31st December, 1898. Presented 30th March, 1899, by Hon. W. S. Fielding.  
*Printed for both distribution and sessional papers.*
- 3a. Report of dividends remaining unpaid, and unclaimed balances in the Chartered Banks of Canada, for five years and upwards, prior to 31st December, 1898. Presented 12th April, 1899, by Hon. W. S. Fielding. . . . .*Printed for both distribution and sessional papers.*

### CONTENTS OF VOLUME 3.

4. Report of the Superintendent of Insurance, for the year ended 31st December, 1898.  
*Printed for both distribution and sessional papers.*
- 4a. Preliminary Statements of the business of Life Insurance Companies in Canada, for the year ended 31st December, 1898. Presented 10th April, 1899, by Hon. W. S. Fielding.  
*Printed for both distribution and sessional papers.*
- 4b. Abstract of Statements of Insurance Companies in Canada, for the year ended 31st December, 1898. Presented 25th May, 1899, by Hon. W. S. Fielding.  
*Printed for both distribution and sessional papers.*



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5. Report of the Department of Trade and Commerce, for the fiscal year ended 30th June, 1898. Presented 19th April, 1899, by Sir Richard Cartwright.  
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- 5a. Special Report on Trade between Canada and the United States; for use of the International Commission, Quebec; August, 1898. . . . . *Printed for both distribution and sessional papers.*

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6. Tables of the Trade and Navigation of Canada, for the fiscal year ended 30th June, 1898. Presented 20th March, 1899, by Hon. W. Paterson. *Printed for both distribution and sessional papers.*

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7. Inland Revenues of Canada. Excise, etc., for the fiscal year ended 30th June, 1898. Presented 21st March, 1899, by Sir Henri Joly de Lotbinière.  
*Printed for both distribution and sessional papers.*
- 7a. Inspection of Weights, Measures, Gas and Electric Light, for the fiscal year ended 30th June, 1898. Presented 21st March, 1899, by Sir Henri Joly de Lotbinière.  
*Printed for both distribution and sessional papers.*
- 7b. Report on Adulteration of Food, for the fiscal year ended 30th June, 1898. Presented 21st March, 1899, by Sir Henri Joly de Lotbinière. . . . . *Printed for both distribution and sessional papers.*
8. Report of the Minister of Agriculture, for the year ended 31st October, 1898. Presented 11th April, 1899, by Hon. S. A. Fisher. . . . . *Printed for both distribution and sessional papers.*
- 8a. Report on Canadian Archives, 1898. Presented 1st June, 1899, by Hon. S. A. Fisher.  
*Printed for both distribution and sessional papers.*

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- 8b. Report of the Director and Officers of the Experimental Farms, for the year 1898. Presented 15th May, 1899, by Hon. S. A. Fisher . . . . . *Printed for both distribution and sessional papers.*
- 8c. Criminal Statistics for the year 1898. . . . . *Printed for both distribution and sessional papers.*

### CONTENTS OF VOLUME 8.

9. Annual Report of the Minister of Public Works, for the fiscal year ended 30th June, 1898. Presented 27th June, 1899, by Hon. W. S. Fielding. *Printed for both distribution and sessional papers.*
10. Annual Report of the Department of Railways and Canals, for the fiscal year ended 30th June, 1898. Presented 23rd March, 1899, by Hon. A. G. Blair.  
*Printed for both distribution and sessional papers.*

### CONTENTS OF VOLUME 9.

11. Annual Report of the Department of Marine and Fisheries (Marine), for the fiscal year ended 30th June, 1898. Presented 7th April, 1899, by Sir Louis Davies.  
*Printed for both distribution and sessional papers.*
- 11\*. Report of the Commissioners appointed under the Order in Council of the 11th January, 1898, to inquire into the alleged grievances of the Pilots of the district of Montreal, etc.  
*Printed for both distribution and sessional papers.*
- 11†. First Annual Report of the Geographic Board of Canada, 1898.  
*Printed for both distribution and sessional papers.*
- 11a. Annual Report of the Department of Marine and Fisheries (Fisheries), for the fiscal year ended 30th June, 1898. Presented 30th March, 1899, by Sir Louis Davies.  
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*Printed for both distribution and sessional papers.*
- 11c. Report of the Canadian Lobster Commission, 1898. Presented 29th June, 1899, by Sir Louis Davies.  
*Printed for both distribution and sessional papers.*
- 11d. Report of Harbour Commissioners, &c., 1898. . . . . *Printed for both distribution and sessional papers.*
12. Report of the Postmaster General, for the year ended 30th June, 1898. Presented 22nd March, 1899, by Hon. W. Mulock. . . . . *Printed for both distribution and sessional papers.*

## CONTENTS OF VOLUME 11.

13. Annual Report of the Department of the Interior, for the year 1898. Presented 15th May, 1899, by Hon. C. Sifton . . . . . *Printed for both distribution and sessional papers.*
- 13a. Summary Report of the Geological Survey Department, for the year 1898. Presented 24th April, 1899, by Hon. C. Sifton . . . . . *Printed for both distribution and sessional papers.*

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14. Annual Report of the Department of Indian Affairs, for the year ended 30th June, 1898. Presented 21st March, 1899, by Hon. C. Sifton . . . . . *Printed for both distribution and sessional papers.*
15. Report of the Commissioner of the North-West Mounted Police Force, 1898. Presented 14th June, 1899, by Sir Wilfrid Laurier. . . . . *Printed for both distribution and sessional papers.*

## CONTENTS OF VOLUME 13.

16. Report of the Secretary of State of Canada, for the year ended 31st December, 1898. Presented 27th March, by Sir Wilfrid Laurier. . . . . *Printed for both distribution and sessional papers.*
- 16a. Civil Service List of Canada, 1898. Presented 27th March, 1899, by Sir Wilfrid Laurier.  
*Printed for both distribution and sessional papers.*
- 16b. Annual Report of the Department of Public Printing and Stationery, for the year ended 30th June, 1898. Presented 10th April, 1899, by Hon. Sir Wilfrid Laurier.  
*Printed for both distribution and sessional papers.*
- 16c. Report of the Board of Civil Service Examiners, for the year ended 31st December, 1898. Presented 2nd May, 1899, by Sir Wilfrid Laurier. . . . . *Printed for both distribution and sessional papers.*
17. Report of the Joint Librarians of Parliament, for the year 1898. Presented 16th March, 1899, by the Hon. The Speaker. . . . . *Printed for both distribution and sessional papers.*
18. Report of the Minister of Justice as to Penitentiaries of Canada, for the year ended 30th June, 1898. Presented 21st June, 1899, by Hon. C. Fitzpatrick.  
*Printed for both distribution and sessional papers.*
19. Report of the Department of Militia and Defence of Canada, for the year ended 31st December, 1898. Presented 27th March, 1899, by Hon. F. W. Borden.  
*Printed for both distribution and sessional papers.*

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20. Report on the Prohibition Plebiscite held on the 29th day of September, 1898, in Canada. Presented 24th April, 1899, by Sir Wilfrid Laurier. . . . . *Printed for both distribution and sessional papers.*
21. Return to an order of the House of Commons, dated 21st April, 1897, for copies of all letters, correspondence, petitions, etc., relating to the dismissal of David Ross as postmaster at Kinross, in the province of Prince Edward Island. Presented 21st March, 1899.—*Mr. Martin. . . . . Not printed.*
- 21a. Return to an order of the House of Commons, dated 21st April, 1897, for copies of all correspondence, papers, petitions, etc., in connection with the dismissal of the late postmaster at Little Sands, province of Prince Edward Island. Presented 21st March, 1899.—*Mr. Martin.*

*Not printed.*

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- 21b.** Return to an order of the House of Commons, dated 21st April, 1897, for copies of all papers, correspondence, petitions, evidence, reports and documents of every nature connected with the dismissal of J. H. Crépeau as postmaster at St. Camille, county of Wolfe, province of Quebec. Presented 21st March, 1899.—*Mr. Ives*..... *Not printed.*
- 21c.** Return to an address of the House of Commons, dated 18th April, 1898, for a return giving: (a) The names of employees relieved from duty by the government by dismissal or otherwise in the Montreal custom-house from 13th July, 1896, to 1st March, 1898. (b) The years of service of each employee so relieved of duty. (c) The amount of retiring allowance, if any. (d) The cause of dismissal in each case. (e) The amount of pay per annum of such employee at date of dismissal. (f) The names of new employees appointed, whether permanently or temporarily, from 13th July, 1896, to 1st March, 1898. (g) The amount to be paid to each such new temporary or permanent employee per month. Presented 2nd May, 1899.—*Mr. Quinn*..... *Not printed.*
- 21d.** Return to an order of the House of Commons, dated 2nd May, 1898, for a return showing the names of all employees on the Lachine canal and St. Ann lock dismissed from the public service since the 23rd day of June, 1896, the cause of dismissal, the name of complainant in each case, the amount of salary paid to the dismissed official, the name and salary paid to his successor in office. Presented 17th May, 1899.—*Mr. Monk*..... *Not printed.*
- 21e.** Return to an address of the House of Commons, dated 14th March, 1898, for copies of all orders in council, papers, depositions, reports, evidence, correspondence and documents in relation or reference to any charges made against Peter S. Archibald, lately chief engineer of the Intercolonial Railway, or to the dismissal of the said Peter S. Archibald from his position or office as such chief engineer, or the grounds or reasons for such dismissal, or in relation or reference to any claim of the said Peter S. Archibald for superannuation allowance or otherwise in relation or reference to the retirement or dismissal of the said Peter S. Archibald from the service of the Intercolonial Railway. Presented 25th May, 1899.—*Mr. Borden (Halifax)*..... *Not printed.*
- 21f.** Return to an order of the House of Commons, dated 7th June, 1897, for a return of all correspondence, reports and papers in connection with the dismissal of Mr. Wm. Bateman of Port Perry from, and the appointment of Mr. Williams to, the position of agent to the Scugog Island Indians. Presented 29th May, 1899.—*Mr. Hughes*..... *Not printed.*
- 21g.** Return to an order of the House of Commons, dated 26th April, 1899, for a statement of all persons or commissions of inquiry appointed to inquire into the conduct of employees of the government since August 1st, 1896, giving the names of commissioners, their rate of pay and allowances, the aggregate total amount paid to each as pay and allowance, and the total expenses of each commission outside of pay and allowance; also the names and post office addresses of all persons dismissed on the reports of the commissioners (Inland Revenue). Presented 31st May, 1899.—*Mr. Foster*.  
*Not printed.*
- 21h.** Return to an order of the House of Commons, dated 1st May, 1899, for copies of all papers, documents and correspondence in connection with the dismissal of D. W. Ball from being postmaster at the village of Bath, Ontario. Presented 2nd June, 1899.—*Mr. Wilson*..... *Not printed.*
- 21i.** Return to an order of the House of Commons, dated 10th May, 1899, for copies of the report of Mr. Hawkins, post office inspector, in reference to the inquiry or investigation held on the conduct of J. R. Leake, postmaster of Morton, in the county of Leeds, together with copies of all correspondence, complaints, affidavits or declarations and evidence taken at the investigation relating to said postmaster; together with a copy of the notice of his dismissal. Presented 2nd June, 1899.—*Mr. Taylor*..... *Not printed.*
- 21j.** Return to an order of the House of Commons, dated 5th June, 1899, for copy of correspondence, etc., relating to the dismissal of Mr. Alfred Lenoir, as fishery overseer at Isle Madame, in the county of Richmond, Nova Scotia. Presented 5th June, 1899.—*Sir Louis Davies*..... *Not printed.*
- 21k.** Return to an address of the House of Commons, dated 17th May, 1899, for copies of all orders in council respecting the appointment and dismissal of Mr. Russell, inspector of steamboats; copies of all reports and evidence touching an inquiry into his conduct; also of all reports, papers and correspondence respecting his last appointment or reinstatement to the public service; also all communications from, to or concerning this officer since he has been discharging duties in the Yukon district. Presented 6th June, 1899.—*Sir C. Hibbert Tupper*..... *Not printed.*

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- 21l. Return to an order of the House of Commons, dated 1st May, 1899, for copies of all petitions, correspondence, letters or documents in relation to the following dismissals: Job Bilodeau, postmaster of Chambord; Louis Desbiens, postmaster of St. Jérôme; William Larouche, postmaster of Lake Bouchette; Ferdinand Larouche, postmaster of Delisle; F. X. Letourneau, postmaster of St. Bruno, all in the county of Chicoutimi; together with all petitions, correspondence, letters or documents in relation to the appointment of their successors. Presented 13th June, 1899.—*Mr. Casgrain.*  
*Not printed.*
- 21m. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all papers and correspondence in reference to the dismissal of Christopher Walker, postmaster of Ailsa Craig, Ontario, with copies of charges, if any, made against such officer and report of any investigation held. Presented 13th June, 1899.—*Mr. Haggart.*..... *Not printed.*
- 21n. Return to an order of the House of Commons, dated 14th March, 1898, for copies of all correspondence, inspector's reports, and all documents respecting the dismissal of the postmaster at Agnes and the removal of the office. Presented 13th June, 1899.—*Mr. Pope.*..... *Not printed.*
- 21o. Return to an order of the House of Commons, dated 14th June, 1899, for copies of correspondence and other papers in regard to the dismissal of Mr. Joseph McNeil, light-keeper, Jerome Point, St. Peter's, Cape Breton. Presented 14th June, 1899.—*Sir Louis Davies.*..... *Not printed.*
- 21p. Return to an address of the Senate, dated 12th April, 1899, for copies of the complaints and all correspondence relating thereto, which led to the dismissal of Mr. Freeman Ketcheson from the position of post office mail clerk, including the statement or statements of the said Freeman Ketcheson in reply to said complaints. Presented 15th June, 1899.—*Hon. Sir Mackenzie Bowell.*  
*Not printed.*
- 21q. Return to an address of the House of Commons, dated 30th March, 1898, for copies of all orders in council, papers, depositions, reports, documents, etc., in relation to the dismissal of Napoléon Alain as postmaster of L'Ancienne Lorette, and also copies of all instructions given by the department of the postmaster general or any officers thereof, to the post office inspector in Quebec, or to any other officer thereof in relation to the giving of evidence in an action by the said Napoléon Alain *versus* one Frederic Belleau for damages. Presented 19th June, 1899.—*Mr. Casgrain.*  
*Not printed.*
- 21r. Return to an order of the House of Commons, dated 24th April, 1899, for copies of all papers connected with the dismissal of Boaz Gross, late harbour master of Hillsboro', N.B., and with the appointment of his successor, including copies of all charges and complaints, the evidence taken by Commissioner McAlpine, the commissioner's report, and all correspondence, recommendations and other papers in any way relating to the said dismissal and the subsequent appointment. Presented 26th June, 1899.—*Mr. McInerney.*..... *Not printed.*
- 21s. Return to an order of the House of Commons, dated 8th May, 1899, for copies of all reports, correspondence and other papers connected with the dismissal of Mr. Fairlie, principal of the Rupert's Land industrial school, in the province of Manitoba. Presented 28th June, 1899.—*Mr. Bourassa.*  
*Not printed.*
- 21t. Return to an order of the House of Commons, dated 19th June, 1899, for copies of all papers, documents and correspondence in connection with the dismissal of John Hems, caretaker of the public building in the town of Napanee. Presented 4th July, 1899.—*Mr. Wilson.*.... *Not printed.*
- 21u. Return to an address of the House of Commons, dated 8th May, 1899, for a copy of the commission issued to investigate into the charges made against W. A. Hogg, landing-waiter at the port of Collingwood, the evidence taken by the said commission, the report made by the commission, the order in council made thereon, and all correspondence and papers in connection therewith. Presented 25th July, 1899.—*Mr. McCarthy.*..... *Not printed.*
- 21v. Return to an order of the House of Commons, dated 26th July, 1899, for copy of the report of Thomas Woodyatt, commissioner, relative to certain charges made against John Galna, of Her Majesty's customs at Parry Sound, Ontario. Presented 26th July, 1899.—*Mr. Paterson.*  
*Not printed.*
- 21w. Return to an order of the House of Commons, dated 26th July, 1899, for copy of report, etc., in connection with the suspension of Wm. Caldwell, preventive officer of customs at Anderdon, Ontario. Presented 26th July, 1899.—*Mr. Paterson.*..... *Not printed.*
- 21z. Return to an order of the House of Commons, dated 29th July, 1899, for copy of the report of M. B. Colcock, assistant inspector of ports, relative to the preventive station at Anderdon, and to William Caldwell, late preventive officer thereat. Presented 29th July, 1899.—*Hon. W. Paterson.*  
*Not printed.*

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- 21*y.* Return to an order of the House of Commons, dated 26th June, 1899, for copies of all correspondence had with the department of railways and canals, or with any member of the government, in connection with the cases of Pierre Michaud and Fred. Belanger, porter and track foreman, respectively, on the Intercolonial Railway at Trois Pistoles, and dismissed therefrom in 1898, and for all petitions and papers in regard thereto. Presented 8th August, 1899.—*Mr. Foster.*  
*Not printed.*
- 21*z.* Return to an order of the House of Commons, dated 12th June, 1899, for copies of all correspondence, telegrams, petitions, reports and all other papers in connection with the dismissal of Mr. William D. McMillan as light-keeper at Wood Islands, in the province of Prince Edward Island, and the appointment of his successor. Presented 10th August, 1899.—*Mr. Martin.*  
*Not printed.*
22. Return to an order of the House of Commons, dated 10th May, 1897, for copies of all petitions, letters, notices, correspondence, bonds and papers in relation to the establishment of a post office in the county of Annapolis called "Virginia," and the appointment of Mr. Ezekiel Banks as postmaster for such office. Presented 21st March, 1899.—*Mr. Mills.* . . . . . *Not printed.*
- 22*a.* Return to an order of the House of Commons, dated 10th May, 1897, for copies of all petitions, letters, notices, bonds, papers and documents in relation to the establishment of a post office in the county of Annapolis called "North Perott," and the appointment of Mr. Alfred Spurr to the postmastership of said office. Presented 21st March, 1899.—*Mr. Mills.* . . . . . *Not printed.*
- 22*b.* Return to an order of the House of Commons, dated 3rd May, 1897, for copies of all correspondence in connection with the appointment and installation of George G. King to the postmastership of Marsh Hill, Ontario, had with any member of the government, or any officer of the post office department. Presented 21st March, 1899.—*Mr. Foster.* . . . . . *Not printed.*
23. Return of Treasury Board Over-Rulings of Auditor General's decisions between the beginning of the session of 1898 and the session of 1899. Presented 21st March, 1899, by Hon. W. S. Fielding.  
*Not printed.*
24. Statement of Governor General's Warrants issued since last session of parliament, on account of the fiscal year 1898-99. Presented 21st March, 1899, by Hon. W. S. Fielding. . . . . *Not printed.*
25. Statement of expenditure on account of miscellaneous unforeseen expenses from 1st July, 1898, to 16th March, 1899. Presented 23rd March, 1899, by Hon. W. S. Fielding. . . . . *Not printed.*
26. Report of the Commissioner, Dominion Police Force, for the year 1898. Presented 27th March, 1899, by Sir Wilfrid Laurier. . . . . *Not printed.*
27. Copy of an order in council relative to the issue of licenses to United States fishing vessels. Presented 30th March, 1899, by Sir Louis Davies. . . . . *Not printed.*
28. Return showing reductions and remissions made under section 141 as added to the Indian Act by section 8, chapter 35, 58-59 Victoria. Presented 30th March, 1899, by Hon. C. Sifton.  
*Not printed.*
29. Statement in pursuance of section 17 of the Civil Service Insurance Act, for the year ending 30th June, 1898. Presented 30th March, 1899, by Hon. W. S. Fielding. . . . . *Printed for sessional papers.*
30. Statement of all superannuation and retiring allowances in the civil service during year ended 31st December, 1898, showing name, rank, salary, service and cause of retirement of each person superannuated or retired, also whether vacancy filled by promotion or new appointment, and salary of any new appointee. Presented 30th March, 1899, by Hon. W. S. Fielding.  
*Printed for sessional papers.*
- 30*a.* Return to an address of the House of Commons, dated 14th February, 1898, for a return giving: (a) The names of all civil servants who have been superannuated between the 13th of July, 1896, and the 1st of February, 1898. (b) The age of each servant so superannuated. (c) The years of service of each person so superannuated. (d) The amount per annum each person had been in receipt of. (e) The amount of superannuation each person is to receive per annum. (f) The name of the new appointees in the civil service since said 13th of July. (g) The age of each such new appointee. (h) The amount to be paid to each such new appointee. Presented 14th June, 1899.—*Mr. Taylor.* . . . . . *Not printed.*
- 30*b.* Return to an order of the House of Commons, dated 29th May, 1899, showing: (a) The superannuations made in the department of agriculture from 30th June, 1896, to 30th April, 1899, in both the inside and outside services. (b) The retiring allowances in each case. (c) The manner in which the vacancies thus created have been filled, with names of persons appointed to such vacancies and amounts of salary in each case. Presented 30th June, 1899.—*Mr. Montague.*  
*Not printed.*

CONTENTS OF VOLUME 14—*Continued.*

31. Detailed statement of all bonds and securities registered in the department of the secretary of state of Canada, since the last return, 16th February, 1898, submitted to parliament in accordance with section 23 of chapter 19 of the Revised Statutes of Canada. Presented 30th March, 1899, by Sir Wilfrid Laurier..... *Not printed.*
32. Statement in reference to fishing bounty expenditure for 1897-98. Presented 4th April, 1899, by Sir Louis Davies..... *Not printed.*
33. Return to an order of the House of Commons, dated 5th April, 1899, for copies of papers in connection with the case of Nelson vs. Donnelly, being an appeal from the decision of the gold commissioner at Dawson city. Presented 5th April, 1899.—*Hon. C. Sifton*..... *Not printed.*
34. Return to an order of the House of Commons, dated 18th April, 1898, for copies of all reports and recommendations from the inspectors of cavalry, artillery and infantry on their inspections up to April 18th, for the financial year 1897-98. Presented 10th April, 1899.—*Mr. Hughes*..... *Not printed.*
35. Statement of the affairs of the British Canadian Loan and Investment Company, as on the 31st December, 1898. Presented (Senate) 21st March, 1899, by the Hon. The Speaker..... *Not printed.*
36. Return of orders in council relating to Dominion lands in the provinces of Manitoba and British Columbia, and in the North-west Territories. Presented (Senate) 11th April, 1899, by Hon. R. W. Scott..... *Not printed.*
37. Commission appointing William Ogilvie, Esq., a commissioner under chapter 114, Revised Statutes of Canada, to inquire into and report upon charges preferred against many government officials in the Yukon territory. Presented 17th April, 1899, by Hon. C. Sifton..... *Not printed.*
38. Return prepared by the clerk of the crown in chancery in obedience to an order of the House of Commons, dated 10th May, 1899, for copies of the poll-books and voters' lists for the counties of Beauce, Lévis, Montmagny and Kamouraska, used at the plebiscite vote. Presented 13th July, 1899, by The Deputy Speaker..... *Not printed.*
39. Return to an address of the House of Commons, dated 14th March, 1898, for a return showing in detail the extent of all gold dredging leases applied for and granted in the North-west Territories and the Yukon, where situated, the names and post office addresses of the applicants, and amount paid therefor; also all correspondence and orders in council in connection therewith. Presented 19th April, 1899.—*Mr. Foster*..... *Not printed.*
40. Supplementary return to an address of the House of Commons, dated 14th February, 1898, for copies of all correspondence, advertisements for tenders and answers thereto, reports and orders in council, and a list of all permits, licenses or leases granted, containing names of the grantees and extent of territory given and conditions attached to each, the amount paid and to be paid therefor in respect of gold placer mining or gold dredging areas in the North-west Territories and the Yukon district. Presented 15th April, 1899.—*Mr. Foster*..... *Not printed.*
41. Return of all lands sold by the Canadian Pacific Railway Company, from the 1st October, 1897, to the 1st October, 1898. Presented 19th April, 1899, by Hon. C. Sifton..... *Not printed.*
42. Return of correspondence, etc., respecting the affairs of the Canadian Pacific Railway Company, which the department of the interior has had since the previous return was presented to parliament under the resolution of the 20th February, 1882. Presented 19th April, 1899, by Hon. C. Sifton..... *Not printed.*
43. Return of orders in council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, in accordance with the provisions of sub section (d) of section 38 of the regulations for the survey, administration, disposal and management of Dominion lands within the 40-mile railway belt in the province of British Columbia. Presented 19th April, 1899, by Hon. C. Sifton..... *Not printed.*
44. Return of orders in council which have been published in the *Canada Gazette*, in accordance with the provisions of section 46, the North-west Irrigation Act, being 57-58 Victoria, chapter 30, etc. Presented 19th April, 1899, by Hon. C. Sifton..... *Not printed.*
45. Return of orders in council which have been published in the *Canada Gazette*, in accordance with the provisions of clause 91 of the Dominion Lands Act, chapter 54 of the Revised Statutes of Canada, and its amendments. Presented 19th April, 1899, by Hon. C. Sifton..... *Not printed.*
46. Return to an order of the House of Commons, dated 21st April, 1899, for a copy of representations of the high commissioner for Canada and the agents general of the British colonies, respecting the application of estate duty to personal property situate in the colonies in 1894. Presented 21st April, 1899.—*Sir Wilfrid Laurier*..... *Printed for sessional papers.*

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47. Return to an order of the House of Commons, dated 21st April, 1899, for a copy of the correspondence between the colonial office and the government of Canada on the subject of the island of Anticosti. Presented 21st April, 1899.—*Sir Wilfrid Laurier*. . . . . *Printed for sessional papers.*
48. Return to an address of the House of Commons, dated 18th April, 1898, for copies of all orders in council, memorials, correspondence and every other document in connection with the granting 150,000 acres of public lands in favour of the university of Manitoba, and the transfer and patenting of the same to the university. Presented 24th April, 1899.—*Mr. LaRivière*.  
*Printed (in part) for distribution and sessional papers.*
- 48a. Supplementary return to an address of the Senate, dated 31st March, 1898, for a statement of the quantity of lands allotted for school purposes in Manitoba; the quantity of said lands sold, and the prices at which they have been sold; the amount received on that account; the amounts still due to the government; the manner in which this fund is invested and administered; the amount already paid to the province of Manitoba, how much on the capital, if any, and how much on the interest; the amount still at the credit of the province, whether on the capital or on the interest; the dates of payment in each case and the amount of each payment; and also all the correspondence, papers, memoranda and orders in council relating thereto, up to date. Presented 25th April, 1899.—*Hon. Mr. Bernier*. . . . . *Not printed.*
49. Return to an order of the House of Commons, dated 19th April, 1899, for a copy of the report of the commissioners appointed in 1897 to inquire into the state of the public records and of the public buildings. Presented 1st May, 1899.—*Mr. Belcourt*. . . . . *Not printed.*
50. Order of the House of Commons, dated 19th April, 1899, for a statement of the number of sheets of notes of \$1 and \$2 delivered to the government from the 1st of August, 1897, by the new contractors, together with the number of back, tint and face plates of the above denominations, delivered to the government to date, as per the contract. Presented 1st May, 1899.—*Mr. Foster*.  
*Not printed.*
51. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all correspondence with the imperial and colonial governments, and other parties, relative to the proposed Pacific cable, since the return brought down last session; also of the report of the imperial commission on this subject, if leave has been obtained to publish it. Presented 8th May, 1899.—*Mr. Casey*.  
*Printed for both distribution and sessional papers.*
- 51a. Supplementary return to No. 51. Presented 12th May, 1899.  
*Printed for both distribution and sessional papers.*
- 51b. Return to an address of the House of Commons, dated 29th May, 1899, for copies of all orders in council and correspondence connected with and relating to the offer of the government of British Columbia, made in 1899, respecting the Pacific cable. Presented 12th June, 1899.—*Sir C. Hibbert Tupper*. . . . . *Printed for both distribution and sessional papers.*
52. Return to an address of the House of Commons, dated 30th March, 1898, for copies of all papers and correspondence respecting the enforcement of coasting laws of Canada on the Pacific or Atlantic coasts, in so far as it relates to the department of customs. Presented 8th May, 1899.—*Sir C. Hibbert Tupper*. . . . . *Printed for sessional papers.*
- 52a. Supplementary return to No. 52 (Department of the Interior). Presented 5th June, 1899.  
*Not printed.*
53. Return to an address of the House of Commons, dated 24th April, 1899, for a copy of lease of the property in Quebec known as the "Plains of Abraham," or of any other title under which the government of Canada holds said property; also of all memorials, correspondence, etc., addressed to the government on the subject of renewing said lease or otherwise acquiring the same. Presented 8th May, 1899.—*Mr. Casgrain*. . . . . *Not printed.*
54. Return to an order of the House of Commons, dated 24th April, 1899, for a return showing the expenditure for each year from 1867 to 1889, inclusive, of the militia department; also the amount in each of the above years expended for the staff of the militia; also the amount in each of the above years expended for the royal military college, Kingston. Presented 8th May, 1899.—*Mr. Domville*. . . . . *Not printed.*
55. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all correspondence, minutes of council, commission of appointment relating to the appointment of the hon. the chief justice of the province of British Columbia from the date of the decease of the Hon. Chief Justice Davie to the appointment of the present incumbent; also relating to the appointment of the Hon. Mr. Justice Irving and the Hon. Mr. Justice Martin of the supreme court of British Columbia. Presented 15th May, 1899.—*Sir Charles Tupper*. . . . . *Not printed.*

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56. Return to an address of the House of Commons, dated 26th April, 1899, for copy of lease or agreement and of all correspondence relating to the occupation of the Champ de Mars in the city of Montreal by the Montreal authorities and the condition of said occupation. Presented 9th May, 1899.—*Mr. Monk*. . . . . *Not printed.*
57. Return to an order of the House of Commons, dated 24th April, 1899, for a return showing the gross working expenses and earnings, respectively, of the Intercolonial Railway for each month from 1st July, 1898, to date. Also the gross working expenses and earnings, respectively, of the same road for the similar months of the preceding year. Presented 9th May, 1899.—*Mr. Foster*.  
*Printed for sessional papers.*
- 57a. Return to an order of the House of Commons, dated 24th April, 1899, for a return showing the total amount of revenue collected by the government (a) from passenger traffic; (b) from freight traffic at the stations, freight agencies and passenger agencies along the extension of the Intercolonial Railway from Chaudière to Montreal, both included, (1) from the 30th day of June, 1898, exclusive, to the 1st day of March, 1899, exclusive; (2) from the 1st day of March, 1899, inclusive, to the 1st day of April, 1899, exclusive. Presented 16th May, 1899.—*Mr. Powell*.  
*Printed for sessional papers.*
- 57b. Return to an order of the House of Commons, dated 18th April, 1898, for a return containing a statement of expenditure out of income made for permanent improvements, extensions, additions and betterments, exclusive of works for ordinary maintenance and renewals, on account of the Intercolonial Railway from 30th June, 1891, to 1st July, 1897. Presented 17th May, 1899.—*Mr. Powell*. . . . . *Printed for sessional papers.*
- 57c. Return to an order of the House of Commons, dated 18th April, 1898, for copies of all tenders for ties for the use of the Intercolonial Railway from 1st January, 1896, to date, giving names, quantities, prices, and which tenders were accepted. Presented 17th May, 1899.—*Mr. Foster*.  
*Not printed.*
- 57d. Return to an order of the House of Commons, dated 30th March, 1898, for copies of all tenders received by the government, or by the department of railways and canals, or by any officials thereof, for railway ties and lumber of all kinds supplied to the Intercolonial Railway between July, 1896, and January, 1898, on the division of the railway in the province of Quebec. Presented 17th May, 1899.—*Mr. Casgrain*. . . . . *Not printed.*
- 57e. Return to an address of the Senate, dated 24th March, 1899, for a statement showing the quantity of rolling stock purchased in connection with the extension of the Intercolonial Railway from Lévis to Montreal, from whom purchased, and the price paid therefor. Presented 19th May, 1899.—*Hon. Sir Mackenzie Bowell*. . . . . *Not printed.*
- 57f. Return to an address of the Senate, dated 25th April, 1899, for a return showing quantity of freight carried over the Intercolonial Railway from Montreal to Halifax for shipment to Europe, during the winter 1898 and 1899. Presented 29th May, 1899.—*Hon. Mr. Perley*.  
*Printed for sessional papers.*
- 57g. Return to an order of the House of Commons, dated 8th May, 1899, for a return showing: 1. The total amount of expenditure on capital account in connection with the Intercolonial Railway and the extension thereof to Montreal from 30th June, 1898, exclusive, to the 1st day of May, 1899, exclusive. 2. The total revenue of the Intercolonial Railway and the Montreal extension thereof from 30th June, 1898, exclusive, to the 1st day of May, 1899, exclusive. 3. The total expenditure charged to revenue account in connection with the Intercolonial Railway and the Montreal extension thereof from 30th June, 1898, exclusive, to the 1st day of May, 1899, exclusive. Presented 13th June, 1899.—*Mr. Powell*. . . . . *Not printed.*
- 57h. Return to an order of the House of Commons, dated 15th May, 1899, for a return showing the names of persons to whom payments were made of allowance or drawback on freight charges on the New Brunswick portion of the Intercolonial Railway during the months of January and February, 1899, the amount and date of payment in each case, and the date at which the overcharge was made. Presented 13th June, 1899.—*Mr. Foster*. . . . . *Not printed.*
- 57i. Return to an order of the House of Commons, dated 15th May, 1899, for a copy of lease or contract under which the Intercolonial Railway management permitted or authorized the building of a restaurant on the railway right of way at Grand Narrows. Also copies of all correspondence in reference to the granting of the privilege of erecting such building on the railway property, and also in reference to running the same. Presented 23rd June, 1899.—*Mr. McDougall*. *Not printed.*



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- 57j. Return to an order of the House of Commons, dated 19th April, 1899, for copies of advertisements issued during 1898, inviting tenders for steel rails and fastenings for the Intercolonial and Prince Edward Island Railways, copies of tenders received therefor, of all correspondence in connection therewith, and of any contract or contracts entered into. Presented 27th June, 1899.—*Mr. Charles Tupper*..... *Not printed.*
- 57k. Supplementary return to 57e. Presented 28th June, 1899..... *Not printed.*
- 57l. Return to an order of the House of Commons, dated 26th June, 1899, showing the names of persons to whom payments were made of allowances or drawbacks on freight charges on the Nova Scotia portion of the Intercolonial Railway from 1st July, 1898, to 31st March, 1899, giving amount and date of payment and date at which overcharge was made. Presented 13th July, 1899.—*Mr. Bell (Pictou)*..... *Not printed.*
- 57m. Return to an order of the House of Commons, dated 19th June, 1899, showing: 1. The combined engine and car mileage—total, and that of the Intercolonial Railway—for each month from March 1, 1898, for the terminals, bridge, and the other leased portions of the Grand Trunk Railway, as contemplated in the third and thirty-third sections of the schedule to Bill No. 138. 2. The amounts for (a) maintenance and repairs, and (b) for all other operating expenses separately, incurred by the Grand Trunk Railway Company and the Intercolonial Railway each month since March 1, 1898. 3. Copy of returns and information made under section 33 of said schedule for each month from March 1, 1898. Presented 18th July, 1899.—*Mr. Foster*..... *Not printed.*
- 57n. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all petitions, memorials, letters and correspondence addressed to the government, or to any of the members thereof, since the last session, by the board of trade of the city of Quebec, the council thereof, the city council of the city of Quebec, or any other public bodies or citizens of the said city, in relation to a better service between the Intercolonial Railway and the city of Quebec. Presented 29th July, 1899.—*Mr. Casgrain*..... *Not printed.*
58. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all orders in council and all reports and correspondence made by or had between W. J. Christie, late of the inland revenue department, Winnipeg, and other officers of department in Manitoba, and the department at Ottawa or the minister of inland revenue relating to the removal, the suspension and final dismissal of W. J. Christie, lately one of the chief officers in department at Winnipeg. Presented 15th May, 1899.—*Mr. Roche*..... *Not printed.*
- 58a. Supplementary return to No. 58. Presented 30th May, 1899..... *Not printed.*
59. Return to an order of the House of Commons, dated 24th April, 1899, for copy of all reports to the minister of the interior, or to the department of the interior, or to any officer of that department from William Ogilvie, or from the council of the Yukon district, or from any member of such council relating to the administration of the said Yukon district or relating to any matter connected with the administration of the said district. Presented 15th May, 1899.—*Mr. Borden (Halifax)*..... *Not printed.*
60. Return to an order of the House of Commons, dated 19th April, 1899, for copies of all correspondence connected with the department of the interior at Ottawa authorizing the agent at Yorkton, North-west-Territories, to grant entry for the S. E.  $\frac{1}{4}$  of section 14, township 24, range 3 west of the 2nd meridian, to Mr. W. C. Middleton. Presented 15th May, 1899.—*Mr. Davin*..... *Not printed.*
61. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all letters and telegrams that have passed between the government and the Ashcroft Water and Electric Company, or Mr. Peter Ryan, or Mr. John Shields, or any other person on their behalf in regard to the purchase of some 4,000 acres of land near Ashcroft, B.C., within the railway belt. Presented 15th May, 1899.—*Mr. Prior*..... *Not printed.*
62. Return to an address of the House of Commons, dated 19th April, 1899, for copies of any orders in council passed up to date respecting any officers of the department of the interior taking up mining claims; respecting any government officers taking up mining claims; respecting officers of the department of the interior making homestead entries or buying lands. Presented 15th May, 1899.—*Mr. Davin*..... *Not printed.*

CONTENTS OF VOLUME 14—*Continued.*

63. Return to an order of the House of Commons, dated 24th April, 1899, for copies of all letters, telegrams and communications from Archer Martin, of Victoria, B.C., barrister-at-law, to the minister of interior or to the deputy minister, or to any officers of the department of the interior, relating to the granting or recognition of any permit or authority to take or import liquor into the Yukon district or relating to the importation of liquor into the Yukon district, and all replies to such letters, telegrams and communications. Presented 15th May, 1899.—*Mr. Borden (Halifax).*  
*Printed for sessional papers.*
- 63a. Return to an order of the House of Commons, dated 24th April, 1899, for copies of all letters, telegrams and communications from Frederick Peters, Q.C., of Victoria, B.C., to the minister of the interior, or to any minister of the crown, or to any deputy minister, applying for or relating to the granting of any permit to take or import liquor into the Yukon district, and all replies to such letters, telegrams and communications. Presented 15th May, 1899.—*Mr. Borden (Halifax).*  
*Printed for sessional papers.*
- 63b. Correspondence relating to the importation of liquor into the Yukon territory. Presented 16th May, 1899, by Hon. C. Sifton.....  
*Printed for sessional papers.*
- 63c. Return to an order of the House of Commons, dated 8th May, 1899, for copies of all liquor permits issued by Major Walsh, and all reports and correspondence respecting his action in this respect. Presented 18th May, 1899.—*Sir C. Hibbert Tupper*.....  
*Printed for sessional papers.*
- 63d. Return to an order of the House of Commons, dated 15th May, 1899, for copies of correspondence, telegrams, etc., in connection with the management of the Yukon territory, alluded to in the speech of the honourable the minister of the interior, during the debate on the address in answer to His Excellency's speech at the opening of the session. Presented 25th May, 1899.—*Sir C. Hibbert Tupper*.....  
*Not printed.*
- 63e. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all correspondence which has taken place between the hon. the minister of the interior, or any officer of his department, and the government of the North-west Territories respecting the issue, granting or withholding of permits for the conveyance of liquor into the Yukon territory. Presented 30th May, 1899.—*Mr. Clarke*.....  
*Not printed.*
- 63f. Return to an order of the House of Commons, dated 19th April, 1899, for a return of all liquors taken into the Yukon since July 1, 1896, giving the names of the persons or companies taking them in, the quantity in each case, the date of issue of permit and the authority granting the permit; also all correspondence had with any parties in connection with the demand for, or granting of, permits for taking liquors into the Yukon. Presented 6th June, 1899.—*Mr. Foster.*  
*Not printed.*
- 63g. Return to an order of the House of Commons, dated 19th April, 1899, for an itemized statement of the number of gallons of intoxicating liquors taken into the Klondike district since July, 1896, the number of permits granted therefor, with the names and post office addresses of those to whom said permits were granted and the amount paid therefor. Presented 6th June 1899.—*Mr. Foster.*  
*Not printed.*
- 63g\*. Supplementary return to No. 63f. Presented 13th July, 1899.....  
*Not printed.*
64. Copy of agreement dated 1st July, 1890, between the Department of Railways and Canals and the Canadian Pacific Railway Company. Presented 16th May, 1899, by Hon. A. G. Blair.  
*Not printed.*
65. Return to an order of the House of Commons, dated 8th May, 1899, for copies of all letters, documents, memoranda, agreements and correspondence containing, embodying, relating to or referring to the terms and conditions upon which tenders were asked for the Magdalen Island mail contract, and upon which the contract was subsequently let to R. J. Leslie, of Leslie, Hart & Co., Halifax, N.S. Presented 17th May, 1899.—*Mr. Pope*.....  
*Not printed.*
66. Return to an address of the Senate, dated 24th March, 1899, for copies of all correspondence with and instructions given to Louis Coste, late engineer in the public works department, with reference to the Yukon-Teslin route, and the navigation of the rivers and lakes connected therewith, and all reports thereon, made by the said Louis Coste. Presented 17th May, 1899.—*Hon. Sir Mackenzie Bowell*.....  
*Not printed.*
- 66a. Return to an order of the House of Commons, dated 24th April, 1899, for a copy of the report or reports of Mr. Coste, late engineer of the public works department, on the Yukon, more especially on the Teslin Lake route for a railway into the Yukon; also a copy of the report of Mr. Lafontaine, or a copy of their joint report, if they made such a report. Presented 18th May, 1899.—*Mr. Davin*.....  
*Printed for sessional papers.*

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66. (1898.) Report of commissioners appointed to investigate, inquire into and report upon the state and management of the business of the St. Vincent de Paul penitentiary. Presented 26th April, 1898.—*Printed for distribution and sessional papers this year (1899). See Sessional Paper No. 18, page 221.*
67. Return to an address of the Senate, dated 11th April, 1899, for: 1. Copy of the last government return made by La Banque du Peuple before that bank suspended payment, as well as the name of the bank official and a copy of the declaration made by him. 2. Copy of the different statements of the affairs of said bank submitted by the directors at each of the public meetings of the stockholders and depositors which were held since the date of suspension. 3. List of the names of the directors of the bank at the date of its suspension, and the number of shares held by each of such directors on that date. 4. List of sales or transfers, if any, that may have been made of the stock of any one or more of the directors since the date of the suspension, and to whom made. 5. List of any vacancy or vacancies that may have occurred since the said date and the cause or causes thereof, as well as the names of those who have been appointed to fill any such vacancy. 6. The price as near as can be ascertained from the quotations of the stock of any sales or transfers that were made within the last month immediately before such suspension, and the prices paid for any such transfer of stock that may have been made since the date of suspension up to 1st April, 1899. 7. List of the names of the stockholders of the bank on the 1st day of April, 1899, and the number of shares held by each on that date. 8. Statement in detail of the assets and liabilities of the bank, excepting therefrom the liabilities to the depositors and stockholders which may be given in the aggregate. Presented 17th May, 1899.—*Hon. Mr. McMillan. . . . . Not printed.*
68. Return to an address of the House of Commons, dated 8th May, 1899, for copies of all correspondence between the government and B. Haigh & Son, of British Columbia, or any person or persons acting on their behalf in the year 1880, or thereabouts, in regard to an application for the use of Deadman's Island. Also between the Dominion government and the attorney general of the province of British Columbia or other member of the provincial government in regard to the said application, or to the subject thereof. Presented 18th May, 1899.—*Mr. Prior. . . . . Not printed.*
- 68a. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all orders in council respecting Stanley Park and Deadman's Island, Vancouver, B.C., and all correspondence between the different departments of the Canadian government and the imperial military and naval authorities respecting the park or island or both. Also for copies of all correspondence respecting the same with the government of British Columbia, the city of Vancouver and the park authorities. Also for all correspondence between the member for Burrard, the hon. minister of militia and defence and the department of militia, the hon. minister of the interior and other members of the government respecting the same. Also for all correspondence between Mr. Ludgate and his representative and any department of government respecting Deadman's Island. Also a copy of all applications and correspondence respecting a lease or grant of Deadman's Island. Also a copy of all departmental reports, memoranda or letters on file in the departments of justice, interior, militia and defence respecting the park, Deadman's Island, or the title and disposal of the same. Also a copy of all grants or leases of the park or Deadman's Island. Also all reports or information obtained by the different departments before any lease or grant of Deadman's Island was enacted. Also all memorials or correspondence respecting the granting of any lease of Deadman's Island. Presented 31st May, 1899.—*Mr. Prior.*  
*Printed for both distribution and sessional papers.*
69. Return to an order of the House of Commons, dated 19th April, 1899, for a return of all papers, documents and correspondence between the Winnipeg grain exchange and the department of public works in reference to keeping the harbour at Fort William free of ice to the latest possible date. Presented 18th May, 1899.—*Mr. Roche. . . . . Not printed.*
70. Return to an address of the House of Commons, dated 19th April, 1899, for copies of letters, instructions, correspondence and report of the commissioner appointed to inquire into the grievances of the workmen on the Crow's Nest Pass Railway, and into the circumstances attending the death of two of said employees, named McDonald and Fraser, at or near Fincher Creek, with report of the commissioner in re-investigation with respect to all the facts connected with the death of Charles P. McDonald and E. McC. Fraser, who were employed in connection with the construction of the Crow's Nest Pass Railway. Presented 18th May, 1899.—*Mr. Bell (Pictou).*  
*Summary Report printed for both distribution and sessional papers.*

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71. Return to an order of the House of Commons, dated 19th April, 1899, for copies of instructions given to Mr. F. C. Wade, whether before he left for Dawson to act in several official capacities or subsequently, more particularly a copy of the permission given him, if the permission was in writing, to stake claims in the Klondike. Presented 18th May, 1899.—*Mr. Davin*... *Not printed.*
72. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all correspondence between the government of British Columbia and the government of Canada since July, 1898, to the present date respecting the supreme courts, county courts or any of the judges for the province aforesaid, the appointments of said judges or of any of them, or other matters relating to the administration of justice in the said province. Presented 25th May, 1899.—*Sir C. Hibbert Tupper*..... *Not printed.*
73. Return to an order of the House of Commons, dated 24th April, 1899, for copies of any correspondence in relation to the construction of sheds on the wharfs at St. Méthode and Mistassini, and to the awarding of the contract for the said buildings to L. P. Bilodeau, of Roberval. Presented 25th May, 1899.—*Mr. Casgrain*..... *Not printed.*
74. Return to an order of the House of Commons, dated 24th April, 1899, for copies of all papers, correspondence, etc., in connection with the award of the contract to Mr. Thomas Gauthier, of Montreal, by the department of public works for the dredging at Coteau Landing; the call for tenders, if any; the amount expended out of the \$21,000 voted, and to whom paid. Also correspondence between Mr. Gauthier and Mr. McDonald, who did the work; the amount of work done in cubic feet, and how paid. Presented 25th May, 1899.—*Mr. Bergeron*.  
*Printed for sessional papers.*
75. Return to an order of the House of Commons, dated 24th April, 1899, for copies of correspondence between the government, or the department of public works, and Mr. W. Donaghue, or any other person, in relation to the building of scows at Roberval to accompany the dredge at that place, and to the awarding of the contract for the building of the said dredges to the said W. Donaghue. Presented 25th May, 1899.—*Mr. Casgrain*..... *Not printed.*
76. Return to an order of the House of Commons, dated 10th May, 1899, for copies of all leases, papers and documents of and concerning the lease of certain property on Isle aux Noix, in the province of Quebec, held by the government and under the control of the department of militia and defence, showing the names of lessees since 1st January, 1895, to present time, and the amount of rental paid by such lessees. Presented 25th May, 1899.—*Mr. Quinn*..... *Not printed.*
77. Return to an order of the House of Commons, dated 19th April, 1899, for a return showing when and for what period the steamer "Alaska" was engaged on the survey of the channel in Lake St. Francis, and the service the steamer "Alert" was engaged on during the same period. Presented 25th May, 1899.—*Mr. Taylor*..... *Not printed.*
78. Return to an order of the House of Commons, dated 19th April, 1899, for a return showing the amounts paid to Tom S. Rubidge, superintending engineer of the Cornwall canal, for salary and expenses from 1st January, 1897, to 1st January, 1899. A detailed statement of the amount paid for cab or hack hire in the same period. A statement of the total expense incurred in connection with the steamer "Alert"; also a statement showing how many days the steamer "Alert" was engaged in actual survey work, from 1st January, 1897, to 1st January, 1899, and how many days in any other service and the nature of the same. Presented 25th May, 1899.—*Mr. Taylor*.  
*Not printed.*
79. Return to an address of the House of Commons, dated 30th March, 1898, for copies of all reports to his excellency the governor general, minutes of council, reports, papers and correspondence in any way relating to the navigation of the Yukon or Stikine rivers, or to customs regulations in connection therewith, including the transshipment of cargoes; also all reports to his excellency the governor general, minutes of council, correspondence and papers touching the customs regulations, and fees imposed in connection with Canadian goods passing through St. Michael's, Dyea, Skagway and Wrangel. Presented 25th May, 1899.—*Sir Charles Tupper*.  
*Printed for sessional papers.*
80. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all correspondence and papers connected with the removal of Mr. Fawcett from the position of Yukon gold commissioner. Presented 25th May, 1899.—*Mr. Davin*..... *Not printed.*

CONTENTS OF VOLUME 14—*Continued.*

81. Return to an address of the House of Commons, dated 15th May, 1899, for copies of all orders in council, ordinances, commissions, appointments, bond certificates and oaths, relating to the appointment of the sheriff for Yukon territory; also copies of the same papers respecting the appointment of the clerk of the court for the Yukon territory. Presented 25th May, 1899.—*Sir C. Hibbert Tupper*.....*Not printed.*
82. Return to an address of the House of Commons, dated 14th March, 1898, for copies of all correspondence between the government of Canada, or any member thereof, and the United States government, either directly or through the British government or its representative at Washington, in reference to bonding or transit arrangements on the Pacific coast, and to the relief of destitute persons in the Yukon or Alaska districts. Also any reports of ministers to the government on these matters. Presented 25th May, 1899.—*Mr. Foster*.....*Not printed.*
83. Return to an order of the House of Commons, dated 8th May, 1899, for a return showing the number and names of all United States fishing vessels not possessing *modus vivendi* licenses to which concessions were granted in the Atlantic ports of Canada during the months of November and December, 1898, and January and February, 1899; together with all correspondence between the government or any member thereof and officers of the government, showing under what circumstances privileges were granted to any of said American vessels. Presented 26th May, 1899.—*Mr. McAlister*.....*Not printed.*
84. Return to an order of the House of Commons, dated 30th March, 1898, for a return of copies of all correspondence, instructions, reports, bills of costs and accounts, together with a statement of all moneys paid by the Dominion government in connection with the prosecutions arising out of the Dominion general elections of 1896 in the province of Manitoba. Presented 29th May, 1899.—*Mr. Roche*.....*Not printed.*
- 84a. Supplementary return to No. 84. Presented 2nd June, 1899.....*Not printed.*
85. Return to an order of the House of Commons, dated 7th June, 1897, for copies of all correspondence between the government and any parties in the county of Brant relating to the appointment of Dr. Levi Secord, of Brantford, Dr. McKee, of the same place, and Dr. Beer, formerly of Platts-ville, in the county of Oxford, to the positions of head physician and assistants to the Indians on the reservation in the township of Tuscarora, county of Brant. Presented 29th May, 1899.—*Mr. Clancy*.....*Not printed.*
86. Return to an order of the House of Commons, dated 19th April, 1899, for copies of all correspondence, from July 1, 1896, to the present date, between the Canadian government and the imperial authorities and between the Canadian government and the office of the high commissioner for Canada in London, relating to the cattle embargo. Presented 27th May, 1899.—*Mr. Montague*.  
*Printed for sessional papers.*
87. Copy of the order in council of the 7th October, 1898, providing for appointment of Mr. William Ogilvie as a commissioner, under the provisions of chapter 114, R.S.C., to investigate the charges and complaints referred to in such order in council; copy of the commission issued under the great seal of Canada, appointing Mr. Ogilvie such commissioner; copy of his report of the 27th April, 1899, and copies of the three public notices referred to in such report and attached thereto. Presented 30th May, 1899, by Hon. C. Sifton...*Printed for both distribution and sessional papers.*
- 87a. Copy of commission which issued in favour of William Ogilvie, Esq., under the provisions of chapter 114 R.S.C., to hold an investigation and take evidence under oath with regard to certain charges made against officials of the Dominion government in the Yukon territory; and copy of the evidence taken under such commission. Presented 9th June, 1899, by Hon. C. Sifton.  
*Printed for both distribution and sessional papers.*
- 87b. Copy of further report, dated the 27th May, 1899, of William Ogilvie, Esq., commissioner appointed under the provisions of chapter 114, R.S.C., and by commission issued thereunder, under the great seal of Canada, to hold an investigation and take evidence under oath with regard to certain charges made against officials of the Dominion government in the Yukon territory. Presented 7th July, 1899, by Hon. C. Sifton.....*Printed for both distribution and sessional papers.*
- 87c. Copy of the evidence which accompanied the further report of the 27th May, 1899, of William Ogilvie, Esq., commissioner appointed under the provisions of chapter 114, R.S.C., and by commission issued thereunder, under the great seal of Canada, to hold an investigation and take evidence under oath with regard to certain charges made against officials of the Dominion government in the Yukon territory; of which further report a copy was laid before the House of Commons upon the 7th July, 1899. Presented 12th July, 1899, by Hon. C. Sifton.  
*Printed for both distribution and sessional papers.*

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- 87d. Return to an order of the House of Commons, dated 27th July, 1899, for copy of a report of William Ogilvie, commissioner, relative to the values placed upon the steamers "Pingree" and "Low" for customs entry. Presented 27th July, 1899.—*Mr. Paterson*..... *Not printed.*
88. Return to an address of the Senate, dated 22nd May, 1899, for: 1. The original contract entered into between the government and the proprietors of the Drummond County Railway and the Grand Trunk Railway Company. 2. The present contract or agreement entered into between the same persons or companies. 3. A statement of all moneys paid to the proprietors of said railways from the date of the non-ratification of the first contract to the 31st March, 1899. 4. An account of the earnings and working expenses of the Drummond County Railway from the time of its being first worked in connection with the Intercolonial Railway to the 31st March, 1899. 5. And also an account of the total amount of money paid the Grand Trunk Railway Company for station accommodation, running powers over its line, for bridge extension, or for any purpose whatever in connection with the extension of the Intercolonial Railway system to Montreal. Presented 29th May, 1899.—*Hon. Sir Mackenzie Bowell*..... *Printed for sessional papers.*
- 88a. Return to an address of the Senate, dated 22nd June, 1899, calling for copies of any or all supplemental agreements and traffic arrangements entered into between the railway department of Canada and the Grand Trunk Railway Company, in connection with the contract entered into between the aforesaid parties for the extension of the Intercolonial Railway to the city of Montreal. Presented 26th June, 1899.—*Hon. Sir Mackenzie Bowell*..... *Printed for sessional papers.*
89. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all petitions addressed to his excellency the governor general by members of the Turner administration in the province of British Columbia respecting the conduct of his honour the lieutenant governor of that province, and praying for the appointment of a commission to inquire into the same, together with all papers and correspondence connected with said petition; and also copies of all papers and correspondence in any way relating to the action of his honour the lieutenant governor of British Columbia in dismissing the Turner administration in the said province. Presented 31st May, 1899.—*Mr. Prior*..... *Printed for both distribution and sessional papers.*
90. Return to an address of the House of Commons, dated 19th April, 1899, for: 1. Copies of all correspondence had with the departments of inland revenue, during the last ten years, in relation to the compulsory inspection of potash at the port of Montreal. 2. Copies of all petitions presented on the same subject to the honourable the minister of inland revenue. Also copies of resolutions adopted by the Montreal board of trade and others, urging the government to adopt some measure to protect the Canadian trade in potash. Presented 31st May, 1899.—*Mr. Préfontaine*.  
*Not printed.*
91. Return to an order of the House of Commons, dated 24th April, 1899, for: 1. Statement showing the quantity of Canadian tobacco grown and manufactured during each year since 1890. 2. The number of factories established since 1890—with the date in each instance—for the manufacture of Canadian tobacco, or of Canadian and foreign tobacco mixed. 3. Copies of all petitions, applications and memorials presented to the government since 1896 in relation to the duties on tobacco. Presented 31st May, 1899.—*Mr. Gauthier*..... *Not printed.*
92. Copy of the prospectus of the British Canadian Gold Fields of the Klondike Company, Limited, and copies of correspondence and other papers on file in the department of the interior, respecting the alleged connection of Mr. William Ogilvie with that company. Presented 31st May, 1899, by Hon. C. Sifton..... *Not printed.*
93. Return to an order of the House of Commons, dated 19th April, 1899, for statement showing the amounts voted and the amounts expended, under their proper headings, by the Dominion government on the harbour of Montreal during the last twenty-eight years; also the amounts voted and the amounts expended, under their proper headings, by the Dominion government on the harbour of Victoria, B.C., during the last twenty-eight years. Presented 31st May, 1899.—*Mr. Prior*.  
*Not printed.*
94. Return to an order of the House of Commons, dated 15th May, 1899, for a return showing the actual expenditure on reconstruction of the pier at China Point, in the province of Prince Edward Island, the date of such payments, to whom the payments were made and the amount paid to each person; the amount paid for actual labour performed; the amount paid for material not used, and when; the quantity and kind of material purchased, and the price; the present actual condition of the pier; the progress made towards reconstruction; and all papers, correspondence and documents relating to or giving any information or particulars respecting the matters aforesaid. Presented 31st May, 1899.—*Mr. Martin*..... *Not printed.*

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95. Return to an order of the House of Commons, dated 10th May, 1899, for a return showing all sums expended to date upon the new wharf at Pointe Claire, P.Q. Also how far the works have progressed; a copy of the estimate of the cost of said wharf and statement showing how much it will cost to finish said wharf. Copies of all advertisements calling for tenders, as well as of all tenders and correspondence upon the subject. Presented 31st May, 1899.—*Mr. Monk*.....*Not printed.*
96. Return to an order of the House of Commons, dated 8th May, 1899, for copies of all correspondence, telegrams, papers, etc., in connection with the seizure of traps and ropes belonging to Messrs. Benjamin Compton & Co., of Belle River, in the province of Prince Edward Island, on 30th July, 1898, by the Dominion cruiser "Acadia." Presented 1st June, 1899.—*Mr. Martin*.....*Not printed.*
97. Return to an address of the House of Commons, dated 17th May, 1899, for copies of all letters, telegrams, cablegrams, memorials and other papers received by the right hon. the prime minister of Canada, the Hon. J. I. Tarte, the minister of public works, or the Hon. A. G. Blair, the minister of railways and canals, from the Northern Commercial Telegraph Company, Limited, the Commercial Telegraph Construction Syndicate, Limited, or the W. T. Henley Telegraph Works, Limited, or from any director or directors, person or persons on behalf of or as representing any of these companies, or from the high commissioner for Canada in London, or from any other person or company respecting the construction by or for the Northern Commercial Telegraph Company, Limited, of a telegraph line between Skagway and Dawson, or of a submarine cable telegraph between some point in British Columbia and Skagway or Wrangel, or in any way relating to either of their objects. Also copies of all letters from the right hon. the prime minister of Canada, or from either of said other ministers to any of said companies or to any director or directors or other person or persons acting or purporting to act on behalf of any of said companies in any way relating to the construction of said telegraph line or cable line by, for or under the charter of the Northern Commercial Telegraph Company, Limited. Also copies of all correspondence between the Dominion government or any member or department thereof and the United States government at Washington or any department thereof bearing upon the laying and landing of a submarine cable between some point in British Columbia and Skagway or Wrangel or any point between these places. Presented 1st June, 1899.—*Mr. Prior*.....*Not printed.*
- 97a. Supplementary return to 97. Presented 26th June, 1899.....*Not printed.*
98. Return to an address of the Senate, dated 6th June, 1898, for a statement of the cost of the voyages undertaken in 1897 by the honourable the prime minister and by the honourable the solicitor general, to Europe, to the United States or elsewhere, together with the travelling expenses of their private secretaries or of any other persons composing their following. Presented 29th May, 1899.—*Hon. Mr. Landry*.....*Not printed.*
99. Protocol No. Lxiii of the Joint High Commission, Washington, respecting the boundary between Alaska and Canada. Presented 5th June, 1899, by Sir Wilfrid Laurier.  
*Printed for both distribution and sessional papers.*
100. Return to an order of the House of Commons, dated 17th May, 1899, for copies of all papers, plans, maps, reports of fishery officers, correspondence and other documents relating to the existence of a dam across river Jésus, near the town of Terrebonne, and the construction of a fishway therein according to the requirements of the law. Presented 5th June, 1899.—*Mr. Fortin*.....*Not printed.*
101. Return to an order of the House of Commons, dated 19th April, 1899, for a list of all persons employed since 1st August, 1896, by the minister of interior outside of the civil service employees in Ottawa, for purposes of immigration, detailing the names and post office addresses of the appointees, their rate of wages and allowances, the date and reason for dismissal where dismissals have taken place, and the country or districts in which their work has been performed. Presented 5th June, 1899.—*Mr. Foster*.....*Not printed.*
102. Return to an order of the House of Commons, dated 19th April, 1899, for a statement of all persons appointed to office or assigned to duties of any kind in the Yukon district since 1st August, 1896, giving the names, post office addresses, rate of salary and allowances or expenses of each person, the duties assigned, the date of his appointment, the date of resignation or dismissal, and the reason therefor in the case of each resignation or dismissal. The above statement not to include mounted police or Canadian militiamen, but to include paymasters in each branch. Presented 5th June, 1899.—*Mr. Foster*.....*Not printed.*
- 102a. Supplementary return to No. 102. Presented 9th June, 1899.....*Not printed.*
- 102b. Copies of orders in council relating to the Yukon. Presented 21st June, 1899, by Hon. C. Sifton.  
*Not printed.*

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103. Return (in part) to an order of the House of Commons, dated 26th April, 1899, for a statement of all persons or commissions of inquiry appointed to inquire into the conduct of employees of the government since 1st August, 1896, giving the names of commissioners, their rate of pay and allowances, the aggregate total amount paid to each as pay and allowance, and the total expenses of each commission outside of pay and allowance; also the names and post office addresses of all persons dismissed on the reports of the commissioners (Marine and Fisheries). Presented 6th June, 1899.—*Mr. Foster*.....*Not printed.*
- 103a. Supplementary return to No. 103. (Customs Department.) Presented 6th June, 1899.  
*Not printed.*
- 103b. Return to an address of the House of Commons, dated 14th February, 1898, for a return showing names of commissioners appointed by the government to inquire into the conduct of all employees of the civil service in the province of Quebec since the 23rd of June, 1896, and the amount paid to each commissioner as salary or travelling expenses. Presented 14th June, 1899.—*Mr. Monk*.  
*Not printed.*
- 103c. Return (in part) to an address of the Senate, dated 28th April, 1899, of the names of all commissioners appointed by order in council or otherwise since the 9th April, 1897, to inquire into and report upon charges preferred against any employee of the government, whether permanent or temporary, of offensive partisanship, or of any misconduct whatever. 2. The reports of said commissioners, or of commissioners previously appointed, not already brought down, and a statement showing the action taken by the government thereon. 3. The amounts paid each commissioner since the 9th April, 1897, in fees, *per diem* allowance, travelling expenses and incidentals of all kinds. 4. The names, ages, offices and salaries of all employees in the inside or outside service of the government, whether temporary or permanent, who since the 9th April, 1897, have been removed from office by dismissal, superannuation, or otherwise, whether on a report of a commission or otherwise, specifying in each case the grounds of dismissal, and the amount of superannuation or gratuity granted, if any; also the age, office, salary or remuneration of any and every person appointed in the place of, or as a consequence of every such removal. Presented 28th June, 1899.—*Hon. Sir Mackenzie Bowell*. . . . .*Printed in abstract form.*
- 103d. Supplementary return to No. 103. (Post Office Department.) Presented 5th July, 1899.  
*Not printed.*
- 103e. Supplementary return to No. 103c. Presented 4th July, 1899.....*See 103c.*
- 103f. Supplementary return to No. 103c. Presented 5th July, 1899.....*See 103c.*
- 103g. Supplementary return to No. 103. (Railways and Canals.) Presented 29th July, 1899.  
*Not printed.*
- 103h. Supplementary return to No. 103c. Presented 28th July, 1899.....*See 103c.*
104. Return to an address of the House of Commons, dated 19th April, 1899, for copies of all statements, claims, memoranda, correspondence, telegrams, etc., with the government of Prince Edward Island and a delegation from that province, in March last, consisting of the Honourable Hector C. Macdonald, Jas. W. Richards, and Benjamin Rogers, in regard to questions at issue between the government of Prince Edward Island and the dominion of Canada. Presented 6th June, 1899.—*Mr. Martin*.....*Printed for sessional papers.*
105. Return to an address of the House of Commons, dated 19th April, 1899, for all papers and correspondence, including orders in council, tenders and contracts in connection with the engraving, printing and supply of paper for the denominational postal notes, with a sample of the notes printed. Presented 6th June, 1899.—*Mr. Foster*.....*Not printed.*
- 105a. Return to an order of the House of Commons, dated 19th April, 1899, for a statement of all separate issues of postal stamps, cards, or notes since 1st January, 1897, noting those that have gone out of use, the quantity and date of each issue, and a sample of each issue, and giving in the case of the jubilee stamps, the cost and amount of cash returned to the treasury for each denomination. Presented 12th June, 1899.—*Mr. Foster* . . . . .*Not printed.*
- 105b. Return to an order of the House of Commons, dated 24th April, 1899, for a copy of contract for the production of postal notes, and the cost of such per 1,000 of each denomination, exclusive of paper, and for all correspondence between the contractor, the government and the queen's printer. Also for a statement of the number of reams of paper made for each denomination, by whom ordered to be made, where made, and name of manufacturer, and who has now possession of the Dandy rolls from which the paper was made. And also the following statements: Who furnished the electrotypes, and where they were made, the date of first delivery of postal notes, and amount of



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- security given by the contractor, and whether the contractor has supplied the necessary accommodation for government clerks for superintendence and storage for an ample supply of paper, Presented 12th June, 1899.—*Mr. Foster* . . . . . *Not printed.*
- 105c. Return (in part) to an order of the House of Commons, dated 29th May, 1899, showing in detail all dies, plates or other parts, wholly or partially engraved, entered or imported by or for the use of the American Bank Note Company and the British American Bank Note Company, to be used in the making of bank notes, postage stamps, postal notes and inland revenue stamps for the government, with the valuation and amount of duty charged and collected. Presented 12th June, 1899.—*Mr. Foster* . . . . . *Not printed.*
- 105d. Return to an order of the House of Commons, dated 19th April, 1899, for all correspondence had with the post office department, or any member of the government, in reference to the quality of the post cards issued by the post office department since 1st July, 1896. Presented 19th June, 1899.—*Mr. Foster* . . . . . *Not printed.*
106. Return to an order of the House of Commons, dated 24th April, 1899, for number of jubilee stamp plates engraved and their denominations, and cost of such plates. Cost of jubilee stamps per 1,000 complete. Also the number of plates engraved for the greater empire stamp, and the cost per plate, with the valuation and amount of duty charged and collected. Presented 6th June, 1899.—*Mr. Foster.*  
*Printed for sessional papers.*
107. Return to an address of the House of Commons, dated 8th May, 1899, for copies of all papers, including affidavits, and of all correspondence between the government and the government or public officials of the United States or other parties, concerning the case of Thomas Meagher, who was arrested by United States customs officers in Canadian waters, in the river St. Clair, on 19th August, 1898; was held in custody and grossly ill-treated by said officials for some time and afterwards imprisoned, and who was finally discharged without trial by order of the United States government. Presented 6th June, 1899.—*Mr. Cowan* . . . . . *Not printed.*
108. Return of the names and salaries of all persons appointed to or promoted in the civil service during the calendar year 1898. Presented 6th June, 1899, by Sir Wilfrid Laurier.  
*Printed for sessional papers.*
109. Return to an address of the House of Commons, dated 14th March, 1898, for copies of all correspondence, reports, orders in council and instructions in reference to the admission of foreign countries to commercial privileges under the so-called preferential clause of the tariff of 1897. Presented 6th June, 1899.—*Mr. Foster* . . . . . *Printed for sessional papers.*
110. Documents relating to the recent disallowance of certain statutes passed by the legislature of British Columbia. Presented 7th June, 1899, by Sir Wilfrid Laurier.  
*Printed for both distribution and sessional papers.*
- 110a. Further documents relating to the recent disallowance of certain statutes passed by the legislature of British Columbia. Presented 21st June, 1899, by Sir Wilfrid Laurier . . . . . *Not printed.*
111. Return to an order of the House of Commons, dated 18th April, 1898, for a return showing by departments, the expenditure in each year, beginning 1st July, 1890, for salaries in the outside service of the post office, customs and inland revenue departments, detailed by posts and sub-posts in the case of the inland revenue and customs, and by post offices in case of employees in the postal service, of all employees, whether temporary or permanent. Presented 7th June, 1899.—*Mr. McMullen* . . . . . *Not printed.*
112. Return to an address of the House of Commons, dated 15th May, 1899, for copies of all complaints, referred to on page 3 of the report of the deputy minister of interior (Annual Report of the Department of the Interior for the year 1897), minutes of council, commission instructions and report of Mr. Archer Martin, the commissioner, respecting the New Westminster crown timber office. Presented 9th June, 1899.—*Sir Charles Hibbert Tupper* . . . . . *Not printed.*
113. Return to an address of the House of Commons, dated 30th March, 1898, for copies of all instructions given by the government of Canada, or any department thereof, to Charles Russell, Esq., solicitor, London, England, or to the firm to which he belongs, or to any member thereof, in relation to any case or business in which the said government or any department thereof was or is concerned; also copies in detail of all bills of costs or accounts rendered by the said persons to the government or any department since 1st July, 1896. Presented 9th June, 1899.—*Mr. Bergeron.*  
*Printed for sessional papers.*
114. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all correspondence between the Northern Commercial Telegraph Company and the department of public works during the last six months. Presented 12th June, 1899.—*Mr. Maxwell* . . . . . *Not printed.*

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115. Return to an order of the House of Commons, dated 15th May, 1899, for copies of all correspondence, telegrams, reports, contracts, tenders and all other papers and documents in connection with the change in carrying the mails for Prince Edward Island between the Intercolonial Railway and Cape Tormentine during the past winter. Presented 12th June, 1899.—*Mr. Martin. Not printed.*
116. Return to an address of the House of Commons, dated 10th May, 1899, for copies of all petitions, correspondence, telegrams and instructions in reference to the granting of a bonded warehouse to John Gow Scrimgeour at Cardigan Bridge, Prince Edward Island. Presented 12th June, 1899.—*Mr. Macdonald (King's). Not printed.*
117. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all correspondence between the government or any member thereof, or any person or official in behalf of the same, and the Canada Eastern Railway Company, or any person in behalf thereof, and of any reports and papers in connection with any proposal to purchase for the government the said railway. Presented 12th June, 1899.—*Mr. Foster. Not printed.*
118. Return to an address of the House of Commons, dated 8th May, 1899, for copies of all orders in council, and all papers and correspondence had with the department of railways and canals or the minister of railways by the officers of the Central Railway Company of New Brunswick, or by any contractors or persons concerned in the construction of the said Central Railway Company of New Brunswick, or any one in their behalf, in connection with the payment of subsidy or grants made to the said company. Presented 13th June, 1899.—*Mr. Foster. Not printed.*
119. Return to an address of the House of Commons, dated 29th May, 1899, for copies of all correspondence, telegrams and reports that have passed between the Dominion government and the provincial government of British Columbia, or any person or persons acting on their behalf, in regard to the Songhees Indian reserve at Victoria, B.C., since 1st June, 1897. Presented 13th June, 1899.—*Mr. Prior. Not printed.*
120. Return to an order of the House of Commons, dated 15th May, 1899, for copies of all correspondence between the minister or any officials of the department of interior and Mr. A. Soper, of Port Perry, or other persons in reference to the suppression of the sale of liquor to the Scugog Indians. Presented 13th June, 1899.—*Mr. Foster. Not printed.*
121. Return to an order of the House of Commons, dated 8th May, 1899, for copies of all contracts or agreements entered into by or with the postmaster general or the post office department or her majesty or the government of Canada for the carriage of the mails into or out of the Yukon territory or district or any part thereof; and also copies of all advertisements for tenders for the carriage as aforesaid of such mails, and all tenders received by the postmaster general, the post office department or the government of Canada or her majesty the queen, for the carriage of mails into or out of the Yukon territory or district, also copies of all reports, letters and communications in writing from the post office inspector at Victoria, or any other post office inspector, or any other officer of the post office department with respect to such tenders or advertisements or with respect to the acceptance or rejection of any of the said tenders. Presented 13th June, 1899.—*Sir C. Hibbert Tupper. Not printed.*
122. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all correspondence, papers, petitions, etc., in connection with the resignation of Dr. Morris as postmaster at Dundas, Prince Edward Island, and the appointment of his successor and persons applying for the position. Presented 13th June, 1899.—*Mr. Macdonald (King's). Not printed.*
123. Return to an order of the House of Commons, dated 8th May, 1899, for: 1. A return showing the number of letter carriers who were employed in the post office in Victoria, B.C., in the year 1895-6, 1896-7 and 1897-8 respectively and the number employed at the present time. 2. The salary paid to each letter carrier employed in 1895-6 and salaries paid in the present year. 3. The provisional allowance granted to said letter-carrier in 1895-6 and in 1896-7 and 1897-8. Presented 13th June, 1899.—*Mr. Prior. Not printed.*
124. Return to an order of the House of Commons, dated 8th May, 1899, for a statement showing the weight of every issue of the daily and weekly publications issued in Toronto and Montreal since the introduction of the law requiring that all publications must be weighed and stamped before the acceptance of same at the post office of issue of paper. Presented 13th June, 1899.—*Mr. Quinn. Not printed.*

CONTENTS OF VOLUME 14--*Continued.*

125. Return to an order of the House of Commons, dated 26th April, 1899, for a statement in detail of all sums expended on account of the joint high commission between Great Britain and the United States since its inception to date, with the names of all persons connected therewith as commissioners, secretaries, clerks and attendants and the rate and total amounts of compensation of each as salary, allowances and expenses itemized. Presented 14th June, 1899.—*Mr. Foster.*  
*Not printed.*
126. Return to an address of the House of Commons, dated 18th April, 1898, for copy of all instructions, correspondence by letter or telegram between the government or any department or officer thereof and the representative of the crown, or any other person in relation to the postponement of the hearing of the appeal before the court of queen's bench, in the case of the Queen *vs.* Coulombe and others during the last term of the said court at Quebec, and of all documents in relation thereto. Presented 14th June, 1899.—*Mr. Casgrain.*..... *Not printed.*
127. Return to an address of the House of Commons, dated 1st May, 1899, for copies of all correspondence, petitions, resolutions and other papers in possession of the government, relating to the proposed branch railway from Southport to Murray Harbour and other proposed railway branches in the province of Prince Edward Island. Presented 14th June, 1899.—*Mr. Martin.*.... *Not printed.*
128. Return to an order of the House of Commons, dated 8th May, 1899, showing: 1. Settlements (if any) that have been made by the department of railways and canals since and during the last session, with those parties who suffered from the construction of the Roche-Fendue and Calumet dams in 1883. 2. The names of the valuers who adjusted the said claims, and by whom their appointment was recommended. Presented 14th May, 1899.—*Mr. Poupore.*..... *Not printed.*
129. Return to an order of the House of Commons, dated 26th April, 1899, for all papers and correspondence in connection with the claim of the British American Bank Note Company for the balance alleged to be due to the company for contract work done for the post office department. Presented 15th June, 1899.—*Mr. Foster.*..... *Not printed.*
130. Return to an order of the House of Commons, dated 10th May, 1899, showing the names of persons appointed to positions in the Toronto post office since 13th July, 1896, the date of each such appointment, the salary paid to each such person and the office to which each such person was appointed. Presented 15th June, 1899.—*Mr. Clarke.*..... *Not printed.*
131. Return to an address of the Senate, dated 21st March, 1898, for copies of all reports and surveys made by officers of the department of railways and canals, regarding the straightening of certain curves on the Prince Edward Island Railway at or near North Wiltshire, and also a statement showing: 1. The amount expended on straightening the said curves, and to whom paid. 2. How was the expenditure made, by tender or by day's work. 3. The nature and extent of the changes made. 4. What further changes, if any, are contemplated. Presented 13th June, 1899.—*Hon. Mr. Ferguson.*..... *Not printed.*
132. Return to an address of the Senate, dated the 25th May, 1899, for certified *verbatim* copies of all letters or other documents written to the minister or any official connected with the department of the interior, or to any member of the government, by H. H. Norwood, the person appointed by the government to the position of gold inspector in the Yukon district. Presented 13th June, 1899.—*Hon. Mr. Primrose.*..... *Not printed.*
133. Return (in part) to an address of the Senate, dated the 23rd March, 1899, showing the amounts of customs and excise duties collected on goods imported into that part of the Dominion known as the Yukon and Klondike country, from the first day of September, 1898, to the first day of March, 1899, specifying the character of the goods so imported and the countries from whence imported; together with a statement showing the quantity and character, as far as practicable, of Canadian goods sent to the said Yukon district during the same period. Presented 13th June, 1899.—*Hon. Sir Mackenzie Bowell.*..... *Not printed.*
134. Return to an address of the House of Commons, dated 8th May, 1899, for copy of a memorial signed by the late Honourable John Norquay, president of the executive council of the province of Manitoba, on behalf of said council, praying to be heard before her majesty in council on the interference of the governor general in council in the practice of disallowing acts clearly within the power of local legislature and asking that the same be discontinued; which memorial was addressed to the honourable the secretary of state of Canada with request that the same be transmitted to her majesty in council; also copies of all correspondence, reports to or from, and orders in council in connection therewith. Presented 16th June, 1899.—*Mr. LaRivière.*

*Printed for sessional papers.*

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135. Return to an order of the House of Commons, dated 18th April, 1898, for a return showing the amount spent by the government in the financial years 1896-7, 1897-8, and the proposed expenditure for the year 1898-9 on private piers and wharfs, and piers and wharfs not under government control and not the property of Canada, together with the names of such piers and wharfs and the owners thereof, as well as the sums spent on each for years mentioned. Presented 16th June, 1899.—*Mr. Martin*..... *Not printed.*
136. Return (in part) to an order of the House of Commons, dated 15th May, 1899, for a return of all reports and recommendations of the commission appointed to investigate and settle claims for losses arising out of the Saskatchewan rebellion of 1885; also a statement of all claims presented, the amount paid in each case, also all claims presented and not entertained. Presented 20th June, 1899.—*Mr. Davis*..... *Not printed.*
137. Return to an order of the House of Commons, dated 17th May, 1899, for copies of all instructions, correspondence and reports, accounts and vouchers, for expenses connected with the expedition of Chief Engineer Coste, of the department of public works, referred to in the annual report of the minister of marine and fisheries, 1898, page 7, and also connected with the visit subsequently paid to England by Mr. Coste in the same year. Presented 20th June, 1899.—*Sir C. Hibbert Tupper*.  
*Not printed.*
138. Return (in part) to an order of the House of Commons, dated 29th May, 1899, for copies of all correspondence, telegrams and reports between the departments of militia and defence and justice or their agents, and the following claimants for compensation and damages in respect of the erection of fortifications at Macaulay Point, British Columbia, viz.: Fred. Bell, J. Jardine, W. F. Bullen, R. W. Reford, Henry Moss, William Moss, J. G. Tiarks, Charles Kent, Thornton Fell, Andreas Keating (B. L. Ker), Hans Ogilvy Price, H. F. Bishop, S. J. Pitts, and any others that may have presented claims in regard to same. Presented 21st June, 1899.—*Mr. Prior*.  
*Not printed.*
- 138a. Supplementary return to No. 138. Presented 29th June, 1899..... *Not printed.*
139. Return to an address of the House of Commons, dated 19th April, 1899, for copies of the reports of Walter Shanly, C.E., and T. C. Keefer, C.E., in connection with the proposed large locks at Iroquois and Farran's Point. Presented 23rd June, 1899.—*Mr. Taylor*..... *Not printed.*
140. Return to an order of the House of Commons, dated 19th April, 1899, for: 1. Statement of the expenditure connected with the royal military college, Kingston, every year since its foundation. 2. Of the number of graduates in each year, and of their present place of residence and occupation, as far as known to the college authorities. 3. Of all general orders or regulations relating to the employment of these graduates in the permanent corps, volunteers or other branches of the public service. Presented 23rd June, 1899.—*Mr. Casey*..... *Not printed.*
141. Return to an order of the House of Commons, dated 18th April, 1898, for copies of all instructions, correspondence, etc., in relation to the construction of wharfs at Mistassini and St. Méthode (Tékouabé); a detailed statement showing the quantity of timber, iron and stone used in the said works; by whom the said articles were furnished; the prices paid therefor to each person; the names of the carpenters and framers employed and the prices paid them per day and how much was received in cash by them, as also by the day labourers who worked with them; all other expenditure in relation to the said works; copies of all correspondence in relation to the contracts awarded to Messrs. Tétu & Savard, of St. Félicien, for making timber for the St. Méthode wharf; copies of the said contracts and of all further correspondence as to presenting payment of their accounts; a statement of the quantity of timber prepared by them, and of the amount paid to them personally. Copies of instructions issued to J. B. Carbonneau, chief carpenter at the Mistassini and St. Méthode wharfs; correspondence as to cancelling of his instructions at St. Méthode and the appointment of a chief carpenter in his place. Presented 26th June, 1899.—*Mr. Casgrain*.  
*Not printed.*
142. Return to an order of the House of Commons, dated 30th March, 1898, showing the amounts paid to each and all persons who worked at the Roberval pier in 1896; the number of days worked; the prices paid; the quantity of timber and iron furnished, and the prices paid therefor; the place where the same was obtained; copies of all instructions, correspondence, etc., in relation to the said work. Presented 26th June, 1899.—*Mr. Casgrain*..... *Not printed.*

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143. Return to an order of the House of Commons, dated 27th April, 1899, for a statement of sums paid as travelling expenses to the judges of the superior court for the province of Quebec coming from outside districts to sit in the city of Montreal. 1. From the 1st of January, 1898, up to the coming into force of the statute 61 Victoria (Canada), chap. 52. 2. Since the coming into force of said statute down to the 1st of March, 1899. Presented 26th June, 1899.—*Mr. Monk. Not printed.*
144. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all tenders opened the 14th day of May, 1897, for works on the Farran's Point canal, showing the prices of different tenderers for each item and the approximate quantities upon which the tenders were extended, also the lump sum of each tender. Presented 27th June, 1899.—*Mr. Clancy. . . . . Not printed.*
145. Return to an order of the House of Commons, dated 14th February, 1898, for correspondence and reports respecting increased wharf accommodation at Pictou, Nova Scotia, in 1892 and since. Presented 28th June, 1899.—*Sir C. Hubbert Tupper . . . . . Not printed.*
146. Return to an order of the House of Commons, dated 29th May, 1899, for copies of all reports of any survey held during 1897 or 1898 of Neufrage Pond, King's county, Prince Edward Island. Presented 28th June, 1899.—*Mr. Macdonald (King's) . . . . . Not printed.*
147. Return to an order of the House of Commons, dated 10th May, 1899, for copies of all unexpired leases and unexpired renewals and modifications of leases, and of all papers and plans relating thereto of all water lots, water power and hydraulic privileges in and along that portion of the river Ottawa and its various channels within the city of Ottawa, from the westerly boundary of the said city to the line of Kent street, produced into the Ottawa river, and commonly known as the Chaudière, issued by the government to any person, persons or company, and for plans showing the position of such water lots, water power and hydraulic privileges. Also for a statement of the amount of power each lessee is entitled to use, and the date of the termination of the lease under which he is entitled to use it. Presented 28th June, 1899.—*Mr. Copp. . . . . Not printed.*
148. Certain correspondence relating to the franchise of the different provinces as the franchise for the elections to the House of Commons. Presented (Senate) 27th June, 1899, by Hon. Mr. Mills.  
*Not printed.*
149. Return to an order of the House of Commons, dated 10th May, 1899, giving the names of all the weirs now under license in the county of Charlotte, in the province of New Brunswick, with location of each, with date said licenses were issued, and with the name or names of the licensees of said weirs; also the names of all weirs licensed during 1898 that were not built and the names of licensees of said weirs, and the number of years said licenses have been granted without weirs having been built by such licensees. Presented 29th June, 1899.—*Mr. Ganong. . . . . Not printed.*
150. Return to an order of the House of Commons, dated 8th May, 1899, showing: 1. The canals and river works therewith forming the connection between the great lakes and deep water navigation at Montreal which were completed on 1st July, 1896, the depth of water in each, and the cost of each to that date. 2. The canals and connected river improvements which at that date were in course of construction or enlargement, showing the work which had been done on each, the cost to 1st July of such construction or enlargement, and the estimated cost to complete the contracts then existing and amount of each; the new contracts made since 1st July, 1896, covering work other than that completed or under contract at that date and the amount of each. 3. The estimated cost of completing these works to the proposed depth over and above the amounts involved in contracts existing on 1st July, 1896. Presented 29th June, 1899.—*Mr. Foster. . . . . Not printed.*
151. Return to an order of the House of Commons, dated 10th May, 1899, showing the number of contracts entered into by the government since the 30th June, 1897, in which there is a clause prohibiting "sweating"; the total amount involved in such contracts; the name of the respective department in which these contracts have been awarded; the names of the companies, or firms, or individuals to which such contracts have been given. Presented 29th June, 1899.—*Mr. Clarke.*  
*Printed for sessional papers.*
152. Return to an address of the Senate, dated 23rd March, 1899, showing: 1. The number of persons in the employment of the post office department on the 30th of June, 1896, and the total amount paid to said employees for the year ending said 30th June, 1896. 2. A similar return giving the same information for the year ending 30th June, 1898. 3. The number of employees in the said service on the 12th day of July, 1896, and on the 16th February, 1899. Presented 20th June, 1899.—*Hon. Sir Mackenzie Bowell. . . . . Not printed.*

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153. Return to an address of the House of Commons, dated 29th May, 1899, for copies of all orders in council, applications, correspondence, papers, plans, etc., in the departments of interior and marine and fisheries, respecting 37-29 acres or thereabouts of foreshore and tidal lands about two miles below Steveston, British Columbia, situate west and immediately adjoining section 9, range 7 west, block 3 north, N.W.D. Presented 30th June, 1899.—*Sir Charles Hibbert Tupper.*  
*Not printed.*
154. Return to an order of the House of Commons, dated 19th June, 1899, showing: 1. The amount paid in the province of Prince Edward Island since 1896 as fines for the infraction of the lobster fishery regulations, the names of persons so fined, and the amount of the fine in each case. 2. A detailed statement of the fines collected. 3. The disposition of those fines. 4. The cost of prosecution in each case. 5. The names of fishery officers receiving a share of such fines, and the amount received in each by any officer. 6. The magistrate or other officer who tried such cases. Presented 30th June, 1899.—*Mr. Martin.*.....*Not printed.*
155. Return to an order of the House of Commons, dated 19th June, 1899, for copies of all correspondence, petitions, reports, telegrams, etc., in connection with the proposed change of mail arrangements for Grand View, in Prince Edward Island. Presented 4th July, 1899.—*Mr. Martin.*  
*Not printed.*
156. Return to an address of the Senate, dated 19th April, 1899, for a statement showing: 1. What was the total average amount paid to the Ottawa Gas Co., per annum, for lighting the various government buildings during the two years ending 1898? 2. What is the total cost per annum, by the present system of lighting? 3. Were tenders called for lighting the various buildings by either gas or electricity? To what company was the contract for lighting awarded? 4. What is the total number and power of incandescent electric lights now installed in all the public buildings in Ottawa, and cost of installation, including wiring and all other apparatus? 5. What was the number and power of electric lights operated by the government electric light plant, and annual cost of the same, during the two years ending 1898? 6. What is the original cost and present value of all government electrical plant and boilers in the public buildings in Ottawa? How many men are employed to operate them? 7. Were tenders called for the wiring of any or all the government buildings in Ottawa and the supply of all electrical appliances necessary for the same? From whom were offers received and what were the respective amounts of such offers? 8. How was the parliamentary appropriation of \$75,000 for extending the government lighting plant, and the purchase of certain pumps for fire purposes, expended? What are the items of such expenditure, and to whom paid? Presented 4th July, 1899.—*Hon. Sir Mackenzie Bowell.*.....*Not printed.*
157. Return to an order of the House of Commons, dated 19th June, 1899, for copies of all correspondence, petitions, etc., in reference to the recent appointment of a postmaster at Clifton, New London, in the province of Prince Edward Island. Presented 10th July, 1899.—*Mr. Martin.*....*Not printed.*
158. Return to an order of the House of Commons, dated 19th April, 1899, for copies of specifications and plans for the construction of deep water terminal facilities at St. John, N.B., including wharfs, warehouses, elevators, tracks, etc., together with copies of tenders for the said works and of any contracts entered into therefor. Presented 18th July, 1899.—*Sir Charles Tupper.*  
*Not printed.*
159. Return to an address of the House of Commons, dated 19th April, 1899, for copies of the contract and specification in connection with the North Channel improvement, below Prescott, with copies of any supplementary agreement or agreements entered into with the contractor; also plans showing the location on which the contract was let and the present location. Presented 18th July, 1899.—*Mr. Taylor.*.....*Not printed.*
160. Return to an address of the Senate, dated 20th April, 1899, for all correspondence with the government, or any member thereof, relating to the subject of the introduction of a prohibitory liquor law by the government, together with all affidavits and other documents having relation to the vote cast upon the question of prohibition on the 29th day of September, 1898, and the alleged frauds in connection therewith. Presented 18th July, 1899.—*Hon. Sir Mackenzie Bowell.*  
*Not printed.*
161. Return to an address of the Senate, dated the 21st June, 1899, for copies of all correspondence between the department of agriculture, the Prince Edward Island Fruit Growers' Association and the provincial premier, Hon. Mr. Farquharson, with reference to experiments in fruit culture now being carried on in Prince Edward Island; said correspondence to include all instructions to Mr. Kinsman with reference to the nature of the work to be undertaken and the selection of orchards for the purpose of carrying on said experiments. Presented 18th July, 1899.—*Hon. Mr. Ferguson.*.....*Not printed.*

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 CONTENTS OF VOLUME 14—*Continued.*

162. Return to an order of the House of Commons, dated 26th June, 1899, for: 1. Copies of all papers, documents, correspondence, letters, etc., in connection with the appointment of Dr. Hall, veterinary surgeon, of Quebec, for the purpose of inspecting cattle for the discovery of tuberculosis at Hébertville or elsewhere in the county of Chicoutimi. 2. In connection with any part of said work done by his brother. 3. Statement of the number of herds which he or his brother examined. 4. Statement of sums of money paid for such inspection, travelling expenses, carters, aids or assistants. 5. Statement of any sum or sums paid to David Ouellet, of Hébertville, in connection with said inspection. Presented 19th July, 1899.—*Mr. Gasgrain*..... *Not printed.*
- 162a. Supplementary return to No. 162. Presented 26th July, 1899..... *Not printed.*
163. Return to an address of the House of Commons, dated 26th June, 1899, for a copy of the final estimate or settlement of section number three (3) of the Lachine canal enlargement of 1875-1880 in detail. Presented 20th July, 1899.—*Mr. McInerney*..... *Not printed.*
- 163a. Return to an order of the House of Commons, dated 26th June, 1899, for copies of the plans and profiles of the substructures of the highway and railroad bridges across the Lachine canal at Wellington street, Montreal, the dimensions to be in figures, also *esometrical projections* of the pivot and rest piers (abutments), showing the figured dimensions and elevations of the several parts, including turntable, circular girder, wheels and machinery. Presented 20th July, 1899.—*Mr. McInerney*..... *Not printed.*
- 163b. Return to an address of the House of Commons, dated 26th June, 1899, for a copy of the report of the royal commission appointed to inquire into the construction of the Wellington street and Grand Trunk bridges across the Lachine canal at Montreal. Presented 29th July, 1899.—*Mr. McInerney*..... *Not printed.*
164. Return to an order of the House of Commons, dated 30th March, 1898, showing: 1. How many were employed on the dredge "Prince Edward" as caretakers or otherwise since she went into winter quarters at the end of last season. 2. How many were employed during the winter 1896-97. 3. How many cubic yards were removed by dredge "Prince Edward" during the seasons of 1896 and 1897 respectively, and the cost per cubic yard each season. 4. The number of days the dredge "Prince Edward" was doing actual work in each month during the seasons of 1896 and 1897 respectively. 5. The cost of repairs for the dredge "Prince Edward" for the years ending 31st December, 1896 and 1897 respectively. Also all correspondence in connection with the dismissal of John N. Macdonald from dredge "Prince Edward," and the appointment of his successor. Presented 22nd July, 1899.—*Mr. Macdonald (King's)*..... *Not printed.*
165. Return to an address of the Senate, dated 25th April, 1899, for: 1. The number of acres of land set apart for the purpose of education in the province of Manitoba and in the North-west Territories, respectively, under the authority of chapter 54, Revised Statutes of Canada, section 23. 2. The number of acres sold in Manitoba and the North-west Territories, the amount received in payment therefor, and the amount now due thereon. 3. The total sum now at the credit of said fund held by the dominion of Canada, how invested, and the rate of interest paid thereon. 4. The amount advanced out of said principal sum in aid of education in the province of Manitoba and the North-west Territories. 5. The sum recouped to the said principal out of the proceeds of the sale of lands set apart for the purpose of education, and the amount now due to the said principal sum. 6. And all correspondence relating to any further advances out of said school fund, either to Manitoba or the North-west Territories. Presented 26th July, 1899.—*Hon. Sir Mackenzie Bowell*..... *Not printed.*
166. Return to an address of the House of Commons, dated 19th June, 1899, for a copy of all correspondence between the government and the boards of trade of the Dominion in regard to the passage of an insolvency law. Presented 31st July, 1899.—*Mr. Monk*..... *Not printed.*
167. Return to an order of the House of Commons, dated 31st July, 1899, for a statement of the amounts paid for medical attendance and medicines for Indians in the electoral district of Yale and Cariboo during the years 1896-7, 1897-8 and 1898-9, showing to whom payments were made and amounts paid to each. Presented 31st July, 1899.—*Hon. C. Sifton*..... *Not printed.*
168. Return to an order of the House of Commons, dated 25th April, 1898, for: 1. Copies of all tenders in 1897 for the supply of drugs to the North-west mounted police at Prince Albert and Battleford, and the name of the successful tenderer and a copy of the contract. 2. Copies of all tenders for the supply of drugs to the mounted police at Prince Albert and Battleford, for the year 1898; the name of the successful tenderer, and a copy of the contract. Presented 7th August, 1899.—*Mr. Davin*..... *Not printed.*

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 CONTENTS OF VOLUME 14—*Concluded.*

169. Return to an order of the House of Commons, dated 8th August, 1899, for copy of correspondence in relation to the suit Esquimalt and Nanaimo Railway Company, versus the New Vancouver Coal Company, as to the ownership of the coal underlying Nanaimo harbour. Presented 8th August, 1899.—*Hon. C. Sifton*..... *Not printed.*
170. Return to an order of the House of Commons, dated 25th July, 1899, for a copy of the report of the hon. the minister of justice, on which the order in council was passed for the discharge from prison of J. K. Skelton and T. Dewan, tried and convicted of perjury before Mr. Justice Wetmore, at Battleford, October, 1897, and subsequently sentenced to a term of imprisonment; also copy of affidavits supporting the application for the discharge of the aforesaid Skelton and Dewan. Presented 8th August, 1899.—*Mr. Davin*..... *Not printed.*
171. Return to an address of the House of Commons, dated 24th April, 1899, for: (a) Copy of all correspondence or orders in council relating to the entering into an agreement by the government, or department of railways and canals, for the operating by the same of the Baie des Chaleurs Railway during the fiscal year 1896, and a copy of the contract governing the same. (b) A statement containing the period during which the road was so operated, also the total expenses directly or indirectly connected with such operation, and the total revenue derived from the same. Presented 8th August, 1899.—*Mr. Bergeron*..... *Not printed.*
172. Return to an address of the House of Commons, dated 24th April, 1899, for: (a) Copy of tenders for the letting of sections four, five, six and seven of the Soulanges canal; also a copy of advertisement for the same, and a statement of tenders moneyed out. (b) Copy of tenders for the reletting of sections four, five, six and seven of the Soulanges canal; also a copy of advertisement for same, and a statement of tenders moneyed out. (c) Copy of all correspondence or orders in council directly or indirectly relating to the letting or the reletting of the above sections. Presented 8th August, 1899.—*Mr. Bergeron*..... *Not printed.*
173. Return to an order of the House of Commons, dated 8th August, 1899, for copy of correspondence relative to the question of reducing the dock charges at Esquimalt dry dock. Presented 8th August, 1899.—*Hon. W. S. Fielding*.... *Not printed.*
174. Return to an address of the House of Commons, dated 10th July, 1899, for copy of all papers in connection with the applications made for, and the consideration of the commutation of the sentence of death on Marion Brown for murder. Presented 9th August, 1899.—*Mr. Wallace*.  
*Not printed.*
175. Return to an address of the House of Commons, dated 8th May, 1899, for copies of all cablegrams, papers, correspondence and despatches or other writing upon which the right honourable the prime minister of Canada based the statement in the house of commons on 10th June, 1898, as follows: "I have the authority of the secretary of state for the colonies to state that he approves of the principles on which the governor general acted, as based on the facts set forth in the letter of his excellency to Sir Charles Tupper." Presented 11th August, 1899.—*Sir Charles Tupper*.  
*Not printed.*



## APPENDIX TO THE REPORT OF THE MINISTER OF AGRICULTURE

## EXPERIMENTAL FARMS

## REPORTS

OF THE

DIRECTOR and acting AGRICULTURIST	Wm. SAUNDERS, LL.D.
HORTICULTURIST	W. T. MACOUN
CHEMIST	F. T. SHUTT, M.A.
ENTOMOLOGIST and BOTANIST	JAS. FLETCHER, LL.D.
POULTRY MANAGER	A. G. GILBERT
SUPT. EXPERIMENTAL FARM, Napan, N.S.	R. ROBERTSON
HORTICULTURIST " " "	W. S. BLAIR
SUPT. EXPERIMENTAL FARM, Brandon, Manitoba	S. A. BEDFORD
" " " Indian Head, N.W.T.	ANGUS MACKAY
" " " Agassiz, B.C.	THOS. A. SHARPE

FOR

1898

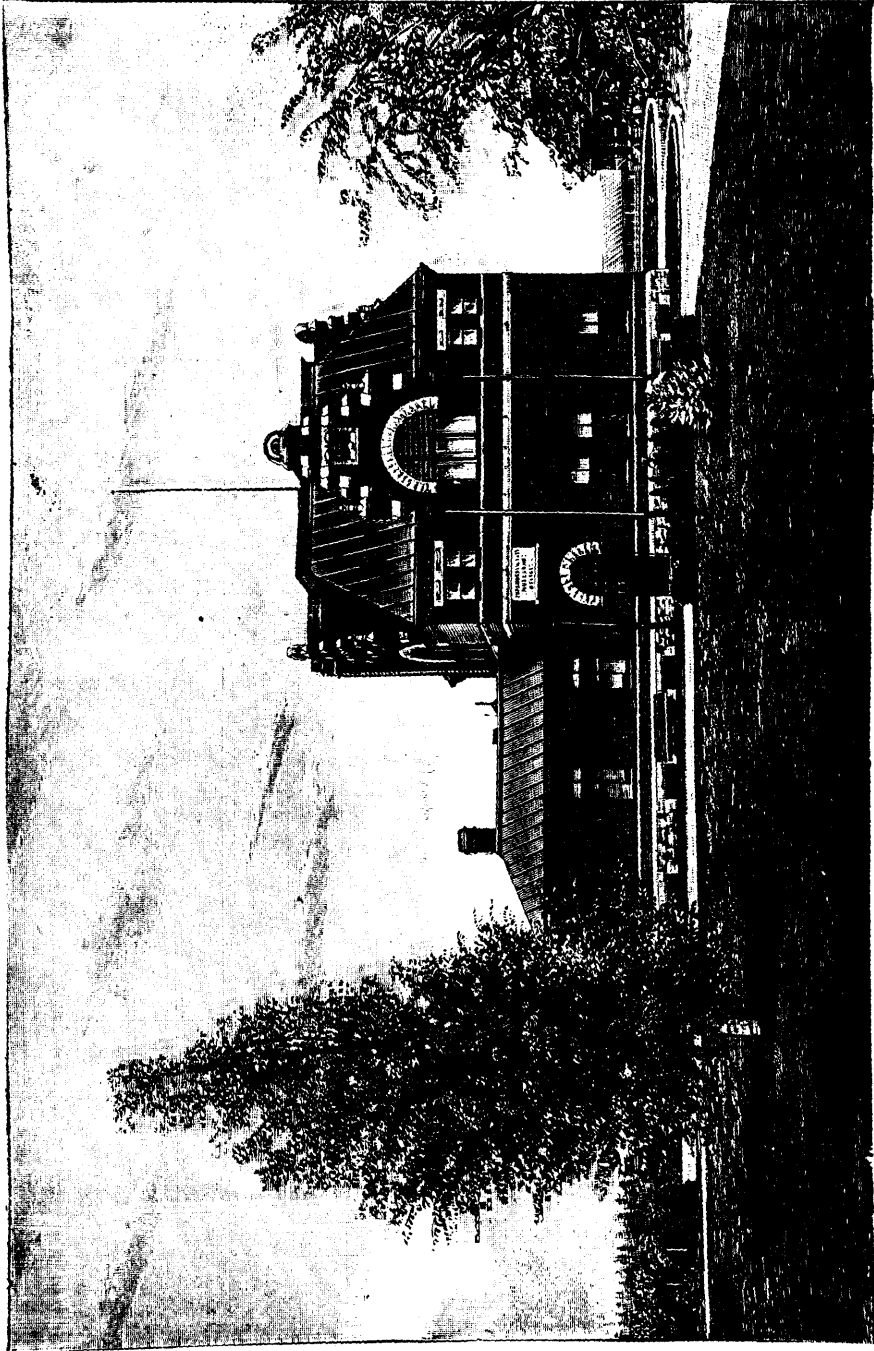
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OTTAWA

PRINTED BY S. F. DAWSON, PRINTER TO THE QUEEN'S MOST  
EXCELLENT MAJESTY

1899



OFFICE BUILDING AND MUSEUM OF THE CENTRAL EXPERIMENTAL FARM.

# Experimental Farms.

## APPENDIX

TO THE

# REPORT OF THE MINISTER OF AGRICULTURE

ON

# EXPERIMENTAL FARMS.

—o—

OTTAWA, 1st December, 1898.

SIR,—I beg to submit for your approval the twelfth annual report of the work done and in progress at the several Experimental Farms.

In addition to the duties devolving on me as Director of the Experimental Farms, I have also continued to carry on the work of the Agriculturist and have prepared for the present report particulars of the results of the experiments conducted at the Central Experimental Farm with field crops and stock. You will also find appended reports from the following officers of the Central Experimental Farm: From the Horticulturist, Mr. W. T. Macoun; from the Chemist, Mr. Frank T. Shutt, and from the Entomologist and Botanist, Dr. James Fletcher. Reports are also submitted from the Poultry Manager, Mr. A. G. Gilbert.

From the Branch Experimental Farms there are reports from Mr. R. Robertson Superintendent, and from Mr. W. S. Blair, Horticulturist of the Experimental Farm for the Maritime Provinces, at Nappan, Nova Scotia; from Mr. S. A. Bedford, Superintendent of the Experimental Farm for Manitoba, at Brandon; from Mr. Angus Mackay, Superintendent of the Experimental Farm for the North-west Territories, at Indian Head; and from Mr. Thos. A. Sharpe, Superintendent of the Experimental Farm for British Columbia, at Agassiz.

In these reports there will be found the results of many important and carefully conducted experiments in agriculture, horticulture and arboriculture, the outcome of practical work in the fields, barns, dairy and poultry buildings, orchards and plantations at the several experimental farms; also of scientific investigations in the chemical laboratory and the information gained from the careful study of the life histories and habits of injurious insects and the methods by which noxious weeds are propagated and spread, together with the most practical and economical measures for their destruction.

In the report of the Entomologist and Botanist there will also be found particulars of the experiments and observations made during the past year in connection with the Apiary.

The large and constantly increasing demand by the farmers of the Dominion for the publications issued from the experimental farms is a gratifying evidence of the desire for information among this class of the community, also of the high esteem in which these records of the work of the farms are held. It is hoped that the facts brought together in the present issue will be found of much practical value to the Canadian farmer and fruit grower and that they may assist in advancing agriculture and horticulture in this country.

I have the honour to be, sir,

Your obedient servant,

WM. SAUNDERS,

*Director Experimental Farms.*

To the Honourable  
The Minister of Agriculture,  
Ottawa.

# Experimental Farms.

## ANNUAL REPORT

ON THE

# EXPERIMENTAL FARMS

REPORT OF THE DIRECTOR AND ACTING AGRICULTURIST.

(*WM. SAUNDERS, LL.D., F.R.S.C., F.L.S.*)

In submitting the twelfth annual report of the work done on the Central and Branch Experimental Farms, attention is called to the steady extension of the operations undertaken and to the multiplicity of the details involved. In the planning of the different series of experiments to be undertaken, new material is added from year to year, and their scope is constantly widening. During 1898 the Experimental Farms have shared in the general success which has attended agricultural operations throughout Canada, and good crops have been harvested at all the farms excepting that for the Maritime Provinces, the harvest has brought returns well above the average, while at Nappan, Nova Scotia, where the climatic conditions were less favourable, the crops may be said to have given a fair average yield.

With the growing interest manifested in the mission and work of these farms, many inquiries are made from time to time as to the agricultural conditions existing prior to their establishment, also as to the size and location of each farm, the character of the land, and the area under cultivation. Many particulars are also sought in reference to the general objects in view in the conduct of the work and the progress made along different lines at each farm. To give such inquirers the information sought, brief reference will here be made to the state of agriculture in Canada during the earlier history of this country and some particulars presented regarding each of the Experimental Farms.

### AGRICULTURE IN CANADA IN EARLIER TIMES.

It had long been recognized by the more thoughtful part of the community that the early practice of farming in Canada had been wasteful. It had consisted mainly of efforts to take all that could be conveniently got from the land in crops without returning any sufficient equivalent. Such methods had resulted in exhaustion, which although fortunately not complete was so far accomplished that large areas of land in different parts of the early settled portions of the country on which fine crops of wheat had been grown for many years had ceased to give satisfactory returns, and had been abandoned to pasture and other purposes, while new fields had been sought for the cultivation of this valuable cereal so necessary for man's sustenance.

Until recent times it had not been generally understood that every crop grown takes from the land on which it has been produced, certain ingredients known as plant food, and that where repeated drafts are made on this store of nutrition, without making corresponding returns, such soil, no matter how fertile it may have been, will sooner or later, become so far exhausted as to cease to produce profitable crops.

Fortunately the stores of fertility in good soil are large, and are mainly held in insoluble forms, which can only be brought into soluble and available conditions very gradually. To bring this about the conditions must be favourable. The land must be diligently worked, to expose the component parts in turn to the action of air and sunshine which promote the growth of certain ferments and bacterial forms, which take an active part in this transformation. Wasteful farming is almost always associated with a negligent treatment of the land, ploughing being scanty, cultivation practically abandoned, and the crops largely left to take care of themselves. Under such treatment nature refuses to open her stores of fertility and the indolent farmer realizes such small returns, that farming with him soon ceases to be a paying occupation. When an industrious and careful occupant comes into possession of such a worn out farm and ploughs deeply and cultivates often, gives regular dressings of reasonable quantities of manure, and otherwise adds to the fertility of the land by the occasional ploughing under of green crops of clover, and further follows a judicious rotation of crops, the fertility of such land will soon be so far restored that the toil of the husbandman will receive a liberal reward.

#### CONDITION OF AGRICULTURE IN THE LAST DECADE.

Early in the last decade agriculture in Canada was very much depressed. In 1884 the House of Commons appointed a special commission to inquire into this important industry and to suggest means for its advancement. Evidence was taken from experts in different parts of the country and opinions obtained from many practical farmers. The general opinion was to the effect that farmers were much in need of information in reference to many branches of their calling, and that agriculture in Canada might be much advanced if some means were adopted whereby the farmer might be instructed how best to overcome the difficulties which surround his occupation, by practical demonstrations and the free circulation of suitable literature; and as a means to this end the establishment of Experimental Farms was recommended.

#### ESTABLISHMENT OF EXPERIMENTAL FARMS IN CANADA.

No action was taken on this suggestion until the latter part of 1885, when Sir John Carling, who had been recently appointed Minister of Agriculture, took steps to bring about the organizing of these institutions in Canada. Inquiries were made as to the methods adopted in working experimental farms and stations in other countries and the writer was instructed to visit a number of such institutions then existing, to prepare a report and to make recommendations as to the form which it seemed most desirable this work should assume in this country. This report was prepared and distributed to Parliament in February, 1886, when an Act was introduced and passed with the concurrence of both sides of the House authorizing the Government to establish a Central Experimental Farm and four Branch Experimental Farms in different parts of Canada.

With the appointment of the Director in October, 1886, the work was begun. Sites for the farms were chosen, officers were appointed and most of the farms were fairly well equipped within two years from that date and all doing good work in their respective spheres of usefulness.

#### IMPORTANT LINES OF WORK UNDERTAKEN.

Since the primary object in the establishment of these farms was to assist the farmer in his endeavours to overcome the difficulties attendant on his work and to adopt such measures as were likely to result in making farming in this country more profitable, much attention was given from the beginning to those subjects which lie at the foundation of successful agriculture. Among the most important of these are the maintaining of the fertility of the soil, so as to provide for a succession of good crops without

## Experimental Farms.

exhaustion ; the determining of the best methods of preparing the land for different crops in the several climates of the Dominion ; the finding out the best time for the sowing of seed and the ascertaining by repeated tests which are the most profitable varieties of grain, fodder plants and roots to grow, taking into consideration productiveness, quality and earliness of ripening.

### SATISFACTORY PROGRESS MADE.

During the past eleven years a wonderful change has taken place in the methods of farming in this country. Instead of selling the coarse grains and thus shipping away the plant food which these crops have taken from the land, a very large proportion of these, associated with suitable fodders, are now fed to cattle, swine and sheep and are thus converted into dairy products, beef, pork, and mutton ; and by this method a large part of the fertility taken from the land by the crops has been restored to the soil in the manure. The great value of barn-yard manure is now generally recognized : it is much better cared for, and the most economical methods of handling and using it are more generally practised. The practical lessons taught by the experiments which have been conducted at the Experimental Farms, have been turned to a useful account and much solid advancement has been made.

In the meantime the occupation of farming has been elevated in the eyes of the community. It is no longer looked upon as a sort of drudgery, suited to the dull and slow-going, but is now regarded as a suitable field for the higher intelligence of more cultivated minds. It is recognized as a calling requiring much skill to conduct it successfully and as giving ample scope for the exercise of the most active and earnest minds, and one in which information of almost every sort may be turned to practical account. A few figures will illustrate the progress which has been made along the lines referred to. In 1884 the value of the cheese exported from Canada was \$7,251,989 ; in 1898 it was \$17,572,763. During the same period the value of the butter exported has nearly doubled. The exports of cattle have also increased considerably, while the trade in pork has made a phenomenal growth. In 1884 the value of the exports of hams, bacon, pork and lard was less than one million dollars ; in 1898 they amounted to more than 8 million dollars.

### CENTRAL EXPERIMENTAL FARM.

Many useful lines of work have been carried on at each of the Experimental Farms, but the larger part of the special work of investigation has been done at the Central Farm. As this institution was intended to serve the purposes of a central bureau of information and to meet the requirements of the two most important provinces, Ontario and Quebec, a site was chosen near the boundary line between these provinces where the climate fairly represents the larger part of their area. This farm is located at Ottawa about three miles from the Parliament buildings and consists of 465 acres in all, which is divided by a public road, 400 acres lying to the west and 65 acres to the east of that road. On the 400 acres the buildings are located, which include an office building and museum and a chemical laboratory. A large barn consisting of a central portion, and two wings, with silos at one end having capacity for 350 tons of ensilage. The lower story of this building being on a level with the barn-yard affords accommodation for a considerable number of cattle, while one of the wings is occupied by the pure bred bulls and the other with the working horses. There is also a piggery, a dairy building and poultry-houses ; also a sheep building in process of construction. An implement shed, granary and tool-house, a large root-house, and a conservatory with houses for seed testing and seed distribution. There are also several dwellings used as residences by some of the officers and men in charge of the several branches of the work. The soil of this farm varies much in its character in different parts, some portions are heavy clay loam, some a friable clay loam with more or less sand intermixed. The larger part, however, consists of varying

qualities of sandy loam ranging from a heavy loam to one of a light character. About 328 acres of this land is devoted to farming purposes and experiments with farm crops, 42 acres to the testing of fruits and vegetables, 20 acres to the growing of timber trees and about 10 acres to the buildings and the plantations about them of ornamental trees shrubs and plants, sample hedges, &c.

#### ARBORETUM AND BOTANIC GARDEN.

The 65 acres on the east side are devoted to the purposes of an Arboretum and Botanic Garden where economic and ornamental trees, shrubs and plants have been brought together from all countries with cold or temperate climates, where they are tested side by side and their hardiness and usefulness determined. The plantations of trees and shrubs now include nearly 2,500 species and varieties and about 1,100 varieties of perennial plants are growing in the borders devoted to this purpose. In the orchards about 1,200 varieties of fruits are under test, while the trial plots and fields of grain, fodder crops and roots, include a very large number of different sorts gathered from many distant countries and supplemented by many promising varieties which have been produced on the experimental farms by cross-fertilizing and selection.

#### PRODUCTION OF NEW VARIETIES OF CEREALS.

Among the many lines of scientific investigation carried on at the Central Farm none have attracted more general attention than the work done in the production of new varieties of cereals by cross-fertilizing and hybridizing. Since the Experimental Farms were established more than 700 new sorts have been so produced. Some of the varieties of grain used as a basis for this work have been brought from the northern parts of Russia, others from high altitudes in the Himalaya Mountains in India. In these localities some of the earliest ripening varieties of grain are found. These have been crossed with standard sorts of the highest quality and productiveness with the object of producing new varieties combining the high quality and productiveness of the one parent with the earliness of the other.

After careful test all those of less promise are rejected, but there are still under trial more than 200 varieties of these hybrid and cross-bred sorts consisting of wheat, barley, oats and pease. Some of these new kinds have produced heavy crops for several years past and seem likely to occupy a prominent place among the best sorts in cultivation. Many new fruits have been similarly produced, especially of hardy varieties likely to be useful in the Canadian North-west.

#### DIVISION OF WORK.

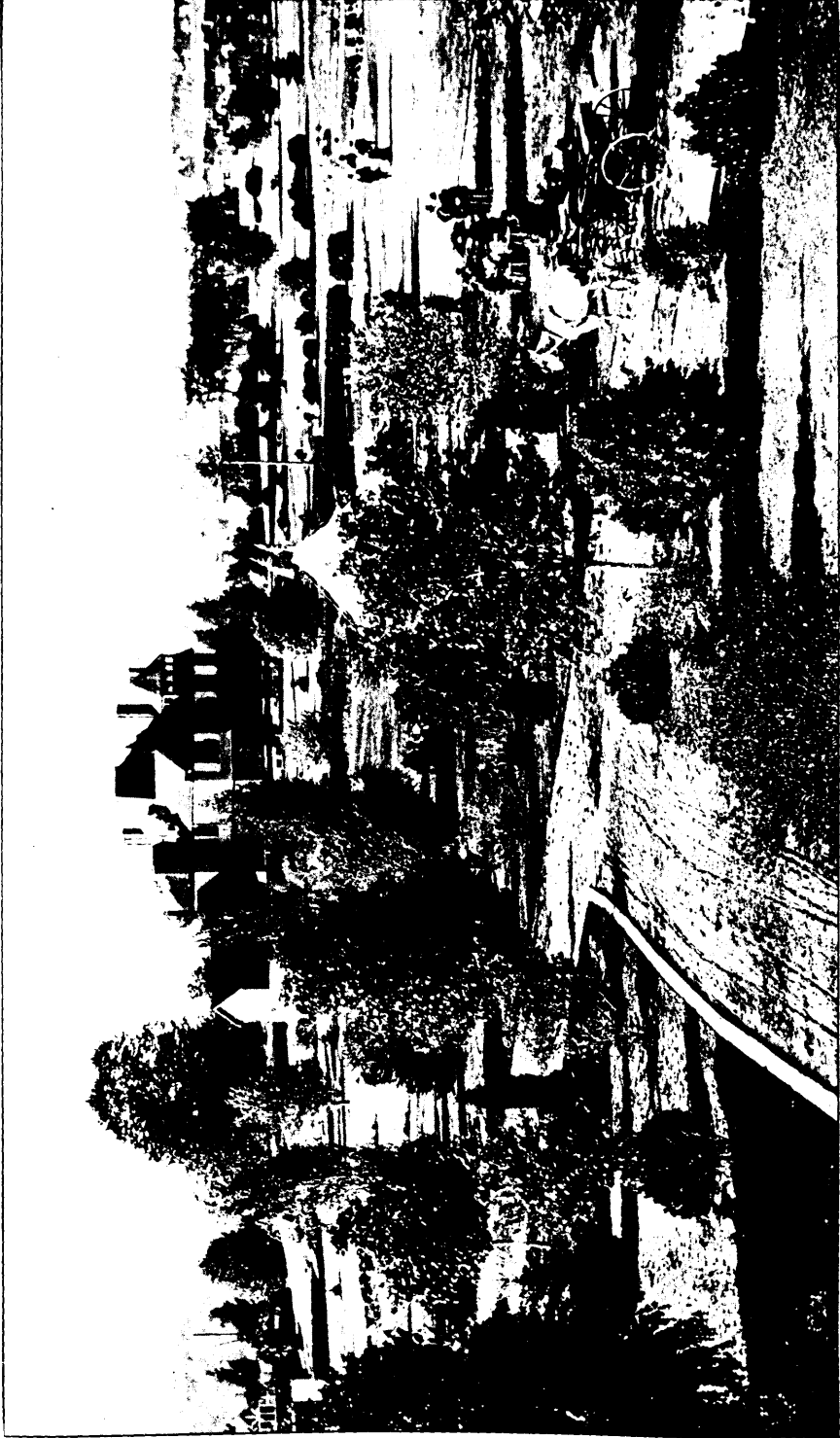
The Director, who supervises the work of all the Experimental Farms, resides at the Central Farm but makes personal inspection of the branch farms at least once a year. For several years past the Director has also carried on the agricultural work at the Central Farm, such as the field experiments with cereals, fodder crops and roots, and the feeding experiments with steers, milch cows and swine, also the work of the dairy. Associated with the Director are the following officers:—

The Horticulturist who takes charge of the experiments with fruits and vegetables and acts as Curator of the Arboretum.

The Chemist, who makes analyses of grasses and other fodder crops to ascertain their feeding value at different periods in their growth. He also analyses soils and fertilizers and determines the purity of water supplies on farms, and conducts much other useful chemical work bearing on agriculture.

The Entomologist and Botanist, who carries on investigations in reference to injurious and beneficial insects and noxious weeds and tests the value and usefulness of many native and imported grasses for hay and pasture, also the relative merits of other fodder plants. Experiments are also conducted under this officer in bee keeping.





View of part of Shrubbery on the Central Experimental Farm at Ottawa, Ontario.

## Experimental Farms.

The Poultry Manager, who carries on experiments with many different breeds of fowls to find out the best sorts as egg layers, and the best for table use, also the most satisfactory crosses for rapid growth and early laying, and the best and most economical methods of feeding.

There is also a Farm Foreman who directs the labour of the workmen and teams, an Accountant and a suitable office staff for conducting the large correspondence, both in English and French, which is carried on with farmers in all parts of the Dominion.

The barns are well supplied with milch cows and steers suitable for the carrying on of experiments relating to the production of milk and beef. Some useful pure-bred bulls are kept at this farm for breeding purposes, and for the improvement of stock in the district. The piggery contains a good selection of animals, representing the most useful breeds of swine. Many experiments are carried on each year in the breeding and feeding of these different classes of animals, and the information gained by these tests has been of much practical value to the farming community.

### EVIDENCE OF PROGRESS.

Evidence of the progress made in the growing of farm crops under the improved methods adopted at the Central Experimental Farm at Ottawa is furnished by a comparison of the average yields of grain obtained during the early years with those of more recent ones. The years 1889, 1890 and 1891, the three first after this farm was fairly established, when compared with 1896, 1897 and 1898, show the following results:—

	1889 90-91.	1896-97-98.	Gain in recent years.
	Per acre.	Per acre.	Per acre.
	Bush. lbs.	Bush. lbs.	Bush. lbs.
Oats, average crop for three years	32 17	56 6	23 13
Barley           "           "	31 6	43 13	12 7
Wheat           "           "	15 19	20 9	4 50

These additions in the crop have been gained by a moderate use of fertilizers, and the ploughing under of green crops, the more thorough working of the land, early sowing and the selection of more productive varieties for seed. All these factors have assisted in bringing about this gratifying result. The number of varieties under test in the early years averaged as follows: oats, 28; barley, 23; spring wheat, 28; in the later years, oats, 62; barley, 34, and spring wheat, 39.

When we consider that the addition of one bushel of each of the three cereals named to the average crop of the province of Ontario alone, would add nearly one million dollars to the earnings of the farmers, the significance of these figures becomes apparent.

### EXPERIMENTAL FARM FOR THE MARITIME PROVINCES.

This branch farm, designed to serve the purposes of the three Maritime Provinces, Nova Scotia, New Brunswick and Prince Edward Island, was located at Nappan, in the County of Cumberland, N.S., on the Intercolonial Railway, about eight miles east of the boundary line between New Brunswick and Nova Scotia, and easily accessible from Prince Edward Island. Its distance from the Central Farm at Ottawa is 743 miles.

About 310 acres are included in this farm, of which nearly 100 acres is covered with wood. The cleared land may be classified approximately as follows: Marsh or dyke land, valuable for the growth of hay, 50 acres; interval or lower upland, 50 acres, and higher upland, 110 acres. The higher land faces the west, and overlooks the inlet from the Bay of Fundy, and commands a good view of the surrounding country. The soil of this farm fairly represents the better class of farms on the border line of the two provinces, and for a long distance on either side. It is chiefly clay loam, more or less

mixed with sand, becoming heavy or light as clay or sand predominates, with some parts gravelly, and having a subsoil varying from clay to gravelly clay. The advantages embodied in this location include variety of soil, partial shelter from prevailing winds, a central location and nearness to the main line of travel.

#### WORK UNDERTAKEN.

Work was begun on this farm in the spring of 1887, Mr. Wm. M. Blair acting as Superintendent. Under his management the farm was much improved. A large area of land was drained, and the great value of underdraining in the Maritime Provinces demonstrated. Much useful experimental work has been carried on with grain, roots, grasses, Indian corn and other fodder crops, orchards have been planted, and belts and clumps of ornamental trees and shrubs placed so as to act as wind-breaks and to ornament the grounds around the buildings. Suitable buildings have been provided for carrying on the work, including a large barn, a stable, piggery, poultry building and an implement shed, also residences for the Superintendent, Horticulturist and herdsman.

#### CHANGES IN STAFF.

In 1896, after nine years of useful service, Mr. Wm. M. Blair resigned his position as Superintendent, and Mr. Geo. W. Forrest was appointed as his successor. Mr. W. S. Blair acting as Horticulturist. Mr. Forrest remained in office one year, when on his resignation the present Superintendent, Mr. R. Robertson, received the appointment. Since Mr. Robertson took office, further improvements have been made in the farm buildings, the area of cleared land has been increased and the dairy herd much improved by the purchase of a number of excellent milking cows. The production of milk throughout the year for dairy purposes has become a prominent feature in the work of this farm. Some further experiments have also been conducted in the fattening of steers. The instructive tests made under the former superintendents in the growing of cereals have been continued, and much attention given to the growing of fodder plants, grasses, roots and potatoes for the production of which the climate is favourable.

#### HORTICULTURAL BRANCH.

In the horticultural branch, many new varieties of fruit have been added to those under test. A large number of experiments have been conducted with vegetables and further additions made to the ornamental trees, shrubs and plants under trial at this farm.

#### EXPERIMENTAL FARM FOR MANITOBA.

The Experimental Farm organized for the benefit of the farmers of this province is located at Brandon, which is 132 miles west of Winnipeg and 78 miles east of the Manitoba boundary. The distance from the Central Farm at Ottawa is 1,437 miles. This farm is about  $1\frac{1}{2}$  miles from the city of Brandon, and contains about 675 acres. A part of the land lies in the valley of the Assiniboine River, and part of it consists of bluffs and higher table land above the bluffs. The valley land, which varies from 20 to 30 feet above the usual level of the river, has a rich dark clay loam soil and a subsoil of clay. Leaving the river the slope upward is continued, the soil gradually changing to a dark sandy loam averaging from 12 to 15 inches deep with a subsoil varying from sandy to clay. The whole area of land from the river to the foot of the bluffs which form the boundary of the valley, is over 500 acres. The bluffs vary in their inclination, some rise with a gradual slope to the top while others are more precipitous, the spaces between them being broken up into ravines of varying width in which grow a consi-

## Experimental Farms.

derable variety of shrubs and plants and some trees, chiefly poplar and scrub oak. The soil on these slopes is a sandy loam, much of it of good quality and from 9 to 15 inches deep resting on a gravelly or gravelly clay subsoil.

Some of the higher land above the bluffs—of which there is in all about 100 acres—is of poorer quality, mixed with more or less gravel, other parts, however, of this land are covered with a dark, sandy loam of good quality. This farm has many advantages. It has a large area of soil which fairly represents the great grain-growing areas in Manitoba, it has also that variety of soils which makes it very suitable for the carrying on of experimental work, and has also the advantage of an abundant supply of spring water. It lies in the centre of one of the large grain-growing districts and is easily accessible to all the more settled portions of the province by rail. The situation of the farm is commanding and it can be seen from the city; a good view of it is also obtained from the main line of the Canadian Pacific Railway for several miles west of Brandon.

### WORK DONE AND IN PROGRESS.

Possession of this farm was had in the early part of July, 1888. Mr. S. A. Bedford, who had resided many years in Manitoba and the North-west Territories and had been a successful farmer, was appointed Superintendent and has conducted the work ever since to the great satisfaction of the farmers of the province.

Here much attention is given to methods of treatment of land for crop, different methods of sowing and the sowing at different depths, to find out which gives the best results. Many varieties of cereals have been tested to ascertain which are best adapted to the climate and the trial plots of a large number of varieties of the more important farm crops have been conducted here for some years past, as at the other farms, to gain information as to their relative productiveness and earliness.

Experiments have also been made with remedies for the prevention of smut in grain with much success, also in the growing of flax, millets and Indian corn for ensilage. The value of many native and imported grasses for hay and pasture has been tested and satisfactory conclusions reached. Other fodder plants and fodder mixtures have also been tried, including the growing of mixed cereals and cutting and curing them while green as hay, and it has been shown that by this method any farmer can provide at very little cost or labour, a large quantity of excellent fodder material on his own farm.

Bulls of the most serviceable breeds are kept for the improvement of stock. Experiments have also been made in the feeding of milch cows and steers to learn the best and cheapest methods of producing milk and beef from the foddors most generally available to the farmers of Manitoba.

### TESTING OF FRUIT AND FOREST TREES, AND SHRUBS.

Since this farm was established a large number of the hardiest varieties of fruits obtainable have been tested there, and while many sorts of small fruits have succeeded well, very little success has yet attended the efforts made to grow the larger fruits. Experiments are, however, still in progress along this line. Much success has followed the planting of forest trees for shelter and large wind breaks have been established. The main roads have been planted with avenues, and many different sorts of rapid growing trees have been used to form hedge-like inclosures which furnish excellent protection for small fruits and such other crops as are apt to be injured when planted in exposed positions. Much attention has also been given to the growing of ornamental trees and shrubs of which more than 200 varieties of those tested have been found hardy in this climate. The work in all its branches has been most helpful to the farmers residing in that province.

## EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES.

Since by far the larger part of the land open for settlement on the North-west plains consists of open prairie, when selecting the site for an Experimental Farm for this part of the Dominion, it was thought best that a piece of bare and open prairie land should be chosen for this purpose. The land selected was a section adjoining the town of Indian Head, in Eastern Assiniboia. Indian Head is on the main line of the Canadian Pacific Railway, 44 miles east of Regina, the capital, 104 miles west of the Manitoba boundary, 105 miles north of the boundary line between the United States and Canada, and 1,618 miles distant from the Central Experimental Farm at Ottawa. The farm chosen consists of 680 acres and lies on the north side of the railway which it skirts for about a mile. The soil is of excellent quality. The north half of the section is covered with a black friable clay loam, mixed with a little sand and varying in depth from one to three feet with a yellowish brown clay subsoil. The soil on the larger part of the south half is a heavy clay loam with portions (amounting in all to about 100 acres) of sandy loam. Through this section, running in a winding and irregular manner are two coulees or ravines, in one of which a small creek flows during the early spring months, which is fed by a chain of small lakes six miles distant. This creek dries up during the summer, but by erecting two dams across this ravine a small lake has been formed, where a good supply of water is retained, ample for the requirements of stock and for general farm purposes throughout the season.

The relatively short distance, 182 miles, between this farm and the site chosen for the Experimental Farm for Manitoba naturally raises the question as to the necessity for two experimental farms so near each other. The Brandon site fairly meets the requirements of the province of Manitoba, also the country for a few miles beyond the boundary line, but west of this changes begin to take place in the climate, which become more marked after travelling forty or fifty miles. From thence westward as far as general settlement has been made, the rainfall is usually less than in Manitoba, and occasional hot winds prevail during the summer season. Strong winds also during the spring season are more prevalent. These and other climatic peculiarities compel the farmers in the Territories to vary their methods in treating the soil to prepare for crop. Much of the soil also is different in its texture and character, and this feature is fairly represented by the land at Indian Head. Further, the Indian Head farm was an open prairie without tree or shrub, while the Brandon site was partly a valley farm with sheltered ravines in the bluffs, clothed with shrubs and small trees.

## THE GROWING OF FOREST TREES ON THE NORTH-WEST PLAINS.

The question of the growing of forest trees for shelter is of great importance to the settler on the open plains in the North-west, and while experiments carried on at Brandon would be of value to most of the farmers in Manitoba, they would not always be a safe guide to those in the North-west Territories. The differences in climate, soil and situation between these two sites were thought sufficient to justify the establishment of the two farms, and the experimental operations in agriculture, horticulture and forestry which have been carried on since these farms were established has given a vast amount of useful and practical information most helpful to the farmers in the North-west Territories which has enabled them the better to meet the varying conditions to which they are individually subjected.

## SITUATION AND SOIL.

The situation at Indian Head is central for the farmers located in the North-west. It is in the midst of a large and thriving settlement extending to the Qu'Appelle River, and beyond this north for about 25 miles through the Pheasant Plains. The country is also settled south of the railway for about 10 miles and the farm is accessible from all points in the Territories either by railway or trails. The soil is of that varied character which

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makes it specially useful for experimental purposes, part of it is representative of the clay and sandy loams to the east, also of the areas which lie to the north and north-west, while the heavy clay loam on the south half of the section, although somewhat different in colour and texture, sufficiently represents the large belts of clay lands to the west and south-west.

Possession of the Indian Head farm was had early in the spring of 1888, when work was at once begun. Mr. Angus Mackay, who was one of the early settlers in that country and a successful farmer, was chosen as Superintendent and under his judicious and careful management excellent progress has been made. The farm was fenced the first season, and land prepared for crop in 1889. To meet the need for shelter on this open prairie land, tree planting on a fairly large scale was begun as soon as practicable and although at first progress was rather slow, the trees first planted soon formed more or less protection for those put in subsequently, and now all are doing well. A shelter belt 100 feet wide, made by planting the trees 5 feet apart each way, has been located along the west and north boundaries for  $1\frac{3}{4}$  miles. A large number of trees have also been planted in blocks varying from half an acre to five acres in extent, also in avenues and in hedges and hedge inclosures, and there are now growing on this farm more than 100,000 trees.

### EXPERIMENTS AND THEIR RESULTS.

The results of the experiments carried on in the treatment of land to prepare it for crop have demonstrated the importance of the summer-fallowing of land in this part of the Dominion, which consists of early summer ploughing and several subsequent harrowings to destroy weeds. This treatment conserves the moisture in the land and puts it in the best condition for early sowing the following spring. Different methods of sowing have been practised, also the sowing at different depths and with different quantities of seed per acre, and much practical information has been gained of great value to the settlers. Preventives of smut in grain have also been tried here with much success. Many tests are also made each year with a large number of different sorts of cereals, fodder crops and roots to find out those which are the most profitable to grow in this climate. The growing of grasses, mixed grain crops and spring rye to be cut green and cured as hay has been carried on with much advantage. In this relatively drier climate the value of good grass for hay and pasture can scarcely be over-estimated, and among the most important of all the results gained by tests on this farm are those which have established the value of the Awnless Brome grass, *Bromus inermis*, in the North-west. This grass is very hardy, is a strong grower, endures drought well, makes a very early growth in the spring and yields fine crops of excellent hay very nourishing for cattle. Large quantities of the seed of this useful grass have been ripened at Indian Head and Brandon, and several thousand sample bags of about 1 lb. each have been sent free to farmers in different parts of the North-west Territories and Manitoba for trial, and the reports received regarding the general usefulness of this grass are most satisfactory.

Experiments have also been conducted in the feeding of stock, the fattening of swine and the management of poultry. Male animals are also kept at this farm which have been very serviceable in improving the character of the stock in that part of the Territories. Many varieties of small fruits have been successfully grown at Indian Head, but of the larger fruits tried none have yet succeeded; experiments with these fruits are however still going on. Many species and varieties of economic and ornamental trees and shrubs have been tested here, and of those tried about 150 species and varieties have proved hardy.

## EXPERIMENTAL FARM FOR BRITISH COLUMBIA.

The most westerly and the last chosen of all the Experimental Farms was that selected as a site for the conducting of experiments likely to prove useful to the farmers of British Columbia. This was located at Agassiz in the coast climate of that province, about 70 miles east of Vancouver and 62 miles from New Westminster, near which place lie the fertile delta lands of the Fraser estimated at from 75,000 to 100,000 acres. Port Haney is distant 44 miles, where by crossing the river the agricultural municipality of Langley is reached. It is 28 miles to Mission, the terminus of the railway to Washington and California, and from this point river steamers run up the Fraser to the farming districts of Sumas and Chilliwack. Eastward the distance to Hope is 18 miles, to Yale 32 miles and to Lytton 86 miles, and near this latter place the drier central area of land in British Columbia begins. The distance from Ottawa to Agassiz is 2,715 miles.

In selecting a site for this farm it was thought desirable that the land should be of fairly good quality, combining an area of meadow land suitable for stock and the growing of grain, with higher meadow and bench lands, adapted for fruit growing. That the land should be high enough above the banks of adjacent rivers to prevent its being overflowed during the highest floods, also that it should be accessible by rail and water. It was further desired that the location should be central, and the capabilities of the farm fairly representative of the greater part of the farming lands in the coast climate of this province.

## SITUATION, CONDITION AND SOIL.

The land chosen at Agassiz was found to have most of the advantages desired. The part purchased consisted of about 300 acres of valley land opposite the railway station at Agassiz, and extending eastward, its southern boundary fronts on the line of railway for nearly half a mile. The eastern boundary lies along the road leading to the Harrison Hot Springs, which are about 5 miles distant. About 35 acres of this land had for a time been under partial cultivation but was now partly covered with scrub. On about 200 acres of the land the larger trees had been cut and removed; the stumps however were left in the ground and about them had sprung up a strong growth of young trees and scrub. Nearly 50 acres were covered with fine timber, chiefly Douglas spruce, *Pseudotsuga Douglasi*, with some cedar, *Thuja gigantea*. There were also a few acres of higher bench lands at the rear of the farm partly wooded, which would be very suitable for fruit growing. The farm is protected on the north by a series of rocky heights ranging from 900 to 1,200 feet in altitude, on which there are many patches of bench land, some of them covering a considerable area. On the summit of this ridge there is also a large piece of comparatively level land with a good soil, of which use can no doubt eventually be made. Eight hundred acres of this broken mountain land, which was still in the hands of the Government, was added to the valley land composing the farm, making 1,100 acres in all.

The soil of the land in the valley varies from a good sandy loam, with occasional patches of gravel, and sandy loam mixed with clay, to a loam almost wholly clay; from 9 to 12 inches in depth. The subsoil is porous, sandy in some places, in others a sandy clay resting on gravel which is everywhere found from 4 to 8 feet below the surface and affords good natural drainage. All of this land is sufficiently elevated to prevent its being overflowed by the Fraser River even in the highest floods.

Possession of this farm was not had until September, 1889, when on the 19th of that month, work was begun under the superintendence of Mr. Thos. A. Sharpe, a farmer with much experience, who has shown himself to be an energetic, capable and efficient officer. During the nine years which have passed since the work on this farm was begun, much progress has been made. A large area of land has been cleared and nearly 150 acres in all, brought under cultivation.

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## PLANTING OF LARGE TRIAL ORCHARDS.

The climate here is very suitable for the growing of fruit, and as the fruit industry is assuming large proportions and promises to become one of great importance to this province, to aid the fruit growers in the work of selecting the best and most profitable sorts for planting large trial orchards have been established on the Experimental Farm, for the purpose of testing side by side with Canadian sorts, the fruits of all other countries with similar climates, so that reliable information as to the most promising and useful varieties for this climate, may be available to guide the planter in his selection.

Already about 2,500 different sorts have been brought together and are being tested, not only in the orchards which have been established in the valley lands, but also on the bench lands on the mountain side, where four orchards have been planted at different heights from 150 to 1,100 feet, containing in all about 900 trees.

On the sides of the rocky heights forming the background of the farm as well as on the level land, there have also been planted a large number of forest trees, especially those representing the more valuable hardwoods of the east, such as black walnut, butternut, hickory, elm, ash and oak, and many of these are making good growth. The forests of British Columbia are deficient in hardwood timber trees and if these can be grown to advantage in that climate on rocky hill-sides, such as are of no value for agricultural purposes, this branch of tree culture may become a profitable industry. Many different sorts of ornamental trees and shrubs are also under trial.

## OTHER LINES OF WORK CARRIED ON.

As at the other branch farms, many useful lines of work have been carried on in the cultivation and testing of different sorts of grain, fodder plants and roots to find out those best adapted to the climate of this country. Trial plots have also been established for several years to gain information as to the best time for the sowing of different sorts of farm crops. Many experiments have also been tried with different breeds of cattle, swine and poultry. A large number of varieties of vegetables and flowers are also tested every year, and thus the work is made helpful and interesting to all classes of the community.

## GENERAL WORK OF THE EXPERIMENTAL FARMS.

Among the different lines of work which have been carried on at all the Experimental Farms, but more largely at the Central Farm may be mentioned the distribution of samples of grain for the improvement of seed. These are sent out by mail free on application, in sample bags weighing three pounds, one sample only being sent to each farmer. More than 100,000 farmers have received such samples during the past ten years. More than 12,000 packages of seedling trees, shrubs and plants, and more than six tons of the seeds of hardy trees suitable for the North-west have been sent out in like manner, also several tons of the seed of the Awnless Brome grass, *Bromus inermis*. The tree seeds, and the Brome grass have been distributed in sample bags of one pound each. An annual report is published containing particulars of the work done at each farm, and this report is sent from the Central Farm to every farmer in the Dominion who asks for it. More than 50,000 copies are now distributed each year. Occasional bulletins on special subjects are also issued from time to time which reach a large proportion of the most intelligent farmers in the country. The officers at all the Experimental Farms attend every year, many of the more important meetings of farmers held in different parts of Canada, where opportunities are afforded of giving further explanations regarding the work conducted and the results achieved from year to year.



## EXPERIMENTAL WORK

CONDUCTED AT THE CENTRAL EXPERIMENTAL FARM,  
OTTAWA ONTARIO.

## EXPERIMENTS WITH OATS.

Sixty-nine varieties of oats have been tested in the uniform trial plots during the season of 1898 in order to gain information regarding their relative yield, earliness of ripening and other characteristics. They were all sown from the 14th to 16th of April on plots of  $\frac{1}{10}$ th acre each. The previous crop was wheat. The soil was a sandy loam of good quality which received a dressing of barn-yard manure, about 12 tons per acre, during the winter of 1895-96, the manure being placed fresh on the frozen ground in small piles of about half a cart load each and spread in the spring. The land was gang-ploughed shallow in 1897 shortly after harvest to start shed grain and weed seeds and ploughed again later in the autumn about 8 inches deep, disc-harrowed twice in the spring of 1898 and harrowed twice with the smoothing harrow before sowing. The seed was sown at the rate of two bushels per acre and the land was rolled after sowing before the grain came up.

## OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Rusted.	
								Bush.	Lbs.		
				In.		In.		Bush.	Lbs.		
1	Hazlett's Seizure	Aug. 1.	108	50-55	Stiff.	9-10 $\frac{1}{2}$	Branching	89	14	37	Slightly.
2	Joanette	" 2.	109	38-46	Weak	7 $\frac{1}{2}$ -8 $\frac{1}{2}$	"	86	16	36	Considerably.
3	Brandon	" 3.	110	50-55	Stiff.	10 $\frac{1}{2}$ -12	Half sided	80	30	36 $\frac{1}{2}$	"
4	Oderbruch	" 2.	109	50-57	Weak	8 $\frac{1}{2}$ -10 $\frac{1}{2}$	"	80	30	37 $\frac{1}{2}$	"
5	Golden Beauty	July 30.	106	48-52	Stiff.	9-10	Branching	80	20	35	"
6	Black Mesdag	" 27.	104	50-55	Medium.	8 $\frac{1}{2}$ -10	"	80	...	34	"
7	Early Golden Prolific	" 30.	105	46-50	Weak	9-11	"	79	14	36 $\frac{1}{2}$	Slightly.
8	Improved Ligowo	" 27.	106	44-48	Stiff.	8 $\frac{1}{2}$ -9 $\frac{1}{2}$	"	78	32	34	Very slightly.
9	Holland	Aug. 8.	115	42-46	Stiff.	8-9	Sided.	78	18	36	Badly.
10	Flying Scotchman	July 30.	107	52-56	Weak	10-12	Branching	78	18	38 $\frac{1}{2}$	Considerably.
11	Russell	Aug. 3.	110	50-54	"	9 $\frac{1}{2}$ -11 $\frac{1}{2}$	H'lf br'nch	78	8	37	"
13	King	" 4.	110	50-54	Stiff.	9 $\frac{1}{2}$ -11 $\frac{1}{2}$	Branching	77	23	38	"
13	Abundance	July 30.	107	44-48	Medium.	9-10 $\frac{1}{2}$	"	76	26	33 $\frac{1}{2}$	"
14	Pense	Aug. 3.	110	47-51	Weak	8 $\frac{1}{2}$ -9 $\frac{1}{2}$	Half sided	76	26	34	Badly.
15	Banner	July 30.	105	41-48	Stiff.	8 $\frac{1}{2}$ -9 $\frac{1}{2}$	Branching	75	30	35 $\frac{1}{2}$	Slightly.
16	Early Archangel	" 27.	104	42-50	"	8 $\frac{1}{2}$ -9 $\frac{1}{2}$	"	75	30	41 $\frac{1}{2}$	"
17	White Giant	" 30.	107	42-49	"	8 $\frac{1}{2}$ -10	"	75	10	35 $\frac{1}{2}$	"
18	Master	Aug. 4.	111	54-58	"	8 $\frac{1}{2}$ -10	Half sided	75	...	39	Considerably.
19	American Triumph	July 28.	104	41-48	"	9-10	Branching	74	4	34	"
20	Columbus	" 27.	103	42-46	"	8 $\frac{1}{2}$ -10	"	73	28	35	Very slightly.
21	Newmarket	" 27.	103	54-58	"	8-9	"	73	18	39	Slightly.
22	Wallis	" 29.	106	40-46	"	9-9 $\frac{1}{2}$	"	73	8	36 $\frac{1}{2}$	"
23	Thousand Dollar	" 27.	104	40-49	"	8 $\frac{1}{2}$ -9 $\frac{1}{2}$	"	72	22	38	"
24	White Schonen	" 27.	103	42-47	"	8 $\frac{1}{2}$ -10	"	72	12	33	"
25	Mortgage Lifter	" 27.	103	50-54	Weak	10-12	"	72	12	39	Considerably.

# Experimental Farms.

## OATS—TEST OF VARIETIES—*Concluded.*

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Rusted.		
								Bush.	Lbs.			
				In.		In.		Bush.	Lbs.			
26	Early Gothland	Aug.	2	110	50-54	Medium	8½-9½	Half sided	72	12	39½	Badly.
27	Milford	"	4	112	50-56	"	9-11	"	71	26	36½	"
28	Golden Giant	"	8	116	40-44	Stiff	8-9	Sided	70	20	35½	"
29	Kendal	"	4	112	42-53	"	7½-9½	Half sided	70	20	37	Slightly.
30	Menonite	July	30	106	36-39	Weak	7-8	Branching	70	20	34½	Badly.
31	Bavarian	Aug.	5	113	40-44	"	7½-9	"	70	20	36	Slightly.
32	Early Blossom	"	1	108	50-54	Stiff	7½-9	Half sided	70	20	37½	"
33	Oxford	July	30	106	40-48	"	9-11	"	70	10	36½	Badly.
34	Olive	"	30	106	50-54	"	8-9½	"	68	8	37	Considerably.
35	Miller	"	30	106	46-50	"	8½-10	Branching	65	30	38	Slightly.
36	Coulommiers	Aug.	8	116	50-54	Weak	10-12	"	65	30	35½	Badly
37	Buckbee's Illinois	July	29	105	40-44	Stiff	9½-10½	"	64	8	35½	Slightly.
38	Lincoln	July	28	104	40-44	Stiff	8½-9½	Branching	63	28	35	Slightly.
39	Improved American	"	28	104	40-47	"	8½-10	"	63	18	34½	"
40	American Beauty	"	28	104	40-44	"	8-9½	"	63	18	32	"
41	Doncaster Prize	Aug.	4	110	36-41	"	7-8½	"	63	18	36½	Badly.
42	Early Maine	July	30	106	50-54	"	8½-10	"	62	32	37	Slightly.
43	Victoria Prize	"	27	103	50-54	Medium	8½-9½	"	62	22	43½	Considerably.
44	Winter Gray	"	27	103	40-48	Weak	9½-10	"	62	22	40	"
45	California Prol. Blk.	Aug.	2	109	43-48	Stiff	7-8½	Sided	62	22	36	Slightly.
46	Bonanza	July	27	103	42-46	Weak	9-10	Branching	61	16	40½	Considerably.
47	White Russian	"	30	106	40-46	Stiff	9-10	"	61	6	36	Slightly.
48	Golden Tartarian	Aug.	3	110	44-48	"	8½-10	Sided	61	6	33½	"
49	Scottish Chief	July	27	103	41-50	Weak	9-10	Branching	60	20	42½	Considerably.
50	Holstein Prolific	"	29	105	38-42	Stiff	8-9	"	60	10	35	Slightly.
51	Imported Irish	"	27	103	42-48	Weak	9-10	"	60	...	40½	Considerably.
52	Early Dawson	"	27	102	36-40	"	8-8½	"	60	...	40½	"
53	Wide Awake	July	28	105	40-46	Stiff	7½-9	Branching	58	28	35	Slightly.
54	Cream Egyptian	"	27	103	40-48	"	9-9½	Half sided	57	32	42	"
55	Poland	"	27	103	42-48	Weak	8-9½	Branching	57	22	38½	"
56	White Wonder	"	27	103	40-44	"	8½-10	"	53	8	42½	Considerably.
57	Siberian O. A. C.	"	28	104	10-46	Medium	7-9	"	52	22	35	Slightly.
58	Black Beauty	"	29	104	36-40	Weak	8-9½	"	51	6	36	"
59	Cromwell	"	30	107	48-52	Stiff	9-11	Half sided	50	20	40	"
60	Rosedale	"	30	106	48-50	"	8-10	"	50	10	40½	"
61	Wedome	"	27	104	49-52	Weak	9½-11	Branching	50	...	43½	Considerably.
62	Bayonet	"	30	105	40-46	Stiff	10-11	"	48	28	38½	Slightly.
63	Victoria	"	30	105	40-44	"	9½-10½	"	47	12	33	"
64	Prize Cluster	"	27	104	48-42	"	10½-12	"	47	2	42	"
65	Medal	"	30	106	40-46	Weak	9-10½	Half sided	47	2	36½	Considerably.
66	Rennie's Prize White	"	27	103	50-54	"	10-11	Branching	46	26	39	"
67	Abyssinia	"	29	105	37-43	Stiff	8-9½	Half sided	46	26	39	Slightly.
68	Prol. Blk. Tartarian	Aug.	2	109	40-45	"	6-7	Sided	43	28	36½	"
69	Danish Island	"	1	100	32-38	Weak	8-9	Branching	42	12	36	"

### FIELD CROPS OF OATS.

Fifteen varieties of oats have been further tested in field crops, covering 62½ acres in all. The area occupied by each variety and the crops obtained from each sort are given below in the order of their yield. The soil of these fields varied much in quality,

which has materially affected the crops. The Abundance, Wallis, and Siberian which are among the best yielding varieties here stand low in the list on account of the poor quality of the soil on which they were grown.

Name of Variety.	Number of Acres.	Yield per Acre.		Weight per Bushel.
		Bush.	Lbs.	Lbs.
American Beauty	5	82	11	36½
Banner	4	77	31	35
Mennonite	3	64	33	34
Joanette	1½	63	18	37
Improved Ligowo	1½	62	27	38½
"	6½	62	10	38½
Golden Beauty	5	62	31	36
White Schonen	3¾	57	26	36
Wallis	4	57	2	36½
Siberian O.A.C.	3½	57		37
"	1½	38	22	37
Bavarian	2½	56	12	36
Abundance	4¾	55	18	36½
Golden Giant	10	54	21	35½
Columbus	3	51	19	34
Early Gothland	5	47	27	39

*American Beauty.*—5 acres. The soil was a sandy loam of fair quality, a part of it peaty. The previous crop was hay. The land received an application during the winter of about 10 tons of barn-yard manure per acre which was distributed fresh from the barn-yard on the frozen ground in small piles of about one-third of a cart load each, and spread in the spring. It was then ploughed under with the sod about six inches deep and harrowed with the smoothing harrow before sowing. Sown 20th April; 2 bushels per acre; came up 2nd May, and was ripe 29th July. The time to mature was 100 days. Yield per acre, 82 bushels 11 pounds; weight per bushel, 36½ pounds. Length of head, 9 to 10 inches, branching; length of straw, 40 to 48 inches. Made a strong even growth; all standing well. There was no smut, but the leaves were slightly rusted.

*Banner.*—4 acres. The soil was a heavy sandy loam of good quality, more or less mixed with clay. The previous crop was roots. The land was manured in the spring of 1893 with about 18 tons of barn-yard manure per acre. No fertilizer has been applied since. It was ploughed in the spring of 1898 about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. Sown 18th April; 2 bushels per acre; came up 30th April, and was ripe 27th July. The time to mature was 100 days. Yield per acre, 77 bushels 31 pounds; weight per bushel, 35 pounds. Length of head, 8 to 10 inches, branching; length of straw, 42 to 48 inches. Growth strong and even; all standing well. There was no smut, and the leaves were very slightly rusted.

*Mennonite.*—3 acres. Soil a light sandy loam of rather poor quality. This land was manured in 1894 with about 18 tons of barn-yard manure per acre. No fertilizer has been applied since. The previous crop was hay. The land was ploughed in the autumn of 1897 about 8 inches deep and cultivated once the following spring, and harrowed once with the smoothing harrow before sowing. Sown 15th April; 1½ bushels per acre; came up 28th April, and was ripe 25th July. The time to mature was 101 days. Yield per acre, 64 bushels 33 pounds; weight per bushel, 34 pounds. Length of head, 7 to 9 inches branching; length of straw, 40 to 46 inches. Growth strong and even; all standing well. There was no smut, and the leaves were very slightly rusted.

## Experimental Farms.

*Joanette.*— $1\frac{1}{4}$  acres. The soil was part peaty, and part sandy loam. The land was manured in the spring of 1897 with about 12 tons of barn-yard manure per acre. It was ploughed late in the autumn of 1897 about 8 inches deep, and in the following spring it was disc-harrowed once and harrowed twice with the smoothing harrow before sowing. The previous crop was oats cut green for feeding. Sown 21st April;  $1\frac{1}{2}$  bushels per acre; came up 3rd May, and was ripe 1st August. The time to mature was 102 days. Yield per acre, 63 bushels 18 pounds; weight per bushel, 37 pounds. Length of head, 7 to 9 inches, branching; length of straw, 34 to 38 inches. Growth medium and even; all standing well. There was no smut, but the leaves were slightly rusted.

*Improved Ligowo.*— $1\frac{1}{2}$  acres. Soil a sandy loam of fair quality which received a dressing of barn-yard manure in the spring of 1896 of about 12 tons per acre. No fertilizer has been applied since. The previous crop was wheat. The land was ploughed in the autumn of 1897 about 8 inches deep, and in the following spring disc-harrowed twice and harrowed twice with the smoothing harrow before sowing. Sown 27th April;  $1\frac{3}{4}$  bushels per acre; came up 7th May, and was ripe 29th July. The time to mature was 93 days. Yield per acre, 62 bushels 27 pounds; weight per bushel 38 $\frac{1}{4}$  pounds. Length of head, 7 to 9 inches, branching; length of straw, 38 to 44 inches. Made a strong and even growth; all standing well. There was no smut, but the leaves were very slightly rusted.

*Improved Ligowo.*— $6\frac{1}{2}$  acres. Soil a light sandy loam of good quality. This land was manured in the autumn of 1897 with about 10 tons of barn-yard manure per acre. The previous crop was partly corn and part potatoes. It was ploughed in the autumn of 1897 about 6 inches deep, and the following spring it was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. Sown 12th April;  $1\frac{3}{4}$  bushels per acre; came up 26th April, and was ripe 25th July. The time to mature was 104 days. The yield per acre was 62 bushels 10 lbs.; weight per bushel, 38 $\frac{1}{4}$  pounds. Length of head, 7 to 9 inches, branching; length of straw, 42 to 46 inches. Made a strong and even growth; all standing well. There was no smut, and the leaves were very slightly rusted.

*Golden Beauty.*—5 acres. Soil a sandy loam of fair quality, a part of it peaty. The previous crop was hay. The land received an application of barn-yard manure of about 10 tons per acre, distributed fresh from the barn yard in small piles of about one-third of a cart load each, during the winter of 1897-98, which was spread in the spring, and ploughed under with the sod about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. Sown 20th April; 2 bushels per acre; came up 2nd May, and was ripe 20th July. The time to mature was 100 days. Yield per acre, 62 bushels 31 pounds; weight per bushel, 36 pounds. Length of head, 9 to 10 inches, branching; length of straw, 42 to 48 inches, made a strong and even growth; all standing well. There was no smut, but the leaves were slightly rusted.

*White Schonen.*— $3\frac{3}{4}$  acres. Soil a sandy loam of fair quality, which was manured in the spring of 1898, with about 12 tons of barn-yard manure per acre. The previous crop was hay. The manure was ploughed under soon after spreading about 6 inches deep, and the land was harrowed twice with the smoothing harrow before sowing. Sown 30th April;  $1\frac{3}{4}$  bushels per acre; came up 8th May, and was ripe 5th August. The time to mature was 98 days. Yield per acre, 57 bushels 26 pounds; weight per bushel, 36 pounds. Length of head, 8 to 9 inches, branching; length of straw, 38 to 43 inches. Made a strong and even growth; all standing well. There was no smut, but the leaves were very slightly rusted.

*Wallis.*—4 acres. Soil a sandy loam, rather light but of fair quality, which received a coating of barn-yard manure of about 12 tons per acre in the spring of 1895. No manure or other fertilizer has been applied since, except a good crop of green clover, which was sown

with the previous crop and ploughed under in the autumn of 1897. The previous crop was barley. The ploughing in the autumn was about 8 inches deep, and in the spring of 1898 the land was disc-harrowed once and harrowed twice with the smoothing harrow before sowing. Sown 19th April, 2 bushels per acre; came up 30th April, and was ripe 28th July. The time to mature was 100 days, and the yield per acre was 57 bushels 2 pounds; weight per bushel,  $36\frac{1}{4}$  pounds. Length of head, 9 to 10 inches, branching; length of straw, 42 to 48 inches. Growth strong and even, and all standing well. There was no smut, but the leaves were very slightly rusted.

*Siberian O.A.C.*— $3\frac{1}{2}$  acres. Soil a sandy loam; rather light but of fair quality, which received a coating of barn-yard manure of about 12 tons per acre in the spring of 1895. No manure or other fertilizer has been applied since, except a good crop of clover. Clover seed in the proportion of 10 lbs. per acre, was sown with the previous crop of barley and ploughed under in the autumn of 1897. The autumn ploughing was about 8 inches deep. In the spring it was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. Sown 19th April;  $1\frac{3}{4}$  bushels per acre; came up 30th April, and was ripe 29th July. The time to mature was 101 days. Yield per acre; 57 bushels: weight per bushel, 37 pounds. Length of head, 9 to 10 inches, branching; length of straw, 42 to 48 inches. Made a strong even growth; a few spots lodged. There was no smut, but the leaves were very slightly rusted.

*Siberian O.A.C.*— $1\frac{1}{2}$  acres. This also was adjoining the  $3\frac{1}{2}$  acres, and the character of the land was the same. It received a similar application of manure in 1895, and also a dressing of barn-yard manure of about 12 tons per acre in the spring of 1897. In the spring of 1898 it received an application of unleached wood ashes, of about 100 bushels per acre. The previous crop was sunflowers. The land was ploughed in the autumn of 1897 about 8 inches deep, and in the following spring it was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. Sown 19th April;  $1\frac{3}{4}$  bushels per acre; came up 30th April, and was ripe 29th July. The time to mature was 101 days. The yield per acre was 38 bushels 32 pounds; weight per bushel, 37 pounds; length of head, 8 to 9 inches, branching; length of straw, 38 to 42 inches. Made a medium and even growth; all standing well. There was no smut, but the leaves were very slightly rusted.

*Bavarian.*— $2\frac{1}{2}$  acres. Soil a sandy loam, rather light but of fair quality, which received a dressing of barn-yard manure of about 12 tons per acre in the spring of 1895. No manure or other fertilizer has been applied since, excepting a good crop of green clover which was sown with the previous crop of barley in the spring of 1897, 10 lbs. of Mammoth Red clover seed being used per acre. This produced a thick mat of green growth which was ploughed under in the autumn about 8 inches deep. In the spring of 1898 the land was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. Sown 20th April; 2 bushels per acre; came up 30th April, and was ripe 28th July. The time to mature was 99 days. The yield per acre was 56 bushels 12 pounds; weight per bushel, 36 pounds. Length of head, 9 to 10 inches; length of straw, 42 to 48 inches. Growth strong and even; all standing well. There was no smut, but the leaves were very slightly rusted.

*Abundance.*— $4\frac{3}{4}$  acres. The soil was part peaty and part sandy loam. The land was manured in the spring of 1897 with about 12 tons of barn-yard manure per acre. It was ploughed late in the autumn of 1897 about 8 inches deep, and in the following spring it was disc-harrowed once and harrowed twice with the smoothing harrow before sowing. Sown 22nd April;  $1\frac{1}{2}$  bushels per acre; came up 3rd May; and was ripe 28th July. The time to mature was 97 days. Yield per acre, 55 bushels 18 pounds; weight per bushel,  $36\frac{1}{4}$  pounds. Length of head, 7 to 9 inches, branching; length of straw, 38 to 44 inches. Growth medium and even; all standing well. There was no smut, but the leaves were very slightly rusted.

## Experimental Farms.

*Golden Giant*.—10 acres. Soil a light sandy loam of rather poor quality. The land was manured in 1895 with about 12 tons of barn-yard manure per acre. The previous crop was oats. It was ploughed very shallow Sept. 1st, 1897, and subsequently cultivated at short intervals as the land was rather weedy, so as to keep down all growth until late in the autumn. In the following spring it was cultivated twice with a large cultivator which stirred the soil nearly six inches deep, and harrowed twice with the smoothing harrow before sowing. Sown 14th April;  $1\frac{3}{4}$  bushels per acre; came up 28th April, and was ripe 2nd August. The time to mature was 110 days. The yield per acre was 54 bushels 21 pounds; weight per bushel  $35\frac{1}{2}$  pounds. Length of head, 9 to 10 inches; sided; length of straw, 42 to 48 inches. Made a strong and even growth; all standing well. There was no smut, and the leaves were very slightly rusted.

*Columbus*.—3 acres. This variety was sown adjoining the Golden Giant, and the quality of the soil and the preparation and treatment of the land was the same. Sown 14th April;  $1\frac{3}{4}$  bushels per acre; came up 28th April, and was ripe 25th July. The time to mature was 102 days. Yield per acre, 51 bushels 19 pounds; weight per bushel, 34 pounds. Length of head, 8 to 9 inches, branching; length of straw, 38 to 42 inches. Made a medium growth; all standing well. There was no smut, and the leaves were very slightly rusted.

*Early Gothland*.—5 acres. The soil was a sandy loam of fair quality which received a dressing of barn-yard manure in the spring of 1896 of about 12 tons per acre. No fertilizer has been applied since. The previous crop was wheat. The land was ploughed in the autumn of 1897 about 8 inches deep, and disc-harrowed twice in the following spring and harrowed twice with the smoothing harrow before sowing. Sown 27th April;  $1\frac{3}{4}$  bushels per acre; came up 7th May, and was ripe 29th July. The time to mature was 93 days. Yield per acre, 47 bushels 27 pounds; weight per bushel, 39 pounds. Length of head, 8 to 10 inches; half sided. Length of straw, 38 to 46 inches. Made a strong and even growth; all standing well. There was no smut, but the leaves were very slightly rusted.

### EXPERIMENTS WITH BARLEY.

During 1898 experiments have been conducted with fifty varieties of barley, of which twenty-two were two-rowed sorts, and twenty-eight six-rowed. These were all sown in plots of  $\frac{1}{10}$ th acre each. The previous crop was wheat. The land selected for the barley plots was adjoining that used for the test of varieties of oats. The soil was similar and the preparation and treatment of the land the same. These plots were all sown from the 16th to the 18th of April, at the rate of 2 bushels per acre for the two-rowed sorts and  $1\frac{3}{4}$  bushels per acre for the six-rowed.

## TWO-ROWED BARLEY—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Yield per Acre.	Weight per Bushel.	Rusted.
			Inches.		Inches.	Bush. Lbs.	Lbs.	
1 Beaver.....	July 28	101	40-43	Weak	3½-4½	55 20	51	Slightly.
2 Jarvis.....	" 28	101	50-55	Stiff	4-5½	50 4	52	"
3 Danish Chevalier.....	" 28	101	43-47	Weak	3½-4	50	51½	"
4 Canadian Thorpe.....	" 28	103	40-45	Stiff	3-3½	47 14	52	"
5 Dunham.....	" 26	103	40-48	Medium	3½-4	46 2	52	"
6 Leslie.....	" 26	103	41-46	Stiff	3-4½	45 40	52	"
7 Prize Prolific.....	" 28	101	32-38	Weak	3-4½	43 16	49	"
8 Bolton.....	" 25	98	39-47	Stiff	3½-4½	43 6	51	"
9 Clifford.....	" 26	99	42-48	"	4-4½	41 32	51	"
10 Victor.....	" 25	98	42-44	"	3½-4½	39 8	51	"
11 Kinver Chevalier.....	" 28	101	36-39	Weak	3½-4½	38 16	51	"
12 Thanet.....	" 28	101	36-38	"	4-5½	38 6	49	"
13 Nepean.....	" 26	99	40-45	Stiff	3-4	37 34	53	"
14 French Chevalier.....	" 28	101	30-38	Weak	4-5½	36 42	51	Considerably.
15 Newton.....	" 28	103	30-37	Stiff	3-3½	36 32	50	Slightly.
16 Fulton.....	" 27	100	44-48	"	3-3½	35 40	51	"
17 Logan.....	" 27	100	40-47	"	3½-4	35 20	51	"
18 Harvey.....	" 27	100	40-43	"	3½-4½	33 46	51	"
19 Sidney.....	" 25	98	44-48	"	3½-4	33 36	52	"
20 Pacer.....	" 26	101	40-44	"	3-4½	33 6	52	"
21 Kirby.....	" 27	100	30-38	Medium	2½-3	31 10	49	"
22 Gordon.....	" 27	100	46-48	Stiff	2½-3	28 16	50	"
23 Monck.....	" 28	103	44-46	"	3½-4½	27 34	51	"
24 Rigid.....	" 26	99	40-43	"	3-4	26 32	50	"

## FIELD CROP OF TWO-ROWED BARLEY.

*Canadian Thorpe*.—4½ acres. Soil a sandy loam of fair quality. The land was manured in 1895 with about 12 tons of barn-yard manure per acre. No fertilizer has been applied since. The previous crop was oats. The land was ploughed late in the autumn of 1897 about 8 inches deep, and disc-harrowed the following spring and harrowed twice with the smoothing harrow before sowing. Sown 14th April; 2 bushels per acre; came up 26th April, and was ripe 23rd July. The time to mature was 100 days. Yield per acre, 32 bushels 6 pounds; weight per bushel, 51½ pounds. Length of head, 3 to 3½ inches; length of straw, 38 to 44 inches; growth medium; all standing well. There was no smut or rust.

# Experimental Farms.

## SIX-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per Bushel.	Rusted.
							Inches.	Bush. Lbs.		
1	Odessa	July	22	97	44-48	Medium	2½-3½	58 16	50	Slightly.
2	Pioneer	"	26	101	40-47	Stiff	2½-3½	57 4	50	"
3	Mensury	"	25	100	42-50	"	3-4	55	46	"
4	Royal	"	22	97	34-40	Weak	2½-3½	52 34	50½	"
5	Mansfield	"	25	100	39-46	Stiff	2-3	51 32	48	None.
6	Blue Barley	"	28	103	32-36	"	2-4½	50 6	47	Considerably.
7	Yale	"	25	100	40-50	Medium	3½-4	49 28	50	Slightly.
8	Empire	"	25	100	40-46	"	3½-4½	49 28	50½	"
9	Argyle	"	20	95	42-49	Stiff	2½-3½	49 8	49½	"
10	Stella	"	25	100	40-46	Weak	2½-3½	47 4	51	"
11	Oderbruch	"	21	96	41-46	Stiff	2-3	46 42	52	"
12	Phoenix	"	21	96	41-48	Medium	2½-3	45	49	"
13	Surprise	"	25	100	40-44	Stiff	2½-3½	44 38	50½	"
14	Claude	"	27	102	35-40	Weak	3-3½	44 8	47	"
15	Nugent	"	25	100	40-46	Stiff	2½-3	41 22	50	"
16	Rennie's Improved	"	16	91	40-45	Medium	2½-3½	41 12	49	"
17	Summit	"	25	100	42-46	Stiff	2½-3½	40 20	52½	"
18	Albert	"	25	100	36-44	"	3½-4	40 20	51	"
19	Common	"	26	101	43-48	"	3-3½	40 20	49	None.
20	Trooper	"	22	97	38-43	"	2½-3	38 36	48	Slightly.
21	Success	"	11	87	40-44	Weak	2-2½	37 24	46½	"
22	Petschora	"	21	96	40-44	Medium	2½-3½	37 24	45½	"
23	Garfield	"	26	99	36-40	"	3-3½	37 14	49½	"
24	Vanguard	"	16	91	36-39	Stiff	2½-3	36 32	50½	"
25	Excelsior	"	21	96	40-48	Medium	2½-3½	36 2	46½	"
26	Brome	"	26	99	40-43	Weak	2½-3	35 50	50	"
27	Baxter	"	22	97	41-44	Stiff	2½-3½	35	48	"
28	Champion	"	21	96	40-48	"	2½-3½	33 16	46	"

### FIELD CROPS OF SIX-ROWED BARLEY.

*Royal*.—7¼ acres. Soil a sandy loam of fair quality, with patches of heavier soil which were partly clay. This land received a dressing of about 15 tons of barn-yard manure per acre in the spring of 1897. No fertilizer has been applied since. The previous crop was corn. The land was ploughed late in the autumn about 8 inches deep and disc-harrowed twice the following spring, and harrowed twice with the smoothing harrow before sowing. Sown 15th April; 1½ bushels per acre; came up 27th April, and was ripe 13th July. The time to mature was 89 days. Yield per acre, 40 bushels 6 pounds; weight per bushel, 51 pounds. Length of head, 2½ to 3½ inches; length of straw, 36 to 42 inches. Growth medium and even; all standing well. There was some smut, but no rust.

*Mensury*.—4 acres. Soil partly clay loam, partly sandy loam and part peaty. This land was manured in the spring of 1896, with about 12 tons of barn-yard manure per acre. In the spring of 1898 a thick mat of clover was ploughed under. The previous crop was oats, with which the clover was sown at the rate of 10 pounds of seed per acre. In the spring of 1898 it was ploughed about six inches deep, then disc-harrowed and harrowed twice with the smoothing harrow before sowing. Sown 23rd April; 1½ bushels per acre; came up 3rd May, and was ripe 20th July. The time to mature was 88 days. Yield per acre, 46 bushels 41 pounds; weight per bushel, 45½ pounds. Length of head, 3 to 3½ inches; length of straw, 38 to 42 inches. Growth strong and even; all standing well. There was no smut or rust.



*Oderbruch*.—4 acres. This and the three following plots were adjoining that of Mensury, the soil was similar and the preparation and treatment of the land the same. Sown 23rd April;  $1\frac{3}{4}$  bushels per acre; came up 10th May and was ripe 20th July. The time to mature was 88 days. Yield per acre, 44 bushels 30 pounds; weight per bushel, 49 pounds. Length of head, 3 to  $3\frac{1}{4}$  inches; length of straw, 36 to 40 inches. Growth medium to strong; standing fairly well. There was no smut and no rust.

*Success*.—2 acres. Sown 23rd April;  $1\frac{3}{4}$  bushels per acre; came up 4th May, and was ripe 16th July. The time to mature was 84 days. Yield per acre, 39 bushels 13 pounds; weight per bushel, 45 pounds. Length of head,  $2\frac{1}{2}$  to 3 inches; beardless; length of straw, 36 to 40 inches. Growth medium and even, standing fairly well. There was no smut or rust.

*Champion*.—2 acres. Sown 23rd April,  $1\frac{3}{4}$  bushels per acre; came up 4th May, and was ripe 18th July. The time to mature was 86 days. Yield per acre, 41 bushels 18 pounds; weight per bushel 43 pounds. Length of head,  $3\frac{1}{2}$  to  $3\frac{3}{4}$  inches; beardless; length of straw, 38 to 44 inches. Growth medium and even; all standing well. There was no smut or rust.

*Trooper*.—2 acres. Sown 23rd April;  $1\frac{3}{4}$  bushels per acre; came up 4th May; and was ripe 22nd July. The time to mature was 90 days. Yield per acre, 40 bushels 13 pounds; weight per bushel, 49 pounds. Length of head,  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches; length of straw, 32 to 36 inches. Growth medium and even; all standing well. There was some smut but no rust.

#### EXPERIMENTS WITH FALL WHEAT.

Twenty-four varieties of fall wheat have been under trial during the past season, most of them in plots of  $\frac{1}{4}$ th of an acre each. They were all sown on the 7th of September, 1897, and harvested from the 14th to the 26th of July, 1898. The soil was a sandy loam of medium quality which received a dressing of barn-yard manure of about 12 tons to the acre during the winter of 1895-96. This was placed on the frozen land fresh from the barn-yard in small heaps of about half a cart load each and spread and ploughed under in the spring. No manure or other fertilizer has been applied since. The previous crop was pease. The land was gang-ploughed shallow shortly after harvest in 1897 to start shed grain and weed seeds, and ploughed again in September about 8 inches deep and harrowed with the smoothing harrow before sowing. The growth of all the plots was strong and even but three or four of the varieties which gave the smallest crops were more or less winter killed. Most of the grain harvested was unusually fine and plump.



Stanley.

Preston

Cross-bred wheats, produced at the Central Experimental Farm, Ottawa, Ontario. [25]

# Experimental Farms.

## FALL WHEAT—TEST OF VARIETIES.

Name of Variety.	Length of Straw.	Length of Head.	Kind of Head.	Yield per Acre.	Weight per Bushel.	Rusted.
	Inches.	Inches.		Bush. Lbs.	Lbs.	
1 Imperial Amber.....	50 to 54	3 to 4	Bearded.....	52	62½	Very slightly.
2 Poole.....	50 to 55	3½ to 4	Beardless....	50 10	61½	Slightly.
3 Russian Amber.....	40 to 46	3½ to 4	Bearded.....	48 30	62½	Very slightly.
4 Velvet Chaff.....	46 to 50	3½ to 4½	".....	47 20	62	Slightly.
5 Egyptian Amber.....	46 to 52	3 to 3½	".....	42 20	63½	Very slightly.
6 Bonnell or Landreth.....	46 to 50	3 to 3½	Beardless....	41	63½	"
7 Dawson's Golden Chaff.....	46 to 50	3 to 3½	".....	41	61	"
8 Standard.....	46 to 52	3 to 4	".....	39 40	62½	"
9 Red Velvet Chaff.....	40 to 48	4 to 4½	".....	39 40	61½	Slightly.
10 Golden Cross.....	42 to 48	3 to 3½	Bearded.....	38	61	"
11 Long Berry Red.....	42 to 49	3½ to 4	".....	35 40	61½	Considerably.
12 Early Ripe.....	40 to 47	3 to 3½	".....	34 20	61½	Slightly.
13 Early Genesee Giant.....	40 to 46	2½ to 3	".....	33 40	62½	"
14 Jones' Winter Fife.....	46 to 50	3½ to 4	Beardless....	33 20	62	"
15 Tasmania Red.....	41 to 46	3 to 3½	Bearded.....	33 20	62	"
16 Reliable.....	40 to 48	3½ to 4	".....	33 20	61½	"
17 Egyptian.....	40 to 44	3½ to 4	".....	32 40	63	"
18 Budapesth.....	42 to 48	3 to 4	".....	32 30	63	"
19 Pride of Illinois.....	42 to 50	3 to 3½	Beardless....	30	62½	Very slightly.
20 Early Red Clawson.....	48 to 51	3½ to 4	".....	29	60½	Slightly.
21 Surprise.....	44 to 48	3 to 4	".....	20 20	61	"
22 Siberian.....	40 to 44	3 to 3½	".....	19 40	61	Considerably.
23 American Bronze.....	44 to 48	3½ to 4	".....	19	60½	Slightly.
24 Bulgarian.....	42 to 48	3 to 3½	Bearded.....	16	60	"

## EXPERIMENTS WITH SPRING WHEAT.

Experiments have been conducted during the past season with sixty-five varieties of spring wheat, all grown in plots of  $\frac{1}{40}$ th of an acre each. The soil was a sandy loam of medium quality, which received a dressing of barn-yard manure of about 12 tons to the acre during the winter of 1895-96. This was placed on the frozen land fresh from the barn-yard, in small heaps of about half a cart load each and spread and ploughed under in the spring. No manure or other fertilizer has been applied since. The previous crop was pease. The land was gang-ploughed shallow shortly after harvest in 1897 to start shed grain and weed seeds, and ploughed again late in the autumn about 8 inches deep. In the spring of 1898 it was disc-harrowed twice, and harrowed with the smoothing harrow twice before sowing. The seed was sown from the 20th to the 22nd of April at the rate of  $1\frac{1}{2}$  bushels per acre and the land was rolled before the grain came up.

SPRING WHEAT—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	Number of Days Maturing.	Length of		Kind of Head.	Yield per Acre.		Weight per Bushel.	Rusted.
			Straw.	Head.		Bush. Lbs.	Lbs.		
1 Laurel	Aug. 2	102	43-49	3½-4½	Beardless	32	30	61½	Slightly.
2 Plumper	July 29	100	36-40	3½-4	Bearded	31	15	62	"
3 Rio Grande	Aug. 2	104	44-48	3½-4½	"	30	50	63	"
4 Emporium	" 2	104	46-48	4-5	"	30	40	62	"
5 Wellman's Fife	" 4	106	44-46	4½-5	Beardless	30		60	"
6 Blair	" 1	103	40-44	2½-3½	"	29	30	62	"
7 Preston	July 29	100	40-43	3½-4½	Bearded	28	50	62	None.
8 Colorado	Aug. 1	101	41-46	3½-4	"	28	20	62½	Slightly.
9 Goose	" 2	103	42-46	2½-3½	"	28	10	64½	"
10 Fraser	July 29	98	40-43	2½-3½	"	28	10	60	Considerably.
11 Rideau	" 30	101	40-48	3-3½	Beardless	27	20	59	Slightly.
12 Beaudry	" 29	99	42-46	2½-3½	Bearded	27	20	63½	Very slightly.
13 Vernon	Aug. 1	101	38-46	3-4	"	27	10	62	Slightly.
14 Red Fern	" 2	104	40-46	4½-5½	"	27	10	62½	"
15 Black Sea	" 1	102	41-44	3½-4	"	27	10	60	"
16 Stanley	" 1	102	40-45	3½-4½	Beardless	26	50	59½	Very slightly.
17 Percy	July 29	99	44-48	3½-4½	"	26	40	62	Slightly.
18 Campbell	" 29	98	39-41	3-4	"	26	40	60	Considerably.
19 Dion's	Aug. 2	104	40-46	4½-5½	Bearded	26	40	62½	Slightly.
20 Weldon	" 2	102	47-49	2½-3½	Beardless	26	40	60	Considerably.
21 Crawford	" 1	103	40-43	3½-4	"	26	30	61	Slightly.
22 Ebert	July 29	100	34-38	3-3½	"	26		62½	"
23 Pringle's Champlain	" 30	99	38-48	3½-4½	Bearded	26		60½	"
24 Clyde	Aug. 2	102	43-45	3½-4½	Beardless	25	40	60½	"
25 Countess	" 1	102	40-44	3-3½	"	25	30	61½	"
26 Byron	" 1	101	38-40	2½-3½	Bearded	25	20	60	Considerably.
27 Monarch	" 2	104	40-44	3½-4½	Beardless	25	20	61	"
28 Benton	" 2	102	38-40	2½-3½	"	25		60	Badly.
29 Cassel	" 6	106	40-46	3½-4	"	25		59½	"
30 Cartier	July 27	98	39-46	2½-3	Bearded	24	45	63	Slightly.
31 Huron	Aug. 2	104	38-46	3½-4	"	24	10	62	"
32 Progress	" 1	102	40-44	3½-4	Beardless	24		61	"
33 WhiteChaff Campbell's	" 1	101	40-43	3½-4	"	23	40	60	"
34 Harold	July 26	95	38-46	3½-4	Bearded	23		57	Considerably.
35 Early Riga	" 26	95	38-42	3½-4	Beardless	23		59	"
36 Golden Drop	Aug. 2	103	40-44	2½-3½	"	22	40	61	Slightly.
37 Captor	" 1	102	40-48	3½-4½	"	22	22	60½	"
38 Hungarian	" 2	104	36-40	2½-3½	Bearded	22	20	63	"
39 Norval	" 2	102	42-44	3-3½	"	22	4	61	Considerably.
40 Crown	" 2	104	34-38	3-3½	"	22		61	Slightly.
41 Gehum	July 27	98	36-39	2-2½	"	22		60	"
42 Hastings	Aug. 2	102	38-40	2½-3½	Beardless	22		61½	Considerably.
43 Roumantan	" 8	108	42-52	2½-3½	Bearded	22		63	Slightly.
44 Chester	" 1	101	37-39	3½-4½	Beardless	21	50	59	Considerably.
45 Herisson Bearded	" 5	106	30-38	2½-3	Bearded	21	40	64	Slightly.
46 White Fife	" 4	106	34-38	3-4	Beardless	21	30	60	"
47 White Connell	" 5	107	39-44	3-3½	"	21	30	60½	"
48 Red Fife	" 8	110	39-42	3½-4	"	21	20	59½	"
49 Allan	" 2	104	41-43	2½-3½	"	21	40	61	"
50 Blenheim	" 5	107	40-43	2½-3½	"	21		60½	"
51 Mason	" 1	103	40-44	3-4	"	20	45	61½	Considerably.
52 Dawn	" 6	106	34-39	3½-4	"	20		59	Slightly.
53 Advance	" 4	106	41-46	3½-4½	Bearded	18	40	61	"
54 Dufferin	" 4	106	40-43	3-3½	"	17	15	60	Considerably.
55 Ladoga	" 1	103	38-44	3-3½	"	17		60	Slightly.
56 Bishop	" 4	106	32-38	2½-3½	Beardless	16	40	62½	"
57 Alpha	" 5	107	38-48	3½-4½	"	16	30	60	"
58 Old Red River	" 4	106	40-44	3-4	"	16	10	60½	"
59 Essex	" 6	106	40-44	3-4	"	16		57½	"
60 Admiral	" 3	103	30-38	3-3½	"	15	20	59	Considerably.
61 Beauty	" 5	107	42-48	4-4½	"	15	20	58	Slightly.
62 White Russian	" 4	104	40-44	3½-4½	"	15		61	"
63 Dawson	" 5	107	40-43	3½-4	"	14	30	60½	"
64 Pride of Baropa	" 4	106	40-44	3-3½	"	14	10	61	"
65 Angus	" 4	105	30-36	2½-3	"	14		60	Considerably.

## Experimental Farms.

In the foregoing list there are included forty-one of the new cross-bred sorts, which have been originated at the experimental farms. A list of the names and parentage of fifteen cross-bred sorts was given in the Annual Report for 1896, page twenty, and a second list of sixteen more in the Annual Report for 1897, page sixteen. This year thirty of the thirty-one contained in these two lists have been tried again and the following eleven new sorts added to the list:—

32. Campbell—Gehun . . . . .	Female with Campbell's White Chaff Male.
33. Weldon—Red Fife . . . . .	“ Hard Red Calcutta . . . . .
34. Clyde—Hard Red Calcutta . . . . .	“ Red Fife . . . . .
35. Byron—Campbell's White Chaff . . . . .	“ Gehun . . . . .
36. Benton—Gehun . . . . .	“ Campbell's White Chaff . . . . .
37. Cassel—Hard Red Calcutta . . . . .	“ Red Fife . . . . .
38. Early Riga—Gehun . . . . .	“ Onega . . . . .
39. Norval—Delhi . . . . .	“ Manchester, Fall Wheat . . . . .
40. Hastings—Colorado . . . . .	“ Gehun . . . . .
41. Chester—Alpha . . . . .	“ Gehun . . . . .
42. Allan—Colorado . . . . .	“ Gehun . . . . .

Of these results in cross fertilizing one was originated at the Central Experimental Farm by the Director, in 1891, No. 42. Six were the results of the work of Mr. W. T. Macoun, also at the Central Farm, one was produced in 1890, No. 39, and five were produced in 1891, Nos. 32, 35, 36, 38 and 40. Four were originated by Dr. A. P. Saunders in 1892, one, No. 33, at the branch experimental farm at Brandon, Manitoba, two at the branch farm at Indian Head, N. W. T., Nos. 34 and 37, and one at the branch farm at Agassiz, No 41.

### FIELD CROPS OF SPRING WHEAT.

*Preston.*—2 acres. The soil in this plot was a heavy sandy loam of good quality, more or less mixed with clay. The previous crop was roots. The land was manured in the spring of 1893 with about 18 tons of barn-yard manure per acre; no fertilizer has been applied since. The land was ploughed in the spring of 1898, about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. Sown 18th April; 1½ bushels per acre; came up 30th April, and was ripe 26th July. The time to mature was 99 days. Yield per acre, 31 bushels 22 pounds; weight per bushel, 62 pounds. Length of head, 3½ to 3¾ inches; bearded; length of straw, 38 to 42 inches. Growth strong and even; all standing well. There was no smut, and no rust.

*Stanley.*—1 acre. Soil a heavy sandy loam of fairly good quality, slightly tending to clay, which received a dressing of about 15 tons of barn-yard manure per acre, in the spring of 1897. No fertilizer has been applied since. The previous crop was corn. The land was ploughed late in the autumn of 1897, about 8 inches deep and disc-harrowed twice the following spring, and harrowed twice with the smoothing harrow before sowing. Sown 16th April; 1½ bushels per acre; came up 27th April, and was ripe 26th July. The time to mature was 89 days. Yield per acre, 18 bushels 29 pounds; weight per bushel, 62½ pounds. Length of head, 2½ to 3¼ inches; beardless; length of straw, 36 to 40 inches. Growth medium and even; all standing well. There was no smut or rust.

*Dion's.*—1 acre. This and the next four plots referred to were all adjoining the Stanley; the soil was similar and the preparation and treatment of the land the same. Sown 16th April; 1½ bushels per acre; came up 27th April, and was ripe 26th July. The time to mature was 101 days. Yield per acre, 23 bushels 28 pounds; weight per bushel, 61¼ pounds. Length of head, 3½ to 4 inches; length of straw, 38 to 44 inches. Growth strong and even; all standing well. There was no smut and no rust.

*Preston.*—2 acres. Sown 16th April;  $1\frac{1}{2}$  bushels per acre; came up 28th April, and was ripe 26th July. The time to mature was 101 days. Yield per acre, 30 bushels 43 pounds; weight per bushel, 62 pounds. Length of head,  $3\frac{1}{2}$  to  $3\frac{3}{4}$  inches; bearded; length of straw, 38 to 42 inches. Growth strong and even; all standing well. There was no smut, and no rust.

*Wellman's Fife.*—1 acre. Sown 16th April;  $1\frac{1}{2}$  bushels per acre; came up 27th April, and was ripe 29th July. The time to mature was 104 days. Yield per acre, 25 bushels 6 pounds; weight per bushel, 58 pounds. Length of head,  $3\frac{1}{2}$  to 4 inches; beardless; length of straw, 38 to 44 inches. Growth strong and even; all standing well. There was no smut, and no rust.

*Monarch.*—1 acre. Sown 16th April;  $1\frac{1}{2}$  bushels per acre; came up 27th April, and was ripe 29th July. The time to mature was 104 days. Yield per acre, 28 bushels 8 pounds; weight per bushel,  $58\frac{1}{2}$  pounds. Length of head, 3 to  $3\frac{1}{2}$  inches; beardless; length of straw, 36 to 41 inches. Growth strong and even; all standing well. There was no smut, and no rust.

*Percy.*—1 acre. Sown 16th April;  $1\frac{1}{2}$  bushels per acre; came up 28th April and was ripe 25th July. The time to mature was 100 days. Yield per acre, 25 bushels  $37\frac{1}{2}$  pounds; weight per bushel, 62 pounds. Length of head, 3 to  $3\frac{1}{2}$  inches; beardless; length of straw, 38 to 40 inches. Growth strong and even; all standing well. There was no smut, and no rust.

#### SPRING WHEATS FROM AUSTRALIA.

Nineteen varieties of spring wheat were received from Australia early in the year. These were all supposed to be freer from rust than other varieties and some of them were said to be rust proof. As they were received in very small quantities no satisfactory estimate could be made of the yield per acre. Probably this can be done another year. The varieties received from this source were all beardless. None of them were entirely free from rust here.

Variety.	Sown.	Ripe.	Rusted.	Remarks.
No. 1b, Tweed	April 27	August 13	Considerably	Not promising.
" 2	" 27	" 8	Slightly	Promising.
" 3a	" 27	" 16	Badly	Not promising.
" 5a	" 27	" 13	Slightly	Fairly promising.
" 5c	" 27	" 8	Considerably	Not promising.
" 6a	" 27	" 13	Badly	"
" 6b	" 27	" 15	"	"
" 7, Felbrig.	" 27	" 15	"	"
" 8, Hazel	" 27	" 13	"	"
" 9	" 27	" 8	Slightly	Promising.
" 10a	" 27	" 13	Considerably	Not promising.
" 10b	" 27	" 9	Slightly	Fairly promising.
" 11a, Mainspring.	" 27	" 15	Badly	Not promising.
" 11b	" 27	" 15	"	"
" 12a, Spring Sure.	" 27	" 15	"	"
" 12b	" 27	" 15	"	"
" 13, Duff.	" 27	" 9	Slightly	Promising.
" 14	" 27	" 9	"	"
" 15c	" 27	" 16	Considerably	Not promising.

It is proposed to give these varieties further trial.

# Experimental Farms.

## EXPERIMENTS WITH PEASE.

Sixty-six varieties of pease were included in the trial plots during the past year. The nine varieties named Harrison's Glory, Fenton, Alma, King, Kent, Canadian Beauty, Daniel O'Rourke, Trilby and Prince are not reported on for the following reason. On the 5th of August, when these were cut and drying in the field, a violent storm of wind suddenly arose which carried them all to the other end of the field and they were so mixed that it was impossible to separate them.

The pease were all sown in plots of  $\frac{1}{40}$ th of an acre each. The soil was a sandy loam of good quality which received a dressing of barn-yard manure about 12 tons per acre, during the winter of 1895-96. The manure was taken fresh from the barn-yard and placed on the frozen land in small piles of about half a cart load each to keep it from fermenting, and spread in the spring. The previous crop was barley. The land was gang-ploughed shallow, shortly after harvest to start shed grain and weed seeds, and ploughed later in the autumn about 8 inches deep. In the spring of 1898 it was disc-harrowed twice and harrowed twice with the smoothing harrow before sowing. From 2 to 3 bushels per acre were sown, depending on the size of the peas and all were sown from the 18th to the 20th of April.

### PEASE.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Character of Growth.	Length of Straw.	Length of Pod.	Yield per Acre.	Weight per Bushel.
				Inches.	Inches.	Bush. Lbs.	Lbs.
1 Arthur	July 30	102	Strong	50-62	1 $\frac{3}{4}$ -2 $\frac{1}{4}$	46 50	64
2 Elephant Blue	Aug. 2	105	"	49-66	2-3 $\frac{3}{4}$	45 20	63 $\frac{1}{2}$
3 Macoun	" 8	112	"	70-88	2 $\frac{1}{2}$ -3	40 ..	63 $\frac{1}{2}$
4 Picton	" 2	105	"	41-53	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	40 ..	63 $\frac{1}{2}$
5 Pride	July 29	101	"	30-40	2-2 $\frac{1}{2}$	40 ..	62 $\frac{1}{2}$
6 Prussian Blue	Aug. 2	106	"	50-78	2-2 $\frac{3}{4}$	40 ..	64
7 Chelsea	" 6	109	"	53-65	2-2 $\frac{1}{2}$	39 50	63
8 Perth	" 1	104	"	42-54	2-2 $\frac{3}{4}$	39 30	63 $\frac{1}{2}$
9 Crown	July 29	101	Medium	46-58	2-2 $\frac{1}{2}$	39 10	65
10 Multiplier	Aug. 4	108	Strong	60-72	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	38 40	63
11 Lanark	" 2	104	"	42-51	2-2 $\frac{1}{2}$	38 30	63
12 Pearl	" 6	109	"	47-59	2-2 $\frac{1}{2}$	38 30	63 $\frac{1}{2}$
13 Black-eyed Marrowfat	" 2	105	"	50-56	2 $\frac{1}{2}$ -3	38 20	63 $\frac{1}{2}$
14 Centennial	" 2	105	"	49-59	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	38 ..	64
15 Archer	" 4	108	"	50-66	2-2 $\frac{3}{4}$	38 ..	63 $\frac{1}{2}$
16 Large White Marrowfat	" 8	111	"	60-80	2 $\frac{1}{2}$ -3 $\frac{3}{4}$	37 30	63
17 Vincent	" 3	107	"	46-58	2 $\frac{1}{2}$ -3	37 20	62
18 Oddfellow	" 2	106	"	38-46	1 $\frac{1}{2}$ -2	36 40	66 $\frac{1}{2}$
19 Elder	" 4	108	"	44-46	1 $\frac{1}{2}$ -2 $\frac{1}{2}$	36 ..	63
20 German White	July 29	101	"	53-65	2-2 $\frac{1}{2}$	35 50	63 $\frac{1}{2}$
21 Mackay	Aug. 4	107	"	60-64	2 $\frac{1}{2}$ -2 $\frac{3}{4}$	35 40	62 $\frac{1}{2}$
22 Elliott	" 8	111	"	51-63	2 $\frac{1}{2}$ -2 $\frac{3}{4}$	35 40	63 $\frac{1}{2}$
23 Chancellor	July 28	100	Medium	56-68	1 $\frac{1}{2}$ -2	35 40	65
24 Dover	Aug. 5	108	Strong	50-62	2 $\frac{1}{2}$ -3	35 20	63 $\frac{1}{2}$
25 Herald	" 5	108	"	47-69	2-2 $\frac{1}{2}$	34 40	64
26 Kingsford	" 4	106	"	50-61	2-2 $\frac{3}{4}$	34 30	64
27 Tracey	" 4	107	"	43-55	2-2 $\frac{3}{4}$	34 20	63 $\frac{1}{2}$
28 Bright	" 6	108	"	48-67	2-2 $\frac{3}{4}$	34 10	64
29 Derby	" 6	110	"	50-62	2 $\frac{1}{2}$ -3 $\frac{1}{4}$	33 50	63
30 Bedford	" 6	109	"	50-60	2-2 $\frac{3}{4}$	33 20	63 $\frac{1}{2}$
31 Nelson	" 2	104	"	40-52	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	33 20	64
32 Mumuy	" 1	104	"	44-66	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	33 10	63
33 Nixon	" 4	108	"	66-84	2-2 $\frac{3}{4}$	32 40	63 $\frac{1}{2}$
34 Grant	" 8	112	"	60-82	2 $\frac{1}{2}$ -3	32 40	63
35 Creeper	" 1	105	"	48-60	2-2 $\frac{1}{2}$	32 40	64
36 Kerry	" 6	109	"	41-53	2 $\frac{1}{2}$ -3	32 10	63 $\frac{1}{2}$
37 Prospect	" 6	109	"	43-55	2-2 $\frac{1}{2}$	32 ..	64
38 Paragon	" 4	107	"	46-58	1 $\frac{3}{4}$ -2 $\frac{1}{2}$	31 20	63

PEASE—TEST OF VARIETIES—*Concluded.*

Name of Variety.	Date of Ripening.	No. of days Maturing.	Character of Growth.	Length of Straw.	Length of Pod.	Yield per Acre.		Weight per Bushel.
				Inches.	Inches.	Bush.	Lbs.	Lbs.
39 Dexter	Aug. 8.	111	Strong	49-56	2½-3	31	20	63
40 New Potter	" 3.	106	"	54-66	2-2½	31	10	62
41 Fergus	" 5.	107	"	56-58	2-2½	30	50	64
42 Carleton	" 2.	106	"	50-58	2-2½	30	40	64½
43 Hazen	" 2.	105	"	56-62	2-3	30	40	64
44 Forbes	" 5.	108	"	52-64	1½-2½	30	40	63
45 Cooper	" 6.	108	"	38-46	1½-2½	30	30	64
46 Duke	" 2.	105	"	50-58	2-2½	30	20	64
47 Prince Albert	" 8.	112	"	60-82	1½-2½	30	20	64
48 Bruce	" 6.	108	"	42-54	2-2½	30	..	63½
49 Victoria	" 6.	109	"	38-50	2-2½	30	..	63½
50 Agnes	" 1.	104	"	48-60	2-2½	29	40	64½
51 Gregory	" 5.	107	"	45-57	2-2½	29	20	63
52 Dixon	" 2.	106	"	50-78	2-2½	29	20	62
53 Clarke	" 9.	112	"	49-56	2-2½	29	20	64
54 Moore	" 1.	105	"	36-50	2½-3	28	50	63
55 Early Britain	July 26.	99	Weak	40-50	2-2½	27	50	63½
56 French Canner	" 29.	102	"	41-48	1½-2½	21	20	62
57 White Wonder	" 27.	100	"	20-22	1½-2½	20	..	63

## FIELD CROPS OF PEASE.

*New Potter*.—One-half acre. Soil partly clay loam, and part peaty, which received a dressing of barn-yard manure of about 12 tons per acre in the spring of 1896, and has had no fertilizer since. The previous crop was oats. The land was ploughed in the spring of 1898 about 6 inches deep, turning under a good mat of clover which had been sown with the oats in 1897. The land was then disc-harrowed once and harrowed twice with the smoothing harrow before sowing. Sown 9th April; 2½ bushels per acre; came up 9th May, and was ripe 8th August. The time to mature was 103 days. Yield per acre, 25 bushels; weight per bushel, 62 pounds. Growth medium and even; pods medium. Length of straw, 50 to 60 inches.

*Canadian Beauty*.—One-half acre. This and the three following plots were adjoining that of *New Potter*; the soil was similar and the preparation and treatment of the land the same throughout. Sown 27th April; 3 bushels per acre; came up 10th May, and was ripe 10th August. The time to mature was 105 days. Yield per acre, 29 bushels 30 pounds; weight per bushel, 64 pounds. Growth strong and even; pods large. Length of straw, 55 to 60 inches.

*White Marrowfat*.—One-half acre. Sown 27th April; 3 bushels per acre; came up 10th May; and was ripe 10th August. The time to mature was 105 days. Yield per acre, 28 bushels 6 pounds; weight per bushel, 63 pounds. Growth strong and even; pods large. Length of straw, 55 to 62 inches.

*Creeper*.—One-half acre. Sown 27th April; 2½ bushels per acre; came up 9th May, and was ripe 8th August. The time to mature was 103 days. Yield per acre, 34 bushels 54 pounds; weight per bushel, 64½ pounds. Growth strong and even; pods small. Length of straw, 46 to 54 inches.

*Prussian Blue*.—One-half acre. Sown 27th April; 2½ bushels per acre; came up 9th May, and was ripe 6th August. The time to mature was 101 days. Yield per acre, 35 bushels 36 pounds; weight per bushel, 64½ pounds. Growth strong and even; pods medium to small. Length of straw, 45 to 55 inches.



## Experimental Farms.

*Common Field Peas*,—5 acres. Soil sandy loam of medium quality, part of this land received in the spring of 1894 an application of about 12 tons of barn-yard manure per acre. No fertilizer has been applied since. The previous crop on part of this land was corn and potatoes, the other part had been used as a nursery for young forest trees and had not received any manure or other fertilizer. The land was ploughed in the spring of 1898, about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. Sown 3rd May; 2½ bushels per acre; came up 14th May, and was ripe 9th August. The time to mature was 99 days.

Yield per acre, 32 bushels 7 pounds. Growth medium and even; pods small. Length of straw, 40 to 52 inches.

### RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

These tests were all conducted on similar land, on 10<sup>th</sup> acre plots, the plots adjoining each other. The soil was a sandy loam of fair quality which received a dressing of barn-yard manure, about 12 tons per acre, in the autumn of 1895 when it was ploughed under. The land also received an application of unleached wood ashes in November, 1897, of about 125 bushels per acre. No fertilizers have been applied since. The previous crop was grain in experimental plots, the different kinds of grain being sown in rotation. The land was ploughed in the autumn, about 8 inches deep, and in the spring a sufficient quantity of the land for the first set of plots was gang-ploughed and harrowed twice with the smoothing harrow before sowing, the first sowing being made as soon as the land was in condition to receive the seed. The oats were sown at the rate of 2¼ bushels per acre, the Canadian Thorpe barley, 2 bushels, the Odessa 1½, the spring wheat 1½ bushels, the Mummy pease, 2¾ bushels and the Golden Vine, 2½ bushels per acre. A sufficient portion of the land set aside for the subsequent sowings was worked up from week to week in the manner described, as it was needed, and in this way any weeds which had started were killed and each series of plots were given the same chance at the start as far as condition of soil was concerned.

#### OATS SOWN AT DIFFERENT DATES.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Weight of Straw.		Yield per Acre.	Weight per Bushel.	Rusted.
					per Acre.	per Acre.			
				Inches.	Lbs	Bush. Lbs.	Lbs.		
Banner	April 11	July 25	105	36 to 42	2,310	44 4	34	None	
"	" 18	" 28	101	42 to 48	3,270	57 32	33½	Slightly.	
"	" 25	" 29	95	32 to 40	3,390	53 8	35½	"	
"	May 2	August 5	95	32 to 40	3,440	54 14	34½	Considerably.	
"	" 9	" 9	92	30 to 38	3,390	43 8	35	Slightly.	
"	" 16	" 12	88	32 to 42	2,730	40 30	34½	Badly.	
Abundance	April 11	July 23	103	36 to 40	2,330	48 8	35½	None	
"	" 18	" 27	100	42 to 48	3,750	63 8	33½	Slightly.	
"	" 25	" 29	95	34 to 40	3,870	54 24	34½	"	
"	May 2	August 4	94	32 to 40	3,210	46 26	35	"	
"	" 9	" 8	91	30 to 38	3,070	46 6	35	Badly.	
"	" 16	" 10	86	32 to 40	3,320	47 12	31½	"	

## BARLEY SOWN AT DIFFERENT DATES.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Weight of Straw per Acre.	Yield per Acre.	Weight per Bushel.	Rusted.
				Inches.	Lbs.	Bush. Lbs.	Lbs.	
Canadian Thorpe.	April 11	July 21	101	36 to 40	2,440	38 36	51	None.
"	" 18	" 25	98	38 to 46	4,660	48 36	51	"
"	" 25	" 27	93	36 to 42	3,530	39 38	47	"
"	May 2	August 1	91	36 to 42	2,580	41 12	50 $\frac{1}{2}$	Badly.
"	" 9	" 6	89	32 to 40	3,060	25 40	48 $\frac{3}{4}$	"
"	" 16	" 10	86	36 to 40	3,380	25 20	48 $\frac{1}{4}$	"
Odessa	April 11	July 16	96	36 to 38	2,550	46 2	50	None.
"	" 18	" 18	91	36 to 40	3,570	59 8	50	"
"	" 25	" 20	86	36 to 38	3,470	54 38	49 $\frac{1}{2}$	"
"	May 2	" 25	84	36 to 38	3,910	55 10	46 $\frac{3}{4}$	"
"	" 9	" 28	80	35 to 38	3,430	31 22	47 $\frac{1}{2}$	Badly.
"	" 16	August 1	77	35 to 38	3,050	28 36	46	"

## SPRING WHEAT SOWN AT DIFFERENT DATES.

Red Fife	April 11	August 4	115	36 to 42	1,980	13 50	59	Slightly.
"	" 18	" 8	112	44 to 48	3,060	29 10	59 $\frac{1}{2}$	"
"	" 25	" 9	106	30 to 34	2,140	12 50	57 $\frac{1}{2}$	Considerably.
"	May 2	" 13	103	20 to 24	2,350	10 50	57	Badly.
"	" 9	" 13	96	30 to 34	2,950	7 10	52	"
"	" 16	" 14	90	30 to 32	2,840	6 50	53	"
Stanley	April 11	July 27	107	32 to 38	2,830	14 30	60 $\frac{1}{2}$	Slightly.
"	" 18	" 30	103	42 to 48	2,470	27 10	61 $\frac{1}{2}$	"
"	" 25	August 6	103	30 to 34	2,420	12 20	58 $\frac{1}{4}$	Considerably.
"	May 2	" 9	99	30 to 32	2,530	10 10	58	Slightly.
"	" 9	" 10	93	30 to 32	3,150	7 30	55 $\frac{1}{2}$	Badly.
"	" 16	" 13	89	30 to 32	3,050	6 10	55	"

## PEASE SOWN AT DIFFERENT DATES.

Mummy	April 11	July 27	107	48 to 52	2,130	26 30	64	
"	" 18	" 29	102	48 to 56	2,890	37 40	65	
"	" 25	August 5	102	46 to 56	3,150	29 30	63 $\frac{1}{2}$	
"	May 2	" 9	99	46 to 54	2,380	30 30	63 $\frac{3}{4}$	
"	" 9	" 10	93	46 to 54	3,110	25 40	64 $\frac{1}{2}$	
"	" 16	" 13	89	46 to 54	2,650	25 10	60 $\frac{1}{2}$	
Golden Vine	April 11	July 23	108	50 to 58	2,680	32 50	63 $\frac{1}{2}$	
"	" 18	" 28	101	50 to 60	3,310	34 10	64	
"	" 25	August 8	105	50 to 60	2,640	30 50	63 $\frac{3}{4}$	
"	May 2	" 10	100	50 to 58	2,490	37 10	64	
"	" 9	" 10	93	48 to 58	3,750	30 10	62 $\frac{1}{2}$	
"	" 16	" 13	89	48 to 60	2,970	27 40	57 $\frac{1}{2}$	

## Experimental Farms.

### SUMMARY OF RESULTS OF EARLY, MEDIUM AND LATE SOWINGS FOR THE WHOLE PERIOD.

The following are the average crops which have been obtained during the full period these tests have been continued, that is, nine years with the oats, barley and spring wheat and four years with the pease:—

TESTS CONTINUED FOR NINE YEARS.						TESTS CONTINUED FOR FOUR YEARS.					
Oats.	Average Yield per Acre.		Barley.	Average Yield per Acre.		Spring Wheat.	Average Yield per Acre.		Pease.	Average Yield per Acre.	
	Bush.	Lbs.		Bush.	Lbs.		Bush.	Lbs.		Bush.	Lbs.
1st Sowing..	53	32	1st Sowing..	40	8	1st Sowing..	17	59	1st Sowing...	29	26
2nd " ..	59	13	2nd " ..	42	47	2nd " ..	20	21	2nd " ...	33	30
3rd " ..	50	17	3rd " ..	34	11	3rd " ..	14	7	3rd " ...	32	36
4th " ..	45	3	4th " ..	31	15	4th " ..	12	15	4th " ...	30	23
5th " ..	40	3	5th " ..	25	22	5th " ..	10	12	5th " ...	26	42
6th " ..	31	3	6th " ..	23	8	6th " ..	8	40	6th " ...	24	41

### EXPERIMENTS WITH INDIAN CORN.

During the season of 1898 twenty-six varieties of Indian corn were tested side by side on fairly uniform land. The soil was a sandy loam of fair quality, and the previous crop was hay. The land was ploughed very shallow immediately after the hay crop was taken off, and cultivated at short intervals to keep all growth down until autumn. A dressing of barn-yard manure fresh of about 12 tons per acre was distributed over this land in small piles of about one-third of a cart load each during the winter, and spread in the spring, after which it was ploughed under about six inches deep and harrowed with the smoothing harrow before planting. The varieties were all planted on the 18th of May, and were cut for ensilage on the 17th of September. The yield per acre has been calculated from the weight of the crop cut from two rows each 66 feet long.

INDIAN CORN—TEST OF VARIETIES.

Name of Variety.	Character of Growth.	Height.	Leafiness.	Condition when Cut.	Weight per Acre grown in rows.		Weight per Acre grown in hills.	
					Tons.	Lbs.	Tons.	Lbs.
		Inches.		25th Sept.				
Red Cob Ensilage	Very strong.	108 to 120	Leafy	Early milk	24	1,170	25	820
Early Mastodon	"	120 to 132	"	Late milk	24	1,060	24	400
Cloud's Early Yellow	Strong	96 to 120	"	Glazed	24	473	19	1,160
Giant Prolific Ensilage	Very strong.	96 to 120	"	Early milk	22	1,100	24	1,720
Country Gentleman	Strong	72 to 84	"	Doughy	22	550	21	1,670
Early Butler	"	96 to 108	"	"	21	1,340	22	660
Evergreen Sugar	"	90 to 102	"	Watery	21	900	20	1,360
Thoroughbred White Flint	Very strong.	96 to 120	Very leafy	Late milk	20	1,800	21	900
Champion White Pearl	Strong	96 to 108	Fairly leafy	"	20	247	20	1,490
Sanford	"	84 to 108	Leafy	Glazed	20	113	19	1,490
Selected Leaming	"	108 to 120	"	"	19	1,380	18	300
Pride of the North	"	96 to 108	Very leafy	"	19	940	13	1,903
White Cap Yellow Dent	"	102 to 108	Leafy	Late milk	19	170	19	1,600
Extra Early Huron	"	96 to 108	"	Glazed	18	1,180	16	1,110
Mammoth Cuban	"	96 to 120	Very leafy	"	18	80	20	700
King of the Earliest	"	96 to 108	Leafy	"	17	1,200	17	833
Ruby Mexican	"	84 to 96	"	Doughy	17	100	18	1,510
Mammoth Eight-rowed Flint	"	84 to 96	"	Glazed	16	1,440	21	1,230
Canada White Flint	"	84 to 96	"	"	16	340	17	1,860
North Dakota White	"	96 to 120	"	"	15	1,240	19	1,380
Smut Nose Flint	Medium	84 to 90	Fairly leafy	"	15	800	16	340
Longfellow	Strong	84 to 96	Leafy	"	14	1,920	17	1,420
Pearce's Prolific	Medium	84 to 90	Fairly leafy	"	14	1,113	20	1,360
Angel of Midnight	Strong	84 to 96	Leafy	"	14	1,060	18	1,300
Compton's Early	"	84 to 96	"	"	13	180	15	800
Mitchell's Extra Early	Medium	60 to 66	Fairly leafy	Ripe	11	660	9	480

FIELD CROPS OF INDIAN CORN.

The following eighteen varieties were planted in ½ acre plots, all adjoining each other on similar soil and with the same treatment. The soil was a sandy loam of fair quality, and the previous crop was hay. The land was ploughed very shallow immediately after the hay crop was taken off in 1897, and cultivated at short intervals to keep all growth down until autumn. An application of fresh barn-yard manure of about 12 tons per acre was distributed in small piles of about one-third of a cart load each to prevent it from fermenting during the winter, and spread in the spring, after which it was ploughed under about 6 inches deep and harrowed with the smoothing harrow, and marked with a wide marker before planting.

1. *Rural Thoroughbred White Flint*.—½ acre. Planted 17th May, in hills 3 feet apart each way, 4 to 5 kernels in each hill; came up 30th May, and was cut for ensilage 8th September. The growth was strong and even, leafy from top to bottom, and 8 to 9 feet high; the stalks well eared; ears in the early milk stage. Yield per acre, 17 tons 526 pounds.

2. *Mammoth Eight-rowed Flint*.—½ acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 3rd September. Growth strong and even, leafy from top to bottom, 7 to 8 feet high; stalks extra well eared, and the ears well advanced in the glazed condition, some of them beginning to harden. Yield 18 tons 500 pounds per acre.

## Experimental Farms.

3. *Compton's Early*.— $\frac{1}{2}$  acre. Planted 17th May in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 3rd September. Growth strong and even; leafy from top to bottom; height, 7 to 8 feet; stalks well eared; ears well advanced in the glazed condition, some of them beginning to harden. Yield 17 tons 40 pounds per acre.

4. *King of the Earliest*.— $\frac{1}{2}$  acre. Planted 17th May in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth strong and even; leafy on top, fairly leafy at bottom; height, 8 to 9 feet; stalks well eared; ears well advanced in the glazed condition, some of them beginning to harden. Yield 18 tons 660 pounds per acre.

5. *Extra Early Huron*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth strong and even; leafy at top and fairly leafy below; height, 8 to 9 feet; stalks well eared; ears well advanced in the glazed condition, some of them beginning to harden. Yield 13 tons 1,420 pounds per acre.

6. *Cloud's Early Yellow*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth strong and even; leafy at top, fewer leaves at bottom; height, 8 to 10 feet; stalks well eared; ears well advanced in the glazed condition, some of them beginning to harden. Yield 19 tons 1,820 pounds per acre.

7. *Red Cob Ensilage*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth very strong and even; leafy at top with very few leaves at bottom; height, 10 to 11 feet; ears not plentiful, some beginning to form. This variety was too late in ripening to make ensilage of best quality. Yield 23 tons 160 pounds per acre.

8. *Giant Prolific Ensilage*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth very strong and even; leafy above, with very few leaves below; height, 10 to 12 feet; stalks fairly well eared; ears in the early milk state. Yield 22 tons 1,840 pounds per acre.

9. *Champion White Pearl*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth very strong and even; leafy above, fairly leafy below; height, 9 to 11 feet; stalks well eared; ears in late milk state. Yield 20 tons 1,490 pounds per acre.

*Early Mastodon*.— $\frac{1}{2}$  acre. Planted 17th May, in hills 3 feet apart each way; came up 29th May, and was cut for ensilage 6th September. Growth very strong and even; leafy throughout; height 10 to 12 feet; stalks well eared; ears in early milk. Yield per acre 23 tons 570 pounds per acre.

11. *Canada White Flint*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way; came up 30th May, and was cut for ensilage 8th September. Growth strong and even; leafy from top to bottom; height 7 to 8 feet; stalks very well eared; ears beginning to ripen. Yield 13 tons 970 pounds per acre.

12. *Pride of the North*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way; came up 30th May, and was cut for ensilage 9th September. Growth strong and even; leafy on top, fairly leafy at bottom; height 8 to 9 feet; stalks well eared; ears beginning to ripen. Yield 16 tons 1,730 pounds per acre.

13. *Early Butler*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May and was cut for ensilage 9th September. Growth strong and even ; leafy at top, fewer leaves at bottom ; height 8 to 9 feet ; stalks well eared ; ears beginning to ripen. Yield 16 tons 1,080 pounds per acre.

14. *North Dakota*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May, and was cut for ensilage 19th September. Growth strong and even ; leafy throughout ; height 8 to 9 feet ; stalks well eared ; ears almost ripe. Yield 15 tons 770 pounds per acre.

15. *Sanford*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May and was cut for ensilage 19th September ; growth strong and even ; leafy throughout ; height 7 to 9 feet ; stalks well eared ; ears in the glazed condition, some of them beginning to ripen. Yield 14 tons 440 pounds per acre.

16. *Mammoth Cuban*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May, and was cut for ensilage 19th September. Growth very strong and even ; leafy above ; very few leaves below ; stalks well eared ; ears in late milk : height, 9 to 11 feet. Yield 17 tons 790 pounds per acre.

17. *Selected Leaming*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May, and was cut for ensilage 19th September. Growth very strong and even ; leafy at top ; very few leaves at bottom ; height, 10 to 11 feet ; stalks well eared, ears beginning to ripen. Yield 19 tons 254 pounds per acre.

18. *White Cap Yellow Dent*.— $\frac{1}{2}$  acre. Planted 19th May, in hills 3 feet apart each way ; came up 30th May, and was cut for ensilage 8th September. Growth very strong and even ; leafy on top ; fairly leafy at bottom ; height 10 to 12 feet ; stalks well eared ; ears in late milk, some of them beginning to ripen. Yield 19 tons 1,010 pounds per acre.

#### INDIAN CORN SOWN IN ROWS AT DIFFERENT DISTANCES.

Three varieties of Indian corn were selected for this test. The rows most closely planted were 7 inches apart—the width of the seed-drill—and the other distances were 14, 21, 28, 35, 42 and 49 inches respectively. The object was to gain information as to weight and crop when grown under these different conditions, also the number of cobs or ears, produced both large and small. The soil was a light sandy loam of fair quality. The previous crop was hay. The land was ploughed in the summer of 1897 very shallow, immediately after the hay crop was harvested, and disc-harrowed, and subsequently cultivated at intervals to keep down all growth. During the winter this land received a dressing of about 12 tons of fresh barn-yard manure per acre which was placed on the frozen ground in small piles to prevent fermentation, of about a third of a cart load each. This was spread in the spring, ploughed under about six inches deep and harrowed with the smoothing harrow before sowing. The plots were all sown with the seed drill on 17th May, closing the spouts not required as the distance between the rows was increased, and they were cut for ensilage on the 12th of September. When harvesting the yields per acre have been estimated from rows cut from the middle of each plot.

## Experimental Farms.

### CORN—TEST OF THREE VARIETIES WITH ROWS PLANTED AT DIFFERENT DISTANCES.

Name of Variety.	Width of Row.	Character of Growth.	Description of Variety.	Height.	No. of Cobs and Nubbins.	Condition when Cut.	Weight per Acre grown in rows.	
				Inches.			Per acre	Tons.
Longfellow.....	7 in. apart	Strong, partly lodged.	Yellow Flint.	62- 72	None.	No cobs or nubbins.	25	1501
" .....	14 "	" ..	" ..	72- 84	9,360	Few cobs, beginning to ripen.	24	132
" .....	21 "	" ..	" ..	72- 84	17,160	Fairly well cobbled, beginning to ripen.	28	194
" .....	28 "	Standing fairly well.	" ..	84- 90	15,698	" ..	25	1762
" .....	35 "	Standing well.	" ..	84- 96	19,460	Well cobbled....	27	82
" .....	42 "	" ..	" ..	84- 96	20,365	" ..	25	725
" .....	49 "	" ..	" ..	84- 96	19,401	" ..	24	1297
Selected Leaming.....	7 "	Cons. lodged.	Red & yellow Dent.	64- 74	None.	No cobs.....	24	85
" .....	14 "	Standing fairly well.	" ..	72- 84	591	Very few cobs..	24	1782
" .....	21 "	Strong, standing fairly well	" ..	84- 96	11,691	Late milk. ....	26	1177
" .....	28 "	" ..	" ..	96-108	14,425	Beg. to ripen....	30	248
" .....	35 "	Standing well.	" ..	96-108	19,686	" ..	24	1782
" .....	42 "	" ..	" ..	96-120	18,480	" ..	24	1592
" .....	49 "	" ..	" ..	96-120	25,376	" ..	28	490
Champion White Pearl.	7 "	Badly lodged.	Wh. Dent	120-125	None.	No cobs .....	29	268
" .....	14 "	Beginning to lodge.	" ..	120-132	18,668	Fairly well cobbled.	27	308
" .....	21 "	Standing well.	" ..	124-130	13,388	" ..	22	503
" .....	28 "	" ..	" ..	124-136	13,294	" ..	27	1864
" .....	35 "	" ..	" ..	124-136	12,672	" ..	29	42
" .....	42 "	" ..	" ..	120-132	17,725	Well cobbled....	26	1564
" .....	49 "	" ..	" ..	120-132	12,203	" ..	20	247

### EXPERIMENTS WITH TURNIPS.

There were tested during the past season twenty varieties of turnips, all sown side by side on similar soil. The soil was a sandy loam of good quality, which was manured in the autumn of 1895 with about 12 tons of barn-yard manure per acre. The previous crop was oats. The land was ploughed early in the autumn of 1897 about 8 inches deep, and again in the spring of 1898, and harrowed twice with the smoothing harrow. The land was then made up in drills two feet apart and subsequently rolled with a heavy land roller which flattened the drills nearly one-half, leaving a firm seed bed. The seed was sown at the rate of 3 pounds per acre, and immediately after sowing there was applied on the drills, at the rate of 500 pounds per acre, a mixture composed of the following fertilizers: Odourless phosphate, 1,200 pounds; kainite, 600 pounds; superphosphate No. 2, 400 pounds, and nitrate of soda, 300 pounds. Four sowings were made of each variety, the first on 28rd April, second on 6th May, third on 21st May, and the fourth on the 11th of June, and all were pulled on the 13th of October. The yield per acre has been calculated from the weight of roots pulled from two rows each 66 feet long.

These turnips were sown in rows of 200 feet or more in length, which gave opportunity for further experiments after the two rows of 66 feet each, used to ascertain the yield in the first place, had been pulled. A portion of the roots in this area was left in the ground until later, to gain information as to what advantage, if any, results from

leaving turnips in the ground after the middle of October. Nineteen plots were so left until the 3rd of November, which allowed 21 days for additional growth, with the following results:—

TURNIPS—TEST OF VARIETIES.

No.	Name of Variety.	Yield per acre, 1st Plot.		Yield per acre, 2nd Plot.		Yield per acre, 3rd Plot.		Yield per acre, 4th Plot.		Yield per acre, 4th Plot.	
		Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1	Giant King	29	740 979	24	1,500 825	21	1,570 726	10 25	1,593 859	53	
2	Purple Top Swede	29	740 979	29	1,565 992	45 28	1,040 950	40 21	240 704		
3	Jumbo	27	1,275 921	15 26	1,790 896	30 22	375 739	35 28	870 947	50	
4	Mammoth Clyde	27	1,275 921	15 26	470 874	30 22	1,045 750	45 23	200 770		
5	Drummond's Swede	27	1,110 918	30 27	120 902	25	160 836	19	1,160 619	20	
6	Marquis of Lorne	27	780 913	26	1,130 885	30 20	1,250 687	30 21	1,890 731	30	
7	Shamrock Purple Top	26	1,625 893	45 26	1,295 888	15 23	1,685 794	45 24	1,940 832	20	
8	Bangholm Selected	26	800 880	24	1,995 833	15 24	15 815	21	130 702	10	
9	Skirving's Improved	26	470 874	30 27	615 910	15 24	1,665 827	45 27	1,220 920	20	
10	Halewood's Bronze Top	25	1,645 860	45 27	615 910	15 21	1,935 732	15 28	1,090 951	30	
11	Prize Purple Top	25	820 847	21	1,735 728	55 20	920 682	22	440 740	40	
12	Perfection Swede	25	820 847	29	410 973	30 23	860 781	25	1,260 854	20	
13	Prize Winner	25	490 841	30 26	305 871	45 24	1,665 827	45 27	120 902		
14	Hall's Westbury	25	325 838	45 23	860 781	27	285 904	45 21	350 705	50	
15	Hartley's Bronze	24	1,335 822	15 25	655 844	15 21	1,560 726	27	1,000 916	40	
16	Sutton's Champion	24	840 814	26	1,625 893	45 23	1,850 797	30 26	1,460 891		
17	Selected Champion	23	200 770	23	1,850 797	30 22	1,870 764	30 27	1,990 933	10	
18	Carter's Elephant	22	880 748	26	1,955 899	15 17	485 474	45 22	1,540 759		
19	East Lothian	22	385 739	45 30	1,710 1028	30 23	35 767	15 26	360 872	40	
20	Empress	22									
	Average of all sowings.	25	1,818	26	905	23	330	24	1,413		

YIELD OF ROOTS PER ACRE FROM EARLY AND LATE PULLING.

No.	Name of Variety.	1st pulling, 13th October, from 1st sowing, 28th April.		2nd pulling, 3rd Novem'r, from 1st sowing, 28th April.		1st pulling, 13th October, from 2nd sowing, 6th May.		2nd pulling, 3rd Novem'r, from 2nd sowing, 6th May.		1st pulling, 13th October, from 3rd sowing, 21st May.		2nd pulling, 3rd Novem'r, from 3rd sowing, 21st May.		1st pulling, 13th October, from 4th sowing, 11th June.		2nd pulling, 3rd Novem'r, from 4th sowing, 11th June.	
		Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1	Giant King	29	740 33	1,320 24	1,500 24	1,335 21	1,570 26	965 25	1,593 25	1,593 25	1,593 25	1,593 25	1,593 25	1,593 25	1,593 25	1,593 25	1,593 25
2	Purple Top Swede	29	740 33	577 29	1,565 31	40 28	1,040 32	350 21	240 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27
3	Jumbo	27	1,275 34	310 26	1,790 24	1,335 22	375 27	697 28	870 28	1,750 28	1,750 28	1,750 28	1,750 28	1,750 28	1,750 28	1,750 28	1,750 28
4	Mammoth Clyde	27	1,275 33	1,815 26	470 23	695 22	1,045 21	1,313 23	200 25	490 25	490 25	490 25	490 25	490 25	490 25	490 25	490 25
5	Drummond's Swede	27	1,110 32	1,587 27	120 25	1,480 25	160 26	1,212 19	1,160 29	575 25	575 25	575 25	575 25	575 25	575 25	575 25	575 25
6	Marquis of Lorne	27	780 28	1,173 26	1,130 22	385 20	1,250 21	570 21	1,890 21	1,560 21	1,560 21	1,560 21	1,560 21	1,560 21	1,560 21	1,560 21	1,560 21
7	Shamrock Purple Top	26	1,625 27	1,192 26	1,295 25	1,150 23	1,685 27	1,687 24	1,940 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27	1,605 27
8	Bangholm Selected	26	800 31	1,608 24	1,995 24	1,830 24	15 22	798 21	130 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25
9	Skirving's	26	470 29	1,400 27	615 29	1,730 24	1,665 27	1,935 27	1,220 28	1,585 28	1,585 28	1,585 28	1,585 28	1,585 28	1,585 28	1,585 28	1,585 28
10	Halewood's Bronze Top	25	1,645 33	82 27	615 24	1,995 21	1,935 29	905 28	1,090 29	1,235 29	1,235 29	1,235 29	1,235 29	1,235 29	1,235 29	1,235 29	1,235 29
11	Prize Purple Top	25	820 30	143 21	1,735 26	305 20	920 23	1,520 22	440 20	590 20	590 20	590 20	590 20	590 20	590 20	590 20	590 20
12	Perfection Swede	25	820 28	1,420 29	410 27	780 23	860 31	1,855 25	1,260 36	600 36	600 36	600 36	600 36	600 36	600 36	600 36	600 36
13	Prize Winner	25	490 28	1,172 26	305 29	575 24	1,665 27	1,440 27	120 27	1,440 27	1,440 27	1,440 27	1,440 27	1,440 27	1,440 27	1,440 27	1,440 27
14	Hall's Westbury	25	325 30	1,380 23	860 25	820 27	2 25	490 21	350 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25	1,315 25
15	Hartley's Bronze	24	1,335 29	1,895 25	655 27	1,605 21	1,560 25	490 27	1,000 24	345 24	345 24	345 24	345 24	345 24	345 24	345 24	345 24
16	Sutton's Champion	24	840 30	1,380 26	1,625 24	1,005 23	1,850 25	1,727 26	1,460 26	1,295 26	1,295 26	1,295 26	1,295 26	1,295 26	1,295 26	1,295 26	1,295 26
17	Selected Champion	23	200 25	985 23	1,850 27	1,615 22	1,870 29	905 27	1,990 27	1,275 27	1,275 27	1,275 27	1,275 27	1,275 27	1,275 27	1,275 27	1,275 27
18	Carter's Elephant	22	880 23	1,768 26	1,955 27	1,110 17	485 23	530 22	1,540 22	385 22	385 22	385 22	385 22	385 22	385 22	385 22	385 22
19	East Lothian	22	385 26	1,707 30	1,710 27	1,275 23	35 24	757 26	360 25	1,275 25	1,275 25	1,275 25	1,275 25	1,275 25	1,275 25	1,275 25	1,275 25



## Experimental Farms.

These figures show the following results :—

Average yield per acre from 1st sowing, 1st pulling.	25	Tons.	1,818	Lbs.
“ “ 1st sowing, 2nd pulling.	30		364	
An average gain in 21 days of 4 tons 546 pounds per acre.				
Average yield per acre from 2nd sowing, 1st pulling.	26		905	
“ “ 2nd sowing, 2nd pulling.	26		687	
An average loss in 21 days of 218 pounds per acre.				
Average yield per acre from 3rd sowing, 1st pulling.	23		330	
“ “ 3rd sowing, 2nd pulling.	26		639	
An average gain in 21 days of 3 tons 309 pounds per acre.				
Average yield per acre from 4th sowing, 1st pulling.	24		1,413	
“ “ 4th sowing, 2nd pulling.	26		1,226	
An average gain in 21 days of 1 ton 1,813 pounds per acre.				

The results of these experiments although somewhat variable, and not so striking as those of last year, point to the same conclusion—which is, that growth in turnips as a rule proceeds rapidly late in the season as long as the weather remains open.

### EXPERIMENTS WITH MANGELS.

Nineteen varieties of mangels were under test during 1898. These were all sown side by side adjoining the turnips. The land was similar but rather lighter, and the treatment and preparation was the same. The drills were made up two feet apart and rolled with a heavy land roller to make a firm bed before the seed was sown. Three sowings were made, the first on the 28th of April, the second on the 6th of May, and the third on the 21st of May, and after sowing, the same mixture of fertilizers as was used on the turnips was applied on the drills of mangels in the proportion of 500 pounds per acre. The roots were all pulled on the 13th of October, and the yield per acre has been calculated from the weight of roots obtained from two rows each 66 feet long.

#### MANGELS—TEST OF VARIETIES.

Name of Variety.	Yield per Acre from 1st Sowing.		Yield per Acre from 2nd Sowing.		Yield per Acre from 3rd Sowing.	
	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1 Gate Post.....	33	1,485	26	800	16	1,330
2 Giant Yellow Globe.....	33	1,118	24	345	22	220
3 Golden Tankard.....	32	1,505	20	95	13	1,390
4 Yellow Intermediate.....	31	1,525	24	1,500	20	425
5 Giant Yellow Half-long.....	30	1,215	23	1,520	22	715
6 Mammoth Yellow Intermediate.....	30	390	26	305	18	1,455
7 Canadian Giant.....	28	595	20	95	16	1,660
8 Mammoth Long Red.....	27	1,770	23	1,355	16	670
9 Prize Mammoth Long Red.....	27	615	23	1,685	15	1,020
10 Giant Yellow Intermediate.....	26	1,130	23	860	17	1,145
11 Norbiton Giant.....	26	965	25	1,150	18	960
12 Golden Fleshed Tankard.....	24	1,665	16	1,165	13	730
13 Champion Yellow Globe.....	24	345	21	735	14	1,205
14 Ward's Large Oval-shaped.....	23	1,850	18	360	19	280
15 Warden Orange Globe.....	23	860	19	1,600	15	690
16 Selected Mammoth Long Red.....	23	860	20	260	16	1,990
17 Red Fleshed Globe.....	20	1,415	14	1,040	18	1,620
18 Gate Post Yellow.....	16	835	20	590	15	855
19 Red Fleshed Tankard.....	16	10	16	670	12	1,740
Average of all sowings.....	26	792	21	1162	17	216

These results point to the importance of the early sowing of mangels.

The mangels in these tests were sown in rows 200 feet or more in length, which gave opportunity for further experiment, after the two rows of 66 feet each, used to determine the yield, had been pulled. A portion of the roots in this area was left in the ground until later, to gain information as to what advantage, if any, results from leaving mangels in the ground after the middle of October. Nineteen plots were so left until the 3rd of November, which allowed 21 days for additional growth, with the following results:—

MANGELS—YIELD PER ACRE FROM EARLY AND LATE PULLING.

Name of Variety.	1st pulling, 13th October, from 1st sowing, 28th April.	2nd pulling, 3rd November, from 1st sowing, 28th April.	1st pulling, 13th October, from 2nd sowing, 6th May.	2nd pulling, 3rd November, from 2nd sowing, 6th May.	1st pulling, 13th October, from 3rd sowing, 21st May.	2nd pulling, 3rd November, from 3rd sowing, 21st May.
	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
1 Gate Post.....	33 1,485	38 725	26 800	28 1,255	16 1,330	38 230
2 Giant Yellow Globe.....	33	36 22	24 345	24 1,830	22 220	31 122
3 Golden Tankard.....	32 1,505	34 1,548	20 95	24 510	13 1,390	27 450
4 Yellow Intermediate.....	31 1,525	34 1,795	24 1,500	29 905	20 425	34 1,547
5 Giant Yellow Half-long.....	30 1,215	30 142	23 1,520	23 860	22 715	27 1,688
6 Mammoth Yellow Intermediate.....	30 390	28 183	26 305	24 675	18 1,455	24 965
7 Canadian Giant.....	28 595	27 1,440	20 95	23 365	16 1,660	32 597
8 Mammoth Long Red.....	27 1,770	27 1,687	23 1,355	23 1,850	16 670	27 1,192
9 Prize Mammoth Long Red.....	27 615	30 637	23 1,685	25 1,233	15 1,020	22 1,210
10 Giant Yellow Intermediate.....	26 1,130	24 15	23 860	23 35	17 1,145	28 925
11 Norbiton Giant.....	26 965	19 1,353	25 1,150	17 1,145	18 960	19 115
12 Golden Fleshed Tankard.....	24 1,665	30 1,627	16 1,165	22 1,375	13 730	29 657
13 Champion Yellow Globe.....	24 345	31 370	21 735	24 180	14 1,205	24 510
14 Ward's Large Oval-shaped.....	23 1,850	24 510	18 300	18 960	19 280	23 1,025
15 Warden Orange Globe.....	23 860	27 1,192	19 1,600	24 1,005	15 690	19 775
16 Selected Mammoth Long Red.....	23 860	17 155	20 260	15 1,845	16 1,990	16 175
17 Red Fleshed Globe.....	20 1,415	20 95	14 1,040	15 855	13 1,620	19 1,848
18 Gate Post Yellow.....	16 835	18 877	20 590	20 590	15 855	18 135
19 Red Fleshed Tankard.....	16 10	16 670	16 670	14 1,370	12 1,740	20 1,580

These figures show the following results:—

	Tons.	Lbs.
Average yield per acre from 1st sowing, 1st pulling .	26	792
“ “ “ 2nd “ ..	27	479
An average gain in 21 days of 1,684 lbs. per acre.		
Average yield per acre from 2nd sowing, 1st pulling.	21	1,162
“ “ “ 2nd “ ..	22	676
An average gain in 21 days of 1,514 lbs. per acre.		
Average yield per acre from 3rd sowing, 1st pulling.	17	216
“ “ “ 2nd “ ..	25	1,255

An average gain in 21 days of 8 tons 1,039 lbs. per acre.

It will be observed that these comparative yields of the individual varieties are very irregular, and it is probable that other factors besides the extra time have influenced the yield, especially in the plots of the 3rd sowing.

## Experimental Farms.

### FIELD PLOTS OF MANGELS.

The following five half-acre plots were all sown in the same field with the smaller plots reported on. The soil was similar and its preparation and treatment the same. These were all sown 6th May; came up 18th May, and the roots were pulled 24th to 26th October.

	Yield per acre.		Yield per acre.	
	Tons.	Lbs.	Bush.	Lbs.
Mangels, Yellow Intermediate.....	16	520	542	—
“ Mammoth Long Red (Graham)..	20	1,505	691	45
“ Champion Yellow Globe.....	23	436	773	56
“ Mammoth Long Red.....	20	1,471	691	11
“ Gate Post.....	22	381	739	41

### EXPERIMENTS WITH CARROTS.

Sixteen varieties of carrots were under trial in 1898. These were all sown side by side adjoining the turnips and mangels. The land was similar but rather lighter, and the treatment and preparation was the same. The drills were made up two feet apart and rolled with a heavy land roller to make a firm bed before the seed was sown. Three sowings were made, the first on the 28th of April, the second on the 6th of May, and the third on the 21st of May, and after sowing, the same mixture of fertilizers that was used on the turnips was applied on the drills of the carrots in the proportion of 500 pounds per acre. The roots were all pulled on the 13th of October, and the yield per acre has been calculated from the weight of roots obtained from two rows each 66 feet long.

#### CARROTS—TEST OF VARIETIES.

Name of Variety.	Yield per Acre, 1st Plot.		Yield per Acre, 1st Plot.		Yield per Acre, 2nd Plot.		Yield per Acre, 2nd Plot.		Yield per Acre, 3rd Plot.		Yield per Acre, 3rd Plot.	
	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1 Mammoth White Intermediate.....	28	1,090	951	30	27	1,110	918	30	20	1,580	693	
2 Giant White Vosges.....	23	35	767	15	18	640	610	40	16	1,825	563	45
3 Improved Short White.....	22	1,870	764	30	22	220	737		16	1,185	553	5
4 Early Gem.....	22	1,705	761	45	20	1,415	690	15	18	1,785	629	45
5 Ontario Champion.....	21	1,230	720	30	13	730	445	30	13	400	440	
6 Iverson's Champion.....	21	900	715		19	280	638		17	1,815	580	15
7 Half Long White.....	20	95	668	15	21	1,560	726		21	75	701	15
8 Guerande or Ox Heart.....	19	1,600	660		19	280	638		17	980	583	
9 Green Top White Orthe.....	19	940	649		14	1,862	497	42	12	1,265	421	5
10 Half Long Chantenay.....	16	175	536	15	14	1,370	489	30	14	380	473	
11 Yellow Intermediate.....	14	1,370	489	30	13	1,225	453	45	13	70	434	30
12 White Belgian.....	14	710	478	30	18	1,950	632	30	14	50	467	30
13 Carter's Orange Giant.....	12	1,905	431	45	12	915	415	15	11	1,430	390	30
14 Long Orange or Surrey.....	12	750	412	30	11	605	376	45	9	1,635	327	15
15 Scarlet Intermediate.....	12	255	404	15	11	110	368	30	10	1,120	352	
16 Long Scarlet Altringham.....	7	1,510	258	30	8	1,820	297		11	110	368	30
Average of all sowings.....	18	278	.....	..	16	1,506	.....	.....	14	1,969	.....	.....

These results point to the importance of the early sowing of carrots.

These trial plots of carrots were sown in rows 200 feet or more in length, which gave opportunity for further experiment, after the two rows of 66 feet each had been

pulled to determine the yield per acre. A portion of the carrots in this area was left in the ground until later, to gain information as to what advantage, if any, results from leaving the roots in the ground after the middle of October. Sixteen plots were so left until the 3rd of November, which allowed 21 days for additional growth with the following results:—

CARROTS—YIELD PER ACRE FROM EARLY AND LATE PULLING.

Name of Variety.	1st pulling, 13th October, from 1st sowing, 28th April.	2nd pulling, 3rd November, from 1st sowing, 28th April.	1st pulling, 13th October, from 2nd sowing, 6th May.	2nd pulling, 3rd November, from 2nd sowing, 6th May.	1st pulling, 13th October, from 3rd sowing, 21st May.	2nd pulling, 3rd November, from 3rd sowing, 21st May.
	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
1 Mammoth White Intermediate . . . . .	28 1,090	25 490	27 1,110	24 1,335	20 1,580	27 697
2 Giant White Vosges . . . . .	23 35	23 1,520	18 640	18 135	16 1,825	20 95
3 Improved Short White . . . . .	22 1,870	27 1,110	22 220	20 95	16 1,185	25 1,27
4 Early Gem . . . . .	22 1,705	22 1,540	20 1,415	18 960	18 1,785	21 323
5 Ontario Champion . . . . .	21 1,230	18 1,950	13 730	12 1,493	13 900	15 1,185
6 Iverson's Champion . . . . .	21 900	24 1,170	19 280	19 857	17 1,815	19 610
7 Half Long White . . . . .	20 95	23 865	21 1,560	19 610	21 75	18 1,620
8 Guerande or Ox Heart . . . . .	19 1,600	19 1,930	19 280	17 897	17 980	19 1,105
9 Green Top White Orthe . . . . .	19 940	18 960	14 1,862	15 1,185	12 1,265	15 1,140
10 Half Long Chantenay . . . . .	16 175	16 422	14 1,370	18 630	14 380	13 1,720
11 Yellow Intermediate . . . . .	14 1,370	15 690	13 1,225	13 400	13 70	14 1,943
12 White Belgian . . . . .	14 710	16 175	18 1,950	15 1,928	14 50	14 457
13 Carter's Orange Giant . . . . .	12 1,905	14 958	12 915	14 710	11 1,430	14 215
14 Long Orange or Surrey . . . . .	12 750	12 255	11 605	11 770	9 1,635	10 1,780
15 Scarlet Intermediate . . . . .	12 255	12 1,245	11 110	11 1,760	10 1,120	11 770
16 Long Scarlet Altringham . . . . .	7 1,510	10 1,285	8 1,820	8 1,160	11 110	10 1,013

These figures show the following results:—

	Tons.	Lbs.
Average yield per acre from 1st sowing, 1st pulling . . . . .	18	278
“ “ “ 1st sowing, 2nd pulling . . . . .	18	1,785
An average gain in 21 days of 1,507 pounds per acre.		
Average yield per acre from 2nd sowing, 1st pulling . . . . .	16	1,506
“ “ “ 2nd sowing, 2nd pulling . . . . .	16	432
An average loss in 21 days of 1,074 pounds per acre.		
Average yield per acre from 3rd sowing, 1st pulling . . . . .	14	1,969
“ “ “ 3rd sowing, 2nd pulling . . . . .	17	151
An average gain in 21 days of 2 tons 182 pounds per acre.		

FIELD PLOTS OF CARROTS.

The following five half-acre plots, and one quarter-acre plot, were all sown in the same field with the smaller plots of carrots. The soil was similar, and the preparation and treatment of the land the same. All were sown 6th May; came up 20th May and the roots were pulled 28th to 31st October.

	Yield per acre.		Yield per acre.	
	Tons.	Lbs.	Bush.	Lbs.
Mammoth White Intermediate . . . . .	22	1,606	760	6
Improved Short White . . . . .	22	1,480	758	..
Iverson's Champion . . . . .	21	1,383	723	3
Pearce's Half Long White . . . . .	19	1,416	656	56
Guerande . . . . .	15	1,330	522	10
White Belgian, ¼ acre . . . . .	14	1,520	492	..

## Experimental Farms.

### EXPERIMENTS WITH SUGAR BEETS.

Six varieties of sugar beets were tested in 1898. The land was a sandy loam, adjoining that used for the test plots of turnips, mangels and carrots. The soil was similar and the treatment, preparation and method of sowing was the same. Three sowings were made, the first on the 28th of April, the second on the 6th of May, and the third on the 21st of May, and after sowing, the same mixture of fertilizers that was used on the turnips was applied on the drills of the sugar beets, in the proportion of 500 pounds per acre. The roots were all pulled on the 13th of October, and the yield per acre has been calculated from the weight of roots obtained from two rows each 66 feet long.

#### SUGAR BEETS—TEST OF VARIETIES.

Name of Variety.	Yield per Acre from 1st Sowing.		Yield per Acre from 2nd Sowing.		Yield per Acre from 2nd Sowing.		Yield per Acre from 3rd Sowing.		Yield per Acre from 3rd Sowing.			
	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1 Danish Improved . . . . .	17	1,970	599	30	18	300	605	19	1,105		651	45
2 Wanzleben . . . . .	15	1,020	517		16	340	539	19	280		638	
3 Danish Improved Red Top . . . . .	14	1,700	495		14	1,390	489	50	28	430	940	30
4 Improved Imperial . . . . .	13	1,720	462		15	525	508	45	19	1,765	662	45
5 Red Top Sugar . . . . .	12	1,905	431	45	14	1,370	489	30	21	1,725	728	45
6 Vilmorin's Improved . . . . .	9	975	316	15	10	295	338	15	16	1,990	566	30
Average of all sowings . . . . .	14	215	.....	.....	14	1,703	.....	.....	20	1,882	.....	.....

In this instance, the advantage in crop has been with the later sowings.

A portion of each of the varieties of sugar beets were also left in the ground after the first lots were pulled, to gain information as to what advantage, if any, results from leaving the roots in the ground for a longer period. Six plots were so left until the 3rd of November, which allowed 21 days for additional growth, with the following results:—

#### YIELD OF ROOTS PER ACRE FROM EARLY AND LATE PULLING.

Name of Variety.	1st pulling, 13th October, from 1st sowing, 28th April.		2nd pulling, 3rd November, from 1st sowing, 28th April.		1st pulling, 13th October, from 2nd sowing, 6th May.		2nd pulling, 3rd November, from 2nd sowing, 6th May.		1st pulling, 13th October, from 3rd sowing, 21st May.		2nd pulling, 3rd November, from 3rd sowing, 21st May.	
	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1 Danish Improved . . . . .	17	1,970	23	282	18	300	16	1,330	19	1,105	23	777
2 Wanzleben . . . . .	15	1,020	21	570	16	340	15	30	19	280	19	363
3 Danish Improved Red Top . . . . .	14	1,700	22	550	14	1,390	17	1,310	28	430	26	470
4 Improved Imperial . . . . .	13	1,720	24	1,500	15	525	14	50	19	1,765	20	1,085
5 Red Top Sugar . . . . .	12	1,905	20	343	14	1,370	20	1,580	21	1,725	23	1,520
6 Vilmorin's Improved . . . . .	9	975	18	1,372	10	295	13	1,720	16	1,990	21	1,065

These figures show the following results :—

	Tons.	Lbs.
Average yield per acre from 1st sowing, 1st pulling...	14	215
“ “ “ 2nd “ ...	21	1,436
An average gain in 21 days of 7 tons 1,221 lbs. per acre.		
Average yield per acre from 2nd sowing, 1st pulling...	14	1,703
“ “ “ 2nd “ ...	16	670
An average gain in 21 days of 1 ton 967 lbs. per acre.		
Average yield per acre from 3rd sowing, 1st pulling...	20	1,882
“ “ “ 2nd “ ...	22	880
An average gain in 21 days of 1 ton 998 lbs. per acre.		

### EXPERIMENTS WITH POTATOES.

The report on the results of the tests made with varieties of potatoes will be found this year in the report of the Horticulturist, Mr. W. T. Maccoun. The following table gives particulars of the results obtained from fifteen quarter-acre plots which were all grown adjoining each other in the same field. The land was similar throughout, and the preparation and treatment was the same for all. The soil was a light sandy loam, which was manured in the autumn of 1897 with about 12 tons of barn-yard manure per acre. The previous crop was hay. The land was ploughed in the spring of 1898, about 6 inches deep, and harrowed twice with the smoothing harrow, then made into drills 2½ feet apart and 6 inches deep for planting.

#### FIELD PLOTS OF POTATOES.

Name of Variety.	Size of Plot.	When Planted.	Came up.	When dug.	Yield per acre.	
					Bush.	Lbs.
American Wonder	¼ acre.	May 17	May 30	Sept. 29	299	35
Early Harvest	“	“ 17	“ 30	Oct. 10	286	
Burnaby Seedling	“	“ 17	“ 31	Sept. 30	270	38
Carman No. 1	“	“ 17	“ 31	Oct. 8	262	46
Queen of the Valley	“	“ 17	“ 31	“ 10	257	12
Late Puritan	“	“ 17	“ 31	“ 10	256	45
Dakota Red	“	“ 17	“ 31	“ 6	251	52
Wonder of the World	“	“ 17	“ 31	“ 7	247	19
Rochester Rose	“	“ 17	“ 31	Sept. 29	237	33
Everett	“	“ 17	“ 30	“ 29	226	5
Early Rose	“	“ 17	“ 31	Oct. 6	221	9
Daisy	“	“ 18	“ 31	“ 6	218	47
I. X. L.	“	“ 18	“ 31	“ 7	202	29
Burpee's Extra Early	“	“ 18	“ 31	Sept. 29	193	41
May Queen Early	“	“ 18	“ 31	Oct. 7	172	15

### EXPERIMENTS WITH CLOVER.

The many experiments which have been conducted with clover at the Central Experimental Farm during the last four years have attracted much attention, especially those which have been made of sowing red clover with grain, and the ploughing under of the green clover crop late in the season to enrich the land. This subject has been much discussed, and by many the method recommended has been practised with manifest benefit.

Further trials have been made during the past season, and some very convincing results obtained as to the value of this green crop as a fertilizer when ploughed under.

## Experimental Farms.

On page 33 of the Annual Report of the Experimental Farms for 1897, reference was made to eight trial plots of grain grown that year of  $\frac{1}{20}$  acre each, four of which had been sown with red clover, and the clover crop subsequently ploughed under, while on the other four plots the grain was sown without clover. Plots Nos. 1 and 2 had been sown with Preston wheat, Nos. 3 and 4 with Odessa barley (six-rowed), Nos. 5 and 6 with Bolton barley (two-rowed), and Nos. 7 and 8 with Banner oats. In each instance on one plot Red clover in the proportion of 10 pounds to the acre had been sown with the grain, while on the other plot the grain was sown without clover.

In October, 1897, this land was all ploughed about 8 inches deep, and in the spring of 1898 it was disc-harrowed and twice harrowed with the smoothing harrow, after which all the plots were sown with one variety of oats, the Banner. The oats were sown on the 27th of April and came up on the 6th of May. The difference in the growth of the grain on these plots was soon very noticeable, and as the season advanced, especially just before the heads appeared, the difference in height and vigour of growth in favour of the plots where the clover had been grown was very remarkable. So clearly was this manifest that the difference could be distinctly seen at a considerable distance, and the outline of those plots on which no clover had been grown could be readily traced by the manifestly shorter and less vigorous growth. After the grain was fully headed, the difference in appearance was not so clearly seen at a distance, but by a careful examination it could be easily traced. When ready to harvest the boundaries of the several plots were accurately marked, they were cut and threshed separately and the following particulars obtained:—

RESULTS.	Straw, yield per Acre.	Oats, yield per Acre.	
	Lbs.	Bush. Lbs.	
Plot 1—On which Preston wheat was sown in 1897 with clover .....	3,770	56	6
Plot 2—After Preston wheat without clover .....	2,160	37	2
An increase in yield of oats after wheat on the plot with clover of 19 bushels 4 pounds per acre with an added weight of straw of 1,610 pounds.			
Plot 3—On which Odessa barley was sown in 1897 with clover .....	2,180	37	12
Plot 4—After Odessa barley without clover .....	1,450	30	10
An increase in yield of oats after barley on the plot with clover of 7 bushels 2 pounds per acre with an added weight of straw of 730 lbs.			
Plot 5—On which Bolton barley was sown in 1897 with clover .....	3,180	51	26
Plot 6—After Bolton barley without clover .....	2,090	44	24
Showing an increase in yield of oats after barley on the plot with clover of 7 bushels 2 pounds per acre with an added weight of straw of 1,090 lbs.			
Plot 7—On which Banner oats was sown in 1897 with clover .....	5,110	55	0
Plot 8—After Banner oats without clover .....	2,260	44	4
An increase in yield of oats after oats on the plot with clover of 10 bushels 30 pounds per acre with an added weight of straw of 2,850 pounds.			

The lower yields reported on plots 3 and 4 were due to the poor quality of the soil, which was a light sandy loam. The other plots alongside had a heavier sandy loam soil of much better quality.

The results of these tests are very encouraging, the average increase in the yield of grain on the four plots with clover being over 11 bushels per acre more than on those where no clover was used.

### RESULTS OF GROWING INDIAN CORN AFTER CLOVER.

Favourable results have also been had from a series of plots on which Indian corn was planted after clover of different varieties and grown from different quantities of seed per acre had been ploughed under. These tests were conducted on 15 plots of  $\frac{1}{20}$  acre each which were sown with a grain crop in 1897 when different sorts and

quantities of clover were sown with the grain, excepting plots 7, 10 and 12, which were left as check plots, on which the same sort of grain was sown, but without clover. The soil was a sandy loam of fair quality which received a dressing of about 12 tons of barn-yard manure per acre in the fall of 1896. No fertilizer has been applied since. In this case the clover was allowed to remain during the winter and to grow until the 23rd of May following, by which time most of the plots had made a heavy growth, when the land was all ploughed about 6 or 7 inches deep, and harrowed twice with the smoothing harrow before planting.

The variety of corn chosen for this test was the Longfellow, which was planted on the 25th of May with the seed drill in rows 3 feet apart, and was cut on the 15th of September. This corn made a medium and even growth of from 7 to 8 feet, was leafy from top to bottom, and the stalks were well eared, many of the ears then beginning to ripen. The following results were obtained:—

QUANTITY AND KIND OF CLOVER SOWN, 1897.

Plot.	Varieties of Clover Sown.	1898. Yield of Fodder Corn per Acre.	
		Tons.	Lbs.
1	Mammoth Red clover 4 lbs. per acre.....	15	560
2	" " " 6 lbs. " .....	15	1,720
3	" " " 8 lbs. " .....	15	1,440
4	" " " 10 lbs. " .....	15	1,360
5	" " " 12 lbs. " .....	16	1,920
6	" " " 14 lbs. " .....	17	1,860
7	Check plot, no clover sown.....	13	160
8	Common red clover, 10 lbs. per acre.....	22	200
9	Alsike clover, 6 lbs. per acre.....	15	640
10	Check plot, no clover sown.....	14	960
11	Alfalfa, 14 lbs. per acre.....	14	1,320
12	Check plot, no clover sown.....	13	280
13	Crimson clover, 24 lbs. per acre.....	14	20
14	Alsike, 6 lbs., Orchard grass, 14 lbs. per acre.....	19	200
15	Alfalfa, 6 lbs., Orchard grass, 14 lbs. " .....	14	1,280

These results clearly show the influence of the green clover as a fertilizer.

The beneficial effects on subsequent crops observed when clover is ploughed under is due largely to the fact that clover in common with most other leguminous plants has the power of taking nitrogen—one of the most valuable of fertilizers—from the air and laying this up in its roots and leaves, and when these are buried in the soil by ploughing the added fertility becomes available as plant food for subsequent crops. If a clover plant be dug there will be found attached to its fine branching roots many small nodules or swellings, each of which contains a colony of bacteria, and these microscopic organisms are the active agents employed in taking nitrogen from the air and converting it into plant food. Cultures are now made of these bacteria and sold under the name of Nitragin, to promote the growth of clover.

The extensive root system also which clover plants have, enables them to penetrate deeper in the soil than other plants, and to draw from the lower portions of the soil and subsoil other important constituents which growing plants require, and when the clover is turned under and decays, these also become available to after crops. Green crops when ploughed under also improve the texture of the soil by adding to it organic matter and thus make it more retentive of moisture and more suitable for sustaining plant growth.





Plot 10. Mensury barley with 6 pounds Mammoth Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	2	764
" roots per acre .....	2	1,870
Total .....	5	634

Plot 11. Mensury barley with 8 pounds Mammoth Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	2	1,785
" roots per acre .....	2	1,870
Total .....	5	1,655

Plot 12. Mensury barley with 10 pounds Mammoth Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	3	806
" roots per acre .....	3	456
Total .....	6	1,262

Plot 13. Mensury barley with 12 pounds Mammoth Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	3	551
" roots per acre .....	3	210
Total .....	6	761

Plot 14. Mensury barley with 14 pounds Mammoth Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	3	380
" roots per acre .....	3	1,486
Total .....	6	1,866

Plot 15. Mensury barley with 10 pounds Common Red clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	2	1,955
" roots per acre .....	2	1,615
Total .....	5	1,570

Plot 17. Mensury barley with 8 pounds Alsike clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	1	1,658
" roots per acre .....	2	509
Total .....	4	167

Plot 18. Mensury barley with 6 pounds Alsike clover seed per acre :—

	Tons.	Lbs.
Weight of clover leaves and stems per acre .....	2	509
" roots per acre .....	2	1,615
Total .....	5	124

Plot 19. Mensury barley with 14 pounds Alfalfa seed per acre :—

	Tons.	Lbs.
Weight of Alfalfa leaves and stems per acre .....	1	892
" roots per acre .....	1	41
Total .....	2	933

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### WEIGHT OF CLOVER LEAVES AND STEMS AND ROOTS ON PLOTS ALLOWED TO GROW UNTIL SECOND YEAR.

In the annual report of the Experimental Farms for 1897, page 37, reference is made to the weights of leaves and stems and roots per acre of clover in a series of plots ranging from Nos. 5 to 17, all of which were sown with Odessa barley on the 6th of May, 1897, with different quantities and kinds of clover; and on the 20th of October of that year the weight of the leaves, stems and roots were ascertained in the manner already explained and the results published in that report.

These plots were not ploughed in the autumn but the clover was left undisturbed until the 21st of May, 1898, by which time it had made a strong and heavy mat of growth and the plants had reached a height of nearly 2 feet.

Similar blocks to those already referred to, 9 inches deep and covering 16 square feet, were cut out of these plots on the 21st of May, when the following results were obtained:—

Plot 5. Sown with 4 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	6 1,442
"                  roots per acre.....	6 1,783
Total .....	13 1,225

Plot 7. Sown with 6 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	7 1,484
"                  roots per acre.....	5 1,741
Total .....	13 1,225

Plot 8. Sown with 8 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	8 1,356
"                  roots per acre.....	6 1,783
Total .....	15 1,139

Plot 9. Sown with 10 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	9 887
"                  roots per acre.....	7 633
Total .....	16 1,520

Plot 10. Sown with 12 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	8 1,356
"                  roots per acre.....	6 1,272
Total .....	15 628

Plot 11. Sown with 14 pounds Mammoth Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	8 845
"                  roots per acre.....	4 1,358
Total .....	13 203

Plot 12. Sown with 10 pounds Common Red clover seed per acre:—

	Tons. Lbs.
Weight of clover leaves and stems per acre.....	9 717
"                  roots per acre.....	6 421
Total .....	15 1,138

Plot 14. Sown with 14 pounds Alfalfa seed per acre:—

	Tons.	Lbs.
Weight of Alfalfa leaves and stems per acre.....	3	816
" " roots per acre.....	2	254
Total.....	5	1,070

Plot 17. Sown with 6 pounds Alsike clover per acre:—

	Tons.	Lbs.
Weight of clover leaves and stems per acre.....	11	631
" " roots per acre.....	4	1,018
Total.....	15	1,649

These figures give much food for thought. They show an enormous increase in the useful fertilizing material which can be had, when clover is left over, for ploughing under in time for an Indian corn or potato crop, and indicate that the best results are likely to attend the pasturing of the clover in the autumn, and leaving it to be turned under in May following.

Thirty-six acres of field crops, chiefly oats and barley, were sown with clover last spring; the plants made good growth, although not quite so strong as in 1897. Nevertheless there was a fine mass of leaves, stems and roots turned under with the late autumn ploughing.

#### RESULTS OF SOWING CLOVER SEED TREATED WITH NITRAGIN.

Experiments were tried during the past year in the sowing of clover seed inoculated with a culture of Nitragin. This material was obtained in bottles from the manufacturers, Messrs. Meister, Lucius & Bruning, of Germany. As received, the material was in a soft, gelatinous condition, easily liquified when slightly warmed. This was diluted with water in the manner and quantity directed and sprinkled on the clover seed which was subsequently dried, partly by exposure and partly with dry sand. Before treatment a definite weight of clover seed, sufficient for the experiments to be undertaken, was set aside for treatment, and a similar weight of the same lot of seed put by for use in the untreated condition. Each of these lots were divided into five portions, one of which was reserved for the trials to be made at the Central Farm, and the other four portions were sent to the branch farms.

The following are the results obtained at the Central Farm. The seed was sown on sandy loam on the 14th of June at the rate of 10 lbs. per acre. Both lots of seed germinated well and made good growth. On casual examination both looked very much alike as to strength and vigour, but on a more careful scrutiny the treated seed appeared to promise the best results.

On the 24th of November a piece of the soil 2 feet by 2 (8 square feet) and 9 inches deep was cut out of each plot, and the leaves, roots and tops carefully gathered, when the following particulars were obtained:

	Tons.	Lbs.
Plot 1. Seed inoculated with Nitragin:—		
Weight of clover leaves and stems per acre.....	4	507
" " roots per acre.....	4	167
Total.....	8	674

	Tons.	Lbs.
Plot 2. Seed untreated:—		
Weight of clover leaves and stems per acre.....	2	1445
" " roots per acre.....	2	760
Total.....	5	205

From this experiment it would appear that there may be a decided advantage in using Nitragin to inoculate the seed of clover under some conditions.

# Experimental Farms.

## EXPERIMENTS WITH SOJA BEANS.

(*Soja hispida.*)

The Soja or Soya bean was first grown at the Central Experimental Farm as a fodder plant in 1897, when two varieties, a late and an early sort were tested. The early variety, the seed of which was obtained from Peter Henderson & Co., seedsmen, of New York, proved very promising and produced on the small plot grown a weight of fodder equal to 15 tons 855 lbs. per acre. In this case the beans were sown in rows 9 inches apart. Further experiments have been tried with this early ripening Soja bean during the past season, when two sets of plots were sown at different dates and of different widths in the rows with the object of finding out the best time to plant and the most profitable method of planting. The soil was a sandy loam of good quality, which received a dressing of fresh barn-yard manure of about twelve tons per acre, distributed in small piles of about one-third of a cart load each during the winter of 1897-98. This was spread in the spring. The previous crop was hay. The land was ploughed very lightly after the hay was taken off, and disc-harrowed and cultivated at intervals during the remainder of the season to keep down all growth. In the spring of 1898, the land was ploughed about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. The beans were sown with the seed drill, from 1 to 2 inches apart in the rows.

Plot 1. Soja beans, sown in drills 35 inches apart. Sown 26th April, came up 14th May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 42 to 46 inches, and they were very well podded. The beans in the pods were full-grown and beginning to harden at the time of cutting. The weight of green fodder was at the rate of 9 tons 520 pounds per acre.

Plot 2. Sown in drills 28 inches apart. Sown 26th April, came up 14th May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 42 to 48 inches. They were very well podded, and the beans in the pods were full-grown and beginning to harden at the time of cutting. The weight of green fodder was 9 tons 890 pounds per acre.

Plot 3. Sown in drills 21 inches apart. Sown 26th April, came up 14th May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 42 to 44 inches. They were very well podded, and the beans in the pods were full grown and beginning to harden at the time of cutting. The weight of green fodder was 10 tons 1,760 pounds per acre.

Plot 4. Sown in drills 21 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 42 to 44 inches. They were very well podded, and the beans in the pods were full grown and beginning to harden at the time of cutting. The beans appeared to be as far advanced in ripening in this plot as in those sown 26th April. The weight of green fodder was 11 tons 1,480 pounds per acre.

Pot 5. Sown in drills 14 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 42 inches. The plants were not as strong or woody in this plot as in the former; would have lodged very easily. They were fairly well podded and the beans were beginning to harden at the time of cutting. The weight of green fodder was 12 tons 1,800 pounds per acre.

Plot 6. Sown in drills 7 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was strong and even, the plants were very leafy and grew to an average height of 40 to 42 inches. The plants were not so strong or woody as where they were wider sown; would have easily lodged. They were fairly well podded, but the pods were not nearly as plentiful as when sown in rows 21 inches apart or as ripe at the time of cutting. The weight of green fodder was 12 tons 1,260 pounds per acre.

From these experiments it would appear that the best results may be looked for from planting these beans about the middle of May in drills 14 inches apart.

## EXPERIMENTS WITH HORSE BEANS.

Two sets of plots were sown at different dates, and of different widths, during 1898. The soil was a sandy loam of good quality, which received a coating of barn-yard manure of about 12 tons per acre, distributed in small piles of about one-third of a cart load each, during the winter of 1897-98 which was spread in the spring. The previous crop was hay. The land was ploughed very lightly when the hay was taken off, and cultivated at short intervals afterwards to keep down all growth until autumn. In the spring of 1898, it was again ploughed about 6 inches deep, and harrowed twice with the smoothing harrow before sowing. The beans were sown with the seed drill.

Plot 1. Tick beans, imported seed. The seed on this plot was sown in rows 35 inches apart. Sown 26th April, came up 14th May, and was cut 25th August. The growth was weak and even. Height 30 to 38 inches. Blight was first noticed on the leaves on 27th July, and spread so rapidly that all the plots had to be cut on 26th August. Yield per acre, 2 tons 340 pounds.

Plot 2. Seed sown in rows 28 inches apart. Sown 26th April, came up 14th May, and was cut 25th August. The growth was weak and even. Height 30 to 38 inches. Yield per acre, 2 tons 340 pounds.

Plot 3. Seed sown in rows 21 inches apart. Sown 26th April, came up 14th May, and was cut 25th August. The growth was weak and even. Height 30 to 38 inches. Yield per acre, 2 tons 1,940 pounds.

Five additional plots were sown adjoining the first three. The soil was similar, and the preparation and treatment of the land the same.

Plot 4. Seed sown in rows 35 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was weak and even. Height 36 to 40 inches. Well podded, and a large proportion of the beans ripe. Yield per acre, 4 tons 1,840 pounds.

Plot 5. The seed on this plot was sown in rows 28 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was weak and even. Height 36 to 40 inches, well podded, and a large proportion of the beans ripe. Yield per acre, 4 tons 1,360 pounds.

Plot 6. The seed was sown in rows 21 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was weak and even. Height 36 to 40 inches, well podded, and a large proportion of the beans were ripe. Yield per acre, 3 tons 1,730 pounds.

Plot 7. The seed was sown in rows 14 inches apart. Sown 17th May, came up 31st May, and was cut for ensilage 12th September. The growth was weak and even. Height 36 to 40 inches, fairly well podded, not as many as on plot 3, beans beginning to ripen. Yield per acre, 3 tons 1250 pounds.

Plot 8. The seed was sown in rows 7 inches apart. Seed sown and cut for ensilage on same dates as No. 7. The growth was weak and even. Height 36 to 40 inches. There were very few pods. Pods beginning to ripen. Yield per acre, 2 tons 1,730 pounds.

## FIELD PLOTS OF HORSE BEANS.

Two field plots of half an acre each were sown with horse beans during 1898. The soil was a heavy sandy loam of good quality, partly clay, which was manured in the autumn of 1894 with about 18 tons of barn-yard manure per acre. No fertilizer has been applied since. The previous crop was oats. It was ploughed in the autumn of 1897, about 8 inches deep, and in the following spring it was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. The beans were sown with the grain drill in rows 3 feet apart, using about 50 pounds of seed per acre.

Plot 1. One half acre. Tick beans, imported seed. Sown 26th April, came up 14th May, and was cut for seed 22nd August. The growth was weak and even, vines fairly well podded, pods quite ripe. Height 30 to 33 inches. Blight was first

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noticed on the leaves 27th July, and spread so rapidly up to 22nd August, that all had to be then cut. Yield per acre, 3 tons 304 pounds; yield of seed per acre, 10 bushels 72 pounds.

Plot 2. One-half acre. This was adjoining plot 1, on similar soil and the land had similar preparation and treatment. The seed was also of the variety known as Tick, but of Canadian growth. Sown 26th April, came up 14th May, and was cut for seed 22nd August. The growth was weak and even, vines fairly well podded, pods quite ripe. Height 30 to 33 inches. Blight was first noticed on the leaves 27th July. Yield per acre, 3 tons 740 pounds; yield of seed per acre, 9 bushels 8 pounds.

### EXPERIMENTS WITH SUNFLOWERS.

Two field plots covering 1 acre were sown with this crop. The soil was a heavy sandy loam, partly clay, of good quality, which was manured in the autumn of 1894 with about 18 tons of barn-yard manure per acre. No fertilizer has been applied since. The previous crop was oats. It was ploughed in the autumn of 1897, about 8 inches deep, and in the following spring it was disc-harrowed once, and harrowed twice with the smoothing harrow before sowing. The seed was sown with the grain drill in rows 3 feet apart, using 3 to 4 pounds of seed per acre, and the plants were thinned out when they were 3 or 4 inches high so as to leave them from 18 to 20 inches apart in the rows.

Plot 1. One-half acre. Mammoth Russian Sunflowers, black seeded variety. Sown 26th April, came up 11th May, and the heads were quite ripe when cut for the silo on 9th September. The plants were of medium growth, and the yield of heads was 5 tons 970 pounds per acre.

Plot 2. One-half acre. Mammoth Russian Sunflowers, light coloured seed. Sown 26th April, came up 11th May, and the heads were quite ripe when cut for the silo on 9th September. The plants were of medium and even growth. Yield of heads per acre, 5 tons 990 pounds.

### EXPERIMENTS WITH FLAX.

The experiments which were begun with flax in 1896 to gain information as to the best time for sowing and the quantity of seed which should be sown to give the heaviest crops, have been continued. The soil was a sandy loam of medium quality, rather heavy, which was manured during the winter of 1896-97 with about 15 tons of barn-yard manure per acre. The previous crop was horse beans. The land was ploughed in the autumn of 1897, about 8 inches deep, and in the following spring it was disc-harrowed once and harrowed twice with the smoothing harrow before sowing.

#### FIRST SOWING.

Plot 1. Forty pounds of seed per acre. Sown 25th April, came up 8th May, and was ripe 29th July. Made a strong and even growth, all standing well.

Weight of straw per acre..... 3,200 pounds.

Yield of seed per acre..... 13 bushels 12 pounds.

Plot 2. Eighty pounds of seed per acre. Seed sown and ripened on same dates as plot 1. Made a strong even growth, all standing well.

Weight of straw per acre..... 3,390 pounds.

Yield of seed per acre..... 13 bushels 42 pounds.

#### SECOND SOWING.

Plot 3. Forty pounds of seed per acre. Sown 2nd May, came up 11th May, and was ripe 29th and 30th July. Made a medium and even growth, all standing well.

Weight of straw per acre..... 2,960 pounds.

Yield of seed per acre..... 9 bushels 16 pounds.

Plot 4. Eighty pounds of seed per acre. Seed sown and ripe on same dates as plot 3. Made a strong and even growth, all standing well.

Weight of straw per acre..... 3,260 pounds.

Yield of seed per acre..... 11 bushels 44 pounds.

## THIRD SOWING.

Plot 5. Forty pounds of seed per acre. Sown 9th May, came up 17th May, and was ripe 6th August. Made a medium and even growth, all standing well.

Weight of straw per acre.....2,880 pounds.

Yield of seed per acre..... 8 bushels 32 pounds.

Plot 6. Eighty pounds of seed per acre. Seed sown and ripe on same dates as plot 5. Made a medium and even growth, all standing well.

Weight of straw per acre.....2,580 pounds.

Yield of seed per acre.....12 bushels 18 pounds.

## FOURTH SOWING.

Plot 7. Forty pounds of seed per acre. Sown 16th May, came up 23rd May, and was ripe 9th August. Made a medium and even growth, all standing well.

Weight of straw per acre.....2,150 pounds.

Yield of seed per acre.....7 bushels 18 pounds.

Plot 8. Eighty pounds of seed per acre. Seed sown and ripe on same dates as plot 7. Made a medium and even growth, all standing well.

Weight of straw per acre.....2,630 pounds.

Yield of seed per acre.....11 bushels 54 pounds.

These four sets of plots were sown a week apart, beginning with the 25th of April. On the first plot in each group 40 pounds of seed were used, and on the second 80 pounds. The heaviest weights both of seed and straw have been obtained from the earliest sown plots.

## SPECIAL EXPERIMENTS WITH FERTILIZERS.

In the annual report of the Experimental Farms for 1893, details were given on pages 8 to 24 of the results of a series of tests which were carried on during the previous five or six years with the object of gaining information regarding the effects which follow the application of certain fertilizers and combinations of fertilizers on the more important farm crops. The particulars there given covered the results of six years' experience with crops of wheat and Indian corn, and five years' experience with crops of oats, barley, turnips and mangels. The results of similar tests conducted for three years with carrots and one year with sugar beets were also given.

These experiments have been continued; and as explanatory regarding the preparations made and the general plan, together with the way in which they have been carried on, the following paragraphs are quoted from the report of 1893:—

“A piece of sandy loam, more or less mixed with clay, which was originally covered with heavy timber, chiefly white pine, was chosen for these tests. The timber was cut many years ago, and among the stumps still remaining when the land was purchased, there had sprung up a thick second growth of trees, chiefly poplar, birch and maple, few of which exceeded 6 inches in diameter at the base. Early in 1887, this land was cleared by rooting up the young trees and stumps and burning them in piles, on the ground from which they were taken, the ashes being afterwards distributed over the soil as evenly as possible, and the land ploughed and thoroughly harrowed. Later in the season it was again ploughed and harrowed, and most of it got into fair condition for cropping.

“The plots laid out for the experimental work with fertilizers were one-tenth of an acre each, 21 of which were devoted to experiments with wheat, 21 to barley, 21 to oats, 21 to Indian corn or maize, and 21 to experiments with turnips and mangels. It was not practicable to undertake work on all the plots the first season. The tests were begun in 1888 with 20 plots of wheat and 16 of Indian corn, and in 1889 all the series



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were completed excepting six plots of roots, Nos. 16 to 21 inclusive, which were available for the work in 1890." In all cases the plots in each series have been sown on the same day.

"In 1890 it was found that all the grain plots had become so weedy that the growth of the crops was much interfered with, and with the view of cleaning the land one-half of each of the wheat and oat plots was sown with carrots in 1891, and one-half of each of the barley plots with sugar beets. In 1892 the other half of each plot in each of these series was sown with carrots. In 1893 it was thought desirable to continue this cleaning process, and carrots were again sown on the half of the wheat and oat plots occupied with this crop in 1891, and also on the half of the barley plots cropped with sugar beets that year." In 1894, 1895, 1896, 1897 and 1898 the one-half of the oat plots were sown again with carrots and the half of the plots devoted to wheat and barley were planted with potatoes.

### TREATMENT OF SOIL.

"The treatment of the soil on all the grain plots has been to gang-plough soon after harvest, and after the shed grain and weeds have well started to plough again later, about 7 inches deep. In spring the plots have been gang-ploughed once before applying the fertilizers, which are then scattered over the surface and harrowed with the smoothing harrow before sowing. On those plots where barn-yard manure has been used, the manure has been lightly ploughed under as soon as possible after it has been spread on the land and just before sowing. Wherever barn-yard manure is spoken of, it is understood to be a mixture of horse and cow manure in about equal proportions."

A summary of these permanent fertilizer plots is given each year, taking the average yield of the whole of the previous period, adding the results of the current year, and then giving the average yield for the full time.

### CHANGES IN THE FERTILIZERS USED.

Ten years' experience has shown that the finely ground untreated mineral phosphate is of no value as a fertilizer. This substance has been heretofore used every year on wheat, on plots 4, 5, 6, 7 and 8, also on the plots similarly numbered in the experiments with fertilizers on barley, oats, Indian corn, carrots and potatoes, and in the experiments on roots on plots 4, 5, 6 and 7. In all these plots the use of the finely ground untreated mineral phosphate has been discontinued this year and in its place similar weights of the Thomas' phosphate powder used.

### WHEAT PLOTS.

The seed sown on each of these plots from the beginning has been in the proportion of  $1\frac{1}{2}$  bushels per acre, excepting in 1894; and the varieties used were as follows: In 1888-89-90 and 1891 White Russian, and in 1892-93 Campbell's White Chaff. In 1894 the Rio Grande wheat was used, and shortly before sowing it was tested as to vitality and found to be deficient in germinating power,—less than half the kernels sprouted. As it was not practicable then to secure better seed, double the usual quantity was sown, namely, three bushels per acre, which gave a proportion of growth on each plot of about the usual thickness. In 1895, 1896, 1897 and 1898 Red Fife wheat was used in the usual quantity of  $1\frac{1}{2}$  bushels per acre. In 1898 the Red Fife was sown 27th April, came up 8th May and was harvested 4th August, requiring from the date of sowing to maturity a period of 99 days.

The season of 1898 at Ottawa has been fairly good for the growing of spring wheat, and has given in general, crops above the average. In the plots referred to in the following table, those treated with barn-yard manure have exceeded the average of past years, all the others have fallen below it.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF WHEAT  $\frac{3}{10}$ TH ACRE EACH.

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR TEN YEARS.		11TH SEASON, 1898. VARIETY, RED FIFE.		AVERAGE YIELD FOR ELEVEN YEARS.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure (mixed horse and cow manure) well rotted, 12 tons per acre in 1888; 15 tons per acre each year since.	20 ..	3,544	30 20	5,360	20 56 $\frac{4}{11}$	3,709
2	Barn-yard manure (mixed horse and cow manure) fresh, 12 tons per acre in 1888; 15 tons per acre each year since.	20 4 $\frac{1}{10}$	3,598	28 55	4,710	20 52 $\frac{4}{11}$	3,699
3	Unmanured	10 36	1,869	7 ..	2,200	10 16 $\frac{4}{11}$	1,899
4	Thomas' phosphate, 500 lbs. per acre	10 33 $\frac{6}{10}$	1,893	8 30	2,190	10 22 $\frac{3}{11}$	1,920
5	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs. per acre.	12 43	2,895	10 50	2,570	12 32 $\frac{8}{11}$	2,865
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, composted together, intimately mixed, and allowed to heat for several days before using.	17 56 $\frac{7}{10}$	3,004	20 40	4,000	18 11 $\frac{7}{11}$	3,094
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre.	12 50 $\frac{4}{10}$	2,188	11 30	2,710	12 43 $\frac{3}{11}$	2,235
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre.	10 51 $\frac{3}{10}$	1,693	9 ..	3,610	10 41 $\frac{7}{11}$	1,867
9	Mineral superphosphate, No. 1, 500 lbs. per acre.	11 48 $\frac{5}{10}$	1,738	9 40	2,160	11 37 $\frac{1}{11}$	1,776
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre.	13 8	2,967	10 10	3,710	12 51 $\frac{3}{11}$	3,035
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre.	13 48	2,676	10 40	2,450	13 30 $\frac{10}{11}$	2,665
12	Unmanured	9 58	1,635	7 20	1,800	9 43 $\frac{7}{11}$	1,650
13	Bone finely ground, 500 lbs. per acre.	11 48 $\frac{2}{10}$	1,807	10 20	2,100	11 40 $\frac{7}{11}$	1,834
14	Bone finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre.	15 16 $\frac{5}{10}$	2,225	14 30	2,800	15 12 $\frac{3}{11}$	2,274
15	Nitrate of soda, 200 lbs. per acre.	13 43 $\frac{6}{10}$	2,316	9 50	2,140	13 22 $\frac{3}{11}$	2,300
16	Muriate of potash, 150 lbs. per acre.	15 36 $\frac{3}{10}$	1,981	12 40	2,200	15 20 $\frac{3}{11}$	2,001
17	Sulphate of ammonia, 300 lbs. per acre	12 0 $\frac{5}{10}$	2,335	9 10	1,700	11 44 $\frac{8}{11}$	2,277
18	Sulphate of iron, 60 lbs. per acre.	12 49 $\frac{6}{10}$	1,843	9 30	1,810	12 31 $\frac{4}{11}$	1,840
19	Common salt (Sodium chloride) 300 lbs per acre.	13 16 $\frac{5}{10}$	1,625	13 ..	1,780	13 15	1,639
20	Land plaster or gypsum (Calcium sulphate) 300 lbs. per acre.	12 57	1,878	9 ..	1,900	12 35 $\frac{5}{11}$	1,880
21	Unmanured in 1889, mineral superphosphate, No. 2, 500 lbs. per acre, each year since	12 33 $\frac{8}{10}$	1,850	11 10	1,850	12 26 $\frac{3}{11}$	1,850

BARLEY PLOTS.

The quantity of seed sown per acre on the barley plots was 2 bushels in 1889, 1890 and 1891, 1 $\frac{1}{2}$  bushels in 1892 and 1893, and 2 bushels in 1894, 1895, 1896, 1897 and 1898. Two-rowed barley has been used for seed throughout the whole period. The varieties used were as follows: 1889, 1890 and 1891, Saale; 1892, Goldthorpe; 1893, Duck-bill; and in 1894, 1895, 1896, 1897 and 1898, Canadian Thorpe, a selected form

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of the Duck-bill. In 1898 the Canadian Thorpe was sown on 28th April, came up 8th May and was harvested 8th August, requiring from the date of sowing to maturity a period of 102 days.

In 1898 the yield of all the barley plots has been less than the average of past seasons, excepting the two plots fertilized with barn-yard manure, which have exceeded the average.

### EXPERIMENTS WITH FERTILIZERS ON PLOTS OF BARLEY, $\frac{1}{20}$ TH ACRE.

Number of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR NINE YEARS.		10TH SEASON, 1898. VARIETY, CANADIAN THORPE.		AVERAGE YIELD FOR TEN YEARS.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure, well rotted, 15 tons per acre	33 42 $\frac{3}{8}$	3,052	42 14	3,070	34 34 $\frac{7}{10}$	3,054
2	Barn-yard manure, fresh, 15 tons per acre.	34 45 $\frac{3}{8}$	3,305	39 38	3,060	35 21 $\frac{1}{10}$	3,280
3	Unmanured	14 14 $\frac{1}{2}$	1,592	8 6	1,610	13 32 $\frac{5}{10}$	1,594
4	Thomas' phosphate, 500 lbs. per acre	14 26 $\frac{1}{2}$	1,463	7 44	1,530	13 42 $\frac{3}{10}$	1,470
5	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs. per acre	19 36 $\frac{3}{8}$	2,224	13 46	1,570	19 8 $\frac{7}{10}$	2,159
6	Barn-yard manure, partly rotted, and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using	28 10 $\frac{1}{2}$	2,466	27 4	2,200	28 4 $\frac{7}{10}$	2,439
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre	22 47 $\frac{3}{8}$	2,404	18 26	1,860	22 26 $\frac{3}{10}$	2,350
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre	19 35 $\frac{3}{8}$	1,702	15 40	1,440	19 16 $\frac{5}{10}$	1,676
9	Mineral superphosphate, No. 1, 500 lbs. per acre	21 36 $\frac{3}{8}$	2,023	16 2	1,530	21 9	1,974
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre	26 35 $\frac{3}{8}$	2,452	23 36	1,760	26 21 $\frac{5}{10}$	2,383
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre	26 13 $\frac{3}{8}$	2,568	20 20	2,220	25 33 $\frac{5}{10}$	2,533
12	Unmanured	13 36 $\frac{3}{8}$	1,242	8 46	1,080	13 13 $\frac{1}{10}$	1,226
13	Bone, finely ground, 500 lbs. per acre	14 6 $\frac{3}{8}$	1,376	10 ..	1,420	13 35	1,380
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre	22 5 $\frac{3}{8}$	2,020	21 12	1,680	22 1 $\frac{5}{10}$	1,986
15	Nitrate of soda, 200 lbs. per acre	22 37 $\frac{3}{8}$	2,468	9 28	1,440	21 22	2,365
16	Muriate of potash, 150 lbs. per acre	22 24	1,947	16 12	1,240	21 42	1,876
17	Sulphate of ammonia, 300 lbs. per acre	18 4 $\frac{3}{8}$	2,068	13 6	1,420	17 28 $\frac{1}{10}$	2,003
18	Sulphate of iron, 60 lbs. per acre	18 34 $\frac{3}{8}$	1,794	9 38	1,170	17 35 $\frac{5}{10}$	1,732
19	Common salt (Sodium chloride) 300 lbs. per acre	28 30 $\frac{1}{2}$	2,143	23 16	1,850	28 5	2,114
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre	20 35	1,766	11 32	1,020	19 39 $\frac{1}{10}$	1,691
21	Mineral superphosphate, No. 2, 500 lbs. per acre	21 30 $\frac{3}{8}$	1,721	10 30	1,100	20 26	1,860

## OAT PLOTS.

The quantity of seed sown per acre on the oat plots, was 2 bushels in 1889 and 1890;  $1\frac{1}{2}$  bushels in 1891, 1892 and 1893, and 2 bushels in 1894, 1895, 1896, 1897 and 1898. The varieties used were as follows: In 1889, Early English; 1890, 1891, 1892, 1893, Prize Cluster; and in 1894, 1895, 1896, 1897 and 1898, Banner. In 1898 the Banner was sown 27th April, came up the 8th May, and was harvested 1st August, requiring from the date of sowing to maturity a period of 96 days.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF OATS,  $\frac{1}{20}$ TH ACRE.

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR NINE YEARS.		10TH SEASON, 1898, VARIETY, BANNER.		AVERAGE YIELD FOR TEN YEARS.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure, well rotted, 15 tons per acre.	46 $23\frac{1}{2}$	3,191	63 28	3,630	48 14	3,235
2	Barn-yard manure, fresh, 15 tons per acre.	53 $19\frac{1}{2}$	3,452	62 32	3,570	54 17	3,467
3	Unmanured	30 $32\frac{1}{2}$	1,559	28 8	1,340	30 $23\frac{1}{10}$	1,534
4	Thomas' phosphate, 500 lbs. per acre	30 18 $\frac{1}{2}$	1,810	30 20	1,330	30 $18\frac{1}{10}$	1,702
5	Thomas' phosphate, 500 lbs., nitrate of soda, 200 lbs. per acre	48 $5\frac{1}{2}$	2,771	48 18	2,190	48 7	2,713
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using	43 $31\frac{1}{2}$	2,661	47 12	2,190	44 9	2,614
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre.	44 $12\frac{3}{8}$	3,248	49 24	2,260	44 $30\frac{1}{10}$	3,149
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre.	40 $11\frac{1}{2}$	2,376	35 10	1,610	39 $28\frac{1}{10}$	2,299
9	Mineral superphosphate, No. 1, 500 lbs. per acre	35 $12\frac{1}{2}$	2,021	31 26	1,280	35 $1\frac{1}{10}$	1,947
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre	45 $28\frac{1}{2}$	2,888	47 22	2,130	46 1	2,812
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre.	36 $1\frac{1}{2}$	2,466	37 2	1,920	36 $5\frac{1}{10}$	2,411
12	Unmanured	22 $4\frac{1}{2}$	1,596	15	1,140	21 14	1,550
13	Bone, finely ground, 500 lbs. per acre.	33 $11\frac{1}{2}$	2,008	30 10	1,620	33 1	1,969
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre	37 $25\frac{1}{2}$	2,263	32 2	1,490	37 $6\frac{1}{10}$	2,186
15	Nitrate of soda, 200 lbs. per acre	45 $23\frac{1}{2}$	2,738	45 30	2,050	45 $24\frac{1}{10}$	2,669
16	Muriate of potash, 150 lbs. per acre.	35 $22\frac{1}{2}$	2,256	25 10	1,150	34 21	2,145
17	Sulphate of ammonia, 300 lbs. per acre.	43 $17\frac{1}{2}$	3,118	45 10	2,210	43 $23\frac{1}{10}$	3,027
18	Sulphate of iron, 60 lbs. per acre	36 $24\frac{1}{2}$	2,224	30	1,180	36 $1\frac{1}{10}$	2,120
19	Common salt (Sodium chloride) 300 lbs. per acre	35 $24\frac{1}{2}$	2,056	33 28	1,260	35 18	1,976
20	Land plaster or gypsum (Calcium sulphate) 300 lbs. per acre.	33 $6\frac{1}{2}$	2,123	28 8	1,130	32 24	2,024
21	Mineral superphosphate, No. 2, 500 lbs. per acre	33 $5\frac{1}{2}$	1,939	32 32	1,260	33 $4\frac{1}{10}$	1,871

In 1898, the crops from plots 1, 2 and 6 on which barn-yard manure was used were all considerably above the average. This year plot 1, on which rotted manure was used, has given 30 pounds of oats more per acre than that of plot 2 where the manure was applied in a fresh condition. The crop of plot 2 has, however, during the ten years' test given an average of 6 bushels 3 pounds per acre more than plot 1. Of the

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other plots, treated with chemical fertilizers, all have fallen much short of the results obtained from barn-yard manure. Seven of them have given returns a little above the average, while 11 have fallen below the average of past years.

### CORN PLOTS.

The experiments with the plots of Indian corn have been conducted with the object of obtaining the largest weight of well matured green fodder for the silo, and to have the corn so far advanced when cut, that the ears shall be as far as is practicable in the late milk, or glazed condition. Each plot has been divided from the outset into two equal parts, on one of which—known as No. 1—one of the stronger growing and somewhat later ripening sorts has been tried, and on the other, marked No. 2, one of the earlier maturing varieties. During the first four years one of the Dent varieties was tested under No. 1. The Mammoth Southern Sweet was tried in 1888, 1889 and 1890. In 1891 the Red Cob Ensilage was used, and in 1892, 1893, 1894, 1895, 1896, 1897 and 1898 a free growing Flint variety, the Rural Thoroughbred White Flint, was tested. On the other half of the plot (No. 2) the Canada Yellow Flint was used in 1888, 1889 and 1890, the Thoroughbred White Flint in 1891, Pearce's Prolific in 1892, 1893 and 1894, and the Mammoth Eight Rowed Flint in 1895, 1896, 1897 and 1898. For the first four years the No. 1 series was planted in drills 3 feet apart, using about 24 pounds of seed to the acre and thinning the plants, when up, to 6 or 8 inches, and the No. 2 in hills 3 feet apart each way and 4 or 5 kernels in a hill. During the past seven years both sorts have been grown in hills. The corn in both series of plots was planted in 1898 on 16th May, and cut 15th September. In most instances the yield of fodder on these plots during the past season has been below the average of past years.

With Indian corn the rotted manure has given in both plots a slightly larger return this year than the fresh manure, but the average of ten years' tests still shows the fresh manure in advance of the rotted in plot 1 by 1 ton 484 pounds per acre, while in plot 2 the advantage is with the rotted manure by 1,911 pounds per acre.

#### EXPERIMENTS WITH FERTILIZERS ON PLOTS OF INDIAN CORN, $\frac{1}{16}$ TH ACRE EACH, CUT GREEN FOR ENSILAGE.

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR TEN YEARS.				11TH SEASON, 1898.				AVERAGE YIELD FOR ELEVEN YEARS.			
		Plot No. 1— weight of green fodder		Plot No. 2— weight of green fodder		Plot No. 1— Thoroughbred White Flint, weight of green fodder		Plot No. 2— Mam. 8 row- ed, weight of green fodder		Plot No. 1— weight of green fodder		Plot No. 2— weight of green fodder	
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Tons.	lbs.	Tons	lbs.	Tons.	lbs.	Tons	lbs.	Tons.	lbs.	Tons	lbs.
1	Barn-yard manure, well rotted, 12 tons per acre . . . . .	16	299	12	786	15	1,660	11	1,800	16	240	12	696
2	Barn-yard manure, fresh, 12 tons per acre . . . . .	17	1,086	11	821	15	1,100	11	430	17	724	11	785
3	Unmanured . . . . .	8	306	5	1,583	2	1,000	2	1,220	7	1,278	5	1,004
4	Thomas' phosphate, 800 lbs. per acre . . . . .	6	1,843	4	1,890	8	1,820	7	240	7	204	5	285
5	Thomas' phosphate, 800 lbs.; nitrate of soda, 200 lbs. per acre . . . . .	10	1,474	8	1,128	12	50	11	1,000	10	1,708	8	1,662
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre; composted together, intimately mixed and allowed to heat for several days before using . . . . .	16	866	11	1,114	15	1,360	10	750	16	729	11	899
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre . . . . .	15	484	10	1,930	14	520	10	300	15	305	10	1,782

EXPERIMENTS WITH FERTILIZERS, ON PLOTS OF INDIAN CORN—*Concluded.*

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR TEN YEARS.		11TH SEASON, 1898.		AVERAGE YIELD FOR ELEVEN YEARS.							
		Plot No. 1— weight of green fodder	Plot No. 2— weight of green fodder	Plot No. 1— Thoroughb'd White Flint, weight of green fodder	Plot No. 2— Mam. 8 row- ed, weight of green fodder	Plot No. 1— weight of green fodder	Plot No. 2— weight of green fodder						
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre						
		Tons. lbs.	Tons lbs	Tons. lbs.	Tons lbs	Tons. lbs.	Tons lbs						
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	11	1,642	8	1,322	9	300	7	1,156	8	1,020		
9	Mineral superphosphate, No. 1, 500 lbs. per acre . . . . .	10	1,453	8	215	8	1,890	6	1,830	10	1,129	7	1,997
10	Mineral superphosphate, No. 1, 350 lbs. nitrate of soda, 200 lbs. per acre . . . . .	13	1,082	10	874	13	340	9	1,160	13	1,014	10	718
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	16	492	12	1,152	14	610	9	1,940	16	139	11	1,769
12	Unmanured . . . . .	10	1,799	8	1,931	7	140	5	1,540	10	1,103	8	1,350
13	Bone, finely ground, 500 lbs. per acre . . . . .	11	1,402	9	108	10	140	7	60	11	1,105	8	1,740
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	12	676	8	1,973	10	1,040	9	170	12	345	8	1,990
15	Nitrate of soda, 200 lbs. per acre . . . . .	12	1,627	9	1,789	10	720	5	1,910	12	1,181	9	1,073
16	Sulphate of ammonia, 300 lbs. per acre . . . . .	13	471	9	1,802	8	1,950	8	660	12	1,696	9	1,516
17	Mineral superphosphate, No. 1, 600 lbs.; muriate of potash, 200 lbs.; sulphate of ammonia, 150 lbs. per acre . . . . .	13	263	9	1,358	14	1,460	6	780	13	554	9	760
18	Muriate of potash, 300 lbs. per acre . . . . .	9	487	6	23	6	1,300	5	1,630	9	15	5	1,987
19	Double sulphate of potash and magnesia, 300 lbs. per acre in 1889 and '90; (muriate of potash, 200 lbs., substituted each year since); dried blood, 300 lbs.; mineral superphosphate, No. 1, 500 lbs. per acre . . . . .	11	1,386	7	1,760	11	1,710	8	1,000	11	1,415	7	1,873
20	Wood ashes, unleached, 1,900 lbs. per acre . . . . .	10	126	7	181	8	1,780	7	980	9	1,913	7	254
21	Bone, finely ground, 500 lbs.; sulphate of ammonia, 200 lbs.; muriate of potash, 200 lbs. per acre . . . . .	13	241	9	31	8	1,190	6	830	12	1,418	8	1,558

## PLOTS OF MANGELS AND TURNIPS.

In conducting these experiments the roots only have been taken from the land, the tops have always been cut off and left on the ground to be ploughed under so that the plant food they have taken from the soil may be returned to it. One-half of each one-tenth acre plot in the series has been devoted to the growth of mangels, and the other half to turnips, and these crops have been alternated from year to year. The preparation of the land has been the same for both these roots. It was ploughed in the autumn after the crop is gathered, gang-ploughed deeply in the spring after the barn-yard manure has been spread on plots 1, 2 and 6, and after gang-ploughing the other fertilizers were spread by scattering them evenly over the surface, after which it was all harrowed with the smoothing harrow, then made in ridges 2 feet apart, rolled and sown.

In 1889, the variety of mangel used was the Mammoth Long Red. In 1890, three varieties were sown: 15 rows of Mammoth Long Red, 6 of Mammoth Long Yellow, and 6 of Golden Intermediate on each plot. In 1891, each plot again had three varieties: 18 rows of Mammoth Long Red, 3 of Yellow Fleshed Tankard, and 6 of Golden Tankard. In 1892, 1893, 1894, 1895, 1896, 1897 and 1898, one variety only was used, namely, the Mammoth Long Red. About 4 pounds of seed have been sown per acre, each year. In 1898 the mangels were sown 5th May, came up 15th May, and were pulled 17th October.

## Experimental Farms.

Two varieties of turnips were sown on the half plots devoted to these roots in 1889 : 25 rows of Carter's Prize Winner, and 2 rows of Carter's Queen of Swedes, and in 1890, a single variety, Carter's Elephant Swede. In 1891, six varieties were sown : 6 rows of Lord Derby Swede, 4 of New Giant King, 3 of Imperial Swede, 6 of Champion Swede, 4 of Purple Top Swede, and 4 of East Lothian Swede. In 1892, the Improved Purple Top Swede only was sown, in 1893 and 1894 the Prize Purple Top Swede, in 1895 the Imperial Swede, and in 1896, 1897 and 1898 the Prize Purple Top Swede. The land used for the turnips, which are usually sown later than the mangels, is prepared in the same manner and the fertilizers are spread on it at the same time as they are for the mangels. It is then allowed to stand until the day before sowing, then gang-ploughed shallow or cultivated to kill weeds and loosen the soil, ridged, rolled and sown. In 1898, the turnips were sown 10th May, came up 17th May, and were pulled 18th October. The rotted manure has averaged better results throughout than the fresh manure with the mangels, but the turnips have given better results with the fresh manure.

### EXPERIMENTS WITH FERTILIZERS ON ROOTS; PLOTS OF MANGELS AND TURNIPS, 1/4<sup>TH</sup> ACRE EACH.

Number of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR NINE YEARS.		10TH SEASON, 1898. VARIETIES.		AVERAGE YIELD FOR TEN YEARS.	
		Mangels, Weight of Roots.	Turnips, Weight of Roots.	West Half Plot.	East Half Plot.	Mangels, Weight of Roots.	Turnips, Weight of Roots.
				Mangels, Mammoth Long Red: Weight of Roots.	Turnips, Purple Top Swede: Weight of Roots.		
		Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.
		Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.
1	Barn-yard manure, well rotted, 20 tons per acre.....	22 1,953	14 1,700	24 540	17 660	23 212	15 196
2	Barn-yard manure, fresh, 20 tons per acre.....	22 420	15 784	21 910	15 1,488	22 269	15 854
3	Unmanured.....	9 525	7 1,026	7 1,410	3 10	9 214	7 124
4	Thomas' phosphate, 1,000 lbs. per ac.	8 1,351	7 1,327	7 850	4 50	8 1,101	7 599
5	Thomas' phosphate, 1,000 lbs.; nitrate of soda, 250 lbs.; wood ashes, unleached, 1,000 lbs per acre.....	13 1,325	9 367	16 1,930	12 1,060	13 1,986	9 1,036
6	Barn-yard manure, partly rotted and actively fermenting, 12 tons per acre; Thomas' phosphate, 1,000 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using..	18 819	13 516	18 1,220	13 500	18 859	13 514
7	Thomas' phosphate, 1,000 lbs.; sulphate of potash, 200 lbs. in 1889 and 18-0 (substituted by muriate of potash, 250 lbs. in 1891 and subsequent years); nitrate of soda, 200 lbs. per acre.....	10 613	9 389	12 600	9 1,360	10 1,012	9 486
8	Mineral superphosphate, No. 1, 500 lbs.; sulphate of potash, 200 lbs. in 1889 and 1890 (substituted by muriate of potash, 250 lbs., in 1891 and subsequent years); nitrate of soda, 200 lbs. per acre.....	14 834	12 50	14 690	14 100	14 820	12 455
9	Mineral superphosphate, No. 1, 500 lbs. per acre.....	9 1,014	9 356	8 1,140	6 600	9 827	8 1,780

EXPERIMENTS WITH FERTILIZERS ON ROOTS; PLOTS OF MANGELS AND  
TURNIPS—*Concluded.*

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR NINE YEARS.		10TH SEASON, 1898. VARIETIES.		AVERAGE YIELD FOR TEN YEARS.	
		Mangels, Weight of Roots.	Turnips, Weight of Roots.	West Half Plot.	East Half Plot.	Mangels, Weight of Roots.	Turnips, Weight of Roots.
		Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.
		Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.
10	Nitrate of soda, 300 lbs. per acre . . .	14 1,127	9 114	17 1,610	11 830	14 1,775	9 586
11	Sulphate of ammonia, 300 lbs. per ac.	11 1,119	10 1,161	13 1,930	13 390	11 1,600	10 1,684
12	Unmanured . . . . .	7 721	7 400	8 1,590	6 730	7 1,008	7 233
13	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,000 lbs. per acre	10 796	8 1,069	11 880	7 1,080	10 1,004	8 870
14	Wood ashes, unleached, 2,000 lbs. p. ac	11 494	7 1,972	9 1,780	6 1,350	11 223	7 1,710
15	Common salt (Sodium chloride), 400 lbs. per acre . . . . .	9 1,839	7 1,093	8 210	6 780	9 1,476	7 862
16	Mineral superphosphate, No. 1, 500 lbs.; nitrate of soda, 200 lbs. per ac.	13 1,265	10 1,418	14 1,910	9 300	13 1,530	10 1,106
17	Mineral superphosphate, No. 1, 500 lbs.; wood ashes, unleached, 1,500 lbs per acre . . . . .	12 1,271	9 957	15 720	7 1,980	12 1,816	9 659
18	Mineral superphosphate, No. 1, 500 lbs.; muriate of potash, 200 lbs. p. ac.	12 756	10 1,075	14 830	7 760	12 1,163	10 444
19	Double sulphate of potash and magnesia, 300 lbs. per acre in 1889 and 1890 (muriate of potash, 200 lbs., substituted each year since); dried blood, 250 lbs.; mineral superphosphate, No. 1, 500 lbs. per acre . . . . .	14 126	11 1,313	12 10	10 770	13 1,714	11 1,059
20	Wood ashes, unleached, 1,500 lbs.; common salt (Sodium chloride), 300 lbs. per acre . . . . .	14 1,134	10 1,098	14 520	7 1,940	14 1,073	10 582
21	Mineral superphosphate, No. 2, 500 lbs. per acre . . . . .	15 455	10 1,774	13 1,170	9 1,470	15 127	10 1,544

CARROT PLOTS.

Carrots have been sown on alternate halves of the oat plots for the past seven years, for the purpose of cleaning the land from weeds. This work was begun in 1891, and the plots have been sown each year with the variety known as the Improved Short White. In 1898, carrots occupied the west half of the plots. The seed was sown 27th April, came up 15th May, and the roots were pulled 21st October. The crop this year has been comparatively light and all the plots have been below the average in yield.



## Experimental Farms.

### EXPERIMENTS WITH FERTILIZERS ON HALF PLOTS ( $\frac{1}{2}$ TH ACRE) OF CARROTS (IMPROVED SHORT WHITE), AFTER OATS.

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR SEVEN YEARS.		8TH SEASON, 1898. IMPROVED SHORT WHITE.		AVERAGE YIELD FOR EIGHT YEARS.	
		Weight of roots per acre.		Weight of roots per acre.		Weight of roots per acre.	
		Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
1	Barn-yard manure, well rotted, 15 tons per acre.....	19	1,749	15	1,820	19	758
2	Barn-yard manure, fresh, 15 tons per acre.....	21	20	16	1,700	20	980
3	Unmanured.....	12	1,401	6	1,820	11	1,953
4	Thomas' phosphate, 500 lbs. per acre.....	12	1,565	8	1,650	12	576
5	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs. per acre.....	15	551	9	860	14	1,090
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, com- posted together, intimately mixed and allowed to heat for several days before using.....	19	99	13	330	18	628
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre.....	15	1,329	11	1,310	15	327
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre.....	12	920	11	850	12	661
9	Mineral superphosphate, No. 1, 500 lbs. per acre.....	9	1,878	4	1,080	9	528
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre.....	12	579	7	1,450	11	1,438
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre.....	15	1,257	12	810	15	451
12	Unmanured.....	10	577	4	180	9	1,027
13	Bone, finely ground, 500 lbs. per acre.....	11	843	*3	310	10	776
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre.....	16	1,233	11	280	15	1,684
15	Nitrate of soda, 200 lbs. per acre.....	14	1,913	5	1,960	13	1,669
16	Muriate of potash, 150 lbs. per acre.....	16	678	11	1,040	15	1,473
17	Sulphate of ammonia, 300 lbs. per acre.....	10	1,931	5	760	10	652
18	Sulphate of iron, 60 lbs. per acre.....	11	1,788	5	330	11	106
19	Common salt (Sodium chloride); 300 lbs. per acre.....	13	1,393	8	1,690	13	180
20	Land plaster or gypsum (Calcium sulphate) 300 lbs. per acre.....	13	1,355	5	1,920	12	1,426
21	Mineral superphosphate, No. 2, 500 lbs. per acre.....	11	689	6	1,790	10	1,577

\* This plot was on a ridge and the soil being sandy, many of the plants were destroyed in 1898 by a wind storm.

### POTATO PLOTS.

The alternate halves of the wheat and barley plots which were occupied by carrots and sugar beets in 1891, 1892 and 1893 were planted with potatoes in 1894, 1895, 1896, 1897 and 1898. These were planted in rows  $2\frac{1}{2}$  feet apart, with the sets about one foot apart in the rows.

Those grown in 1898 after wheat, were planted 14th May, came up 1st June, and were dug 22nd September. On each of these plots there were nine rows each of Empire State, Early Sunrise and Clarke's No. 1.

Those grown after barley, were planted 12th May, came up 21st May, and were dug 19th September. On these plots there were nine rows each of Vanier, Lee's Favourite and Northern Spy. In the tables following, the yield of each variety for each plot is given, also the crop, in bushels, per acre.

EXPERIMENTS WITH FERTILIZERS ON HALF PLOTS ( $\frac{1}{2}$ TH ACRE) OF POTATOES AFTER WHEAT.

No. of Plot.	Fertilizers applied each Year.	WEST HALF OF PLOTS.			
		Yield of 9 rows Empire State.	Yield of 9 rows Early Sunrise.	Yield of 9 rows Clarke's No. 1.	Total Yield per Acre.
		Lbs.	Lbs.	Lbs.	Bush. Lbs.
1	Barn-yard manure (mixed horse and cow manure), well rotted, 12 tons per acre in 1888; 15 tons per acre each year since....	320	290	268	292 40
2	Barn-yard manure (mixed horse and cow manure), fresh, 12 tons per acre in 1888; 15 tons per acre each year since..	281	278½	228	262 30
3	Unmanured .....	128½	60½	64½	84 30
4	Thomas' phosphate, 500 lbs. per acre .....	95	58	51	68 ..
5	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs. per acre..	106½	77½	68	84 ..
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using .....	229	216½	204½	216 40
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre .....	158	118½	109	128 30
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre .....	108	122½	106	112 10
9	Mineral superphosphate, No. 1, 500 lbs. per acre .....	117	115	91½	107 50
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre .....	105	108½	83½	99 10
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre....	171½	184	157½	171 ..
12	Unmanured .....	66½	53½	42	54 ..
13	Bone, finely ground, 500 lbs. per acre .....	90½	74	58½	74 20
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre .....	184½	178½	109	157 20
15	Nitrate of soda, 200 lbs. per acre .....	128	105½	125	119 30
16	Muriate of potash, 150 lbs. per acre .....	138	117	130	128 20
17	Sulphate of ammonia, 300 lbs. per acre .....	101½	71	63½	78 40
18	Sulphate of iron, 60 lbs. per acre .....	91½	58	58	69 10
19	Common salt (Sodium chloride), 300 lbs. per acre.....	65	51	44	53 20
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre..	97	69½	51	72 30
21	Unmanured in 1889; mineral superphosphate, No. 2, 500 lbs. per acre each year since.....	94½	86½	74	85 ..

## Experimental Farms.

### EXPERIMENTS WITH FERTILIZERS ON HALF PLOTS ( $\frac{1}{2}$ TH ACRE) OF POTATOES AFTER BARLEY.

No. of Plot.	Fertilizers applied each Year.	EAST HALF OF PLOTS.			
		Yield of 9 rows Vanier.	Yield of 9 rows Lee's Favourite.	Yield of 9 rows Northern Spy.	Total Yield per Acre.
		Lbs.	Lbs.	Lbs.	Bush. lbs.
1	Barn-yard manure, well rotted, 15 tons per acre. . . . .	169	218½	264	217 10
2	Barn-yard manure, fresh, 15 tons per acre . . . . .	261½	200	238½	233 20
3	Unmanured . . . . .	113½	73	119	101 50
4	Thomas' phosphate, 500 lbs. per acre . . . . .	124½	56½	110	97
5	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs. per acre . . . . .	118	60½	89	89 10
6	Barn-yard manure, partly rotted and actively ferment- ing, 6 tons per acre; Thomas' phosphate, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using . . . . .	213½	150½	199	189 2
7	Thomas' phosphate, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre . . . . .	187	105	134½	142 10
8	Thomas' phosphate, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	181½	105½	121½	136 10
9	Mineral superphosphate, No. 1, 500 lbs. per acre . . . . .	164½	131	120½	138 40
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre . . . . .	108	98½	70	92 10
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	226	136	188	183 20
12	Unmanured . . . . .	111	88	51½	80 10
13	Bone, finely ground, 500 lbs. per acre . . . . .	73	60	45½	59 30
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre . . . . .	172	97½	144	137 50
15	Nitrate of soda, 200 lbs. per acre . . . . .	83½	63½	84½	77 10
16	Muriate of potash, 150 lbs. per acre . . . . .	155	80½	85½	107
17	Sulphate of ammonia, 300 lbs. per acre . . . . .	49	42	46	45 40
18	Sulphate of iron, 60 lbs. per acre . . . . .	93	72½	55½	73 40
19	Common salt (Sodium chloride), 300 lbs. per acre . . . . .	133	91	89	104 20
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre . . . . .	102½	119½	148½	123 30
21	Mineral superphosphate, No. 2, 500 lbs. per acre . . . . .	162	88	104½	114 50

In the following table particulars are given of the crops of potatoes obtained each year from 1894 to 1898, inclusive, from each of the plots devoted to experiments with fertilizers, also the average results of these tests for five years. It will be seen that plot 1, to which well rotted barn-yard manure has been applied, has given the best average results in the plots after barley, while in those after wheat plot 2 on which fresh manure was used, has the advantage. None of the artificial fertilizers or mixtures of these fertilizers have given results as good as those obtained from barn-yard manure. Of the single fertilizers tried, the best crops have been had from the mineral superphosphate of lime, and the next best from muriate of potash.

TABLE showing Crops of Potatoes obtained during five years from Fertilized Plots.

No. of Plot.	1894.		1895.		1896.		1897.		1898.		AVERAGE FOR FIVE YEARS													
	After Wheat.	After Barley.	After Wheat.	After Barley.	After Wheat.	After Barley.	After Wheat.	After Barley.	After Wheat.	After Barley.	After Wheat.	After Barley.												
	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.	Bus. lbs.												
1	264	50	247	20	306	20	241	40	302	50	253	50	214	10	292	..	292	40	217	10	282	10	259	24
2	234	20	265	40	366	..	249	50	270	10	233	40	248	30	261	20	262	30	233	20	296	18	248	46
3	141	10	123	50	141	40	101	30	90	..	99	50	102	20	123	30	84	30	101	50	112	32	110	6
4	142	50	128	10	127	50	93	40	84	40	98	10	96	50	103	50	68	..	97	..	104	2	104	10
5	150	..	104	40	157	40	98	30	94	..	98	50	113	30	105	30	84	..	89	10	119	59	99	20
6	218	10	180	10	317	20	243	50	256	20	196	40	215	50	214	40	216	40	189	20	244	52	204	56
7	172	..	156	30	213	..	151	20	165	..	135	20	163	50	158	50	128	30	142	10	168	28	148	50
8	155	50	162	30	174	20	150	40	133	50	128	20	127	30	163	31	112	10	136	10	140	44	148	14
9	178	50	197	10	169	10	152	10	130	..	147	40	104	30	156	30	107	50	138	40	138	4	158	26
10	174	50	172	50	169	30	123	40	119	50	99	50	145	20	172	30	99	10	92	10	141	44	132	12
11	175	20	232	40	274	30	163	..	182	30	193	30	209	50	181	20	171	..	183	20	202	36	190	46
12	102	30	118	30	119	50	71	20	77	40	80	..	98	40	95	10	54	..	80	10	90	32	89	2
13	109	10	97	50	102	50	82	30	85	50	64	..	108	50	116	10	74	20	59	30	96	12	84	..
14	180	40	172	..	204	20	181	20	176	..	115	..	150	30	196	10	157	20	137	50	173	46	160	28
15	174	..	114	40	99	50	81	20	105	30	88	50	111	10	101	..	119	30	77	10	122	..	92	36
16	146	20	141	40	148	..	133	..	131	40	119	10	128	40	122	50	128	20	107	..	136	36	124	44
17	98	50	93	10	95	50	94	..	69	50	54	50	81	50	111	20	78	40	45	40	85	..	79	48
18	89	40	97	40	103	20	97	10	69	10	71	50	105	..	129	40	69	10	73	40	87	16	94	..
19	64	10	156	..	73	..	59	..	52	50	109	..	101	..	105	50	53	20	104	20	68	52	106	50
20	85	..	171	10	60	40	49	40	83	10	107	..	112	50	136	50	72	30	123	20	82	50	117	36
21	105	..	155	10	90	20	119	10	95	50	119	16	118	50	154	40	85	..	114	50	99	..	132	36

The varieties which have been tested during the five years named and the weights obtained of each sort in pounds per row are here given. These rows have in each case run through the whole series of fertilized and check plots, and as the conditions under which the different varieties have been grown may be considered as very similar, if not identical, the results may fairly be regarded as indicating the relative productiveness of the different sorts under trial.

Name of Variety.	1894.	1895.	1896.	1897.	1898.	Average.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Northern Spy	..	..	..	434	279	356
Queen of the Valley	..	462	358	..	..	410
Vanier	..	..	..	387	333	360
Early Sunrise	..	407	367	321	277	343
Thorburn	357	329	351	..	..	346
Wonder of the World	406	344	247	..	..	332
Empire State	..	..	..	328	320	324
Beauty of Hebron	406	257	308	..	..	323
Daisy	..	376	268	..	..	322
Early Rose	235	426	294	..	..	318
Clarke's No. 1	..	..	..	317	243	280
Lee's Favourite	333	284	295	247	239	280
Burpee's Extra Early	..	..	276	..	..	276
May Queen Early	..	269	259	..	..	264

# Experimental Farms.

## DISTRIBUTION OF SEED GRAIN.

Another distribution of seed grain was made in the spring of 1898, consisting mainly of samples of the most promising varieties which were grown at the several experimental farms. These were sent to farmers on application one sample only to each applicant. The object of this distribution was to place within reach of farmers for the improvement of seed, pure samples and true to name of the best and most productive sorts in cultivation. By the careful handling of these samples any farmer can soon obtain sufficient seed for a large area and may thus be provided with the best sorts of grain without any cost beyond that of his own labour. That this part of the farm work is appreciated by farmers throughout the Dominion is shown by the very large demand each year for samples.

Preparations have been made for another distribution in 1899 which will consist as heretofore of the most promising sorts of oats, barley, wheat, pease, Indian corn and potatoes. The several branch farms will also again distribute samples to farmers residing in the provinces and territories where these farms have been established.

The samples sent out from the Central Experimental Farm at Ottawa during the early months of 1897 were distributed as follows:—

Kind of Grain.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	North-west Territories.	British Columbia.
Oats.....	426	932	1,235	3,858	2,471	741	492	96
Barley.....	135	396	282	980	589	217	138	24
Wheat.....	292	674	1,165	2,801	1,019	489	302	50
Pease.....	52	361	395	1,181	695	238	153	59
Indian corn.....	53	159	208	983	724	75	34	25
Potatoes.....	169	659	503	2,580	2,085	372	219	93
Total number of samples sent.	1,127	3,181	3,788	12,383	7,583	2,132	1,338	347

Total number of samples distributed, 31,879.  
Number of applicants supplied, 31,825.

The following list shows the number of three-pound packages of the different varieties which have been sent out:—

OATS.	BARLEY, SIX-ROWED.
Banner.....	Odessa.....
Abundance.....	Royal.....
Improved Ligowo.....	Oderbruch.....
Wallis.....	Mensury.....
Golden Beauty.....	Trooper.....
Bavarian.....	Success.....
Golden Giant.....	Champion.....
American Beauty.....	
Early Gothland.....	
Siberian O.A.C.....	
White Schonen.....	
Joanette.....	
Holstein Prolific.....	
Mennonite.....	
Flying Scotchman.....	
Early Archangel.....	
Rosedale.....	
Columbus.....	
Total.....	

LIST of the number of three-pound packages of the different varieties sent out—*Concluded.*

PEASE.		INDIAN CORN.	
Canadian Beauty .....	1,247	Angel of Midnight .....	892
Prussian Blue .....	410	Champion White Pearl .....	395
Large White Marrowfat .....	369	Longfellow .....	244
Mummy .....	367	Mammoth Eight-rowed Flint .....	157
Creeper .....	277	Selected Leaming .....	218
French Canner .....	134	White Cap Yellow Dent .....	98
Arthur .....	133	King of the Earliest .....	88
Agnes .....	82	Mitchell's Extra Early .....	45
Macoun .....	58	Compton's Early .....	40
New Potter .....	20	Pearce's Prolific .....	27
Golden Vine .....	9	Thoroughbred White Flint .....	15
<b>Total .....</b>	<b>3,106</b>	<b>Total .....</b>	<b>2,219</b>
WHEAT.		POTATOES.	
Red Fife .....	2,083	Northern Spy .....	1,208
Preston .....	1,054	Wonder of the World .....	940
White Fife .....	803	Empire State .....	917
Wellman's Fife .....	541	Vanier .....	591
Percy .....	471	May Queen Early .....	413
Red Fern .....	351	Clarke's No. 1 .....	365
White Russian .....	269	Lee's Favourite .....	327
Monarch .....	268	Early Rose .....	301
White Connell .....	254	Early Sunrise .....	225
Dion's .....	250	I. X. L. .....	182
Emporium .....	187	Carman No. 1 .....	181
Stanley .....	142	American Wonder .....	163
Crown .....	121	Burpee's Extra Early .....	152
<b>Total .....</b>	<b>6,794</b>	Burnaby Seedling .....	140
		Late Puritan .....	127
		Everett .....	121
		Early Harvest .....	95
		Rochester Rose .....	84
		Daisy .....	80
		<b>Total .....</b>	<b>6,612</b>

## Experimental Farms.

### DISTRIBUTION OF SAMPLES FROM THE BRANCH EXPERIMENTAL FARMS.

Samples of three pounds each were also distributed from the branch experimental farms as follows:—

<i>Experimental Farm, Nappan, N. S.</i>		<i>Experimental Farm, Brandon, Man.</i>	
Oats.....	232	Grain of all sorts.....	361
Barley.....	122	Potatoes.....	129
Wheat.....	137		<hr/>
Pease.....	93		490
Buckwheat.....	13		<hr/>
Rye.....	4		
Potatoes.....	385		
	<hr/>		
	986		
No. of applicants supplied.....	533		
 <i>Experimental Farm, Indian Head, N.W.T.</i>		 <i>Experimental Farm, Agassiz, B.C.</i>	
Oats.....	332	Oats.....	61
Barley.....	182	Barley.....	29
Wheat.....	177	Wheat.....	43
Pease.....	205	Pease.....	47
Flax.....	10	Potatoes.....	137
Rye.....	11		<hr/>
Potatoes.....	381		317
	<hr/>		<hr/>
	1,298		

These samples added to the number distributed by the Central Experimental Farm make a total of 34,970. This distribution has awakened much interest among farmers regarding the choice of better varieties for seed, and many of the more productive sorts are by this means fast finding their way into general cultivation.

### TESTS OF THE VITALITY OF GRAIN AND OTHER SEEDS FOR 1898.

The number of samples of seed grain and other seeds which were tested during the season of 1898 to ascertain the proportion which would germinate was 1,834. The following figures show the variations in the average vitality of the more important cereals during the past six years.

	1893.	1894.	1895.	1896.	1897.	1898.	Average for the Six Years.
Wheat.....	81.8	90.5	88	87.7	83.5	86.4	86.3
Barley.....	84.9	89	85.7	90.1	90	91.3	88.5
Oats.....	93	95.5	93.3	89.8	93.6	92.4	92.9

Many of the samples sent for test are much below the average in vitality and on this account the figures given do not fairly represent the vitality of grain of average quality grown in different parts of the Dominion. The chief object in continuing these tests from year to year is to give farmers the opportunity of having any samples which may be of doubtful vitality, through injury during harvesting or storing, thoroughly tested so that their value for seed purposes may be known. Samples may be sent free through the mail,—the quantity of grain sent should not be less than one ounce,—and this work is done and reported on free of charge. The vitality of samples can usually be ascertained within a fortnight after they are received.

## RESULTS of Tests of Seeds for Vitality, 1897-98.

Kind of Seed.	Number of Tests.	Highest Percentage.	Lowest Percentage.	Percentage of Strong Growth.	Percentage of Weak Growth.	Average Vitality.
Wheat	520	100·0	0·0	81·3	5·1	86·4
Barley	334	100 0	59·0	83·0	8·3	91·3
Oats	453	100·0	17·0	87·8	4·6	92·4
Rye	1	84·0	84·0	76·0	8·0	84·0
Pease	194	100·0	4·0			86·9
Corn	18	92·0	28·0			55·5
Grass	13	98·0	26·0			74·0
Clover	11	79·0	10·0			63·2
Turnips	22	100·0	35·0			73·8
Mangels	8	98·0	38·0			76·0
Carrots	12	74·0	12·0			51·2
Cabbage	23	99·0	34·0			63·8
Tomatoes	20	90·0	24·0			55·9
Millet	3	77 0	5·0			38·6
Radish	10	78·0	19·0			55·6
Lettuce	13	96·0	16·0			68·1
Spinach	7	43·0	18·0			29·4
Onions	19	77·0	21·0			50·7
Beet	17	94·0	54·0			81·6
Celery	9	75·0	15·0			40·5
Beans	2	100·0	96·0			98·0
Salsify	2	34 0	33·0			33·5
Cauliflower	9	89·0	21·0			63·5
Brussels Sprouts	3	70·0	19·0			50·6
Borecole	2	84·0	67·0			75·5
Cress	3	90·0	1·0			58·0
Tobacco	4	74·0	14·0			48·5
Pepper	9	31 0	1·0			13·5
Parsnips	3	15·0	0·0			6·3
Parsley	3	74·0	19·0			44·3
Cucumber	4	56·0	24·0			34·0
Squash	13	90·0	10·0			49·2
Pumpkin	4	70·0	0·0			40·0
Water Melon	10	80·0	20·0			49·0
Musk Melon	11	90·0	10·0			60·0
Citron	2	50·0	40·0			45·0
Sweet Peas	10	100·0	48·0			77·6
Nasturtiums	2	65·0	60·0			62·5
Mignonette	2	51·0	21·0			36·0
Flax Seed	3	81·0	48·0			68·3
Buckwheat	2	92·0	82·0			87·0
Sunflower	2	100·0	98·0			99·0
Tares	1	94·0	94·0			94·0
Canary Seed	1	47 0	47·0			47·0
Manitoba Maple	1	0·0	0·0			0·0
Caraway Seed	1	46·0	46·0			46·0
Asparagus	1	31·0	31·0			31·0
Chicory	1	73·0	73·0			73·0
Egg Plant	1	56·0	56·0			56·0
Rhubarb	1	90·0	90·0			90·0
Sage	2	28·0	25·0			26·5
Sweet Marjoram	2	29·0	11·0			20·0
Saffron	1	28·0	28·0			28·0
Summer Savory	1	26·0	26·0			26·0
Sweet Basil	1	58·0	58·0			58·0
Balm	1	1·0	1·0			1·0
Rice	1	37·0	37·0			37·0
Lavender	1	27·0	27·0			27·0
Horehound	1	36·0	36·0			36·0
Fennel	1	35·0	35·0			35·0
Chervil	1	8·0	8·0			8·0
Mustard	1	88·0	88·0			88·0
Total number of samples tested, highest and lowest percentage.	1,834	100·0	00·0			



# Experimental Farms.

TABLE showing Results of Grain Tests for each Province.

## ONTARIO.

Kind of Seed.	Number of Tests.	Highest Percentage.	Lowest Percentage.	Percentage of Strong Growth.	Percentage of Weak Growth.	Average Vitality.
Wheat.....	204	100·0	0·0	73·1	7·1	80·2
Barley.....	144	100·0	72·0	79·3	10·1	89·4
Oats.....	258	100·0	53·0	90·8	3·1	93·9

## QUEBEC.

Wheat.....	56	100·0	61·0	87·0	4·2	91·2
Barley.....	22	97·0	68·0	78·1	10·8	88·9
Oats.....	14	99·0	37·0	74·4	7·5	81·9

## MANITOBA.

Wheat.....	65	100·0	62·0	90·4	3·1	93·5
Barley.....	45	100·0	69·0	90·7	5·3	96·0
Oats.....	60	100·0	17·0	88·6	5·7	94·3

## NORTH-WEST TERRITORIES.

Wheat.....	71	100·0	63·0	79·0	5·5	84·5
Barley.....	53	99·0	79·0	88·4	4·1	92·5
Oats.....	85	98·0	39·0	80·8	7·5	88·3

## NOVA SCOTIA.

Wheat.....	59	100·0	62·0	88·0	3·4	91·4
Barley.....	37	100·0	65·0	80·5	10·6	91·1
Oats.....	9	100·0	81·0	90·1	4·7	94·8

## NEW BRUNSWICK.

Wheat.....	35	100·0	67·0	88·7	3·3	92·0
Barley.....	15	100·0	59·0	82·0	7·7	89·7
Oats.....	10	100·0	88·0	86·7	7·2	93·9

## PRINCE EDWARD ISLAND.

Wheat.....	22	100·0	62·0	88·4	3·3	91·7
Barley.....	11	100·0	67·0	87·7	6·8	94·5
Oats.....	10	100·0	94·0	93·1	3·5	96·6

## BRITISH COLUMBIA.

Wheat.....	8	100·0	89·0	96·0	0·7	96·7
Barley.....	7	100·0	92·0	91·3	6·3	97·6
Oats.....	7	92·0	68·0	77·4	6·0	83·4

## METEOROLOGICAL OBSERVATIONS.

TABLE of Meteorological Observations taken at the Central Experimental Farm, Ottawa 1898; maximum, minimum and mean temperature for each month, with date of occurrence, also rainfall and snowfall.

Months.	Maximum.	Minimum.	Range.	Mean.	Highest.	Date.	Lowest.	Date.	Rainfall.	Snowfall.	Number of days' Pre- cipitation.	Heaviest in	Date.
									In.	In.		24 Hours.	
January	20.49	0.67	19.89	9.91	38.9	8th	-24.6	30th	0.66	38.00	19	0.80	24th
February	26.82	11.09	15.73	18.95	43.0	11th	-20.5	2nd	0.90	34.25	18	12.00	21st
March	42.36	24.91	17.45	33.64	57.0	26th	-1.2	1st	2.13	s	11	0.56	13th
April	54.92	31.83	23.09	43.37	71.0	13th	10.7	4th	0.55	2.00	9	0.33	20th
May	67.74	46.75	20.98	57.24	82.8	31st	32.9	6th	2.45	.....	14	0.67	22nd
June	76.79	55.62	21.17	66.20	86.9	30th	45.1	15th	2.06	.....	13	0.82	12th
July	82.96	58.22	24.73	70.59	95.0	3rd	41.0	10th	2.87	.....	12	0.78	18th
August	77.52	57.52	20.00	67.52	85.0	11th	42.6	28th	3.22	.....	16	0.80	25th
September	72.14	49.77	22.37	60.95	89.0	4th	33.2	21st	3.46	.....	19	1.02	23rd
October	54.09	39.19	14.90	46.64	77.1	2nd	26.0	28th	5.68	s	15	1.12	22nd
November	40.05	25.23	14.82	32.64	60.0	5th	6.5	12th	0.36	10.75	15	0.40	10th
December	26.00	9.23	16.77	17.61	40.7	23rd	-23.3	14th	0.41	27.25	22	1.10	5th
									24.75	112.25	183		

Rain or snow fell on 183 days during the 12 months.

Heaviest rainfall in 24 hours, 1.12 inches on October 22nd.

Heaviest snowfall in 24 hours, 12.00 inches on February 21st.

It will be seen the highest temperature during the 12 months was 95° 0 on July 3rd.

The lowest temperature during the 12 months was -24.6 on January 30th.

During the growing season rain fell on 9 days in April, 14 days in May, 13 days in June, 12 days in July and 16 days in August.

April shows the lowest number of days on which rain fell, viz., 9.

Rain or snow fell on 22 days during December.

Total precipitation during the 12 months 37.17 inches, as compared with 33.08 inches during 1897.

WILLIAM T. ELLIS, *Observer.*

## RECORD OF-SUNSHINE AT CENTRAL EXPERIMENTAL FARM, OTTAWA, 1898.

Months.	Number of days with Sunshine.	Number of days without Sunshine.	Total hours Sunshine.	Average Sunshine per day.
January	21	10	97.4	3.14
February	15	13	67.5	2.41
March	26	5	171.5	5.53
April	29	1	233.8	7.79
May	30	1	186.3	6.01
June	29	1	184.9	6.16
July	30	1	272.8	8.80
August	Instrument	out of order.		
September	27	3	166.9	5.23
October	21	10	106.0	3.41
November	21	9	91.3	3.04
December	15	16	54.3	1.75

WILLIAM T. ELLIS, *Observer.*

# Experimental Farms.

## LIVE STOCK

AT THE

### CENTRAL EXPERIMENTAL FARM.

The live stock at the Central Experimental Farm consists of the following animals :

#### HORSES.

Of these there are fourteen in all, eight of which form the four working teams of the farm. Of the other horses two are used principally as drivers and the other four for miscellaneous work, including omnibus service. This vehicle which carries the mails, also passengers to the city, makes three trips each day, which requires the services of three horses in order to provide for the necessary changes in the team from day to day. Most of these horses have now been in use for about eleven years, and hence have reached an age when they cannot be expected to render profitable service much longer. It is expected that they will gradually be replaced with younger animals as soon as they begin to fail to do useful and satisfactory work. No horses are now kept for breeding purposes.

#### CATTLE.

The cattle comprises in all thirty-eight animals, four of which are bulls, twenty-two cows, five heifers and seven heifer calves. There are also thirty-two steers which were bought in the autumn from farmers in the neighbourhood of Ottawa for the purpose of carrying on feeding tests, with different sorts and combinations of fodders, grain and other concentrated food products, to gain information as to the most economical methods to follow in the feeding of steers. These will be sold for beef in the spring.

Part of the milk from the cows is sold to the residents on the farm and the remainder delivered to the dairy where it is made into butter and disposed of at market prices; the skim-milk being used for calves and pigs. The bulls are kept partly for their use on the farm and are available also to farmers at very moderate charges for the improvement of stock.

The cattle may be grouped as follows :—

- Guernseys—1 bull, 4 years.  
1 heifer calf.
- Ayrshires—1 bull, 1½ years.  
1 heifer, 3 years.
- Jerseys — 1 bull, 1½ years.  
2 heifers, 3 and 2 years.
- Shorthorns—1 bull, 3 years.
- Canadians—6 cows, varying in age from 3 to 11 years.  
1 heifer calf.
- Grades —16 cows of different ages from 3 to 12 years.  
2 heifers, 2 years.  
5 heifer calves.

In October, 1898, these animals were again tested with tuberculine and all were found to be quite free from disease.

## SWINE.

The following is a summary of the pigs in stock on 30th November, 1898 :—

Yorkshires—	1 boar,	2 years.
	1 sow,	3 “
	1 “	5 months.
Berkshires—	1 boar,	2½ years.
	1 sow,	3 “
	1 “	6 months.
Tamworths—	1 boar,	1 year.
	1 sow,	3 years.
	1 “	2 “
	1 “	6 months.
Poland Chinas—	1 boar,	3 years.
	1 sow,	3 “
	1 “	6 months.
Chester Whites—	1 boar,	2 years.
	1 sow,	3 “
Grades—	8 pigs,	6 months.
	13 “	4 “

## POULTRY.

The total number of birds on hand in the poultry houses was 240, and consisted of the following :—14 cocks, 18 cockerels, 149 hens, 52 pullets, 2 drakes, 4 ducks and 1 gander.

The following are the breeds represented and the number of each :—

White Leghorns—	2 cocks,	3 cockerels,	24 hens,	8 pullets.
Black Minorcas—	3 cocks,	4 cockerels,	7 hens,	8 pullets.
White Minorcas—	1 cock,	2 hens,	7 pullets.	
Andalusians—	1 cock,	2 cockerels,	10 hens.	
Brown Leghorns—	1 cock,	8 hens.		
Light Brahmas—	1 cock,	7 hens.		
Langshans—	3 cockerels,	8 hens,	8 pullets.	
Silver-laced Wyandottes—	9 hens.			
White Wyandottes—	10 hens.			
Barred Plymouth Rocks—	3 cocks,	3 cockerels,	21 hens,	8 pullets.
White Plymouth Rocks—	1 cock,	3 cockerels,	8 hens,	8 pullets.
Coloured Dorkings—	1 cock,	7 hens.		
Cross-breds—	28 hens.			
Pekin Ducks—	1 drake,	3 ducks.		
Aylesbury Ducks—	1 drake,	1 duck.		
1 Wild Goose,	male.			

## APIARY.

In the apiary there are 55 colonies of bees.

## EXPERIMENTS IN THE FEEDING OF STEERS, 1897-98.

Twenty-two steers, divided into 11 groups of two each, have been fed with different kinds of fodder mixtures and feeds at the Central Experimental Farm during the past year. The feeding period was divided into four equal portions of four weeks each, making sixteen weeks in all. The bulky fodder rations have been varied, but the particulars of their combination will be found at the head of each group. The meal referred to in the tables has been made of equal parts by weight of pease, barley and oats. In

## Experimental Farms.

estimating the cost of the rations, the mixed meal has been valued at the uniform rate of one cent per pound, corn ensilage at \$2 per ton, roots \$2 per ton, hay at \$8 per ton, and straw at \$4 per ton. Bran has been valued at \$10 per ton, and ground oil-cake and cotton seed meal each at \$25 per ton. The price of these products will vary in different localities and in different seasons, but the figures given are about the cost of production or purchase at Ottawa and will afford a basis of comparison for other parts of the Dominion.

In the feeding of farm animals with combinations of fodders and grain, it is desirable to know how far such rations conform to the standard known as a *balanced ration* in each case. In estimating the food value of a ration it is considered mainly from the relative proportions it contains :

1st. Of protein or nitrogenous matter, the function of which is to build up, to supply the nitrogen compounds required for satisfactory growth and at the same time furnish material for repairing and keeping in healthy action the working machinery of the body, and, in the case of milch cows, to provide for an ample secretion of milk.

2nd. Of carbo-hydrates and fat. These, although quite distinct in their character, are conveniently grouped together when considering their feeding value. The carbo-hydrates consist of such materials as starch, sugar and gum, together with fibre, the woody portions of the plant. These form the largest part of vegetable foods and when digested are either converted into fat or used to produce heat and energy in the body. Fat taken into the animal economy serves a similar purpose to that of the carbo-hydrates, but is more effectual, one part of fat being equal to 2½ parts of carbo-hydrates.

In estimating the value of a ration for any particular class of animals, the proportion of protein it contains is compared with the carbo-hydrates and fat added; the amount of fat having, as already stated, been multiplied by 2½, and the relation which the protein bears to the carbo-hydrates and fat is known as the nutritive ratio, and a food is said to be a balanced ration when it contains the nutritive materials referred to in about the proportions which experience has shown to produce the best results.

A ration with a large proportion of carbo-hydrates and fat as compared to its protein, is said to have a wide nutritive ratio, while one having a relatively small proportion of carbo-hydrates is spoken of as having a narrow nutritive ratio.

With the object of making this matter clear and of enabling those who desire to ascertain for themselves the nutritive ratio of any foods or combinations of foods they may desire to use, a list is submitted of such coarse fodders, grain and other feeding materials as are commonly used by farmers and stockmen, with the proportions of dry matter in each pound, also the digestible protein, digestible carbo-hydrates and fat, total digestible constituents and nutritive ratio all in adjoining columns. These figures correspond with those given by Prof. W. A. Henry, of Wisconsin, in his recent book on "Feeds and Feeding" which is now generally accepted as a reliable guide on this subject.

Name.	Total Dry Mat- ter in each Lb.	Protein.	Carbo- hydrates + (fat × 2.25).	Total.	Nutritive Ratio.
HAY, STRAW, &c.					
Timothy Hay .....	87	0.28	465	493	1:16.6
Red Clover .....	85	0.68	396	464	1:5.8
Alfalfa .....	92	1.10	423	533	1:3.8
Oat Straw .....	91	0.12	404	416	1:33.6
Wheat Straw .....	90	0.04	372	376	1:93
Pea Vine Straw .....	86	0.43	341	384	1:7.9
Corn Fodder .....	58	0.25	373	398	1:14.9
Corn Stover .....	60	0.17	340	357	1:19.9

Fodders, grain, &c., proportion of dry matter in each pound, &c., &c.—*Concluded.*

Name.	Total Dry Matter in each Lb.	Protein.	Carbo-hydrates + (fat $\times$ 2.25).	Total.	Nutritive Ratio.
<b>GRAIN.</b>					
Oats.....	.89	.092	.568	.660	1:6.2
Barley.....	.89	.087	.692	.779	1:7.9
Wheat.....	.90	.102	.730	.832	1:7.2
Pease.....	.90	.168	.534	.702	1:3.2
Corn.....	.89	.079	.764	.843	1:9.7
Rye.....	.88	.099	.700	.799	1:7.1
Buckwheat.....	.87	.077	.533	.610	1:6.9
<b>MILL PRODUCTS.</b>					
Wheat Bran.....	.88	.122	.453	.575	1:3.7
" Middlings.....	.88	.128	.607	.735	1:4.7
Buckwheat Bran.....	.90	.074	.347	.421	1:4.7
Buckwheat Middlings.....	.87	.220	.456	.676	1:2.1
<b>BYE PRODUCTS.</b>					
Malt Sprouts.....	.90	.186	.409	.595	1:2.2
Brewers' Grains, wet.....	.24	.039	.125	.164	1:3.2
" " dry.....	.92	.157	.478	.635	1:3.
Gluten Meal.....	.92	.258	.656	.914	1:2.5
Linseed Meal (old process).....	.91	.293	.485	.778	1:1.7
" " (new process).....	.90	.282	.464	.746	1:1.6
Cotton Seed Meal.....	.92	.372	.444	.816	1:1.2
Skin-milk.....	.094	.029	.059	.088	1:2.
Buttermilk.....	.10	.039	.065	.104	1:1.7
Whey.....	.066	.008	.054	.062	1:6.7
<b>ROOTS AND ENSILAGE.</b>					
Mangels.....	.09	.011	.056	.067	1: 5.1
Turnips.....	.09	.010	.078	.088	1: 1.8
Carrots.....	.11	.008	.082	.090	1:10.3
Sugar Beets.....	.13	.011	.104	.115	1: 9.4
Potatoes.....	.21	.009	.165	.174	1:18.3
Ensilage (Corn).....	.21	.009	.129	.138	1:14.3
<b>SOILING FODDER.</b>					
Fodder Corn.....	.20	.010	.125	.135	1:12.5
Pease and Oats.....	.16	.018	.076	.094	1:4.2
Pease and Barley.....	.16	.017	.077	.094	1:4.5
Red Clover.....	.29	.029	.164	.193	1:5.6
Alfalfa.....	.28	.039	.138	.177	1:3.5

The figures forming the nutritive ratio are obtained by dividing the carbo-hydrates and fat by the protein. As an illustration as to how this table may be used to ascertain the nutritive ratio in any fodder mixture, let us take the bulky fodder ration No. 1 used in the feeding experiments to be presently referred to :

—	Dry Matter.	Protein.	Carbo-hydrates and Fat.	Total.	Nutritive Ratio.
50lbs. Corn ensilage.....	10.50	.450	6.450	6.900	
25lbs. Roots (mangels).....	2.25	.275	1.400	1.675	
5lbs. Clover hay, cut.....	4.25	.340	1.980	2.320	
5lbs. Oat straw, cut.....	4.55	.060	2.020	2.080	1:10.5

## Experimental Farms.

This ration is rather wide to obtain the best results, but it is easily made narrower by the addition of grain and other concentrated feeds—3 pounds of meal, equal parts of oats, barley and pease with 1 pound of oil-cake or cotton seed meal fed to each animal per day, with an average consumption of 40 pounds of coarse fodder per day, will narrow the ration down to about 1:7.2, whereas the accepted standards for the feeding of young steers range from 1:6 to 1:8.

The amount of dry matter in the food would, however, in this case be short of the quantity said to give the best results, but this could be increased by adding to the quantity of hay consumed, which would again widen the ration somewhat and require a further addition of grain or bran to correct this.

The objects in view in conducting these experiments have been to gain such information as will show how beef can be produced at the smallest cost, how such products as the farmer can easily grow may be used to the best advantage, and what results are had where rations are fed the nutritive ratio of which is wider than is usually recommended.

No strict uniformity in results can be expected even where the same ration is fed: the breeding of the animal, its individual vigour and capacity for digestion, the temperature of the stables, and the quality of the food where ensilage forms any considerable part of it, are all factors which influence the results to a considerable degree, nevertheless much useful information may be gained by repeated tests of this character which will be helpful to farmers and stockmen.

During the course of these tests the steers were given all the bulky fodder they would eat up clean, they were watered regularly twice a day and supplied with salt in a small box at the side of the manger.

The steers were weighed on the 18th December and again three times at the close of the period of preparatory feeding on the 18th January. The first weights taken and the average of the three last weighings were as follows, the weights being given in the order in which the animals were finally grouped:—

WEIGHT OF STEERS.

	Dec. 18, 1897.	Jan. 18, 1898.		Dec. 18, 1897.	Jan. 18, 1898.
Group No. 1—	Lbs.	Lbs.	Group No. 7—	Lbs.	Lbs.
No. 1. ....	810	840	No. 13. ....	980	1,065
No. 2. ....	810	870	No. 14. ....	875	840
	1,620	1,710		1,855	1,905
Group No. 2—			Group No. 8—		
No. 3. ....	875	940	No. 15. ....	850	935
No. 4. ....	975	1,015	No. 16. ....	740	820
	1,850	1,955		1,590	1,755
Group No. 3—			Group No. 9—		
No. 5. ....	910	990	No. 17. ....	720	760
No. 6. ....	850	940	No. 18. ....	1,050	1,120
	1,760	1,930		1,770	1,880
Group No. 4—			Group No. 10—		
No. 7. ....	855	905	No. 19. ....	810	855
No. 8. ....	790	830	No. 20. ....	855	910
	1,645	1,735		1,665	1,765
Group No. 5—			Group No. 11—		
No. 9. ....	800	890	No. 21. ....	675	730
No. 10. ....	800	815	No. 22. ....	605	660
	1,600	1,705		1,280	1,390
Group No. 6—					
No. 11. ....	890	980			
No. 12. ....	865	965			
	1,755	1,945			

The eleven groups of steers referred to in the adjoining tables were fed as follows:--

GROUP NO. 1.—TWO STEERS, NOS. 1 AND 2.

Bulky fodder ration No 1.—

Ensilage, 50 lbs. . . . . 1st 4 weeks, no meal.  
 Turnips, 25 lbs., . . . . . 2nd 4 weeks, no meal.  
 Hay, cut, 5 lbs. . . . . 3rd 4 weeks, 2 pounds meal per day.  
 Straw, cut, 5 lbs., . . . . . 4th 4 weeks, 6 pounds meal per day.  
 Nutritive ratio: 1st and 2nd 4 weeks, 1:10·5; 3rd 4 weeks, 1:8·9; 4th 4 weeks, 1:7·5.

GROUP NO. 2.—TWO STEERS, NOS. 3 AND 4.

Bulky fodder ration No 1.—

1st 4 weeks, no meal.  
 2nd 4 weeks, 1 lb. meal and 1 lb. cotton seed meal per day.  
 3rd 4 weeks, 2 lbs meal and 2 lbs cotton seed meal per day.  
 4th 4 weeks, 4 lbs meal and 2 lbs cotton seed meal per day.  
 Nutritive ratio: 1st 4 weeks, 1:10·5; 2nd 4 weeks, 1:6·6; 3rd 4 weeks, 1:5·2; 4th 4 weeks, 1:5·2.

GROUP NO. 3.—TWO STEERS, NOS. 5 AND 6.

Bulky fodder ration No. 2—

Ensilage, 50 lbs. . . . . 1st 4 weeks, no meal.  
 Hay, 5 lbs. . . . . 2nd 4 weeks, 2 lbs. meal per day.  
 Straw, 5 pounds. . . . . 3rd 4 weeks, 4 lbs. meal per day.  
 4th 4 weeks, 6 lbs. meal per day.  
 Nutritive ratio: 1st 4 weeks, 1:12·3; 2nd 4 weeks, 1:10·2; 3rd 4 weeks, 1:9·1; 4th 4 weeks, 1:8·3.

GROUP NO. 4.—TWO STEERS, NOS. 7 AND 8.

Bulky fodder ration No. 2—

Ensilage, 50 lbs. . . . . 1st 4 weeks, no meal.  
 Hay, 5 lbs. . . . . 2nd 4 weeks, 1 lb. meal and 1 lb. oil-cake per day.  
 Straw, 5 lbs. . . . . 3rd 4 weeks, 2 lbs. meal and 2 lbs. oil-cake per day,  
 4th 4 weeks, 4 lbs. meal and 2 lbs. oil-cake per day.  
 Nutritive ratio: 1st 4 weeks, 1:12·3; 2nd 4 weeks, 1:8·2; 3rd 4 weeks, 1:6·6; 4th 4 weeks, 1:6·4.

GROUP NO. 5.—TWO STEERS, NOS. 9 AND 10.

Bulky fodder ration No. 1—

Ensilage, 50 lbs. . . 1st 4 weeks, 2 lbs. meal and 2 lbs. bran per day.  
 Turnips, 25 lbs. . . 2nd 4 weeks, 2 lbs. meal and 2 lbs. bran per day.  
 Hay, cut, 5 lbs. . . 3rd 4 weeks, 3 lbs. meal and 3 lbs. bran per day.  
 Straw, cut, 5 lbs. . 4th 4 weeks, 4 lbs. meal and 4 lbs. bran per day.  
 Nutritive ratio: 1st and 2nd 4 weeks, 1:7·7; 3rd 4 weeks, 1:7·1; 4th 4 weeks, 1:6·7.



## Experimental Farms.

### GROUP NO. 6.—TWO STEERS, NOS. 11 AND 12.

#### Bulky fodder ration No. 1—

Corn ensilage, 50 lbs. 1st 4 weeks, 2 lbs. meal and 2 lbs. bran per day.

Turnips, 25 lbs. . . . . 2nd 4 weeks, 1 lb. meal, 1 lb. cotton seed and 2 lbs. bran per day.

Hay, 5 lbs. . . . . 3rd 4 weeks,  $1\frac{1}{2}$  lbs. meal,  $1\frac{1}{2}$  lbs. cotton seed and 3 lbs. bran per day.

Straw, 5 lbs. . . . . 4th 4 weeks, 2 lbs. meal, 2 lbs. cotton seed and 4 lbs. bran p. day.

Nutritive ratio : 1st 4 weeks, 1:8.7 ; 2nd 4 weeks, 1:6.8 ; 3rd 4 weeks, 1:5.9 ; 4th 4 weeks, 1:5.3.

### GROUP NO. 7.—TWO STEERS, NOS. 13 AND 14.

#### Bulky fodder ration No 1—

Ensilage, 50 lbs. . . . 1st 4 weeks, 2 lbs. meal and 2 lbs. bran per day.

Turnips, 25 lbs. . . . 2nd 4 weeks, 3 lbs. meal and 3 lbs. bran per day.

Hay, cut, 5 lbs. . . . 3rd 4 weeks, 4 lbs. meal and 4 lbs. bran per day.

Straw, cut, 5 lbs. . . 4th 4 weeks, 6 lbs. meal and 4 lbs. bran per day.

Nutritive ratio : 1st 4 weeks, 1:8.7 ; 2nd 4 weeks, 1:7.9 ; 3rd 4 weeks, 1:7.3 ; 4th 4 weeks, 1:7.

### GROUP NO. 8.—TWO STEERS, NOS. 15 AND 16.

#### Bulky fodder ration No. 1—

Ensilage, 50 lbs. . . . 1st 4 weeks, 2 lbs. meal and 2 lbs. bran per day.

Turnips, 25 lbs. . . . 2nd 4 weeks, 2 lbs. meal 1 lb. cotton seed and 3 lbs. bran per day.

Hay cut, 5 lbs. . . . 3rd 4 weeks, 2 lbs. meal, 2 lbs. cotton seed and 4 lbs. bran per day.

Straw, cut, 5 lbs. . . . 4th 4 weeks, 4 lbs. meal, 2 lbs. cotton seed and 4 lbs. bran per day.

Nutritive ratio : 1st 4 weeks, 1:8.7 ; 2nd 4 weeks, 1:6.4 ; 3rd 4 weeks, 1:5.3 ; 4th 4 weeks, 1:5.3.

### GROUP NO. 9.—TWO STEERS, NOS. 17 AND 18.

#### Bulky fodder ration No. 3—

Timothy hay, 20 lbs. . . 1st 4 weeks, 2 lbs. meal and 1 lb. bran per day.

Turnips, 40 lbs. . . . . 2nd 4 weeks, 1 lb. meal, 1 lb. cotton seed meal and 2 lbs. bran per day.

3rd 4 weeks,  $1\frac{1}{2}$  lbs. meal,  $1\frac{1}{2}$  lbs. cotton seed meal and 3 lbs. bran per day.

4th 4 weeks, 2 lbs. meal, 2 lbs. cotton seed meal and 4 lbs. bran per day.

Nutritive ratio : 1st 4 weeks, 1:10 ; 2nd 4 weeks, 1:7.4 ; 3rd 4 weeks, 1:6.4 ; 4th 4 weeks, 1:5.8.

### GROUP NO. 10.—TWO STEERS, NOS. 19 AND 20.

#### Bulky fodder ration No. 4—

Brome grass hay, 20 lbs. . 1st 4 weeks, 2 lbs. meal and 1 lb. bran per day.

Turnips, 40 lbs. . . . . 2nd 4 weeks, 1 lb. meal, 1 lb. cotton seed meal and 2 lbs. bran per day.

3rd 4 weeks,  $1\frac{1}{2}$  lbs. meal,  $1\frac{1}{2}$  lbs. cotton seed meal and 3 lbs. bran per day.

Fed for twelve weeks only.

The Brome grass has so nearly the same nutritive constituents as Timothy that the same figures may be taken : Nutritive ratio 1st 4 weeks, 1:10 ; 2nd 4 weeks, 1:7.4 ; 3rd 4 weeks, 1:6.4.

GROUP No. 11.—TWO STEERS, NOS. 21 AND 22.

Not on test for first half of first 4 weeks.

*Bulky fodder ration No. 1.*—Ensilage, 50 pounds ; turnips, 25 pounds ; hay, 5 pounds ; straw, 5 pounds.

The last half of first 4 weeks they also received 3 pounds of meal per day, composed of equal parts by weight of pease, barley and oats, all ground. During the remaining 12 weeks each steer received 2 pounds of cornmeal per day, with a gradually increasing quantity of a mixture composed of  $\frac{1}{4}$  ground oil-cake,  $\frac{1}{4}$  cotton seed meal and  $\frac{1}{2}$  bran, and a feed of long hay at noon.

Nutritive ratio: 1st 4 weeks, 1:9.8 ; 2nd 4 weeks, 1:8.2 ; 3rd 4 weeks, 1:7.2 ; 4th 4 weeks 1:6.8.

GROUP No. 1.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.	Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.	Lbs.	Lbs.	Cts.	8 cts.	8 cts.
1st 4 weeks—							
No. 1 .....	25.75		15	0.53	3.18	5.93	
No. 2 .....	29.21				3.60		5.93
Averages .....	27.21				3.39		
2nd 4 weeks—							
No. 1 .....	25.39		35	1.25	3.13	2.50	
No. 2 .....	32.60		35	1.25	4.02	3.21	2.85
Averages .....	28.99		35	1.25	3.57		
3rd 4 weeks—							
No. 1 .....	31.21	2	45	1.60	5.85	3.64	
No. 2 .....	36.60	2	55	1.96	6.52	3.31	3.46
Averages .....	33.90	2	50	1.78	6.18		
4th 4 weeks—							
No. 1 .....	34.39	6	77	2.75	10.24	3.72	
No. 2 .....	38.82	6	49	1.75	10.79	6.16	4.67
Averages .....	36.60	6	63	2.25	10.51		4.22

## Experimental Farms.

### GROUP No. 2.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.		Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.		Lbs.	Lbs.	Cts.	\$ cts.	\$ cts.
<b>1st 4 weeks—</b>								
No. 3.....	42·28					5·22		
No. 4.....	39·10			30	1·07	4·83	4 50	
Averages.....	40·69					5·02		
<b>2nd 4 weeks—</b>								
		Meal, C.S.						
No. 3.....	42·00	1	1	65	2·32	7·43	3 20	
No. 4.....	38·42	1	1	65	2·32	6·99	3 01	3 10
Averages.....	40·21	1	1	65	2·32	7·21		
<b>3rd 4 weeks—</b>								
No. 3.....	42·00	2	2	65	2·32	5·68	4 16	
No. 4.....	40·00	2	2	35	1·25	9·44	7 55	5·35
Averages.....	41·00	2	2	50	1·77	9·56		
<b>4th 4 weeks—</b>								
No. 3.....	43·14	4	2	34	1·21	11·82	9 73	
No. 4.....	43·07	4	2	87	3·10	11·82	3 80	5·51
Averages.....	43·10	4	2	60	2·15	11·82		4 61

### GROUP No. 3.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.		Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.		Lbs.	Lbs.	Cts.	\$ cts.	\$ cts.
<b>1st 4 weeks—</b>								
No. 5.....	29·64					3·94		
No. 6.....	28·96			10	35	3·86	10 80	
Averages.....	29·30					3·90		
<b>2nd 4 weeks—</b>								
No. 5.....	38·	2		50	1·78	7·06	3 95	
No. 6.....	35·42	2		45	1·60	6·72	4 18	4 06
Averages.....	36·71	2		47·50	1·69	6·89		
<b>3rd 4 weeks</b>								
No. 5.....	38·60	4		55	1·96	9·14	4 65	
No. 6.....	37·67	4		50	1·78	9·02	5 05	4 84
Averages.....	38·13	4		52·50	1·87	9·08		
<b>4th 4 weeks—</b>								
No. 5.....	43·35	6		62	2·21	11·78	5 32	
No. 6.....	38·57	6		34	1·21	11·14	9 17	6 68
Averages.....	40·96	6		48	1·71	11·46		6 59

GROUP NO. 4.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.	Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.	Lbs.	Lbs.	Cts.	§ cts.	§ cts.
1st 4 weeks—							
No. 7.....	29 57		35	1 25	3 94	3 15	
No. 8.....	19 32				2 57		
Averages.....	24 44				3 25		
2nd 4 weeks—		Meal, O.C.					
No. 7.....	33 50	1   1	60	2 14	6 98	3 25	
No. 8.....	27 21	1   1	60	2 14	5 87	2 73	2 99
Averages.....	30 35	1   1	60	2 14	6 42		
3rd 4 weeks—							
No. 7.....	36 00	2   2	25	89	9 30	10 41	
No. 8.....	29 14	2   2	45	1 60	8 38	5 21	7 07
Averages.....	32 57	2   2	35	1 24	8 84		
4th 4 weeks—							
No. 7.....	37 67	4   2	52	1 85	11 52	6 20	
No. 8.....	32 64	4   2	50	1 78	10 85	6 07	6 13
Averages.....	35 15	4   2	51	1 81	11 18		4 83

GROUP NO. 5.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.	Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.	Lbs.	Lbs.	Cts.	§ cts.	§ cts.
1st 4 weeks—		Meal Bran					
No. 9.....	28 07	2   2	35	1 25	6 46	5 16	
No. 10.....	28 03	2   2	20	0 71	6 46	9 04	6 57
Averages.....	28 05	2   2	27 50	0 98	6 46		
2nd 4 weeks—							
No. 9.....	32 42	2   2	50	1 78	7 00	3 92	
No. 10.....	34 39	2   2	55	1 96	7 24	3 68	3 79
Averages.....	33 40	2   2	52 50	1 87	7 12		
3rd 4 weeks—							
No. 9.....	36 57	3   3	25	0 89	9 01	10 09	
No. 10.....	39 64	3   3	20	0 71	9 39	13 14	11 44
Averages.....	38 10	3   3	22 50	0 80	9 20		
4th 4 weeks—							
No. 9.....	38 82	4   4	78	2 82	10 91	3 86	
No. 10.....	39 17	4   4	55	1 96	10 83	5 51	4 54
Averages.....	39 49	4   4	67	2 39	10 87		6 58

## Experimental Farms.

### GROUP NO. 6.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.			Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs of increase.	Average cost per 100 lbs. for Group.
		Lbs.							
		Meal.	C.	Bran.					
1st 4 weeks—									
No. 11.....	41·92	2	0	2	40	1·42	8·17	5·71	
No. 12.....	41·00	2	0	2	60	2·14	8·13	4·56	
Averages.....	41·76	2	0	2	50	1·78	8·15		
2nd 4 weeks—									
No. 11.....	42·00	1	1	2	80	2·85	8·43	2·95	
No. 12.....	42·00	1	1	2	55	1·96	8·43	3·49	
Averages.....	42·00	1	1	2	67·50	2·40	8·43		
3rd 4 weeks—									
No. 11.....	42·35	1½	1½	3	85	3·03	10·10	3·32	
No. 12.....	42·35	1½	1½	3	55	1·96	10·10	5·14	
Averages.....	42·35	1½	1½	3	70	2·49	10·10	4·04	
4th 4 weeks—									
No. 11.....	43·78	2	2	4	12	0·42	11·90	27·76	
No. 12.....	43·78	2	2	4	49	1·75	11·90	6·80	
Averages.....	43·78	2	2	4	30·50	1·08	11·90	5·75	

### GROUP NO. 7.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.		Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
		Lbs.						
		Meal	Bran					
1st 4 weeks—								
No. 13.....	43·21	2	2	20	0·71	8·33	11·66	
No. 14.....	21·50	2	2			5·65		
Averages.....	32·35	2	2			6·99		
2nd 4 weeks—								
No. 13.....	42·00	3	3	90	3·21	9·68	3·01	
No. 14.....	39·14	3	3	105	3·76	9·33	2·48	2·70
Averages.....	40·57	3	3	97·50	3·48	9·50		
3rd 4 weeks—								
No. 13.....	42·35	4	4	20	·71	11·25	15·72	
No. 14.....	39·82	4	4	75	2·67	10·91	4·07	6·52
Averages.....	41·08	4	4	47·50	1·69	11·07		
4th 4 weeks—								
No. 13.....	43·78	6	4	86	3·07	13·40	4·36	
No. 14.....	42·53	6	4	57	2·03	13·25	6·56	5·24
Averages.....	43·15	6	4	71·50	2·55	13·32		6·53

GROUP NO. 8.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.			Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.			Lbs.	Lbs.	Cts.	¢ cts.	¢ cts.
		Meal.	C.	Bran.					
1st 4 weeks—									
No. 15.....	28 50	2	2	2	40	1 42	6 52	4 56	
No. 16.....	26 71	2	2	2	40	1 42	6 29	4 40	4 48
Averages.....	27 60	2	2	2	40	1 42	6 40		
2nd 4 weeks—									
No. 15.....	34	2	1	3	65	2 32	8 92	3 85	
No. 16.....	28 64	2	1	3	75	2 67	8 28	3 09	3 44
Averages.....	31 32	2	1	3	70	2 49	8 61		
3rd 4 weeks—									
No. 15.....	37 35	2	2	4	40	1 42	11 11	7 77	
No. 16.....	34 32	2	2	4	50	1 78	10 33	6 06	6 82
Averages.....	35 83	2	2	4	45	1 60	10 97		
4th 4 weeks—									
No. 15.....	36 60	4	2	4	44	1 57	13 02	8 28	
No. 16.....	37 85	4	2	4	45	1 60	13 17	8 19	8 23
Averages.....	37 22	4	2	4	44 50	1 58	13 09		5 74

GROUP NO. 9.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.	Meal per day.			Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100 lbs. of increase.	Average cost per 100 lbs. for Group.
	Lbs.	Lbs.			Lbs.	Lbs.	Cts.	¢ cts.	¢ cts.
		Meal.	C.	Bran.					
1st 4 weeks—									
No. 17.....	28 00	2	1	1	45	1 60	8 10	5 04	
No. 18.....	38 50	2	1	1	45	1 60	10 20	6 34	5 69
Averages.....	33 25	2	1	1	45	1 60	9 15		
2nd 4 weeks—									
No. 17.....	29 96	1	1	2	35	1 25	9 24	7 39	
No. 18.....	40 00	1	1	2	50	1 78	11 25	6 30	6 74
Averages.....	34 98	1	1	2	42 50	1 51	10 24		
3rd 4 weeks—									
No. 17.....	35 53	1½	1½	3	50	1 78	11 97	6 70	
No. 18.....	38 07	1½	1½	3	35	1 25	12 48	9 98	8 05
Averages.....	36 80	1½	1½	3	42 50	1 51	12 22		
4th 4 weeks—									
No. 17.....	32 78	2	2	4	42	1 50	13 05	8 70	
No. 18.....	37 67	2	2	4	74	2 64	14 03	8 30	6 53
Averages.....	35 22	2	2	4	58	2 07	13 54		6 75

## Experimental Farms.

### GROUP NO. 10.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.		Meal per day.			Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100lbs. of increase.	Average cost per 100lbs. for Group.
	Lbs.		Lbs.			Lbs.	Lbs.	Cts.	\$ cts	\$ cts.
1st 4 weeks—										
No. 19 .....	32·57		12	1		55	1·96	9·01	4 58	
No. 20 .....	32·64		2	1		45	1·60	9·02	5 61	5 04
Averages .....	32·60		2	1		50	1·78	9·01		
2nd 4 weeks—										
No. 19 .....	32·53		1	1	2	15	·53	9·75	18 20	
No. 20 .....	34·00		1	1	2	55	1·96	10·05	5 12	7 92
Averages .....	33·26		1	1	2	35	1·24	9·90		
3rd 4 weeks—										
No. 19 .....	35·85		1½	1½	3	50	1·78	12·04	6 74	
No. 20 .....	35·89		1½	1½	3	25	·89	12·04	13 48	8 98
Averages .....	35·87		1½	1½	3	37·50	1·33	12·04		7 31

### GROUP NO. 11.—TWO STEERS, FED AS FOLLOWS :

Steer.	Fodder consumed per day.		Meal per day.		Total increase in Weight.	Increase in Weight per day.	Cost per day.	Cost per 100lbs. of increase.	Average cost per 100lbs. for Group.
	Lbs.	Hay	Lbs.		Lbs.	Lbs.	Cts.	\$ cts.	\$ cts.
Last half of 1st 4 weeks—									
No. 21 .....	22·14	3		3	20	1·42	6·93	4 85	
No. 22 .....	22·14	3		3	30	2·14	6·93	3 23	3 88
Averages .....	22·14	3		3	25	1·78	6·93		
2nd 4 weeks—									
No. 21 .....	25·92	3·42	Corn Meal.	Mix'd Meal.	20	·71	8·30	11 62	
No. 22 .....	25·92	3·42	2	2	60	2·13	8·30	3 87	5 81
Averages .....	25·92	3·42	2	2	40	1·42	8·30		
3rd 4 weeks—									
No. 21 .....	28·57	4	2	3	80	2 85	9·73	3 40	
No. 22 .....	28·57	4	2	3	40	1·42	9·73	6 81	4 54
Averages .....	28·57	4	2	3	60	2·13	9·73		
4th 4 weeks—									
No. 21 .....	29·03	4	2	3·50	42	1·50	10·22	6 81	
No. 22 .....	29·03	4	2	3·50	60	2·13	10·22	4 76	5 61
Averages .....	29·03	4	2	3·50	51	1·81	10·22		4 96

The foregoing experiments show the following results :—

Group No. 1.	Total gain per Steer.	Average cost per day per Steer.	Cost per 100 lbs. of increase per Group.
	Lbs.	Cents.	8 cts.
" 2.	155½	5 91	4 22
" 3.	188	8 40	4 61
" 4.	140½	7 85	6 59
" 5.	163½	7 42	4 83
" 6.	169½	8 41	6 58
" 7.	218	9 65	5 75
" 8.	216½	10 22	6 53
" 9.	199½	9 77	5 74
" 10, fed for twelve weeks only	188	11 29	6 75
" 11.	122½	10 32	7 31
	198½	8 80	4 96

From the above it will be seen that the best results have been had from the rations fed to groups 1, 2, 4 and 11.

#### EXPERIMENTS IN THE FATTENING OF SWINE.

Experiments in the fattening of swine have been continued during the past year. These experiments have been conducted at intervals since 1890, using different rations from year to year for the purpose of gaining information regarding the best methods of producing pork of the highest quality and at the least cost. Particulars are submitted as to the different sorts of food used, the quantities consumed and the increase in live weight of the animals under test.

##### THE FEEDING OF SWINE WITH A MIXTURE OF WHOLE GRAIN, DRY.

Lot 24.—This pen contained four cross-bred swine, two Poland China sire, with Tamworth dam, farrowed 7th April, 1898, one Tamworth sire and Chester White dam, farrowed 1st April, 1898, and one Poland China sire and Yorkshire dam, farrowed 31st March, 1898. These were fed entirely on a mixture of equal parts of unground oats, barley and pease and half a part of bran. The food was all used dry, but the swine had all the water they required in a separate trough; as much food was given them as they would eat up clean. This feeding test was begun on the 20th July, 1898, and continued for fourteen weeks, or until the 26th of October. The pigs were weighed every two weeks, and the increase in weight and the quantity of food consumed during each four weeks are given in the accompanying tables.

No. of Swine, Four.	20th July.	17th August.	14th September.	12th October.	26th October.	Totals.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Total live weight	270	364	490	656	702	
Increase in weight		94	126	156	46	432
Feed consumed		330	542	624	270	1,766
" " per lb. of increase		3 51	4 30	3 75	5 86	4 08

Nutritive ratio of mixture fed, 1:4:7.



## Experimental Farms.

The average live weight of each pig when this feeding test was begun was  $67\frac{1}{2}$  pounds ; the average weight at the conclusion of the experiment was  $175\frac{1}{2}$  pounds.

### THE FEEDING OF SWINE WITH A MIXTURE OF WHOLE GRAIN, SOAKED.

Lot 25.—This pen contained four cross-bred swine, two Poland China sire and Tamworth dam, farrowed 7th April, 1898, one Tamworth sire and Chester White dam, farrowed 1st April, 1898, and one Poland China sire and Yorkshire dam, farrowed 31st March, 1898. These were fed for the full period of fourteen weeks on a mixture of equal parts of unground oats, barley and pease, with half a part of bran, all soaked on an average for 30 hours in cold water. They received as much of the mixture as they would eat up clean.

Number of Swine, Four.	20th July.	17th August.	14th September	12th October.	26th October.	Totals.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Total live weight . . . . .	263	357	494	638	685	. . . . .
Increase in weight . . . . .		94	137	144	47	422
Feed consumed . . . . .		345	519	566	208	1,638
" per pound of increase . . . . .		3.67	3.78	3.93	4.42	3.88

Nutritive ratio of mixture fed, 1:4.7.

The average live weight of each pig in this group when the test was begun was  $65\frac{3}{4}$  pounds ; the average weight at the conclusion of the experiment was  $171\frac{1}{4}$  pounds.

### THE FEEDING OF SWINE WITH A MIXTURE OF GROUND GRAIN, DRY.

Lot 26.—This pen contained four cross-bred swine, two Poland China sire and Yorkshire dam, farrowed 31st March, 1898, one Tamworth sire and Chester White dam, farrowed 1st April, 1898, and one Poland China sire and Tamworth dam, farrowed 7th April, 1898. These were fed for the full period of fourteen weeks on a mixture of equal parts of ground oats, barley and pease, with half a part of bran, all fed dry. As much food was given to them as they would eat up clean, and they had all the water they required in a separate trough.

No. of Swine, Four.	20th July.	17th August.	14th September	12th October.	26th October.	Totals.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Total live weight . . . . .	275	400	554	716	780	. . . . .
Increase in weight . . . . .		125	154	162	64	505
Feed consumed . . . . .		365	550	598	287	1,800
" per pound of increase . . . . .		2.92	3.57	3.69	4.48	3.56

Nutritive ratio of mixture fed, 1:4.7.

The average live weight of each pig in this group when the test was begun was  $68\frac{3}{4}$  pounds ; the average weight at the conclusion of the experiment was 195 pounds.

### THE FEEDING OF SWINE WITH A MIXTURE OF GROUND GRAIN, SOAKED.

Lot 27.—This pen contained four cross-bred swine, two Poland China sire and Tamworth dam, farrowed 7th April, 1898, one Tamworth sire and Chester White dam, farrowed 1st April, 1898, and one Poland China sire and Yorkshire dam farrowed 31st March, 1898. These were fed for the full period of fourteen weeks on a mixture of

equal parts of ground oats, barley and pease, with half a part of bran, all soaked on an average for 30 hours in cold water. They received as much of the mixture as they would eat up clean.

No. of Swine, Four.	20th July.	17th August.	14th September	12th October.	26th October.	Totals.
Total live weight	Lbs. 266	Lbs. 381	Lbs. 524	Lbs. 711	Lbs. 762	Lbs.
Increase in weight		115	143	187	51	496
Feed consumed		411	536	637	283	1,867
" per pound of increase		3.57	3.74	3.40	5.54	3.76

Nutritive ratio of mixture fed, 1:4.7.

The average live weight of each pig in this group when the test was begun was 66½ pounds; the average weight at the conclusion of the experiment was 190½ pounds.

ON THE FEEDING OF SWINE ON A MIXTURE OF GROUND GRAIN, SOAKED, WITH CLOVER ADDED.

Lot 28.—This pen contained four cross-bred swine, one Poland China sire and Tamworth dam farrowed 7th April, 1898, one Tamworth sire and Chester White dam farrowed 1st April, 1898, one Poland China sire and Yorkshire dam farrowed 31st March, 1898, and one Tamworth farrowed 12th April, 1898. These were fed for the full period of fourteen weeks on a mixture of equal parts of ground oats, barley and pease, with half a part of bran, and cut clover added in sufficient quantity to make a mixture of three parts of meal to one part of clover by weight. The mixed meal and clover was soaked on an average for 30 hours in cold water, and the pigs were given as much of the mixture as they would eat up clean.

Number of Swine, Four.	20th July.	17th August.	14th September	12th October.	26th October.	Totals.
Total live weight	Lbs. 273	Lbs. 320	Lbs. 402	Lbs. 500	Lbs. 547	Lbs.
Increase in weight		47	82	98	47	274
Feed consumed, meal		201	283½	345	159	988½
" clover		67	94½	115	53	329½
" per pound of increase, meal		4.27	3.45	3.52	3.38	3.60
" per pound of increase, clover		1.42	1.15	1.17	1.12	1.20

Nutritive ratio of mixture fed, 1:4.9.

The average live weight of each pig in this group when the test was begun was 68½ pounds; the average weight at the conclusion of the experiment was 136¾ pounds.

VISITS TO THE BRANCH EXPERIMENTAL FARMS.

NAPPAN, NOVA SCOTIA.

A visit was paid to the Experimental Farm for the Maritime Provinces at Nappan, N. S., during the second week in July. The various branches of work at this farm were making fair progress, and although seeding had been so very late that crops were necessarily backward, they nevertheless looked healthy and vigorous and promised well.

## Experimental Farms.

The stock was found in good order, the dairy herd much improved and the cows giving a good supply of milk, which was proving a great assistance to the Government Dairy Station near by. Some additions to the buildings were needed, and these have since been made. Arrangements were also effected at the time of my visit for a good supply of excellent water from a spring found at the rear end of the farm. A reservoir has since been constructed near the source of the spring and pipes laid to the barn and dwellings, which will supply an abundance of good water which has long been needed.

In the horticultural division of the work the fruit trees had for the most part wintered well, and many of those in the orchards were bearing fruit. A large number of small fruits and vegetables were under test and most of the ornamental trees, shrubs and hedges were making satisfactory progress. The flowers, both perennial and annual were making a very attractive display.

### BRANDON, MANITOBA.

The annual journey of inspection westward was made in August. The crops at the Brandon experimental farm, notwithstanding the very dry weather in the spring, were very good. The various sorts of wheat under test there averaged about 30 bushels per acre, barley from 40 to 50 bushels, and many of the varieties of oats being tested in experimental plots exceeded 100 bushels per acre. This farm was in good order, the land had been carefully prepared and the weeds were kept well under. The corn and root crops also promised well, and the yield of potatoes was unusually good.

The forest belts, avenues and ornamental trees and shrubs are all making good progress, and add very much to the attractiveness of the farm and furnish much useful shelter. The stock also was found to be in good condition and satisfactory progress in this branch of the work had been made. Some of the small fruits had given fair crops and quite a number of wild plum trees were found fruiting. The large collection of trees and shrubs and ornamental hedges, which have been planted about the Superintendent's residence, associated with large beds of annual and perennial flowers, now forms a very attractive feature at this farm and receives much attention from visitors.

### INDIAN HEAD, N. W. T.

Although this district had suffered much from dry weather in the spring, the copious rains which fell late in June had brought the crops along at a marvellous rate of growth so that by harvest time the fields were as heavy with grain as I had ever seen them. Oats were scarcely so heavy as at Brandon, but the best yielders ran from 70 to 80 bushels per acre. Barley also was a good crop, much like that at Brandon, most of the varieties ranging from 40 to 55 bushels per acre, while the wheat was a heavier yield than at Brandon, many fields giving from 35 to 40 bushels per acre. These good crops have again prevailed over the greater part of that fertile district and in every instance where the land has been well prepared the labours of the husbandman have been amply rewarded.

The large plantations of forest trees, the avenues and wind breaks of various sorts in which there have now been planted over 100,000 trees are making excellent progress, and have made this once bare prairie farm a veritable garden spot on the plains, adding greatly to the beauty of the farm and at the same time affording shelter for buildings, stock and crops.

Continued success attends the experiments with Brome grass, some of the fields at the time of my visit affording excellent pasture. Owing to the very dry spring and the fact of this being a very early grass, the crops both of hay and seed were much lighter than usual. In spite of these drawbacks some of the newer fields did very well. The cultivation of this grass is spreading with great rapidity and it is proving a boon to the settlers everywhere.

The stock, buildings and crops on this farm were all found in good condition and gave evidence of constant and thoughtful care.

AGASSIZ, B.C.

The grain crops at the experimental farm for British Columbia were found to be very fair. Spring wheat ranged from 20 to 25 bushels per acre, oats from 50 to 75 and barley from 30 to 40 bushels. Indian corn has done very well and has given from 20 to 35 tons of well matured fodder per acre, while the crops of field roots and potatoes have been unusually large. The orchards had made very satisfactory growth and many of the younger apple trees were bearing heavily while many older trees were giving light crops. Pears were only a fair crop but included some new sorts of much promise. Plums produced most abundantly and a large quantity was being marketed at the time of my visit. Many of the new sorts were also fruiting. Some very fine varieties of peaches were produced, but the crop of this fruit was light. Many additions have been made to the plantations of small fruits, and also to the number of large fruits under trial.

An additional area of land has been cleared and brought under cultivation. The forest trees, hedges and ornamental trees and shrubs, had all made satisfactory growth, and the general appearance of the farm and the condition of the buildings and stock all indicated careful management.

## CHANGES IN THE STAFF.

The only change made during the past year has been the appointment of Mr. W. T. Macoun, formerly the Director's Assistant and Foreman of Forestry, to the position of Horticulturist, occupied until recently by Mr. John Craig.

## CORRESPONDENCE.

The following is a summary of the letters received and sent out at the Central Experimental Farm, from 30th November, 1897, to 30th November, 1898, also of the number of reports, bulletins and circulars forwarded by mail during the same period.

	Letters Received.	Letters Sent.
Director and Acting Agriculturist .....	49,899	16,425
Horticulturist .....	690	1,073
Chemist .....	1,298	1,904
Entomologist and Botanist .....	2,331	2,506
Poultry Manager .....	1,583	1,429
Accountant .....	1,403	1,810
Totals .....	57,204	25,147

Circular letters sent, including circulars sent with samples of seed grain, 152,351.  
Number of reports and bulletins mailed, 214,532.

The volume of correspondence received during the past year has been larger than in any previous year. Much of the increase, however, in letters received by the Director and in circular letters mailed was due to a revision of the mailing list made during the year.

# Experimental Farms.

## ACKNOWLEDGMENTS.

Grateful acknowledgments are due to the Director of the Royal Gardens, Kew, England, for another useful and valuable collection of seeds of trees, shrubs and plants obtained from different countries. Many packages of the seeds of rare and promising varieties have also been received from the Director of the Arnold Arboretum, Jamaica Plains, Mass. Collections of seeds have also been received from the Agricultural Department of the Government of India. To Prof. John Macoun, Naturalist of the Geological and Natural History Survey, and to Mr. J. M. Macoun, Assistant Naturalist, my hearty thanks are due for seeds of some rare species collected in different parts of the Dominion.

I take pleasure also in acknowledging the continuance of the faithful services rendered by all the officers at the central and branch experimental farms and for their earnest co-operation in carrying on the many lines of experimental work which have been planned.

Special acknowledgments are due to those members of the staff who have rendered me much efficient help in carrying on those branches of the work of which I have had the personal charge. To the Farm Foreman, Mr. John Fixter, who has carefully managed and watched over the field experiments and taken notes on the crops at different stages in their growth. To Mr. Harry Fixter, who has had charge of all the uniform test plots of cereals, also of the small plots of newly introduced varieties, including new cross-bred and hybrid sorts, and has taken records of the growth and yield of all the varieties tested. I am also indebted to him for his careful management of the work in connection with the distribution of samples of seed grain. From Mr. R. R. Elliot, Herdsman, I have also received much valued assistance. He has carefully carried out the work planned in connection with the experiments conducted in the feeding of cattle and swine and has taken notes on the results. Accurate work has also been done by Mr. Wm. Ellis in testing the vitality of seeds, in the propagation of many useful and ornamental plants, and the taking of the meteorological records. The employees also of the farms in every branch of the work have discharged their respective duties faithfully and well.

WM. SAUNDERS,  
*Director Experimental Farms.*



## Experimental Farms.

# REPORT OF THE HORTICULTURIST.

(W. T. MACOUN.)

DR. WM. SAUNDERS,  
Director, Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit for your approval my first annual report as Horticulturist to the Central Experimental Farm. In this report it has been my endeavour to present only such results and features of the work of my department as I consider will be the most valuable to the farmers and fruit growers of Canada, as it is quite impossible in the limited space at my disposal to take up in detail all branches of the work carried on this year.

### CHARACTER OF SEASON.

Last winter was not a hard one on trees, shrubs and plants, and the losses and injuries from winter-killing were not great. There was an abundant snowfall, which afforded good protection and prevented the alternate thawing and freezing of the ground, which caused such injury to the fruit trees during the winters of 1895-96 and 1896-97. The spring was an early one, being 10 days earlier than 1897, on the 15th of April; about 7 days earlier on the 1st of May; and about 7 days earlier on the 1st of June. The frost was out of the ground sufficiently to use the spade on the 12th of April. Nearly all of April was mild, the weather getting cooler, however, towards the close of the month, and on the 19th the temperature went down to 6 degrees below freezing. May and June were warm and little rain fell during those months. There was frost on the 5th and 6th of May, but little injury was done to vegetation. Most of July was dry and hot, but on the 10th the temperature fell to the freezing point in low spots, but did not do any noticeable injury to the fruits and vegetables. August and September were, for the most part, warm and dry, but towards the end of the latter month there were welcome rains, which were much needed, as the season on the whole was very dry. Since that time there has been plenty of rain. The first severe frosts occurred on the 7th and 10th of October, killing the leaves of the grape vines, the cannas, and most of the annuals.

Winter set in on the 26th of November.

### FRUIT CROP.

Early apples were a good crop, but some of the winter varieties, though of better size than many of the summer and fall sorts, did not bear heavily this year. There was an abundant crop of both plums and cherries, which were of good quality. Owing to the long, dry, warm fall, the grapes ripened very well this year—130 varieties reaching maturity—and there was an average crop of good fruit. Currants for the most part yielded well, but the English gooseberries were again so badly affected with mildew that there was scarcely any good fruit on the bushes. The American varieties produced good crops, especially the seedlings. A large quantity of gooseberries was destroyed by sunscald this year, owing to the bright, hot weather when they were approaching maturity. This scald was at its worst about the 7th of July. There was only a fair crop of strawberries, owing to the hot weather shortening the season considerably, and the blossoms not being properly fertilized. There were no raspberries of any account, as the plantation is young, but the crop was only fair in this vicinity.

## PROGRESS OF THE WORK.

Since my appointment to the position of Horticulturist, in April last, I have tried to master as many details of the work that I was not hitherto familiar with as time would permit, and have continued the work of testing varieties of fruits and vegetables, taking such notes on the same as were likely to be most valuable.

During the summer especial study was made of the Russian apples, of which there are a large number growing in the orchards. It is unfortunate that so much confusion exists in regard to the nomenclature of these fruits, as it is very difficult to determine when a variety is correctly named. The number of names could be reduced considerably with profit, for as many as four synonyms have been found of one variety.

The thorough spraying of the orchards, small fruit plantations and vineyard were also carefully conducted, to prevent the ravages of insect enemies and fungous diseases.

Measurements have again been taken of selected trees in the forest belts, of which the annual growth of the past seven years has been recorded.

Notes were taken, as formerly, on the hardiness, vigour and other characteristics of the trees, shrubs and plants in the Arboretum, and 345 trees and shrubs added to the collection. The labelling of the specimens in the Arboretum has been continued, and more than 500 plants were collected and dried for a herbarium of the Arboretum and Botanic garden.

This autumn, 500 trees, raised from seed of *Pyrus baccata*, hybridized with the larger varieties of apples, were planted in the orchard along its northern boundary. There were also planted at this time 104 shrubs, produced from seed of *Pyrus Maulei* hybridized with *Pyrus japonica*.

All of these hybrids were originated by Dr. C. E. Saunders, or by the Director.

There was also planted along the northern and part of the western boundary, a row of Norway spruce trees for the purpose of forming a wind-break. These trees were planted five feet apart in the row, it being the intention to cut out each alternate one, if deemed necessary, later on. In all, 382 of these trees were planted.

The following is a summary of the approximate number of species and varieties of fruits, vegetables and ornamental trees and shrubs tested at the Experimental Farm this year, which will give some idea of the labour, care and forethought required to carry on the work with accuracy and success:—

Apples . . . . .	653	Vegetables . . . . .	1,000
Pears . . . . .	69	Tobacco . . . . .	35
Plums . . . . .	130	Ornamental trees and	
Cherries . . . . .	50	shrubs . . . . .	2,700
Grapes . . . . .	169	Perennial flowers . . . . .	1,200
Currants . . . . .	80	Gooseberries . . . . .	154
Raspberries . . . . .	128	Strawberries . . . . .	290

Making in all a total of about 6,658 species and varieties under test this year.

The correspondence connected with this division has been considerable, but replies were given as promptly and as satisfactorily as possible. A large number of samples of seedling apples were sent in for examination, the results of which were reported to the sender and opinions given as to their merits.

## ACKNOWLEDGMENTS.

To those who have assisted me in naming fruits, identifying diseases of plants, recording the blossoming periods of fruits, and giving me other information sought, I beg to convey my sincere thanks. Among such I would especially mention:—Mr. R. Brodie, St. Henri de Montreal; Mr. W. H. Dempsey, Trenton, Ont.; Mr. R. Hamilton, Grenville, Que.; Mr. R. W. Shepherd, Como, Que.; Mr. W. W. Dunlop, Outremont, Que.; Mr. Dearness, London, Ont., and Dr. B. D. Halsted, New Brunswick, N.J., U.S.



## Experimental Farms.

My secretary, Mr. J. F. Watson, on account of his familiarity with the records of this division, has been of great assistance to me. I beg also to testify to the zeal of Mr. H. Holz, the foreman of this division, who has endeavoured to keep everything in first class condition and to carry out the work which was planned.

### DONATIONS.

The following donations were received during the year, which I beg to acknowledge with thanks:—

Sender.	Donation.
Anderson, J. R., Dept. Agr., Victoria.....	Roots of <i>Arctostaphylos media</i> .
Arnold Arboretum, Boston, U.S.A.....	Seeds of trees and shrubs.
Buzzell, Miron, Cherry River, Que.....	Champion of the Earlies potato.
Beach, Prof. S. A., Geneva, N. Y.....	Seeds of shrubs.
Bergeron, B., Sherbrooke, Que.....	White Giant, Rose of Erin and Pink Eye potatoes.
Bennett, Maurice, Ottawa, Ont.....	Scions of Pomme Royale apple.
Black, R. J., Bremen, Ohio.....	Scions of Wells apple.
Burpee, Atlee, Philadelphia, U.S.A.....	Seeds of new varieties of flowers and vegetables.
Burpee, Mr., Gibson, N.S.....	Scions of Mudpig apple.
Botanic Gardens, Belgrade, Servia.....	Seeds of trees, shrubs and perennials.
Botanic Gardens, Lausanne, Switzerland..	79 packages of seeds of perennials.
Bulley, A. K., West Kirby, Cheshire, England	Seeds of perennials.
Craig, Wm., Maritana, Que.....	Scions of Guerin apple.
Doherty, G. A., Leamington, Ont.....	Seedling potato.
Darling, J. K., Almonte, Ont.....	Samples of potatoes and Craig seedling potato.
Faraho, J. P., Wetaskiwin, N.W.T.....	Seeds of <i>Prunus domestica besterciensis</i>
French, G., Melbourne, Australia.....	Seeds of economic plants.
Gilchrist, A., Toronto, Ont.....	Plants of Hybrid roses.
Girdwood, Mrs., St. Anne de Bellevue, Que.....	Roots and cuttings of climbing plants, greenhouse plants.
Graves, W. J., Perry, Ohio, U.S.A.....	Two trees of Graves peach.
Hamilton, R., Grenville, P.Q.....	Scions of Amtmann, St. Peter, Flat Aport and seedling apples.
Hobron, Rev. H. E., Yatung, Tibet.....	115 packages of seeds of trees, shrubs, and perennials.
Hutt, Prof. H. L., Guelph, Ont.....	Currant cuttings.
Jephson, Mrs. S. Nenagh, Ont.....	Scions of seedling pear.
Kew, Royal Gardens, England.....	150 packages of seeds of trees, shrubs and perennial plants.
LaGace, Jules, St. Hilaire, P.Q.....	Apple scions.
Leef, W. H., Orillia, Ont.....	Scions of red and yellow seedling plums.
McIntosh, A., Dundela, Ont.....	Three trees of McIntosh Sweet apple.
Macoun, Prof. J., Geological Survey.....	Seeds of Western plants.
McCurdy, M., Burlington, U.S.A.....	Purple potato.
Marsh, H. C., Muncie, Ind., U.S.A.....	Early Andes, Early Dawn potatoes.
Marsh, J. D., Mille Roches, Ont.....	Scions of seedling apple.
Meany, E. S., Seattle, Wash., U.S.A.....	Seeds of Western trees, shrubs, and plants.
Perron, A., St. Hilarion, Que.....	No. 1 and No. 2 potatoes.
Stephens, C. L., Orillia, Ont.....	Seedling plum tree.
Spramoter Co., London, Ont.....	Spray pump.
Whyte, R. B., Ottawa, Ont.....	Currants, raspberries, perennials.
Washington, Dept. of Agr., U.S.A.....	Young trees and shrubs; scions and cuttings; seed of Russian cherries.
Yeisley, Chas., Lisbon, Iowa, U.S.A.....	Grape scions.

I have the honour to be, Sir,

Your obedient servant,

W. T. MACOUN,

*Horticulturist.*

HISTORY OF RUSSIAN FRUITS AS GROWN AT THE CENTRAL  
EXPERIMENTAL FARM, 1888-1898.

As much time as possible was devoted, this season, to the study of the Russian fruits growing on the Farm, for the purpose of determining those varieties which were succeeding best and those which were of the best quality; and also of ascertaining which of the so-called varieties were synonyms. The history of these fruits up to the present time as grown at the Central Experimental Farm has also been worked up as far as possible, partly from the reports of the late horticulturist, partly from other data regarding them, and partly from the trees as they now stand in the orchards. The results of this work are here given.

A large number of Russian fruits have now been tested for ten years at the Central Experimental Farm. In the year 1888 there were planted in the orchards here 133 supposed varieties of apples, 28 of pears, 8 of plums, and 38 of cherries. Since that time, others have been added at intervals, and notwithstanding those which have been winter-killed, there are now about 160 supposed varieties of apples in the orchard, 18 of pears, 28 of cherries, and 7 of plums. A few of the apple trees planted in 1888 fruited in 1890. The trees did well and made vigorous growth up to the year 1892, when blight appeared in the pear orchard and continued to spread throughout that summer and autumn, notwithstanding all efforts to hold it in check. All the Russian varieties of pears were affected, 25 trees being killed to the ground. The apples were also affected that year, though not so seriously. In 1893 the disease appeared earlier in the season and committed great ravages, both among the apples and the pears. Many apple trees were reduced to stubs, while the pears were still more badly injured than in 1892. This left these orchards in a very dilapidated condition. Some trees had died altogether, others were reduced to stumps, and again others, which had large diseased limbs sawn off, had lost their symmetry. The trees were not so much affected in 1894 and 1895, but owing to the severity of the winter of 1895-96 a large number were root killed; the last of the pear trees originally planted going at that time. Further injury from root killing occurred in the winter of 1896-97. During the past two seasons, most of the apples and pears which have been replaced, made good growth, and some of the apple trees which were badly affected by blight are regaining symmetrical proportions. Out of about 288 apple trees planted in 1888, there are now 149 trees living, 139 having died, of which 104 died in the spring of 1896, 27 in the spring of 1897, and 8 this year.

The cherries did well at first, beginning to fruit in 1890. In 1895 a very fine crop was produced, but during the following winter nearly all of the trees were root killed. This was owing, in a large measure, to their being grafted on tender stocks. Since that time they have been propagated to some extent on Bird Cherry (*Prunus pennsylvanica*) stock. Some trees propagated on this stock in 1891 continue to do well. An exception to the almost general winter killing of the cherries in 1895-96, was the Koslov Morello, sent out by the Ontario Fruit Growers' Association in 1890. Out of 24 trees, only 5 died from the effects of that winter. These cherries are, however, on their own roots.

The Russian plums planted in 1888 have all been winter killed with the exception of two trees, Early Red and Voronesh No. 102, and these two trees are not very healthy. Other varieties have been planted of late years, and some of these are doing fairly well.

RUSSIAN FRUITS, 1898.

Last winter was not a hard one on trees and there were scarcely any losses. Most of the trees in the Russian apple orchard, which were old enough, produced a good crop of fruit this year. Owing to the extremely hot dry weather, the summer apples, to which class nearly all the Russian varieties belong, dropped very badly. The trees on the whole made fair growth, No blight was noticed. About 50 varieties among those planted in 1888 and 1890 look thrifty, but some of these are evidently synonyms, which would reduce this number somewhat.

## Experimental Farms.

Of the varieties which fruited this year, the following seem to be the most promising :—

**Livland Raspberry (Melonen).** There seems to be no difference between these apples as grown at the Experimental Farm from observations made this year. Tree upright, fairly vigorous ; fruit medium size, roundish conical ; skin pale yellow, well splashed and washed with bright red ; flesh white, tinged with pink near skin, firm, crisp, juicy, sub-acid, pleasant flavour ; good quality. Ripe 3rd August.

**Switzer :** The Switzer grown at the Experimental Farm does not colour so highly as that grown by Mr. R. W. Shepherd, of Como, P.Q., fruit of which was examined during the summer. Tree moderately upright, fairly vigorous ; fruit medium size, oblate ; skin, pale green, almost white, splashed and streaked with bright red ; flesh, white, firm, crisp, juicy, sub-acid with a high aroma ; good flavour ; very good quality. Ripe 10th August.

**Pointed Pipka (Summer Arabka, Broad Cheek, Throne, 135 Budd) :** All the trees, under these names seem to be of the same variety, as fruited this year. Tree spreading, vigorous ; fruit above medium size, oblong, conical, ribbed ; skin, pale yellow, well splashed and streaked with purplish-red ; flesh white, rather coarse, juicy, mild sub-acid, pleasant flavour, good quality.

**Romna (Hibernal, Aport, 244 Beadle, Longfield 56 M. —not Longfield as generally grown—, Silken Leaf) :** These are all apparently the same apple, as fruited at the Experimental Farm this year. Tree vigorous, spreading ; fruit above medium size, sometimes large, oblate, conical ; skin greenish-yellow, streaked and splashed with purplish-red ; flesh yellow, tender, melting, juicy, acid ; quality medium. Ripe last week of September. This is more valuable as a cooking apple than as a dessert fruit. It is one of the most vigorous trees that we have.

**Plikanoff :** Tree planted 1893, vigorous, spreading. Fruited for the first time this year. Fruit large, roundish, slightly conical ; skin, yellow, well washed with bright red and splashed with a darker shade ; flesh yellowish, tinged with red, rather coarse, fairly juicy, sub-acid, good flavour ; good quality. Season probably October.

**Repka Winter :** Tree upright, fairly vigorous ; fruit above medium size, oblate, flattened ; skin yellowish-green, lightly streaked and splashed with purplish-red ; flesh white, crisp, fairly juicy, mild sub-acid ; quality medium. Will probably keep until February.

**Antonovka :** Though sometimes favourably mentioned, this will, on account of its lack of colour, it being a yellow apple, probably not be a profitable variety.

**Winter Arabka :** Did not fruit here this year. It is considered one of the best of the Russian varieties, and is a winter apple.

The Switzer and Pointed Pipka are the only two varieties fruiting this year which can compare with dessert apples of their season in the best apple districts of Ontario.

In the year 1890 a Russian seedling orchard was planted, comprising about 3,000 trees grown from seed, imported from E. Goegginger, Riga, Russia. The seed from which these were grown was said to have been taken from apples grown north of Riga. Of these there are now 1,016 remaining, the rest having been killed by blight or winter. These began to fruit last year, and this year about 60 trees bore. None of these apples are sufficiently promising to be worthy of special mention, but a few of them are as good as the majority of the Russian varieties. They will be further tested at Ottawa, and scions sent to the farms at Brandon and Indian-Head to determine whether they are hardy there or not. The rest of the trees which fruited this year will be cut out.

**Pears.**—The Russian pears, planted since 1895, have done well and have not been much affected by blight since that time. Only one variety, the Baba, fruited in the pear orchard this year, but two others, Gliva Kurskaya, and Sapieganka, which have borne heavy crops annually in the Director's Experimental garden for some years, were again loaded this season. The Russians pears yet tested at Ottawa are in season but a very short period when they get soft and mealy. If used at the proper time, they are fairly good to eat raw and are very nice when preserved, but are not worth planting where other varieties will succeed.

**Plums.**—The European plums have not done well in the orchard at the Experimental Farm. The situation is very exposed and the trees have suffered severely. This

year, four Russian varieties fruited, namely, White Nicholas, Early Red, Voronesh (blue) and Yellow Voronesh. All of these but Voronesh (blue) are of good quality. The Yellow Voronesh is almost as large as Yellow Egg and of somewhat the same shape, is fairly juicy, sweet, and of good flavour; cling stone; good quality. Ripe 22nd August. Two of the hardiest of the European class of plums yet tested here are the Glass Seedling and Richard Trotter.

*Cherries.*—Of the cherries planted in the orchard from 1888 to 1895, the following varieties have survived: Strauss, Minnesota Ostheim, Ostheim, Cerise d'Ostheim, No. 207, Koslov Morello, Heart-shaped Weichsel, Orel 24, Riga 18, Orel 27, Shadow Amarelle, No. 206, Orel 25, Griotte du Nord, Spate-Amarelle, Brusseler Braun, June Amarelle, Lutovka, Amarelle Hative. Most of the trees of those varieties which were planted in 1888 do not look as if they would live much longer. These trees are on tender stocks. Trees of a number of varieties in a nursery row, propagated on the bird cherry, *Prunus pennsylvanica*, in 1891, are very healthy, and produced a heavy crop of fruit this year, as did also most of the other cherry trees which were old enough to bear. The best of the European and Russian cherries ripened in the following order this year: Amarelle Hative, 26th June. June Amarelle, 2nd July, Shadow Amarelle, 3rd July. Heart-shaped Weichsel, 8th July. Griotte du Nord, 8th July. Orel 25, 8th July. Cerise, d'Ostheim, 12th July, Brusseler Braun, 25th July, Koslov Morello, 26th July. These cherries gave a continuous succession of fruit for about five weeks. The apparent gap between 12th July and 25th July is filled up by the Ostheim, the fruit of which ripened rather unevenly this year.

The Koslov bush Morello cherries, received from the Ontario Fruit Growers' Association in 1890, deserve special mention. These little, bush-like trees, after eight years growth, now average only about 5 feet 6 inches in height.

There are 21 trees yet living out of the original 25 planted. Of these, 15, nearly all of which appear to be different, produced fruit this year. This is the first year that they have fruited to any extent, although planted for eight years. Most of the trees produced fruit of inferior quality, some being bitter, and others very acid. Two of the most promising, on account of their hardiness and lateness in ripening, are the following:—

*Koslov Morello* (R. 6. T. 29). Tree bushy, height, 5 ft. 7 in. Heavy crop; fruit large, long, heart-shaped, slightly flattened, firm; stalk very long, slender; suture rather indistinct; skin, deep red; flesh deep red, juicy, very acid; pit large, long. Ripe 20th July. Would probably make a good preserving cherry.

*Koslov Morello* (R. 6. T. 27). Tree bushy, height, 6 ft. 6 in. Fair crop; fruit large, heart-shaped, rather deep red, firm; stalk long, stout; suture, distinct; flesh bright red, very acid; pit large, oval, flat. Ripe 26th July.

The observations made this year, and the opinions drawn, are unbiassed, and should another year's experience change my views on the varieties mentioned, I shall be glad to express them.

## APPLES.

There are about 653 varieties of apples in the orchards, of which, as already stated, about 160 kinds are Russian. Of this large collection 191 varieties fruited this year. The crop, on the whole, was good, the summer and autumn sorts especially being heavily loaded. Owing to the continued dry weather, the fruit dropped very badly, as was the case in other sections of the country. The fruit of the winter varieties was of good size, but the earlier sorts seemed to be prematurely ripened, and were small, Wealthy, especially, which fruited very heavily, was considerably under-sized. The crop from each tree was measured and a record made of it. This will be done from year to year, in order to learn the productiveness of the different varieties. The trees, for the most part,

## Experimental Farms.

made good growth, the leaves being dark green and healthy looking, but in many cases the heart wood of the trees is of an unhealthy colour, indicating that they are not in the condition they should be. This may be due either to the unsuitableness of the climate, to the character of the sub-soil, or some other cause not yet known. Aphides were not troublesome this year. In the spring, before the buds expanded, they were covered with these insects. The trees were sprayed at that time with a mixture of tobacco, water and whale oil soap, made with 10 lbs. of tobacco, 2 lbs. of whale oil soap, and 40 gallons of water. They were sprayed again on the 2nd and 5th of May. The aphides did not occur in sufficient numbers, throughout the summer to cause appreciable injury. The trees received 1 spraying with a copper sulphate solution and 4 with Bordeaux mixture and Paris green. There was scarcely any scab on the fruit, but the Codling Moth, notwithstanding the thorough sprayings the trees received, did considerable injury, especially during late summer. Many of the trees, especially those that are unhealthy, are affected with Oyster-shell Bark-louse, and this is a troublesome insect to fight.

Only 13 trees died during the winter of 1897-98, and these were all injured previously at the roots by winter-killing. On the 25th of July a windstorm uprooted and destroyed 14 trees. All of these also had been previously injured at the roots. The following is a list of most of the standard varieties which appear to be thriving best :

List of standard varieties of apples thriving best.

Baxter.	Malinda.	Salome.
Ben Davis.	McIntosh Red.	Scott's Winter.
Canada Baldwin.	McMahan White.	Stark.
Delaware Red Winter.	Missouri Pippin.	Swayzie Pomme Grise.
Duchess.	North Star.	Tetofsky.
Duke of Connaught.	Patten's Duchess.	Wealthy.
Gano.	Patten's Greening.	Winter Bough.
Gideon.	Pewaukee.	Winter St. Lawrence.
Haas.	Plumb's Cider.	Wolf River.
Lawver.	Red Astrachan.	Yellow Transparent.
Longfield.	St. Lawrence.	

## PEARS.

Pears have not been a success in the orchard at the Experimental Farm. From year to year since the first trees were planted, they have been winter-killed or destroyed by blight, so that to-day nearly all the trees in the orchard are comparatively young. None of the trees died last winter, and this year they made good growth and were free from blight. Only four varieties fruited this year, namely, Baba, Coleman's Butter, Longworth, and Flemish Beauty. The Baba is larger than any of the other Russian pears fruited at the Experimental Farm, but is no better in quality. Flemish Beauty seems to be the hardiest variety of the better class of pears yet tested here.

Arrangements have been made to top graft some of the Russian varieties next spring with scions of the better class, in the hope that they will succeed better.

This autumn there were 69 varieties of pears living in the orchard, of which 18 are Russian.

## PLUMS.

There are now 130 varieties of plums in the orchard, a large proportion of which have been planted during the past three years, as during the winter of 1895-96 many of the tenderer sorts were root-killed, and these have been replaced by others since that time.

Throughout most of the fruit growing districts of Ontario and Quebec, plums were a heavy crop this year. A plentiful supply of snow prevented root-killing, little injury

was done to the fruit buds, and the flowers seemed to have been well fertilized, so that these three important factors were favourable to the production of a good crop. At the Experimental Farm most of those trees of the American varieties of plums which were old enough were heavily laden with fruit. Our native varieties also produced large crops, and the few European sorts which were in bearing, yielded well.

The aphides, (which were very troublesome), plum blight and curculio were all successfully combated by the use of tobacco water, whale oil soap, Bordeaux mixture and Paris green, prepared in the manner mentioned elsewhere.

The following American varieties were the most promising this year from the standpoint of hardiness, productiveness, vigour of tree, and quality of fruit. They ripened in the order given: Cheney, 26th Aug.; Wolf, 3rd Sept.; Wyant, 9th Sept.; Stoddard, 9th Sept.; DeSoto, 14th Sept.; Van Buren, 26th Sept. Hawkeye which is one of the best of the American plums did not fruit this year. There are a number of other varieties of good quality which began to bear this season, among which are New Ulm, ripe 29th Aug.; Ocheeda, ripe 4th Sept.; Comfort, 20th Sept.; Forest Garden, 26th Sept.

### CHERRIES.

During the winter of 1895-96 the trees in the cherry orchard were nearly all destroyed by root-killing. This was due partly to the severity of the winter and partly to the fact that the trees were grafted and budded on tender stock. The late horticulturist, since that time, propagated a considerable number of trees on *Prunus pennsylvanica* stock, which has proved very satisfactory here. Those found in the nursery rows were too small to be planted in the orchard last spring, but will be utilized next year. A large number of additional varieties were crown grafted this year, some of which have made 6 feet of growth during the season. There are now 50 varieties in the orchard, of which—were planted this year. Cherries, like plums, were a heavy crop at the Experimental Farm in 1898 on such trees as were old enough to bear.

### GRAPES.

There are now 169 varieties of grapes being tested, of which 130 ripened this year. This was a good season for grapes, as the weather was bright and warm during most of September, being very favourable to the ripening of the fruit. The vineyard, which is about 2 acres in extent, is situated on high, light sandy loam soil with a southern exposure. It received a dressing of farm-yard manure last spring, which was ploughed under. It was found that the roots of a considerable number of vines had become exposed by reason of continuous cultivation for the past nine years and on account of the shifting of the soil by the wind, the vineyard being in an exposed situation. It was decided, therefore to discontinue cultivation for this year. After the manure was ploughed under, the ground was harrowed and a strip 5 feet in width seeded down on the 14th of June with Mammoth Red clover and Mammoth Red and Lucerne mixed, at the rate of 12 pounds per acre. The space between this strip and the vines was mulched with strawy manure to prevent the growth of weeds and to conserve the moisture. The clover took well and there is a fine cover crop this autumn. It is proposed to give the vineyard a dressing of wood ashes in the spring, which, with the manure applied this year, should be sufficient fertilizers for some time to come, as it is not deemed advisable to encourage too much growth.

The work of renewing the vines was begun this autumn, as many of the old ones were not very vigorous. This was done by cutting out the old canes and leaving the younger ones to bear the crop.

As, on account of the short season, earliness is one of the chief requisites in varieties of grapes for Eastern Ontario and the province of Quebec, the following table of the

## Experimental Farms.

earliest 25 is given to assist planters in making a selection. In this table are given the number of vines of each sort being tested; the date of ripening; colour of the fruit; average yield per vine for several years, and remarks as to quality, etc.

Name.	Number of Vines Tested.	Date of Ripening, 1898.	Heaviest Yields per Vine, 1898.		Average Yield per Vine, 1898.	Average Yield per Vine for Five Years.	Colour of Fruit.	Size of Fruit.	Quality of Fruit.
			Lbs. Oz.	Lbs. Oz.					
Florence	3	Sept. 29	8	6 5	7 6	Black	Above medium.	Poor.	
Champion	6	" 3	21	16 11	16	"	"	"	
Pattison	3	" 6	10 4	7 15	"	"	Medium.	Medium.	
Moore's Early	4	" 6	6 8	4 5	3 11	"	Above medium.	"	
Peabody	2	" 6	7	6 2	5 4	"	Below	Above medium.	
Moyer	2	" 6	7 12	6 8	5 2	Red	"	Good.	
Moore's Diamond	3	" 6	3 4	2 8	4 10	White	Medium.	"	
Cottage	3	" 10	10 4	7 3	7 8	Black	Above medium.	Above medium.	
Potter	3	" 10	6 8	4 13	9 6	"	"	"	
Jessica	3	" 10	7	5 15	9 3	White	Small	Good.	
Lady	3	" 10	6 8	3 12	4 6	"	Medium.	Above medium.	
Early Victor.	6	" 10	24	15 1	11 3	Black	"	Medium.	
Golden Drop.	2	" 10	4	2 10	2 11	White	Small	Above medium.	
Canada	3	" 10	8 4	7 1	4 5	Black	"	"	
Belvidere	1	" 10	11 8	11 8	6 2	"	Medium.	"	
Telegraph	2	" 12	20 12	13 14	11 12	"	Above medium.	"	
Aminia	2	" 12	1 4	14 2	3	"	"	"	
Merrimac	6	" 13	13	8 4	9 6	"	Large.	"	
Eumelan	3	" 13	17	10 7	14 8	"	Medium.	Good.	
Herbert (Rogers 44).	3	" 13	15 8	11 3	16 12	"	Large.	"	
Brant	6	" 13	14 8	11 6	6 4	"	Small.	Above medium.	
Antoinette	2	" 13	5 8	5	"	"	Above medium.	"	
Rogers 17	3	" 13	12	9	14 14	"	Large.	"	
Marion	3	" 13	12 4	11	10 14	"	Below medium.	Medium.	
Janesville	3	" 13	16 8	13	6 10	"	Medium.	"	

The following varieties of grapes, which ripen later than those mentioned in the above table, have been grown with success at Ottawa, and most of them being of better quality may be planted with advantage, if the locality is favourable:—

*Red.*—Delaware, Brighton, Lindley, Agawam, and Vergennes. Vergennes, although a late variety, is a good keeper, and should be grown in localities where it will ripen.

*White.*—Eldorado, Niagara, Duchesne. Eldorado sets its fruit badly, but is of very good quality. Niagara, though a good bearer, is very foxy, and on this account is not liked by many.

*Black.*—Worden, Wilder, Burnet.

### CURRANTS.

The currant crop was good this year, and most of the 80 varieties which are being tested, that were old enough to bear a crop, yielded well. Those varieties which were planted recently did not fruit, and of these 16 were planted this year. The plantation of currants is now made up of 44 black varieties, of which 26 are seedlings originated by Dr. Wm. Saunders; 32 red varieties; and 4 white varieties. The seedling black currants, of which special mention was made of the most promising in the report of the horticulturist for 1897, again yielded well this year. Standard, Success, Climax, and Beauty being worthy of special notice. Among the newer red varieties, that known as Greenfield is one of the best. This is a seedling originated by Mr. S. Greenfield, Ottawa East, Ont. For habit of bush, productiveness, and size of fruit it ranks among the best.

In the following table will be found the yields of the different varieties for this season, with other data regarding them:—

## CURRANTS—RED.

Name.	Date of Ripening.	Size of Fruit.	Number of Bushes.	Yield per Bush.		Average Yield per Bush.	
				Lbs.	Oz.	Lbs.	Oz.
Greenfield .....	July 7.	Medium to large.	5	37	12	7	9
Red Dutch .....	" 6.	Small to medium.	5	33	4	6	10
London Red .....	" 9.	Medium to large.	5	29	8	5	14
2 2 .....	" 7.	"	5	27	4	5	7
Red Grape .....	" 9.	"	5	25	4	5	1
Wildcr .....	" 9.	Large	5	24	2	4	13
Raby Castle .....	" 7.	Small to medium.	5	23	..	4	10
La Conde .....	" 7.	"	5	23	..	4	10
Cherry .....	" 7.	Medium	5	21	4	4	4
North Star .....	" 6.	Medium to large.	5	15	..	3	0
Prince Albert .....	" 20.	Large	5	11	..	2	3
Versaillaise .....	" 9.	Very large	5	10	8	2	2
Victoria .....	" 7.	Large	5	5	12	1	2
Ribes Striatum .....	" 9.	Small.	5	3	12	0	12
Fay's Prolific .....	" 7.	Very large	5	3	12	0	12
Fertile d'Angers .....	" 7.	Large	5	2	12	0	9

## WHITE.

Climax .....	July 6.	Medium	5	19	12	3	15
White Grape .....	" 2	"	5	19	10	3	15
White Dutch .....	" 2.	"	5	3	12	..	12

## BLACK.

Ethel .....	July 2.	Medium to large.	5	27	8	5	8
Kerry .....	" 2.	"	5	26	4	5	4
Stewart .....	" 6.	Large	5	24	12	4	15
Eagle .....	" 2.	Medium	5	21	4	4	4
Black Champion .....	" 13.	Small to medium.	5	20	12	4	2
Charmer .....	" 2.	Large	5	20	8	4	2
Climax .....	" 7.	Medium to large.	5	20	..	4	0
Prince of Wales .....	" 11.	Medium	5	19	12	3	15
Ontario .....	" 2.	Medium to large.	5	17	4	3	7
Eclipse .....	June 29.	Large	5	16	..	3	3
Mattie .....	"	"	5	15	8	3	2
Orton .....	July 3.	Medium to large.	5	15	..	3	0
Winona .....	June 28.	Large to very large	6	14	..	2	5
Standard .....	July 2.	Large	5	13	12	2	12
Victoria Black .....	" 7.	Very large	5	13	8	2	11
Monarch .....	June 29.	Medium	5	13	..	2	10
Dominion .....	July 4.	"	5	12	12	2	9
Clipper .....	" 4.	Small to medium.	5	12	8	2	8
Stirling .....	" 4.	Medium	5	11	12	2	6
Beauty .....	" 2.	"	5	11	8	2	5
Black English .....	" 4.	"	5	10	8	2	2
Perry .....	" 6.	"	5	10	8	2	2
Success .....	June 28.	Very large.	5	9	8	1	14
Ogden .....	July 7.	Small to medium.	3	7	12	2	9
Oxford .....	June 28.	Medium to large.	5	6	12	1	6
Star .....	July 4.	Medium	5	5	12	1	2
Black Naples .....	" 11.	"	5	4	12	..	15
Perth .....	" 1.	Large	5	3	4	..	10
Lewis .....	" 1.	Small to medium.	5	3	..	..	10



## Experimental Farms.

### RASPBERRIES.

The present raspberry plantation was begun in 1896. Most of the plants were put out in the autumn of that year, but a large proportion of these died. In 1897 little replacing was done, so that the plantation this spring presented a very broken appearance. As many varieties as possible were procured from Canadian nurserymen, but their lists were limited and there was not time to procure many others from Europe, and the San José scale bill prevented importations from the United States, hence this autumn there are yet a large number of blanks to fill. It is expected that a sufficient number of varieties will be procured before next spring to fill the vacant places, but it will be at least two years before uniform and comparative results can be obtained from many of the varieties. There are now in the plantation 75 varieties of red, purple, and yellow raspberries; 18 of blackcap raspberries; and 35 of blackberries and dewberries or 128 varieties in all.

### STRAWBERRIES.

There are about 290 varieties of strawberries in the plantation which are all being tested under as nearly similar conditions as possible. These wintered well and most of them produced fairly good crops this year. In the Ottawa district a large proportion of the strawberries were more or less deformed and those at the Experimental Farm were not an exception. This was not caused by the bi-sexual and pistillate varieties not being properly intermixed, as those at the Farm were planted with that end in view. The cause was probably due to the hot winds and the unusual dryness of the atmosphere this year, which may have injured the pistils and prevented the proper formation of the berries. The earlier varieties did not seem to suffer so much as the later sorts, although their season was shortened. Preparations have been made for a new plantation of strawberries next spring.

The following twenty-five varieties have given the best returns this year, these being arranged in the order of their yield:—

Variety.	Bisexual. Pistillate.	Date of First Bloom.	Date of First Picking.	Date of Last Picking.	Yield from 1 row 30 ft. long.	Estimated Yield per acre.
	Sex.				Boxes.	Boxes.
Wilson.....	B	May 19.	June 16.	July 5.	23½	9,645
John Little.....	B	" 23.	" 18.	" 4.	21	8,712
Clyde.....	B	" 17.	" 16.	" 2.	19½	8,159
Glen Mary.....	B	" 22.	" 16.	" 5.	19½	8,090
Boynton.....	P	" 19.	" 16.	" 5.	18½	7,675
Great Pacific.....	P	" 24.	" 22.	" 2.	17	7,053
Buster.....	P	" 27.	" 22.	" 5.	16½	7,001
Mary.....	P	" 25.	" 22.	" 4.	16½	6,776
Crescent.....	P	" 22.	" 18.	" 4.	16	6,638
Carleton.....	P	" 24.	" 22.	" 5.	16	6,638
Beder Wood.....	B	" 15.	" 20.	" 5.	15	6,223
Carrie.....	P	" 19.	" 22.	" 5.	14½	6,119
Lovett.....	B	" 22.	" 20.	" 5.	14½	5,912
Daniel Boone.....	P	" 24.	" 22.	" 3.	14½	5,912
Cosette.....	P	" 24.	" 22.	" 2.	14	5,808
Wesley.....	B	" 22.	" 18.	" 5.	13½	5,704
Shirts.....	B	" 25.	" 22.	" 4.	13½	5,689
Edgar Queen.....	P	" 22.	" 22.	" 2.	13½	5,601
Logan.....	B	" 23.	" 18.	" 5.	13½	5,601
Tubbs.....	B	" 24.	" 25.	" 4.	13½	5,601
Green Prolific.....	P	" 24.	" 18.	" 5.	13½	5,497
Barton's Eclipse.....	P	" 22.	" 20.	" 5.	12½	5,289
Cyclone.....	B	" 22.	" 18.	" 2.	12½	5,255
Stayman's No. 1.....	P	" 26.	" 22.	" 5.	12½	5,186
Epping.....	P	" 22.	" 18.	" 4.	12½	5,117

The yields of some of the well-known varieties, which do not appear in this list, estimated on the basis of 1 row 30 feet long, were :

Princess . . . . .	12 $\frac{1}{4}$ boxes.	Greenville . . . . .	11 $\frac{3}{8}$ boxes.
Parker Earle . . . . .	11 $\frac{1}{2}$ "	Warfield . . . . .	10 $\frac{3}{4}$ "
Martha . . . . .	10 $\frac{1}{2}$ "	Wm. Belt . . . . .	10 $\frac{1}{4}$ "
Williams . . . . .	9 $\frac{1}{4}$ "	Bubach . . . . .	8 $\frac{1}{2}$ "
Haverland . . . . .	8 $\frac{1}{2}$ "	Marshall . . . . .	4 $\frac{1}{2}$ "

Other varieties which did well on smaller areas, the yields of which are here estimated on the basis of 1 row 30 feet long, are :

Ada . . . . .	25 boxes.	Bisel . . . . .	23 $\frac{1}{2}$ boxes.
Schuster's Gem . . . . .	14 "	Saunders . . . . .	13 $\frac{1}{2}$ "
Margaret . . . . .	14 "	Charlie . . . . .	12 $\frac{1}{2}$ "

### GOOSEBERRIES.

In the gooseberry plantation 154 varieties are being tested ; of these 105 are European, 6 American named varieties, and 43 seedlings and cross-bred sorts. Nearly all the European varieties were injured to such an extent with mildew that they have proved quite unprofitable here. This is probably due, in part, to the fact that the soil is unsuitable, it being sandy loam and not very moist ; as in some gardens in this vicinity where the soil is heavier and more moist gooseberries do not seem to suffer much from mildew. All the varieties were layered this year and a new plantation will probably be made next spring, if the layers are sufficiently rooted, on heaver and moister ground, although there seems to be no soil in the orchard enclosure quite heavy enough for this fruit. The European varieties, which were freest from mildew were Whitesmith, Riccardo, Crown Bob, King of Trumps, Red Humbro, Riflemen, and Slaughterman. Owing to the continued hot weather this year, in July, when the gooseberries were approaching maturity, the fruit suffered badly from sunscald. For two years in succession this has injured the fruit very much in this neighbourhood. Those who allowed the saw fly to eat the leaves off their bushes, lost a larger per cent of fruit than those who sprayed, as the leaves were a protection from the sun. A number of cross-bred and seedling varieties, originated by Dr. Wm Saunders, are quite promising. Some of these are almost as large as the best English varieties, and were free from mildew this year, except in rare instances, grown under the same conditions as the other varieties. The following are descriptions of a few of them :—

*Saunders*.—Bush, a vigorous grower and a moderate bearer. Fruit very large, nearly round, sometimes slightly oval, brownish red, smooth ; pulp sweet, sprightly and of fine flavour. Quality very good. Ripe 22nd July. One of the best of the many seedlings grown here. Free from mildew.

*Rideau*.—Bush, a strong, vigorous grower and a heavy bearer. Fruit medium to large, round, green, smooth with pale prominent ribs ; skin moderately thick, but tender ; pulp sweet, sprightly but not high flavoured. Quality good. Ripe 26th July. This is a prolific seedling resembling Downing and Pearl. Fruit almost free from mildew. Rarely a few berries slightly affected.

*Gibb*.—Bush, a strong grower and a medium bearer. Fruit large, oval, sometimes oblong ; skin green with an amber tint, smooth ; pulp sprightly and of good flavour. Quality good. Ripe 27th July. The amber colour of this seedling makes it easily distinguishable from other varieties. Fruit almost free from mildew ; a few berries very slightly affected.

*Ruth*.—Bush, a strong grower and a very heavy bearer. Fruit medium size, oblong, sometimes oval ; skin green, smooth, moderately thick but tender ; pulp sprightly, sweet but not high flavoured. Quality good. Fruit nearly, free from mildew ; a few berries, only, being slightly affected.



Seedling Gooseberry—Saunders, about two-thirds natural size.

## Experimental Farms.

### FUNGOUS DISEASES.

Owing to the large amount of other work to be done in connection with this department, not much time has been devoted to this branch of the work. The spraying for the prevention of fungous diseases was, for the most part, such as has been recommended by the late horticulturist, but it is hoped that next year more experiments will be conducted and new experience gained.

A considerable number of samples of diseased fruit, bark, branches, and leaves were received for identification and for information as to remedies. As far as possible, and with the help of experts, satisfactory replies were given.

The species of dry rot of the apple of which mention was made in the reports of the Horticulturist for 1896 and 1897, was again troublesome this year. Red Astrachan, Shiawassee Beauty, Fameuse, Borovinka and Romna were affected. Fameuse was the least affected, but nearly all the fruit of Red Astrachan was spoiled, almost all of one tree of Romna, and the greater part of one tree of Shiawassee Beauty. Most of these trees are too far distant apart to be affected one from the other. This disease is not confined to Eastern Canada, as specimens of fruit affected with it have been received from British Columbia. The cause and life history of this disease is being investigated by Dr. Connell, of Queen's University, Kingston. Samples of diseased fruit were sent to him in 1897, and again this autumn. Under date of 2nd Dec., 1898, he gives the results of his investigations up to that time, which are as follows:—

“In two of the Shiawassee Beauty apples received this autumn I obtained micro-organisms from a single rot ‘spot’ in each. In all other apples and in remaining ‘spots’ of these two I could detect no micro-organisms. The organisms obtained in the spots differed from each other; one being a white micro-coccus, the other a yellow bacillus. Evidently both are present in the role of invaders, not as causal agents.

“To sum up roughly my work so far in connection with the dry rot spot. In the first samples sent me early in 1897, I found almost constantly present a fungus resembling *Gloeosporium fructigenum*. Later, however, in other samples obtained from other localities this form was absent, and when I got any micro-organisms at all they were of different species—other fungi, yeasts, sarcinæ, micrococci, and bacilli. All these, to my mind, have no causal relationship to the trouble, and when present they are like those in my recent samples, almost certainly secondary. If the cause be micro-organismal—which I much doubt—then certainly I have so far failed to find any constant form present. Puncture of insects or some nutritional cause are the other factors to be considered.”

### SPRAYING.

The spraying of the different fruits, ornamental trees, shrubs and flowers was carried on from early spring until it was thought to be no longer necessary, the good results of which were very apparent on nearly everything so treated.

*Apples and Pears.*—The apple and pear trees were sprayed 8 times, the first spraying being with a sulphate of copper solution on 22nd April, one pound of sulphate of copper to 25 gallons of water. They were sprayed on 13th and 31st May, 16th June and 6th July, with Bordeaux mixture and Paris green, the formula of 4 pounds lime, 4 pounds sulphate of copper, and 40 gallons of water being used. On 23rd April, 2nd May, and 5th May, the trees were sprayed with tobacco water and whale oil soap, made by soaking 10 pounds of waste tobacco in 40 gallons of water and adding two pounds of whale oil soap.

*Plums.*—The plum trees were sprayed nine times: with Bordeaux mixture and Paris green on 27th May, 7th June, 16th June, and 5th July; with tobacco water on 26th April, 6th May, 28th May, 31st May and 6th July.

*Cherries.*—The cherry trees were sprayed twice: once with tobacco water and whale oil soap, on 26th April; once with Bordeaux mixture, on 27th May. One more spraying with Bordeaux mixture and one with ammoniacal copper carbonate are recommended, but were omitted this year.

*Grapes.*—The grape vines were sprayed five times: once with the sulphate of copper solution and Paris green, on 2nd May; and with Bordeaux mixture and Paris green, on 27th May, 16th June, 4th July and 23rd July.

*Gooseberries.*—The gooseberries were sprayed with Bordeaux mixture and Paris green three times, namely, on 10th May, 30th May and 9th June.

Besides the above, certain ornamental trees and shrubs and flowering plants, affected with different diseases and insect pests, were sprayed when it was deemed necessary. The Larch trees, for instance, were sprayed with Paris green to kill the saw-fly; the roses were sprayed with Paris green and tobacco water; the snowballs were sprayed with tobacco water to kill the Aphides. The dogwoods were sprayed with kerosene and water to kill the oyster-shell bark-louse, and the irises were sprayed with Bordeaux mixture to prevent disease. Owing to the depredations of the forest tent caterpillar in this district, there were more people than usual inquiring about spray pumps, and after seeing those in operation at the Experimental Farm they went away with the determination to purchase one.

#### COVER CROPS.

The clover sown for cover crops on 1st August, 1897, in the orchards, mention of which is made in the report of the Horticulturist for that year, came through the winter in splendid condition. Nowhere was there any winter-killing and when growth began it was a fine sight to behold. On the 13th June clover in the crab apple, pear, and plum orchard was turned under. Part of this land was re-seeded on the 14th July, with Mammoth Red clover, at the rate of 12 pounds per acre, and part with about equal parts of Mammoth Red clover and Lucerne mixed. This formed a good covering by autumn. In a part of the apple orchard where the soil is very poor, the clover was ploughed under on the 26th May. The land was harrowed and pease were sown at the rate of 2½ bushels to the acre on 1st of June. On the 22nd July, when the pease were beginning to bloom, and about 2 feet 6 in. high, they were turned under, and, after harrowing, equal parts of Mammoth Red and Lucerne clovers were sown at the rate of 12 pounds to the acre. Owing to the very dry autumn, the Mammoth Red clover did not make as vigorous a growth as could be desired, but the Lucerne was 11 inches in height when frozen. These two crops of leguminous plants ploughed under this season will improve the texture of the soil and enrich it considerably. The clover in the greater part of the apple orchards was not ploughed under this year. This is contrary to what is usually recommended, but it was left for several reasons. In the first place, the soil in the orchard is a sandy loam which is easily moved by the wind. During the years in which the orchards have been under cultivation, the soil has blown away so much from a number of the trees that the roots are more or less exposed. A second reason why it was left, was to determine whether the trees would seem to suffer in time of drought. Notwithstanding the exceptionally dry summer which we had, neither the clover nor the trees seemed affected by drought, except in a small portion of the Russian orchard. This would seem to indicate that the soil in the orchards does not lack moisture. Taking all things into consideration, namely, the texture of the soil, its capacity for holding moisture, the exposure of the orchard, the destruction of purslane, which it seems impossible otherwise to kill, even with thorough cultivation, and the belief that it is better not to encourage too vigorous growth when so near the limit of the successful growing of large fruits, it was thought better not to cultivate this year.

## Experimental Farms.

### SEEDLING FRUITS.

Besides the fruits sent in for name this year, a number of seedling apples, pears and plums were received for examination. Most of the varieties sent, were not of sufficient value to recommend their being propagated to any extent. A few, however, were promising, and these are described below. The descriptions here given may require modifications in future, as in some cases only one sample of the fruit was received, which may not have been a typical specimen.

It is hoped that correspondents will continue to send samples of fruit in the future, which will be carefully tested and the results of observations made, given to the sender. As there is a special committee of the Ontario Fruit Growers' Association, of which the writer is a member, whose work it is to report on new fruits, brought under their notice, it is desirable that at least four—and if possible, eight—samples of the fruit be sent from persons living in that province, in order that they may be submitted to the four men, who comprise this committee, as in this way the opinions of four, instead of one, would be had of the fruit, and fairer conclusions could be drawn.

141	P. E. I.	P. Robertson, New Perth.....	Apples of medium quality.
142	"	R. Macneill, M. D., Little York.....	A streaked apple; quality, medium.
143	"	J. H. Gill, Little York.....	Probably a seedling; red; quality, above medium.
144	"	A. W. Tanton, Southport.....	A large, sweet apple, of medium quality.
145	N. B.	F. S. Taylor, White's Cove.....	Too small to be valuable.
146	P. Q.	R. Boa, Lachute.....	A pretty apple of medium quality.
147	"	J. C. Stockwell, Danville.....	Resembles Princess Louise somewhat.
148	"	Mrs. S. C. Smith, Sherbrooke East.....	Probably seedlings; of not high merit.
149	"	R. Hamilton, Grenville.....	Promising, early red apple of good quality.
150	"	W. T. Johnston, Inverness.....	Two seedlings; neither promising.
151	"	J. Lagace, St. Hilaire.....	Medium size and quality; red.
152	"	" " ".....	Medium quality.
153	Ont.	J. S. McCallum, M. D., Smith's Falls.....	Above medium size; yellow and red; good quality.
154	"	S. Greenfield, Ottawa.....	Large; handsome; medium quality.
155	"	" " ".....	Medium size; red; medium quality.
156	"	P. Selwyn ".....	Small; yellow; medium quality.
157	"	T. A. Harsant, Glen Orchard.....	Small; red; medium quality.
158	"	" " ".....	Medium size; splashed and washed with red; medium quality.
159	"	T. Sole, Sarnia.....	Probably seedling; large; red; medium quality.
160	"	" " ".....	Large; green; good quality; late winter.
161	"	L. L. Livingston, Frankville.....	A large, green apple, of medium quality.
162	"	J. D. Marsh, Mille Roches.....	No. 1. Quality, above medium; late winter.
163	"	" " ".....	No. 2. Promising; quality, good; late winter.
164	"	" " ".....	No. 3. Quality, medium; late winter.
165	"	Wm. Craig, Maritana.....	Lazure, No. 1. Medium quality.
166	"	" " ".....	" No. 2. Quality, below medium.
167	"	" " ".....	Dumon. Quality, medium.
168	"	" " ".....	Guerin. Quality, above medium.

#### PEARS.

169	"	Mrs. S. Jephson, Nenagh.....	Medium size; good quality.
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#### PLUMS.

170	"	G. H. Fawcett, Ottawa.....	Fruit received not quite ripe.
171	"	S. Greenfield, ".....	Fruit large; good quality.
172	"	E. D. Smith, Winona.....	Emerald. Yellow; good quality.
173	"	W. H. Leef, Orillia.....	Yellow; too overripe to test; said to be very hardy.
174	"	" " ".....	Resembles Lombard somewhat.
175	"	F. Latchford, Ottawa.....	Large, blue plum; quality above medium.

Record No. 153. Apple seedling. Tested 19th October, 1898. From J. S. McCallum, M. D., Smith's Falls, Ont.

*Description.*—Above medium, oblate; skin yellow, splashed and washed with dull red; dots numerous, prominent, yellow. Cavity narrow, moderately deep; stalk short, stout; basin narrow, moderately deep, smooth; calyx open. Flesh yellowish, juicy, subacid with a pleasant, sprightly flavour. Core small. Said to keep until April. Quality, good. Supposed to be a seedling of Baxter. Scions received, 1897.

Record No. 163. Apple seedling. Tested 16th November, 1898. From J. D. Marsh, Mille Roches, Ont.

*Description.*—Above medium size, conical, prominently ribbed towards basin. Skin green, splashed and washed with purplish red; cavity deep, moderately wide; stalk short, slender; basin narrow, shallow, wrinkled; calyx closed. Flesh greenish-white, juicy, brisk sub-acid, pleasant flavour, not unlike that of Rhode Island Greening. Core, medium size. Quality good. Season, late winter. Tree said to be fourteen years old and very hardy. Scions asked for.

Record No. 168. Guerin apple. Tested 14th October, 1898. From Wm. Craig, Maritana, Que.

*Description.*—Large, roundish. Skin greenish-yellow, washed and splashed with deep purplish red; dots fairly numerous, white, distinct on sunny side. Stalk short, fairly stout; cavity medium depth and width; basin narrow, round, smooth, shallow; flesh white, fine grained, fairly juicy, mild sub-acid. Quality above medium. Season probably October. Said to have originated on the Indian reserves of Caughnawaga.

Record No. 149. Apple seedling. Tested 14th October, 1898, from Robert Hamilton, Grenville, Que.

*Description.*—Medium size; skin pale yellow, almost entirely covered with deep red; dots few, gray, obscure; cavity deep, open; stalk long, slender; basin of medium width and depth, almost smooth; calyx open; flesh white, tinged with red in places, fine grained, fairly juicy, mild sub-acid; flavour slightly resembles McIntosh Red; core, small. Quality good. Season probably September and October. Scions asked for.

Record No. 154. Seedling apple. Tested 9th November, 1898. From S. Greenfield, Ottawa East.

*Description.*—Large, roundish, slightly conical; skin pale yellow, splashed and washed with bright red, mostly on sunny side; dots fairly numerous, gray, rather prominent on shady side; cavity narrow, moderately deep; stalk short, stout; basin of medium width and depth, slightly wrinkled; calyx partly open: flesh yellow, juicy, acid; core large. Quality above medium.

Record No. 169. Pear seedling. Tested 9th November, 1898. From Mrs. S. Jephson, Nenagh, Ontario.

*Description.*—Medium size, obtuse pyriform, surface irregular, with small protuberances; skin green, with a pink blush; cavity shallow; stalk three-quarters of an inch long; basin moderately deep and open, smooth; calyx open. Flesh pale yellow, juicy, sweet, rich, high flavoured; core small. Quality good. Season probably late October and early November. Tree said to be 11 years old and has been fruiting for two years. Scions asked for.

Record No. 173. Emerald plum. Tested 4th August, 1898. From E. D. Smith, Winona, Ont.

*Description.*—Above medium size, oval; skin yellow; suture distinct; cavity narrow; stalk short, stout; flesh yellow, juicy, sweet, rich, good flavor; freestone. Quality good. Said to bear annually and ripens in July. Scions asked for.

Record No. 176. Seedling plum. Tested 24th September, 1898. From F. R. Latchford, Ottawa.

*Description.*—Large, oval, deep purple with a blue bloom; suture obscure; cavity narrow, shallow; stalk three-quarters of an inch long; flesh greenish-yellow, juicy, sweet; pit of medium size, oval, clingstone. Quality good. A promising late plum. Tree said to be about 50 years old, producing a full crop every three years, when it bears very heavily. Scions asked for.

## Experimental Farms.

Record No. 172. Seedling plum. Tested 21st September, 1898. From S. Greenfield, Ottawa East.

*Description.*—Large, roundish, almost oval; skin purplish-red with a slight purple bloom; suture distinct, shallow; cavity shallow, of medium width; flesh greenish-yellow, juicy, sweet, rich; pit, large, clingstone. Quality good. Scions asked for.

### LIST OF BEST VEGETABLES FOR FARMERS.

When the farmer begins to think of getting his garden seeds, he is often puzzled as to just what to select from the large list of varieties offered for sale by seedsmen. Often, also, he is misled by the glowing descriptions given by the seed dealers, and purchases varieties which are not satisfactory to him. Still more frequently, however, he has no seed catalogue to guide him, and he simply purchases from a local firm whatever is offered to him. The following list is given of those vegetables which have proved the best and most satisfactory at the Central Experimental Farm, with the hope that it will prove useful to the farmers of Canada in the selection of their garden seeds. In making this list, the quality, yield and time when they are fit for use have been taken into consideration. Quality being considered the most important:—

*Asparagus.*—Seven varieties are being tested. Connover's Colossal is the best all round variety.

*Beans.*—Seventy-four varieties were grown this year. Golden Wax or Wardwell's Kidney Wax, for early crop; Early Refugee, for medium; and Refugee or 1,000 to 1, for late crop, are the most satisfactory dwarf varieties. Southern Crease-back and Asparagus, (early) and Golden Andalusia, (late), are the best pole varieties.

*Beets.*—Thirty-two varieties tested. Egyptian Turnip, Eclipse, and Bastian's Blood Turnip are three of the best varieties.

*Borecole or Kale.*—Four varieties tested. Dwarf Green Curled Scotch is the best.

*Broccoli.*—One variety tested; White Cape which is good.

*Brussels Sprouts.*—Four varieties tested; Improved Dwarf proved the most satisfactory.

*Cabbage.*—Fifty-two varieties tested. Early Jersey Wakefield (early, Succession (medium); Late Flat Dutch, Drumhead Savoy, (late); Red Dutch, (red), is a select list of the best varieties of cabbage.

*Cauliflowers.*—Thirty-one varieties tested.—Extra Early Dwarf Erfurt and Early Snowball, (early); Kronk's Perfection, (medium) and Large Late Algiers are among the best.

*Carrots.*—Sixteen varieties tested. Chantenay and Guerande or Oxheart are two of the best carrots, but if a good extra early sort is required the Early Scarlet Horn can be planted with advantage. It is a small variety.

*Celery.*—Twenty-nine varieties tested. Golden Self-Blanching, Paris Golden Yellow, Improved White Plume, (early); London Red, White Triumph, (late), are among the best.

*Corn.*—Thirty-six varieties tested. Early White Cory, Crosby's Early, Henderson's Metropolitan, (early); Perry's Hybrid, Stabler's Early, (medium); Stowel's Evergreen, Country Gentleman, (late.) In planting, the Country Gentleman should not be omitted, as it lightens the season very considerably, and is of fine quality.



*Cucumbers*.—Thirty-three varieties tested. Peerless White Spine or White Spine, Cool and Crisp, and Giant Pera are three of the most satisfactory slicing varieties. Boston Pickling is a good pickling sort.

*Egg Plants*.—Six varieties tested. New York Improved and Long Purple succeed best.

*Lettuce*.—Twenty-nine varieties tested. Black Seeded Simpson, New York, (curled); Tennis Ball, Salamander, and Golden Queen, (cabbage); Trianon and Paris White Cos lettuce make a good list.

*Melons, Musk*.—Nineteen varieties tested. Long Island Beauty, Hackensack and Montreal Market, of the Nutmeg type, and Surprise, Bayview and Christiana, of the other types, are all good.

*Melons, Water*.—Ten varieties tested. New Imperial, Ice Cream, and Phinney's Early, are water melons of excellent quality.

*Onions*.—Fifty-five varieties tested. Yellow Globe Danvers, and Large Red Wethersfield, are two of the best onions in cultivation.

*Parsnips*.—Three varieties tested. Hollow Crown and Dobbies Selected are both good sorts.

*Parsley*.—Eight varieties tested. Double Curled is as good as any.

*Peppers*.—Fourteen varieties tested. Cayenne, Cardinal, Squash, and Golden Dawn are four of the best.

*Pease*.—103 varieties tested. Nott's Excelsior, American Wonder, Gradus and Gregory's Surprise, (early); Heroine, Improved Stratagem, and McLean's Advancer, (medium). None of these are tall growing varieties. Juno (dwarf), Telephone, Veitch's Perfection (tall), (late).

*Potatoes*.—Extra Early: Earliest of all and Burpee's Extra Early (pink and white). Early: Everett and Rochester Rose, (pink), Early Puritan, (white). Medium: Carman No. 1, (white), Empire State, (white). Late: Late Puritan, (white), American Wonder (white), Rural Blush, (pink).

*Radishes*.—Forty-two varieties tested. Early: Rosy Gem, French Breakfast, Red Rocket. Late: White Strasburg, Long White Vienna. Winter: Long Black Spanish, Chinese Rose-coloured.

*Rhubarb*.—Six varieties are being tested. Linnaeus and Victoria are the most satisfactory.

*Salsify*.—Four varieties tested. Long White is the best.

*Spinach*.—Eight varieties tested. Victoria and Thick-leaved are the best.

*Squash*.—Twenty-four varieties tested. Early: White Bush Scalloped and Summer Crook Neck. Late: Hubbard.

*Tomatoes*.—One hundred and three varieties tested. Early:—Earliest of All, Dwarf Champion, and Early Ruby. Main crop:—Brinton's Best, Livingston's Favorite Matchless, and Baltimore Prize Taker.

There are many varieties of this vegetable which are almost equal in excellence and productiveness.

*Turnips*.—Twenty-four varieties tested. Early:—Extra Early Milan and Red Top Strap Leaf. Swedes:—Champion Purple Top, Skirving Improved.

# Experimental Farms.

## EXPERIMENTS WITH POTATOES.

This year was not very favourable for potatoes, as the weather was dry throughout most of their growing season and the yield on that account was not so large as usual. In a test of 116 varieties, however, grown under as nearly uniform conditions as possible, the average yield per acre of the whole series was 253 bushels 19 pounds, which is 170 bushels 59 pounds above the average for Ontario for this year, and 138 bushels 19 pounds above the average for the past 17 years. The average of the best twelve was 243 bushels 21 pounds above the average for Ontario, and of the poorest twelve 61 bushels 34 pounds above. The average for Ontario, for 1898, was 84 bushels. This would seem to indicate that the farmers throughout the country are not adopting the best methods of cultivation, or are not growing the most productive varieties. The potatoes were planted this year in the orchard enclosure in sandy loam soil, which was in good condition. This land was ploughed in the autumn of 1897, and again in the spring of 1898, shortly before the time of planting; then disc-harrowed, and finally brought into condition for planting, by the smoothing harrow. The drills were made about 6 inches deep and 2½ feet apart, and the sets, which had, as a rule, three eyes, were of good size and were dropped 1 foot apart, each variety occupying one row 66 feet long. The potatoes were covered with the hand-hoe to insure the most uniform conditions. Just as the vines were coming through the ground, the land was harrowed to kill weeds. The potatoes were cultivated three times throughout the summer, but were not killed up. They were sprayed once with Paris green alone and five times with Bordeaux mixture and Paris green mixed. The potatoes were planted on May 26th and 27th, and dug on the 6th and 7th October.

Besides the uniform test plots, experiments were conducted to determine the best time of planting, the best depth to plant, the best distance apart in the rows to plant and how the seed should be cut to produce the best crops. Results of tests of this kind vary so much, however, from year to year, and with different varieties, that several seasons trials are necessary before satisfactory data can be obtained.

### POTATOES—TEST OF VARIETIES.

Name of Variety.	Quality.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Un-marketable.		Colour.
		Bush.	lbs.	Bush.	lbs.	Bush.	lbs.	
Holborn Abundance.	Medium.	393	48	347	36	46	12	White.
Early White Prize.	Good.	369	36	294	48	74	48	"
Late Puritan.	"	358	36	349	48	8	48	"
Rose No. 9.	Medium.	354	12	314	36	39	36	Pink.
Empire State.	Good.	345	24	277	12	68	12	White.
American Wonder.	"	338	48	323	24	15	24	"
State of Maine.	"	325	36	299	12	26	24	"
Rural Blush.	"	325	36	272	48	52	48	Pink.
Northern Spy.	Poor.	325	36	286	..	39	36	Bright pink.
Seedling No. 7.	Medium.	321	12	268	24	52	48	"
Rural No. 2.	"	319	..	286	..	33	..	"
Carman No. 1.	"	316	48	292	36	24	12	White.
Polaris.	"	316	48	286	..	30	48	"
Green Mountain.	"	314	36	286	..	28	36	"
Seattle.	Poor.	308	..	255	12	82	48	"
Peerless Junior.	Good.	308	..	286	..	22	..	"
Rose of the North.	"	305	48	275	..	30	48	Pink.
Clay Rose.	Poor.	303	36	268	24	30	48	"
Lee's Favourite.	Good.	303	36	259	36	44	..	"
Napoleon.	"	303	36	257	24	46	12	"
Burnaby Mammoth.	"	301	24	264	..	37	24	Pink and white.
Pride of the Table.	Poor.	299	12	272	48	26	24	Pink.
Flemish Beauty Seedling.	"	299	12	261	48	37	24	Bright pink.
Rochester Rose.	Good.	297	..	272	48	24	12	Pink.

## POTATOES—TEST OF VARIETIES—Continued.

Name of Variety.	Quality.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Colour.
		Bush.	lbs.	Bush.	lbs.	Bush.	lbs.	
Rawdon Rose	Good	294	48	233	12	61	36	Pink and white.
Canadian Beauty	"	294	48	253	..	41	48	"
Burnaby Seedling	"	294	48	259	36	35	12	Pink and white.
Money Maker	"	294	48	224	24	70	24	White.
American Giant	Medium	290	24	237	36	52	48	"
Record	"	288	12	222	12	66	..	"
Dreer's Standard	Good	288	12	250	48	37	24	"
Early Ohio	"	286	..	224	24	61	36	Pink.
Irish Cobbler	"	279	24	259	36	19	48	White.
Reeve's Rose	"	279	24	242	..	37	24	Pink.
Earliest of All	Good	279	24	209	..	70	24	Pink and white.
Sir Walter Raleigh	"	277	12	255	12	22	..	White.
New Queen	Good	277	12	233	12	44	..	Pink and white.
Early Norther	Medium	277	12	215	36	61	36	Pink.
New Variety No. 1	Poor	275	..	228	48	46	12	White.
Bill Nye	"	275	..	215	36	59	24	"
Maggie Murphy	Medium	272	48	242	..	30	48	Bright pink.
Daisy	Good	270	36	246	36	44	..	Pink and white.
Vick's Extra Early	"	270	36	222	12	48	24	"
Oregon Beauty	"	268	24	242	..	26	24	White.
Bovee	"	266	12	204	36	61	36	Pink and white.
Carman No. 3	Good	266	12	244	12	22	..	White.
Queen of the Valley	Medium	266	12	222	12	44	..	Bright pink
Everett	Good	264	..	231	..	33	..	Pink.
Troy Seedling	Medium	264	..	206	48	57	12	White.
Good News	"	264	..	231	..	33	..	Pink.
Delaware	Good	264	..	239	48	24	12	White.
Dakota Red	Medium	261	48	213	24	48	24	Red.
Honeye Rose	Good	261	48	244	12	17	36	Pink.
Early Six Weeks	"	261	48	193	36	68	12	"
Irish Daisy	"	259	36	158	24	101	12	White.
Early Rose	"	259	36	189	12	70	24	Pink.
Thorburn	"	259	36	198	..	61	36	Pink and white.
Seedling No. 230	Medium	259	36	215	36	44	..	White.
Crown Jewel	Good	259	36	206	48	52	48	Pink and white.
Pearce's Extra Early	"	257	24	178	12	79	12	Pink.
General Gordon	"	257	24	224	24	33	..	"
Beauty of Hebron	Medium	255	12	202	24	52	48	Pink and white.
White Beauty	Good	255	12	158	24	96	48	White.
Monroe County	Medium	255	12	215	36	39	36	Pink.
Cambridge Russet	"	253	..	231	..	22	..	White.
Vanier	Poor	253	..	220	..	33	..	Red.
Early Sunrise	Good	250	48	206	48	44	..	Pink.
Early Harvest	"	250	48	171	36	79	12	White.
Satisfaction	"	250	48	215	36	35	12	"
Clarke's No. 1	"	248	36	204	36	44	..	Pink.
Chicago Market	Good	248	36	202	24	46	12	Pink.
Ideal	"	248	36	233	12	15	24	"
Wonder of the World	Good	248	36	200	12	48	24	Pink and white.
Columbus	"	244	12	224	24	19	48	"
Hopeful	Medium	239	48	215	36	24	12	White.
Ohio Junior	"	239	48	191	24	48	24	Pink.
Early Puritan	Good	239	48	211	12	28	36	White.
Uncle Sam	"	239	48	198	00	41	48	"
Lizzie's Pride	Good	237	36	145	12	92	24	Pink, red eye.
Blue Cup	Medium	235	24	198	..	37	24	Blue and white.
Reading Giant	Poor	235	24	169	24	66	..	Pink.
Brown's Rot Proof	Medium	233	12	195	48	37	24	"
Early Fortune	"	233	12	187	..	46	12	"
Maule's Thoroughbred	"	228	48	187	..	41	48	"
Stourbridge Glory	Good	228	48	160	36	68	12	White.
Early Gem	Medium	224	56	143	32	81	24	Pink.
Quaker City	"	222	12	198	..	24	12	White.
Table King	Poor	222	12	156	12	66	..	"
White Elephant	"	220	12	193	36	26	24	Pink and whiet

# Experimental Farms.

## POTATOES—TEST OF VARIETIES—*Concluded.*

Name of Variety	Quality.	Total Yield per Acre.		Yield per Acre of Marketable		Yield per Acre of Unmarketable.		Colour.
		Bush.	lbs.	Bush.	lbs.	Bush.	lbs.	
Orphans.....	Medium..	220	..	167	12	52	48	White.
Sharpe's Seedling.....	Good.....	220	..	127	36	92	24	Pink and white.
Pearce's Prize Winner.....	".....	215	36	176	..	39	36	Pink.
World's Fair.....	".....	215	36	158	24	57	12	White.
Sutton's Main Crop.....	".....	211	12	156	12	55	..	"
Prize Taker.....	".....	211	12	149	36	61	36	Pink.
Hale's Champion.....	".....	211	12	149	36	61	36	White.
Freeman.....	Good.....	209	..	147	24	61	36	"
L. X. L.....	".....	209	..	123	12	85	48	Pink and white.
Victor Rose.....	Medium..	206	48	154	..	52	48	Pink.
Pride of the Market.....	Good.....	202	24	184	48	17	36	White.
Great Divide.....	".....	198	..	136	24	61	36	"
McKenzie.....	".....	198	..	149	36	48	24	"
Burpee's Extra Early.....	".....	193	36	132	..	61	36	Pink and white.
Sutton's Abundance.....	".....	182	36	112	12	70	24	White.
Algoma No. 1.....	".....	180	24	136	24	44	..	Pink.
Harbinger.....	".....	167	12	127	36	39	36	Pale pink.
London.....	Medium..	167	12	136	24	30	48	Pink.
Brownell's Winner.....	Good.....	165	..	112	12	52	48	Red.
Houlton Rose.....	".....	156	12	136	24	19	48	White.
Fillbasket.....	".....	154	..	140	48	13	12	Bright pink.
Seedling No. 214.....	Good.....	154	..	127	36	26	24	White.
Charles Downing.....	".....	151	48	94	36	57	12	"
Lightning Express.....	".....	151	48	140	48	11	..	Pink.
Russell's Seedling.....	Poor.....	149	36	99	..	50	36	White.
King of the Roses.....	".....	145	12	105	36	39	36	Pink and white.
White Kidney.....	".....	145	12	88	..	57	12	White.

Every year samples of potatoes are received for test, which are either seedlings not yet named, new named varieties, or varieties for identification. As the quantity received of each of these is usually smaller than that used in the uniform test plots, the comparison of yields between these and the named varieties would not be very conclusive. For this reason, the results of the samples received this year are put in a separate table. Those varieties, also, not yet named which we have had for more than one year, are not included in the uniform test plots, and another table shows the results obtained from them.

### POTATOES RECEIVED FOR TEST BEFORE 1898.

Address of Sender.	No. of Sets.	Total Yield per Acre.		Yield per Acre Marketable.		Yield per Acre Unmarketable.	
		Bush.	lbs.	Bush.	lbs.	Bush.	lbs.
No address (Smooth White Variety).....	66	391	36	378	24	13	12
J. N. Bergeron, Somerset, P.Q.....	66	365	12	343	12	22	..
H. S. Sabean, New Tusket, N.S.....	66	292	36	246	24	46	12
R. Edwards, Mohawk, Ont. (No. 3).....	66	290	24	215	36	74	48
A. S. Brosseau, Abbotsford, P.Q.....	66	264	..	242	..	22	..
E. Lortie.....	66	261	48	209	..	52	48
R. Edwards, Mohawk, Ont. (No. 2).....	66	250	48	193	36	57	12
W. J. McCord, Marchurst, Ont.....	66	213	24	178	12	35	12
D. R. Mackintosh, Pleasant Bay, N.B.....	66	211	12	99	..	112	12

POTATOES RECEIVED FOR TEST, 1898.

Address of Sender.	No. of Sets.	Total Yield per Acre.		Yield per Acre Marketable.		Yield per Acre Un-marketable.	
		Bush.	lbs.	Bush.	lbs.	Bush.	lbs.
		Mills Prize.....	33	413	36	396	..
No. 2 from A. Perron, St. Hilarion, P.Q.....	6	290	24	266	12	24	12
Rose of Erin, B. Bergeron, Sherbrooke, P.Q.....	33	277	12	255	12	22	..
Early Dawn, H. C. Marsh, Muncies, Ind.....	33	245	1	208	43	36	18
J. K. Darling, Almonte, Ont.....	33	237	36	198	..	39	36
Early Andes, H. C. Marsh, Muncies, Ind.....	33	220	..	184	48	35	12
White Giant, B. Bergeron, Sherbrooke, P.Q.....	16	217	47	190	34	27	13
Seedling, G. A. Doherty, Leamington, Ont.....	33	211	12	176	..	35	12
Pink Eye, B. Bergeron, Sherbrooke, P.Q.....	33	189	12	140	48	48	24
No. 1, A. Perron, St. Hilarion, P.Q.....	10	188	46	..	..	..	..
Champion of the Earlies, M. Buzzoll, Cherry River, P.Q.....	33	176	..	140	48	35	12
Craig Seedling, J. K. Darling, Almonte, Ont.....	16	90	44	81	40	9	4

TOMATOES.

There were 103 varieties of tomatoes under test this year, the experiments conducted being to determine the productiveness, earliness and freedom from rot of the different sorts. These were grown under as nearly uniform conditions as possible, so that the results might be more reliable. The seed was sown in hot-beds on the 11th of April; the plants transplanted into strawberry boxes and put into cold frames on the 3rd of May; and transplanted to the field on the 3rd of June. Six plants of each variety were used in the uniform test plots and were planted 4 x 4 feet apart. The early part of the season was dry, and during this period the yield was light, but later on there was a good crop and the total yield was large. In the following table particulars are given regarding the different varieties tested:—

Order of Merit.	Variety.	Date of first Ripe Fruit.	Yield of Ripe Fruit from first three pickings.		Yield of Ripe Fruit from last three pickings.		Total Yield of Ripe Fruit.		Yield per Acre of Ripe Fruit.		Yield per Acre of Green Fruit.		Yield per Acre of Rotten Fruit.	
			Lbs.	Oz.	Lbs.	Oz.	Lbs.	oz.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
			1898.											
1	New Golden Queen.....	Aug. 8.	24	3	116	..	140	3	31	1,610	2	991	..	..
2	Ex. Ey. Advance.....	" 5.	20	9	103	6	123	15	28	237	3	1,260	..	520
3	Alpha.....	" 4.	30	8	92	8	123	..	27	1,811	1	1,630	..	..
4	Mikado.....	" 15.	10	12	110	..	120	12	27	790	1	1,176	..	453
5	Canada Victor.....	July 30.	17	10	103	..	120	10	27	733	2	1,445	..	..
6	Conference.....	" 30.	25	12	95	8	121	4	27	1,017	6	795	..	..
7	Earliest Market.....	" 30.	54	2	63	8	117	10	26	1,372	1	1,176	2	991
8	Comrade.....	" 26.	15	4	98	8	113	12	25	1,614	4	167	..	..
9	Bright and Early.....	Aug. 4.	18	5	92	12	111	1	25	395	4	1,075	..	..
10	Freedom.....	July 30.	9	10	99	8	109	2	24	1,515	8	1,242	..	..
11	Earliest of All.....	" 26.	35	10	71	8	107	2	24	608	2	537	..	453
12	Atlantic Prize.....	" 30.	23	7	83	..	106	7	24	296	3	806	..	1,315
13	Conqueror.....	" 29.	20	7	84	8	104	15	23	1,615	3	1,260	1	808
14	Trophy.....	Aug. 15.	8	2	94	4	102	6	23	453	1	495	..	..
15	Ex. Ey. Richmond.....	" 4.	19	6	81	..	100	6	22	1,545	2	537	..	680
16	Early Jersey.....	July 28.	17	..	80	8	97	8	22	241	4	167	..	..
17	Livingston's Favorite.....	Aug. 21.	14	12	81	..	95	12	21	1,447	9	130	..	1,588

# Experimental Farms.

## TOMATOES —Continued.

Order of Merit.	Variety.	Date of first Ripe Fruit.	Yield of Ripe Fruit from first three pickings.		Yield of Ripe Fruit from last three pickings.		Total Yield of Ripe Fruit.		Yield per Acre of Ripe Fruit.		Yield per Acre of Green Fruit.		Yield per Acre of Rotten Fruit.	
			Lbs.	Oz.	Lbs.	Oz.	Lbs.	oz.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
		1898.												
18	Early Ruby	July 29	27		67		94		21	652	1	1,176		1,815
19	Early Bermuda	" 30	40	10	55	4	93	14	21	595	11	687		1,560
20	Bonds Ey. Minnesota	" 27	32	8	61	4	93	12	21	539	3	806		
21	New Combination	Aug. 4	16	14	74		90	14	20	1,235	4	1,982		
22	Money Maker	July 30	26	4	63	12	90		20	837	1	1,176	1	98
23	Brinton's Best	Aug. 15	8	11	76	8	85	3	19	654	14	1,040	2	765
24	Democrat	" 4	2	13	81	8	84	5	19	257	6	251		
25	Autocrat	" 21	9	4	73	8	83	12	19	2	9	150		1,475
26	Faultless Early	July 30	19	15	62	12	82	11	18	1,519	4	1,982		1,106
27	Matchless	Aug. 5	5	15	74	12	80	11	18	611	13	771		
28	Mitchell's No. 1	" 10	5	6	74		79	6	18	17	17	1,846	1	268
29	Red & Yellow Pear Shaped	" 4	7	9	71		78	9	17	1,648	6	251		
30	Large Red Perfection	" 18	9	7	67		76	7	17	683	4	621		
31	Horsford Prelude	" 4	20		54	8	74	8	16	1,804		1,815		
32	New Golden Queen	" 3	8		69	8	73		16	1,123	7	66		1,134
33	Golden Fig	" 4	14	10	58		72	10	16	953	3	1,260		
34	Golden Jubilee	" 21	3	12	68	12	72	8	16	897	4	1,188	4	621
35	Nicholson	" 4	16	8	54		70	8	15	1,989	4	167		453
36	Lorillard	" 4	20		50	4	70	4	15	1,876	4	621		
37	Virginia Corker	" 15	8	14	60	8	69	6	15	1,479	6	1,159		1,702
38	Table Queen	" 4	8	8	60	8	69		15	1,309	9	150		453
39	Yellow Peach	" 4	4		64		68		15	855	10	1,326		
40	Upright Station Tree	" 4	27	7	40	8	67	15	15	827	1	1,630	1	1,630
41	Ten Ton	" 21	3	4	64	8	67	12	15	742	13	771	1	1,176
42	Livingston's Stone	" 21	6	12	61		67	12	15	742	7	1,881		1,248
43	Fordhook's Fancy	July 30	18	4	49		67	4	15	515	4	621		
44	Livingston's Beauty	Aug. 15	11	10	55	8	67	2	15	457	9	1,511	1	1,176
45	Baltimore Prize Taker	" 4	19	8	47	8	67		15	401	5	209	1	1,155
46	Canada	" 4	6	4	60	8	66	12	15	288	5	1,797	1	1,290
47	Terra Cotta	" 10	11	12	54		65	12	14	1,831	10	1,326		
48	Boston Market	July 30	12	4	53		65	4	14	1,607	6	1,612	1	1,630
49	Potato Leaf	Aug. 15	6	4	57		63	4	14	700	9	1,965		1,560
50	May's Favorite	" 15	4	11	58	8	63	4	14	671	11	234	2	83
51	State Fair	" 4	10	1	53		63	1	14	615	4	1,982		453
52	Stone	" 10	8	4	53	8	61	12	14	19	12	1,864		
53	Golden Queen	" 10	3	4	58		61	4	13	1,792	9	504		794
54	Ruby Queen	" 15	4	9	56	4	60	13	13	1,594	9	150		
55	Royal Red	" 18	5	14	54	8	60	6	13	1,395	9	150	1	1,176
56	Golden Sunrise	" 15	4	4	55	12	60		13	1,225	9	1,057	1	722
57	Dwarf Golden Champion	" 11	9	12	50		59	12	13	1,111	7	66		1,248
58	Maule's New Imperial	" 15	8	7	51	4	59	11	13	1,083	7	520	2	991
59	Aristocrat (Bruce)	" 15	10	8	49		59	8	13	998	5	890		
60	Vick's Early	" 6	8	6	50	12	59	2	13	828	5	1,797		
61	Honor Bright	" 4	14	8	44	8	59		13	771	8	789		907
62	Mayflower	" 10	5		54		59		13	771	10	872		
63	Long Keeper	" 6	10	2	48		58	2	13	374	4	1,529	1	949
64	Aristocrat	July 30	13	2	45		58	2	13	374	3	352		964
65	Brandywine	Aug. 15	8		50		58		13	317	11	1,141	1	42
66	Peach	" 15	7	12	49	8	51	4	12	1,977	9	1,511		
67	Diadem	" 15	18	15	47	4	56	3	12	1,495	6	251		680
68	New Imperial	" 16	5	3	51		56	3	12	1,495	4	1,075		
69	Acne	" 7	16	8	39		55	8	12	1,183	5	1,684	3	1,430
70	Golden Trophy	" 15	3	14	51		54	14	12	899	9	150	2	1,785
71	Waldorf	" 4	2		52	12	54	12	12	843	6	1,141		1,049
72	Cheney's Early	" 15	9	8	44	12	54	4	12	616	4	1,529	1	1,155
73	Chemis	" 15	8	7	45	12	54	3	12	588	8	1,796		1,021
74	Sutton's Best of All	" 4	9	9	44	8	54	1	12	531	8	1,796	1	42
75	Novelty	" 4	12	49			53	12	12	389	9	1,511	2	1,445
76	Essex Hybrid	Aug. 4	8	1	45	8	53	9	12	304	5	1,797	1	1,913
77	Cardinal	" 15	4		48	8	52	8	11	1,822	9	150		1,475
78	Buckeye State	" 15			52		52	0	11	1,595	9	1,965	1	496
79	Trophy	" 4	8	8	43		51	8	11	1,368	7	66	1	42

TOMATOES—*Concluded.*

Order o Merit.	Variety.	Date of first Ripe Fruit.	Yield of Ripe Fruit from first three pickings.		Yield of Ripe Fruit from last three pickings.		Total Yield of Ripe Fruit.		Yield per Acre of Ripe Fruit.		Yield per Acre of Green Fruit.		Yield per Acre of Rotten Fruit.	
			Lbs.	Oz.	Lbs.	Oz.	Lbs.	oz.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
80	Essex Early.....	July 30..	5	2	45	7	50	10	11	971	9	1,057	1	212
81	General Grant.....	Aug. 4..	3	1	47	8	50	9	11	942	9	1,965	1	836
82	Large Yellow.....	" 15..	12	11	46	8	49	3	11	319	14	1,494	2	1,558
83	Matchless.....	" 21..	4	4	44	4	48	8	11	7	11	234	1	1,290
84	Dwarf Champion.....	" 5..	10	15	31	12	42	11	9	1,368	4	621	1	694
85	Queen.....	" 4..	1	9	41	..	42	9	9	1,266	11	234	..	822
86	Royal Red.....	" 15..	3	11	38	12	42	7	9	1,256	11	1,141	1	297
87	Red Currant.....	" 4..	..	..	42	..	42	..	9	1,057	..	..	..	..
88	Red Apple.....	" 21..	12	15	37	8	40	7	9	348	11	1,595	1	98
89	Thorburn's New York.....	" 16..	7	2	32	12	39	14	9	93	9	1,511	2	1,558
90	Lemon Blush.....	" 15..	4	6	35	7	39	14	9	92	9	1,057	2	991
91	Michigan.....	" 10..	7	1	32	..	39	1	8	1,724	6	1,159	1	1,630
92	County Fair.....	July 30..	11	12	26	8	38	4	8	1,356	4	1,075	..	1,588
93	Beauty.....	Aug. 19..	1	7	36	..	37	7	8	984	10	1,326	1	1,517
94	World's Fair.....	" 6..	5	10	31	..	36	10	8	618	6	251	2	83
95	Station Tree.....	" 21..	..	..	34	8	34	8	7	1,654	4	1,982	..	794
96	Picture Rock.....	" 15..	8	..	26	..	34	..	7	1,427	9	150	2	310
97	New Jersey.....	" 16..	3	1	30	8	33	9	7	1,229	9	150	..	227
98	Volunteer.....	" 4..	4	12	28	..	32	12	7	860	9	1,057	2	1,445
99	Ivory Ball.....	" 16..	4	6	28	4	32	10	7	803	11	1,595	..	..
100	Fordhook.....	" 10..	12	4	20	4	32	8	7	747	7	66	2	1,105
101	Climbing.....	" 18..	2	8	28	12	31	4	7	180	17	485	..	1,135
102	Strawberry or Ground Cherry.....	..	..	..	29	12	29	12	6	1,499	2	83	..	..
103	Paragon.....	Aug. 15..	2	..	22	..	24	..	5	890	11	234	1	1,176
104	Ignotum.....	" 13..	1	4	22	..	23	4	5	549	10	1,326	1	13
105	Burbank Preserving.....	" 15..	1	15	19	8	21	7	4	1,727	3	1,764	..	..

The six wrinkled varieties which have given the best average yields in three years are :—

Early Bermuda.....	Lbs. oz.	17 12	per plant.
Extra Early Jersey.....	17 9	"	
Early Richmond.....	17 6	"	
Money Maker.....	17 2	"	
Democrat.....	16 11	"	
Conqueror.....	16 10	"	

The twelve smooth varieties which have given the best average yields in three years are :—

Brinton's Best.....	Lbs. oz.	17 10	per plant.
Baltimore Prize Taker.....	16 14	"	
Extra Early Advance.....	16 14	"	
Canada Victor.....	16 12	"	
Comrade.....	16 7	"	
Mayflower.....	16 4	"	
Livingston's Favorite.....	16 2	"	
Early Ruby.....	16 1	"	
Cardinal.....	15 10	"	
Atlantic Prize.....	15 7	"	
Thorburn's Long Keeper.....	15 6	"	
Matchless.....	15 6	"	

# Experimental Farms.

## GARDEN PEASE.

There were 103 varieties of garden pease tested this year, but as a list of 101 varieties was given in the report of the Horticulturist for 1896, with information regarding them, a full list is not published this year. In the following table, however, will be found a list of the earliest 25 varieties tested, with notes as to time of blooming, time when ready for table use, productiveness, quality, etc. The pease were planted on 13th April, in rows 15 feet long, 200 pease of each sort being used. A list of the best varieties covering the whole season will be found in the "List of Best Vegetables for farmers," which appears on page 109 of this report.

TWENTY-FIVE EARLIEST VARIETIES OF PEASE.

Name.	Seedsmen.	Date of Blossoming.	When Ready for Table.	Average number of pease per pod.	Yield of dried pease.	Kind of pease, wrinkled or smooth.	Height.	Quality.
					Lbs. oz.		Feet.	
Cleveland's First and Best.	Ewing	May 29	June 15	6	1 7 $\frac{1}{2}$	S.	3 to 3 $\frac{1}{2}$	Good.
Early Frame Improved.	Landreth	" 30	" 15	6	1 12 $\frac{1}{2}$	S.	3 to 3 $\frac{1}{2}$	Medium.
Exonian	Thorburn	" 29	" 16	6	11	W.	1 to 2	Very good.
Extra Early Star	Ewing	" 29	" 16	3	2 6	S.	3 to 4	Good.
Thorb. Extra Early Market	Thorburn	" 29	" 16	6	1 6 $\frac{1}{2}$	S.	3 to 3 $\frac{1}{2}$	Medium.
Extra Early Pioneer	Dreer	" 29	" 16	5	1 1	S.	1 to 2	"
Tom Thumb	Thorburn	" 30	" 16	6	2 1	S.	2 $\frac{1}{2}$ to 3	"
Rural New Yorker	"	" 30	" 16	5	2 1	S.	3 to 4	"
Gregory's Surprise	"	" 29	" 17	6	7	W.	2 to 3	Very good.
Bergen Fleetwing	Gregory	" 29	" 17	5	2 1 $\frac{1}{2}$	S.	2 to 2 $\frac{1}{2}$	Good.
Daniel O'Rourke Improved	Thorburn	" 29	" 17	7	1 4	S.	2 to 3	Medium.
Early Kent	Ewing	" 29	" 17	5	2 1	W.	3 to 3 $\frac{1}{2}$	"
Early Dexter	Farquhar	" 29	" 17	7	2 7	S.	3 to 3 $\frac{1}{2}$	Good.
Early May Improved	Landreth	" 29	" 17	7	1 15	S.	3 to 4	"
Hancock	Gregory	" 29	" 17	3	2 2 $\frac{1}{2}$	S.	2 to 3	"
Station	Thorburn	" 29	" 17	6	1 3	W.	2	"
Sumol	Gregory	" 30	" 17	3	1 11 $\frac{1}{2}$	S.	3	"
American Wonder	Thorburn	" 30	" 17	6	1 3 $\frac{1}{2}$	W.	1 to 1 $\frac{1}{2}$	Very good.
Alaska	"	" 30	" 17	5	1 7	S.	2 to 2 $\frac{1}{2}$	Good.
Extra Early	Landreth	" 30	" 17	5	1 11	S.	1 to 1 $\frac{1}{2}$	"
Evergreen Pod	"	" 30	" 17	6	8	W.	2 to 3	"
New Maud S.	Backbee	" 30	" 17	5	2 7	S.	4 to 4 $\frac{1}{2}$	Medium.
Philadelphia	Thorburn	" 31	" 17	5	1 11	S.	4 to 4 $\frac{1}{2}$	"
Gradus (Prosperity)	Dreer	" 29	" 18	7	12	W.	2 to 3 $\frac{1}{2}$	Very good.
Alpha	Thorburn	" 29	" 18	5	1 1 $\frac{1}{2}$	W.	4 to 4 $\frac{1}{2}$	Good.

NOTE.—Exonian, Gregory's Surprise, Evergreen Pod and Gradus did not germinate well, which accounts, in part, for the small yield of these varieties. Nott's Excelsior, which was ready for use on June 20th, and is one of the best early pease, is deserving of special mention.

## TOBACCO.

The testing of different varieties of tobacco was continued this year, 35 sorts being planted. The seed was sown in a hot-bed on the 16th April; the young plants transplanted into a cold frame on 30th May, and most of them planted in the field on the 13th June.

The tobacco was grown on a sandy loam soil, enriched with a heavy dressing of farm-yard manure and a crop of Lucerne clover, which was ploughed under on the 20th of May. The land was then disc-harrowed. Previous to planting it was disc-harrowed again, and brought into good condition with the smoothing harrow. The tobacco was planted in rows 4 feet apart and 3 feet apart in the rows. Fifteen plants of each variety were set out in uniform test plots, while larger plots were also planted of some



sorts. The soil was cultivated at intervals (four times in all) to kill weeds and preserve moisture, until the plants were too large to admit of the passage of a horse between the rows without injury to the leaves. As the different varieties were not in the same condition at one time, the topping and priming of all could not be done on the same days. The tobacco made very satisfactory growth, and most of the varieties matured sufficiently to be in good condition for cutting on the 9th September, when the plants were cut and taken to the curing house, where, after they were cured, the leaves were stripped off, weighed, and piled for fermentation.

In the following table particulars are given of the date of topping, total weight of first grade dried leaves, weight of second grade dried leaves, weight of third grade dried leaves and estimated total weight per acre of dried leaves:—

Name.	Seedsman.	Date of Topping.	Yield per acre dry leaves, 1st grade.		Yield per acre, dry leaves, 2nd grade.		Yield per acre, dry leaves, 3rd grade.		Total yield per acre dry leaves.	
			Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
Maryland	Evans	August 12	899	9	733	9	211	12	1,844	14
Granville Co. Yellow	Henderson	" 2	787	13	801	10	166	6	1,755	13
Kentucky Burley	Thorburn	" 12	703	5	650	6	393	4	1,746	15
Oronoko Yellow	"	" 2	673	1	771	6	196	10	1,641	1
Tennessee Red	"	" 2	847	..	680	10	105	14	1,633	8
White Stem	Henderson	" 2	654	8	759	4	200	12	1,614	8
Hyc	"	" 2	642	13	718	7	242	..	1,603	4
Yellow Mammoth	Thorburn	" 2	794	1	673	1	128	9	1,595	11
Safrano	"	" 12	741	2	680	10	166	6	1,588	2
Hartford	Evans	" 12	756	4	506	11	294	15	1,557	14
Brazilian American	Thorburn	" 12	801	10	650	6	105	14	1,557	14
Yellow Pryor	"	" 2	711	9	970	5	154	11	1,536	9
Sumatra	"	" 2	400	13	778	15	355	7	1,534	9
Oronoko White Stem	"	" 2	710	14	627	11	166	6	1,504	15
Connecticut Seed Leaf	Evans	" 2	548	4	661	11	217	7	1,427	6
Conqueror	Thorburn	" 2	680	10	589	14	151	4	1,421	12
Hester	Evans	" 2	529	6	582	5	310	1	1,421	12
Gold Leaf	"	" 12	567	3	607	11	218	12	1,393	10
Pennsylvania Seed Leaf	Thorburn	" 12	400	13	635	4	355	7	1,391	8
Virginia One Sucker	"	" 12	536	15	703	5	151	4	1,391	8
Climax	"	" 12	627	11	574	12	189	1	1,391	8
Bradley's Broad Leaf	Chevrier	" 12	736	..	476	7	113	7	1,325	14
White Burley	Evans	" 12	642	13	521	13	158	13	1,323	7
Virginia Oak Hill	Thorburn	" 12	544	8	544	8	196	10	1,285	10
Sterling	Evans	" 12	582	5	552	1	121	..	1,255	6
Honduras	Thorburn	" 2	506	11	582	5	143	11	1,232	11
Sterling	Thorburn	August 12	478	15	567	3	163	1	1,209	3
Zimmer's Spanish	Henderson	July 30	499	2	605	..	98	5	1,202	7
Big Boston	Evans	" 12	597	7	491	9	113	7	1,202	7
Tuckahoe	Thorburn	" 2	468	14	521	13	196	10	1,187	5
Primus	Henderson	" 2	521	13	461	5	181	8	1,164	10
Havana	Thorburn	July 21	211	12	393	4	491	9	1,096	9
Cuban Seed Leaf	Chevrier	August 2	354	8	283	9	382	14	1,020	15
Bullock's Tongue	"	" 12	330	..	391	14	154	11	876	9
Havana	Evans	" 12	198	8	397	..	254	12	850	4
Florida	Henderson	" 12	173	15	211	12	363	..	748	11
Persian Rose	Thorburn	" 2	242	..	181	8	287	6	710	14
Cannelle	Chevrier	July 18	132	8	132	8	190	7	455	7

The Kentucky Burley, White Burley, Yellow Pryor, Yellow Mammoth, Connecticut Seed Leaf, and Pennsylvania Seed Leaf are, taking everything into consideration, probably the most profitable varieties to grow. Some of those which yielded heavier than these were too late in maturing to reach the best condition.

# Experimental Farms.

## FOREST BELTS.

The work of taking measurements of the growth of the trees in the forest belts has been continued this year. The trees, on the whole, have not made very strong growth, but the white, Scotch, and Austrian pines and European larch have done well. The white pine, especially, which, in some places, is growing on apparently almost pure sand, continues to make a growth of from 2 to 3 feet each year.

Cultivation was continued in those parts of the belts where the trees do not make sufficient shade to prevent the formation of sod or the growth of weeds. The belt planted in the autumn of 1894 was cultivated during part of the season, but the trees in the greater part of this belt will not require cultivation in future. Tamarac and canoe and yellow birch, which were pulled up in an adjoining swamp with very few roots, and planted in this belt, have become well established and made good growth this year.

In the mixed forest belt, where the different varieties are intermingled, some of the faster growing trees had begun to exclude the light from those which had not made such rapid growth. A man with a hook was sent through the belt and the obstructing branches cut back, so as to allow the full rays of the sun to reach the leaders of the over-shadowed trees. This, in many cases, saved the pine trees, and in other cases preserved their leaders from destruction. It will be necessary to continue this work from year to year, in order to save the more valuable timber trees and to assist in the formation of tall, straight trunks.

The Russian poplars continued to die from the species of dry rot mentioned in previous reports. The variety known as *Populus alba bolleana*, which makes such a handsome tree, has, during the past two years, become badly affected, and numbers of them have died and are still dying. Each year's experience demonstrates that black walnut will not succeed where there is a cold, wet subsoil. The trees in the forest belts where the soil is of this character are almost at a standstill, while in other places on the farm where they are in warmer soil, they make a growth of from 2 to 4 feet in a season. The black walnut trees planted in 1888 in clay loam soil began to fruit last year, and again had some nuts this year, but the boys got them before they reached maturity.

In order to give some idea of the height and circumference which a few of the best known timber trees reach in a few years when planted on suitable soil, the following figures are given, but for exact measurements and fuller details the reader is referred to my report, as Foreman of Forestry, for 1897.

Name.	When Planted.	Height or Age when Planted.	Approximate Height.	Circumference, One Foot from Ground,
			1898.	1898.
			Ft.	Inches.
White Pine— <i>Pinus Strobus</i> . . . . .	1889	8 to 10 inches	18	11½
Scotch Pine— <i>Pinus sylvestris</i> . . . . .	1888	18 inches . . .	20	13
Austrian Pine— <i>Pinus austriaca</i> . . . . .	1889	18 " . . . . .	14	13
White Spruce— <i>Picea alba</i> . . . . .	1889	15 " . . . . .	11	8
Norway Spruce— <i>Picea excelsa</i> . . . . .	1888	15 " . . . . .	18	12½
White Ash— <i>Fraxinus americana</i> . . . . .	1889	3 years . . . . .	22	8¾
European Larch— <i>Larix Europea</i> . . . . .	1888	2 feet . . . . .	23	14
Black Walnut— <i>Juglans nigra</i> . . . . .	1888	1 year . . . . .	14	9
Canoe Birch— <i>Betula papyracea</i> . . . . .	1889	3 feet . . . . .	27	11
Yellow Birch— <i>Betula lutea</i> . . . . .	1889	3 " . . . . .	19	10½

## ARBORETUM.

The collection of trees, shrubs and perennials has been considerably augmented this year. Of trees and shrubs 314 species and varieties have been added, and of perennials 285 species. There were living in the Arboretum this autumn about 2,700 species and varieties of trees and shrubs, and about 1,200 species and varieties of perennials. This collection, which has been gradually brought together, contains many rare and beautiful species, some of them of peculiar interest to the botanist, and others to the lover of ornamental trees shrubs and flowers.

## PROGRESS OF THE WORK.

During the summer, notes were taken on the hardiness, dates of blooming, and growth of the different species and varieties. A herbarium of the plants growing in the Arboretum is being made, for which 535 specimens were dried and will be mounted this winter. The work of labelling the additions to the Arboretum was also carried on. Last winter an alphabetical list was prepared of all the trees and shrubs growing in the Arboretum, with notes on the hardiness and date of planting of the different species and varieties. It is hoped that this list will shortly be published. There was little increase in the amount of hand labour required to keep the Arboretum in order, the bulk of the work being the cutting of the grass, which is done by the pony lawn mower, and the season being dry it was not cut so often, as it otherwise would have been. A new one-horse field mower was procured this year, which proved very valuable on side hills, and when the grass became too long to be cut well with the pony mower. An additional three acres were seeded down during the summer, on most of which was a good catch of grass this autumn.

## ADDITIONAL LIST OF CHOICE HARDY PERENNIALS.

In my report for 1897, a list of 100 of the best hardy perennials was given, with short descriptions of them. There are so many beautiful flowers and so many new ones appearing from time to time, that a few additions to that list are here given, in the hope that it will help others in the selection of choice perennials for their gardens. One correction should be made in the list published last year. The plant at the Experimental Farm which was supposed to be *Campanula Grosseki* is not that species. The true *Grosseki* does not deserve a place in the list of 100 of the best varieties.

*Aethionema coridifolia*.—Mount Lebanon Candytuft (Orient): This is a charming little plant about six inches in height. It begins to bloom in the third week of May, and stays in flower from four to six weeks. Flowers, small, bright pinkish lilac, borne profusely in heads. Leaves, narrow and glaucous.

*Ajuga genevensis*.—Geneva Bugle (Switzerland): Height, four to six inches. Begins to bloom in the last week of May. The flowers of this pretty dwarf perennial are bright blue, and being a profuse bloomer it presents, when in full bloom, a very attractive appearance.

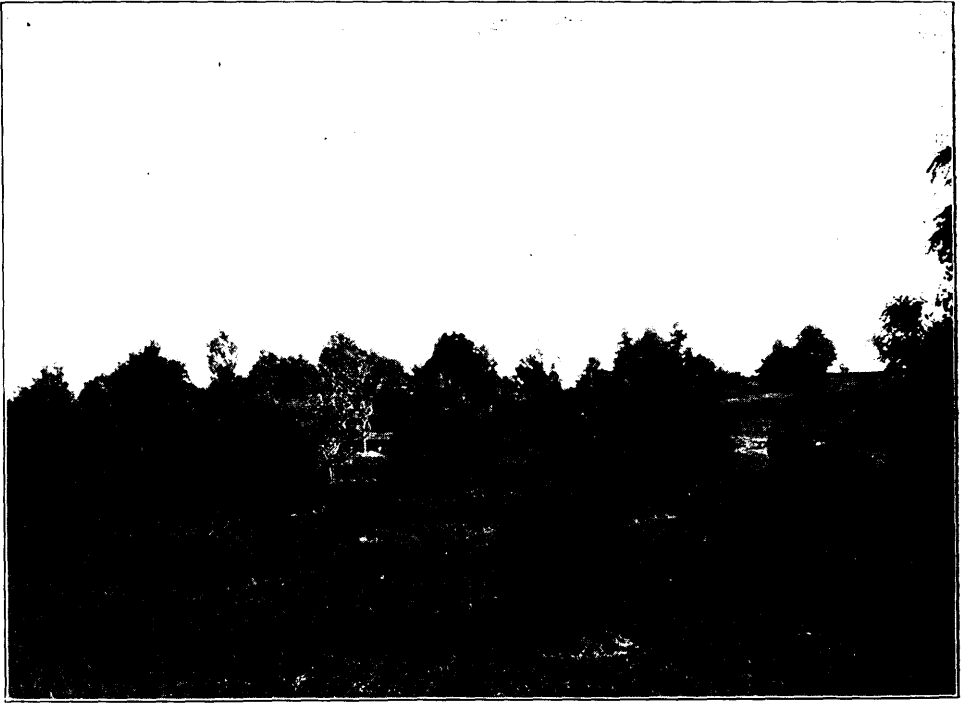
*Asclepias incarnata*.—Flesh-coloured Milkweed (Canada): Height, three to four feet. In bloom, July and August. Flowers, bright purplish red. This fine native wild flower accommodates itself well to the perennial border, and in large collections it should not be omitted.

*Helenium grandicephalum striatum*.—Large Striped Sneezewort. United States. Height, 3 to 4 feet. In bloom August, September and part of October. Flowers, deep yellow, streaked with brown. This is a very striking and unique looking plant, blooming over a long period.

*Campanula latifolia macrantha*.—Large Flowered Bell-flower (Europe). Height, 3 to 4 feet. In bloom first week of July. Flowers, large, deep blue, borne on a long spike. A very handsome variety.

*Echinacea purpurea*.—Purple Cone Flower (United States). Height, 2 to 3 feet. In bloom August and September. Flowers, large, deep reddish-purple, borne singly on long stems. A very fine autumn flower.

*Epimedium pinnatum (sulfurum)*.—Yellow Flowered Barrenwort (Persia). Height, 8 to 12 inches. In bloom second week in May. Flowers, bright yellow, borne in a loose panicle. This species and *E. rubrum* make a charming contrast when planted together. It is one of the most dainty early flowering perennials yet tested.



Group of Arbor-vitae in the Arboretum at the Central Experimental Farm, Ottawa, Ontario.



Group of Pines and Spruces in the Arboretum. at the Central Experimental Farm, Ottawa, Ontario.  
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*Heliopsis pitcheniana*.—Pitcher's Ox-eye (United States). Height, 3 to 4 feet. Blooms during July, August and September. Flowers, large, deep yellow and very abundant. This is a fine late summer and autumn flowering perennial; its time of bloom covering a long period.

*Iris aurea*.—Golden Iris: (Himalayas). Height, 3 to 4 feet. In bloom during the first week of July. Flowers, large, deep yellow. One of the most beautiful of all irises. Its lovely colour, stately appearance, and its lateness in blooming make it very desirable.

*Iris pallida*.—Pale Iris. (South Europe). Height, 2 feet. In bloom, first week of June. Flowers, lilac purple and bright purple. This is a very delicately tinted iris, of which there are some fine varieties.

*Polemonium humile pulchellum*.—Pretty Dwarf Jacob's Ladder. (Canada, United States). Height, 6 inches. In bloom second week of May. A very pretty free blooming perennial with violet-blue flowers and small, narrow leaves.

*Phlox ovata*.—Ovate-leaved Phlox. (United States). Height, 12 to 18 inches. In bloom first week of June. Flowers, rich pink. One of the best coloured phloxes tested. It continues in bloom most of the summer, and is very showy.

*Trollius Ledebourii*.—Ledebour's Globe Flower, (Siberia). Height, 12 to 18 inches. Flowers, large, orange-yellow. This species has deeper coloured flowers than most of the other sorts, and on this account is highly recommended.



# REPORT OF THE CHEMIST.

(FRANK T. SHUTT, M.A., F.I.C., F.C.S.)

DR. WM. SAUNDERS,  
Director, Dominion Experimental Farms,  
Ottawa.

OTTAWA, 1st December, 1898.

SIR,—I have the honour to submit herewith the twelfth annual report of the Chemical Division of the Experimental Farms.

The various branches of work reported on by this Division in previous years have again received attention. As far as was practicable, original investigation and chemical work in connection with experiments on the farms have taken priority, but the large amount of work of an urgent nature that has come in from farmers during the past year has obliged us to relinquish, or at least to leave unfinished for the time, much interesting research work that we had undertaken and hoped now to be in a position to report upon. Every year sees an increase in the number of requests for examination of soils, cattle foods and many other matters pertaining to agriculture. The correspondence yearly makes greater demands upon our time. In consequence of all this there is now a considerable number of samples awaiting examination and analysis. It is our hope to attend to these as opportunity permits. Those who have thus sent samples to the laboratory and have not yet received any report, may rest assured that press of work alone has prevented us from making the desired analysis. All samples are duly recorded in a register as received, and are taken in hand, as time allows, in the same order.

All research and analytical work, whether in connection with our experiments or with samples submitted by farmers, is undertaken with the hope of furnishing results of importance and practical value to Canadian agriculture. This object has been kept well in view during the past year, and we feel assured that the information presented in this report, as well as that given by correspondence, will be found of service by farmers in general and those engaged in one or other of the special branches of Canadian husbandry.

The present report may be briefly summarized as follows :—

*The Preservation of Manure.*—The results of an extensive investigation on this important subject show (1) the relative value, weight for weight, of fresh and rotted manure, (2) the losses that occur during the rotting of “protected” and “exposed” manure, (3) the effect of rotting on the availability of the plant food contained in manure and (4) the effect of adding ground gypsum to fermenting manure. The data and the conclusions drawn from this investigation will undoubtedly prove interesting and valuable to our readers.

*Inoculation with nitragin for the growth of legumes.*—This work, commenced in 1897, has during the past season been continued. Though the results are not, perhaps, on the whole, so encouraging as those recorded in last year’s report, they nevertheless point to the efficacy of this new agent in promoting the growth of clover and other members of the legume family. Further experiments, tried in various parts of the country, will be needed before we can definitely say whether *nitragin* can be used economically in the field.

*Forage Plants, Fodders and Feed Stuffs.*—Grouped under this heading are to be found results obtained on the following:—

1. The native prairie hays as grown in Manitoba and the North-west Territories. The composition of hays produced on lowlands (principally sedges) as compared with that of uplands, and their relative feeding value considered.

2. The composition of timothy and brome grass hay as grown at Ottawa. Since brome grass of late years has attracted so much attention, both in Ontario and the North-west, the results of these analyses will undoubtedly be of wide interest.

3. Soja beans as a forage crop for the silo. This is practically a new field crop and has been recommended for ensiling with Indian corn to supply nitrogenous matter and thus make the ensilage nearer a "balanced" ration. Analyses are given depicting the composition of the beans grown under different methods of seeding and culture.

4. Oat feed, oat dust, etc., are by-products in the manufacture of oat meal. They have been largely sold of late to dairymen. Our examination of several samples furnishes information as to their nature and feeding value.

5. Molasses refuse from the sugar refinery. This also, in certain parts of Canada has appeared upon the market as a feeding stuff. The analyses made in the farm laboratories clearly define its character and value as a cattle food.

6. Cocoa shells. This is a waste product from the cocoa and chocolate factory and a highly nitrogenous material that may prove of value, locally, as part of the concentrated or meal portion of the ration.

7. Sugar-beets as grown in British Columbia.

*Flours.*—This work includes a careful analysis and a critical study of the results of representative samples of Canadian and Hungarian flours.

*Soils.*—Some of the more important soil examinations made during the past year are here reported on, and suggestions (which will prove of value to others having similar soils) for their treatment and improvement have been added.

*Fertilizers.*—We present data on several samples of swamp muck recently analysed in the laboratories and also furnish information respecting "Thomas or Basic slag" and "South Carolina Rock," two phosphatic fertilizers now largely advertised in Canada.

*Well-waters from farm homesteads.*—More than one hundred samples have been received for examination during the twelve months ending 30th November, 1898. Of these seventy-five have been submitted to analysis. In connection with the results of these, certain information has been given on the important subject of the farmer's water supply, which we trust will prove of practical value and lead to greater care being taken in preventing pollution of the farm well.

It should be distinctly understood that samples from *farm homesteads only* can be examined. The printed instructions issued by the Farm should be obtained before sending a water for analysis, since the probability is that otherwise a mistake will be made respecting the quantity required or in the matter of collection and shipment.

In connection with the work of this Division the results of which cannot of necessity appear in the report, we have to speak as follows:—

*Correspondence.*—From November 30th, 1897, to December 1st, 1898, 1,298 letters were received and 1,904 letters were despatched. Since the greater number of letters received contain requests for information on soils, fertilizers, cattle foods, etc., it is scarcely necessary to add that a considerable portion of my time is taken up with this branch of our work.

*Tuberculin.*—By direction of the Department of Agriculture we have prepared and forwarded to veterinary surgeons throughout the Dominion 595,320 minims or 9,922 doses of diluted tuberculin during the twelve months ending November 30th, 1898. This is practically three times the quantity sent out in 1897. This work has consumed



## Experimental Farms.

much time and has now assumed such large proportions that it becomes necessary in the near future to provide special assistance to carry it on, or the purely chemical work of the division must suffer.

*Samples received for analysis.*—The appended schedule denotes the number and nature of the samples received at the farm's laboratory since our last report.

SAMPLES received from Farmers for Examination and Report, November 30, 1897, to December 1st, 1898.

	British Columbia.	North-west Territories	Manitoba.	Ontario.	Quebec.	New Brunswick.	Nova Scotia.	Prince Edward Island.	Total.	Number still awaiting examination.
Soils . . . . .	5		3	5	9	6	3		31	27
Mucks, mud and marls. . . . .	1		1	9	3	10	10	16	50	29
Manures and fertilizers. . . . .	7	1		2	2	2	7	2	23	9
Forage plants and fodders. . . . .	17	10	5	16		2	11	2	63	26
Well waters . . . . .	2	5	8	61	21	2	4	4	107	
Miscellaneous, including dairy products, fungicides and insecticides..	2	6	3	8	6		3	5	33	12
	34	22	20	101	41	22	38	29	307	103

As shown above, many of these, for want of opportunity, still await examination. All the waters and samples of a perishable nature have, however, been reported on; the remaining samples, the analysis of which has been necessarily postponed, have been prepared and bottled, so that they can be examined as soon as time permits.

*Mineral specimens.*—We would again call attention to the fact that it does not come within our province to examine and report upon mineral specimens.

*The Assistant Chemist.*—In April last, Mr. H. S. Marsh, who had been with us since November, 1894, resigned the post of assistant chemist. The vacancy was filled by the appointment of Mr. A. T. Charron, who entered upon his duties July 1st.

Mr. Charron, who is a graduate of Ottawa University, passed some years ago the Departmental examination qualifying him for the post of Public Analyst in the Dominion, since which time he has had considerable experience in analytical work, both in Ottawa and Montreal. It is with the greatest pleasure that I can bear testimony to Mr Charron's ability and skill as a chemist. He has shown himself a careful and assiduous worker and the lively and intelligent interest he has evinced in the work of the Division has rendered his services of great value. My thanks are due to him for many of the data presented in this report.

I have the honour to be, sir,

Your obedient servant,

FRANK T. SHUTT,

*Chemist, Dominion Experimental Farms.*

## THE PRESERVATION OF BARN-YARD MANURE.

Further investigations into the losses that occur in the rotting of barn-yard manure under different systems of preservation were commenced two years ago.\* The analytical work in connection with these experiments was not completed till the early part of the present year, and consequently this is the first opportunity of presenting the results in detail to the farmers of Canada.

### THE ROTTING OF MANURE: "PROTECTED" AND "EXPOSED."

Series 1: This experiment consisted in taking two lots of fresh manure, equal in weight and alike in composition, and placing one in a closed shed, the other in an open wooden bin with a practically water-tight floor, both lots being weighed and analysed month by month for the period of a year.

The objects of this investigation, stated briefly, were to ascertain, under the "exposed" and "protected" conditions just described, (1) the losses in plant food (nitrogen, phosphoric acid and potash) that may occur, (2) the changes, as regards availability of the nitrogen, phosphoric acid and potash, that may result, (3) the relative values, weight for weight, of fresh and rotted manures and also of the latter at certain times throughout the fermentation period.

In April, 1896, horse and cow manures, produced at the Experimental Farm, Ottawa, and consisting of the solid and liquid excreta and the litter used in bedding these animals, were taken in equal proportions by weight and thoroughly mixed. Four tons of this resulting manure were placed in a small wooden building which was weather-proof, and a similar amount—four tons—was placed in an open bin constructed with double flooring and sides. The manure, both in the building and in the bin (designated in this report as "protected" and "exposed", respectively) was kept as compact as practicable throughout the experiment, care being taken after each weighing and sampling, to render the manure as close and dense as might be possible by tramping and pounding.

As already stated, samples of each of the manures were taken monthly, the total weights at these periods being also ascertained. The initial and subsequent samplings were done carefully and with thoroughness, and all precautions taken to obtain for analysis representative portions.

Notes on the appearance of the manures were made monthly at the times when the samples were taken. These serve to indicate the degree to which fermentation or decomposition had advanced, at the several periods; in other words, the condition or character of the manures as fermentation proceeded.

The analysis consisted in determining (1) moisture, (2) organic or vegetable matter, (3) ash or mineral constituents, (4) total nitrogen, (5) nitrogen present as ammonia and in nitrates and nitrites, (6) total phosphoric acid, (7) available phosphoric acid, (8) total potash, (9) available potash. The amounts of "total" phosphoric acid and potash obtained were those dissolved out of the manure by hot strong hydrochloric acid (sp. gr. 1.115) at the temperature of boiling water; the amounts of these constituents designated as "available" were obtained by treatment with dilute citric acid (1 per cent) in the cold. We may suppose that the nitrogen present as ammonia, nitrates and nitrites, and the phosphoric acid and potash soluble in dilute citric acid, to be more or less immediately available to plants. The value of these estimations as a means of tracing the conversion of the plant food into assimilable forms will, therefore, be apparent.†

\* The results of previous experiments in the preservation of barn-yard manure are published in the Report of the Experimental Farms for 1895 and 1896.

† Dr. Bernard Dyer, in 1894, showed that the sap and exudations of rootlets had a solvent action approximately equivalent to that of 1 per cent citric acid solution, and this was therefore the solvent used in the determination of the amounts of "available" fertilizing constituents present.

## Experimental Farms.

The composition of the fresh manure experimented with, as revealed by the initial analysis, was as follows:—

	Per cent.
Water. ....	68·61
Organic matter. ....	24·23
Ash or mineral constituents. ....	7·16
	100·00
Total nitrogen. ....	·601
Nitrogen, as ammonia, nitrates and nitrites. ....	·083
Total phosphoric acid. ....	·31
Available phosphoric acid. ....	·19
Potash. ....	·76
Available potash. ....	·68

It will be instructive in passing to compare this manure with that ordinarily produced throughout the country. As regards nitrogen, it is considerably richer than that usually met with, chiefly due no doubt to the fact that greater care is exercised on the Experimental Farm than on the majority of farms in retaining and preserving the liquid portion, and, secondarily, to the liberal diet fed on the Experimental Farm. The manure experimented with is also much above the average in phosphoric acid and potash. These facts are set forth in the following table:—

COMPOSITION OF FRESH MANURE.

Constituents.	Experimental Farm.	Average obtained from other samples.
	Lbs. per Ton.	Lbs. per Ton.
Nitrogen. ....	12·0	7·8
Phosphoric acid. ....	6·2	3·1
Potash. ....	15·2	9·0

THE AVAILABILITY OF THE PLANT FOOD IN FRESH MANURE.

The data on this point are of great interest; a consideration of the foregoing analysis allows us to draw the following important conclusions,

Of the total nitrogen present, 13·8 per cent was as ammonia or in the oxidized form of nitrates or nitrites—compounds of nitrogen that may be utilized more or less directly by the growing plant. In manure that is absolutely fresh, that is, just produced, there is no ammonia and no nitrogen in the form of nitrites and nitrates. The manure which in these experiments we designate as fresh had been accumulating about ten days before the experiment began, and consequently the first stages of fermentation had set in. As a result of this fermentation, these assimilable compounds of nitrogen (representing 13·8 per cent of the total nitrogen) had been formed. Calculated per ton of manure, we have, then, 12 lbs. of total nitrogen, about one and a half pounds of which is immediately assimilable.

Of the total phosphoric acid, 61·3 per cent may be regarded as available. The amount of this element per ton of manure is 6·2 pounds, of which 3·8 pounds is available.

Of the total potash present, no less than 89·5 per cent is soluble. The manure contained 15·2 pounds per ton, of which 13·6 pounds were, we may suppose, immediately assimilable.

NOTE.—The fact that approximately 60 per cent of the phosphoric acid and 90 per cent of the potash in, comparatively speaking, fresh manure are assimilable by crops, is one worthy of remark. In arriving at this we have necessarily assumed Dr. Bernard Dyer's conclusion, already referred to, as correct.

THE CONDITION OF THE PROTECTED AND EXPOSED MANURES AT VARIOUS PERIODS  
THROUGHOUT THE EXPERIMENT.

The following notes were made when the manures were weighed and samples taken for analysis, monthly, for the period of a year. Both manures rapidly decreased in weight during the first three months, but more especially during the first month of fermentation. From the third month on there was, under the conditions of the experiment, but little decrease in weight of the "Protected" manure, and in the case of the "Exposed" manure the fluctuations in weight after the third month, were principally due to rainfall and evaporation. The total weights of the manures at the periods mentioned are recorded in the first column of table II.

*At the end of one month.*—Protected manure: quite hot and steaming; considerably "shorter" than at beginning of experiment, but not fully rotted; mould showing in upper six inches of manure.

Exposed manure: not so "short" as protected manure, straw being longer; mould more apparent than in protected manure and showing more or less all through the mass.

*At the end of two months.*—Protected manure: slightly warm in lower layers; somewhat "shorter", drier and more mouldy than in month previous.

Exposed manure: not quite so dry or so mouldy as protected manure; fairly rotted. (*Vide* foot note.)

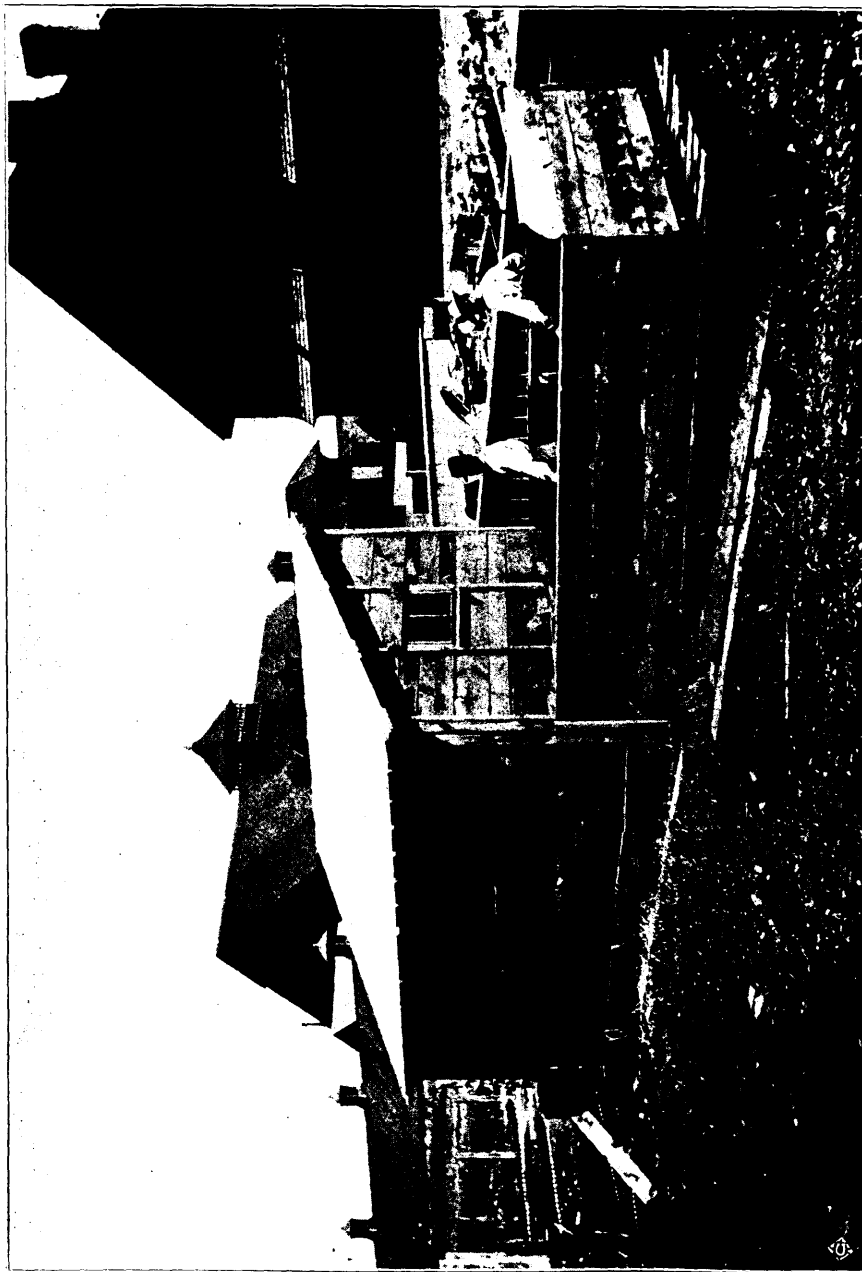
*At the end of three months:* Protected manure; well rotted, short and mouldy; very dry all through. Exposed manure: thoroughly rotted; appears to be in excellent condition; short and quite damp, owing to heavy rains during the previous month.

From this period on, no great differences were to be noticed, though notes taken at the samplings and weighings show that both manures became gradually more homogeneous. For all practical purposes, however, three months, under the conditions of this investigation, were quite sufficient to thoroughly rot the manures, and judging from appearances no benefit was to be derived from fermenting for a longer period. The exposed manure necessarily varied in wetness, according to the rainfall of the preceding month; the protected manure became more and more dry and crumbly. Since the losses of rotted manure by leaching are greater than those of fresh manure, the folly of fermenting manure in exposed piles throughout the greater part of the year, as is the custom with some, becomes apparent.

COMPOSITION OF FRESH AND ROTTED MANURES: PROTECTED AND EXPOSED.

Data representing the percentage composition of the manures taken at twelve stages throughout the experiment are presented in table I. Those of the original manure have already been discussed. We may now consider the composition of the manures and the changes that occur in the condition of the elements of plant food, as rotting proceeds. The losses that necessarily ensue will be spoken of when explaining the results set forth in tables IV and V.

NOTE.—The analytical data for the manure samples of this date are, unfortunately, incomplete, the fire that occurred in the laboratories destroying the samples and many of the results, as the work was in progress.



Building and open bin used in manure preservation experiments. Men engaged in sampling and weighing manure.

# Experimental Farms.

## TABLE I.

PERCENTAGE COMPOSITION OF FRESH AND ROTTED MANURES, PROTECTED AND EXPOSED.

MANURE. (Horse and cow manure in equal parts.)	Water.	Organic Matter.	Mineral Matter or Ash.	NITROGEN.		PHOSPHORIC ACID.		POTASH.	
				Total.	As Am- monia Nitrates and Nitrites	Total. — (Soluble in hydro- chloric acid.)	Avail- able. — (Soluble in 1 p.c. citric acid.)	Total. — (Soluble in hydro- chloric acid.)	Avail- able. — (Soluble in 1 p.c. citric acid.)
<i>Protected.</i>									
1896—April 29th, fresh ..	68·61	24·23	7·16	·601	·083	·31	·19	·76	·68
May 29th.....	61·04	28·90	10·06	·836	·094	·48	·43	1·26	1·12
June 29th.....	58·52	27·52	13·96		·071				
July 29th.....	51·33	29·51	19·16	1·33	·053	·83	·67	2·19	2·06
August 29th.....	49·24	31·63	19·13	1·48	·061	·97	·63	2·29	2·00
September 29th....	48·39	32·19	19·42	1·51	·099	1·02	·74	2·41	2·19
October 29th.....	42·90	34·43	22·67	1·70	·107	1·12	·81	2·53	2·22
November 29th....	43·44	33·12	22·44	1·63	·087	1·04	·78	2·67	2·43
December 29th....	43·04	34·15	22·81	1·71	·108	1·13	·86	2·75	2·57
1897—January 29th ..	42·90	34·14	22·96	1·64	·030	1·13	·97	2·71	2·53
February 28th....	41·25	35·02	23·73	1·77	·154	1·17	·85	2·89	2·60
March 29th.....	42·89	34·95	22·16	1·74	·120	1·08	·82	2·75	2·44
April 29th.....	41·71	35·42	22·87	1·72	·120	1·08	·86	2·76	2·52
<i>Exposed.</i>									
1896—April 29th, fresh ..	68·61	24·23	7·16	·601	·083	·31	·19	·76	·68
May 29th.....	64·69	21·38	13·93	·703	·025	·39	·24	·80	·80
June 29th.....	60·96	23·88	15·16		·052				
July 29th.....	62·70	20·27	17·03	·869	·035	·58	·39	1·23	1·16
August 29th.....	63·18	18·37	18·45	·776	·029	·51	·37	1·20	1·10
September 29th....	67·23	16·49	16·28	·786	·040	·57	·31	1·19	·97
October 29th.....	66·90	15·71	17·39	·803	·038	·54	·36	1·07	1·02
November 29th....	69·25	15·88	14·87	·730	·036	·48	·39	1·05	·91
December 29th....	70·14	15·07	14·79	·715	·027	·52	·34	·90	·79
1897—January 29th ..	69·21	15·46	15·33	·701	·038	·51	·41	·97	·92
February 29th....	68·98	15·08	15·94	·777	·042	·53	·36	1·03	·91
March 29th.....	70·45	14·74	14·81	·746	·033	·49	·36	1·08	·96
April 29th.....	66·55	15·82	17·63	·902	·032	·56	·43	·96	·92

### NITROGEN.

*Protected manure.*—At the end of one month the percentage of nitrogen was ·836, as against ·601 in the fresh manure; in other words, weight for weight, the rotted manure contained one-third more nitrogen than the fresh manure. At the end of three months the nitrogen in the rotted manure was, weight for weight of the manures, slightly more than double that in the original. At the close of the experiment, the nitrogen in the rotted manure was, for equal weights of the manures, somewhat more than two and a half times that in the original fresh manure.

The immediately assimilable nitrogen represented by ammonia, nitrates and nitrites, somewhat contrary to expectation, did not increase in the same ratio or in the regular way, as did the total nitrogen, just discussed. Indeed, our results show not only great fluctuations, but frequently that there was a less percentage of nitrogen in these forms as rotting proceeded, than was present in the original manure.

*Exposed manure.*—As with the protected manure, the percentage of nitrogen increases, so that the fermented manure, weight for weight, is richer in this constituent than the original fresh manure. The ratio of increase is, however, *very much less*, in

part due to the fact that the exposed manure contained more water than that protected, but in part due to a greater loss of nitrogen. At the end of one month the manure contained, weight for weight, one-sixth more nitrogen; at the end of three months, one-third more nitrogen than the original. At the close of the experiment this latter proportion had not materially changed.

In available nitrogen, the amount, though fluctuating, is seldom as large as that in the protected manure. Approximately, the exposed sample contains but one-third to one-fourth that in the protected.

#### ORGANIC MATTER.

Though not a direct form of plant food, organic matter, as is made clear in Bulletin No. 31 of the Farm series, is a most important and valuable constituent of manure. It is desirable, therefore, that the percentages contained in manures rotted under different conditions should be known.

*Protected Manure.*—Throughout the experiment the percentage of organic matter steadily increased, and at the expiration of the twelve months, was half as much more as it was at the outset. The original fresh manure contained 24.23 per cent, the manure one year old contained 35.42 per cent.

*Exposed Manure.*—The percentage of organic matter in the exposed manure steadily decreased, so that at the end of the investigation is was but slightly more than one-half of the percentage contained in the fresh manure. The figures are 24.23 per cent in the fresh and 15.82 per cent in the manure one year old.

#### PHOSPHORIC ACID.

*Protected Manure.*—Speaking in round numbers, the phosphoric acid increased in percentage fourfold during the year's rotting; stated otherwise, weight for weight, the rotted manure contains four times as much phosphoric acid as the original.

For every 100 pounds of phosphoric acid present there were 61 pounds available in the fresh manure and 80 pounds so available in the rotted manure at the end of the experiment.

*Exposed Manure.*—Manure rotted under the exposed condition possessed about double the amount of the phosphoric acid contained in the fresh manure.

Its available phosphoric acid was just half that of the rotted "protected" manure; thus, the "protected" manure contained 1.08 per cent of phosphoric acid at the close of the investigation, the "exposed" contained but .56 per cent.

#### POTASH.

*Protected Manure.*—In the fresh manure, about 90 per cent of this fertilizing constituent may be considered as assimilable. During rotting the total potash increased from .76 per cent to 2.76 per cent, and the available from .68 per cent to 2.52 per cent. According to the results obtained in this investigation, fermentation has practically no effect on the availability of the potash compound.

*Exposed Manure.*—The potash in this manure has increased from .76 per cent to 1.23 per cent at the end of three months, but at the expiration of twelve months this was found to be reduced to .96 per cent. This shows an increase only of about one-third, comparing the first and last samples of manure, weight for weight.

Similarly the amount of available potash was approximately only one-third greater at the end than at the beginning of the experiment, the figures being .68 per cent and .92 per cent respectively. As in the case of the "total" potash, the percentage of "available" was somewhat greater at the end of three months than at the expiration of twelve months.

The foregoing remarks only outline the composition of these manures and the changes that occurred as rotting proceeded, but they will be sufficient to guide the reader

## Experimental Farms.

in the study of the data presented in table I. These results will well repay careful perusal, since they make clear the value, *weight for weight*, of manures rotted under these two conditions of protection and exposure. (*Vide* foot note).

It should be borne constantly in mind, that in the study of the facts revealed by table I., we are not considering the losses in plant food that have followed fermentation. We are simply comparing the percentage composition of manures rotted under different systems; that is, comparing their values, weight for weight. The losses that have ensued under the two systems of rotting will be treated of subsequently.

Since many may be able to more clearly comprehend the facts set forth in table I., if presented in pounds per ton, and a pecuniary value assigned, the following table has been constructed. Nitrogen has been valued at 12c. per pound, phosphoric acid at 5¼c. per pound, and potash at 5½c. per pound, the average price as paid for these elements of fertility in commercial fertilizers. No regard, in these valuations, has been paid to the proportions of the phosphoric acid and potash classed in the table as assimilable, though, of course, we must suppose the available phosphoric acid, for instance, to be of greater agricultural worth than that not so immediately assimilable:—

TABLE II.

POUNDS AND VALUE PER TON OF CHIEF FERTILIZING CONSTITUENTS IN PROTECTED AND EXPOSED MANURE AT THE DIFFERENT PERIODS DURING ROTTING.

MANURE. (Horse and cow manure in equal parts.)	Organic matter.	Mineral matter or ash.	Nitrogen.	PHOSPHORIC ACID.		POTASH.		Value.
				Total.	Available.	Total.	Available.	
<i>Protected.</i>								
1896—April, 29, Fresh.....	485	143	12.0	6.2	3.8	15.2	13.6	2 61
May 29.....	578	201	16.7	9.6	8.6	25.2	22.4	3 90
June 29.....	550	279						.....
July 29.....	590	383	26.6	16.6	13.4	43.8	41.2	6 47
August 29.....	633	383	29.6	19.4	12.6	45.8	40.0	7 09
September 29.....	644	388	30.2	20.4	14.8	48.2	43.8	7 34
October 29.....	689	453	34.0	22.4	16.2	50.6	44.4	8 04
November 29.....	662	449	32.6	20.8	15.6	53.4	48.6	7 94
December 29.....	683	456	34.2	22.6	17.2	55.0	51.4	8 32
1897—January 29.....	683	459	32.8	22.6	19.4	54.2	50.6	8 11
February 29.....	700	474	35.4	23.4	17.0	57.8	52.0	8 66
March 29.....	699	444	34.8	21.6	16.4	55.0	48.8	8 34
April 29.....	708	457	34.4	21.6	17.2	55.2	50.4	8 30
<i>Exposed.</i>								
1896—April 29 Fresh.....	485	143	12.0	6.2	3.8	15.2	13.6	2 61
May 29.....	428	279	14.1	7.8	4.8	16.0	16.0	2 98
June 29.....	478	303						.....
July 29.....	405	340	17.4	11.6	7.8	24.6	23.2	4 05
August 29.....	367	369	15.5	10.2	7.4	24.0	22.0	3 72
September, 29.....	340	326	15.7	11.4	6.2	23.8	19.4	3 79
October 29.....	314	348	16.1	10.8	7.2	21.4	20.4	3 68
November 29.....	317	297	14.6	9.6	7.8	21.0	18.2	3 41
December 29.....	301	296	14.3	10.4	6.8	18.0	15.8	3 26
1897—January 29.....	309	307	14.0	10.2	8.2	19.4	18.4	3 29
February 29.....	302	319	15.5	10.6	7.2	20.6	18.2	3 55
March 29.....	295	296	14.9	9.8	7.2	21.6	19.2	3 49
April 29.....	352	352	16.0	11.2	8.6	19.2	18.4	3 57

NOTE.—It is important here to point out that even the “exposed” manure of this investigation, was rotted under conditions much more favourable than those usually and ordinarily existing on the average farm. We therefore feel justified in saying that greater losses of plant food occur in rotting manure generally throughout Canada, than are indicated by the results of this investigation; in other words, the average rotted manures of Canadian farms is much poorer in plant food than the “exposed” manure of our experiment.



In the foregoing tables (I. and II.), the composition of the manures is represented as they were at the end of each month throughout the experiment. In the case of the "exposed" manure, especially, the percentage of water present necessarily varied from month to month. This fact in part accounts for certain apparent discrepancies in the results. Thus, one ton of the exposed manure is said to contain on 29th January, 309 lbs. of organic matter, whereas, for the month previous, and that following, the amounts are stated at 301 and 302 pounds, respectively. These fluctuations, as already remarked, are caused largely by the varying water content, but it is only right to add, not wholly so. The difficulty in obtaining a thoroughly representative sample for analysis from such large masses of wet material, consisting of dung, litter, &c., is very great. There are also the necessary errors of weighing the manures and of analysis. The weighings of the manures, the sampling and the analysis were, however, all done with the greatest care, and, indeed, the general agreement of the data prove that such has been the case. These remarks necessarily apply also to tables III. and IV.

In order to trace more clearly the effect of rotting these manures under the different systems employed, we may eliminate by calculation the water, which we have observed varied from month to month, and compare the amounts of the chief fertilizing elements present as if the manures were in a water-free condition, Table III., series I., contains such data.

TABLE III.  
COMPOSITION OF DRY MATTER *i.e.*, WATER-FREE MANURE.

MANURE. (Horse and cow manure in equal parts.)	Organic Matter.	Mineral Matter or Ash.	NITROGEN.		PHOSPHORIC ACID.		POTASH.	
			Total.	As Ammonia, Nitrates and Nitrites.	Total (Soluble in hydrochloric acid).	Available (Soluble in 1 p. c. citric acid).	Total (Soluble in hydrochloric acid).	Available (Soluble in 1 p. c. citric acid).
<i>Protected.</i>	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
1896—April 29th, original, fresh..	77.2	22.8	1.9	.26	.9	.6	2.4	2.1
May 29th.....	74.2	25.8	2.1	.24	1.2	1.1	3.2	2.9
June 29th.....	66.4	33.6		.17				
July 29th.....	60.7	39.3	2.7	.11	1.7	1.3	4.5	4.2
August 29th.....	60.4	39.6	2.8	.12	1.9	1.2	4.5	4.0
September 29th.....	60.4	39.6	2.9	.19	2.0	1.4	4.6	4.2
October 29th.....	60.0	40.0	3.0	.20	2.9	1.4	4.3	3.8
November 29th.....	59.6	40.4	2.9	.16	1.9	1.4	4.8	4.3
December 29th.....	60.0	40.0	3.0	.19	2.0	1.5	4.8	4.5
1897—January 28th.....	60.0	40.0	2.9	.06	2.0	1.6	4.7	4.4
February 28th.....	59.6	40.4	3.0	.26	2.0	1.4	4.9	4.4
March 28th.....	61.2	38.8	3.0	.21	1.9	1.4	4.8	4.3
April 28th.....	60.8	39.2	2.9	.20	1.8	1.5	4.7	4.3
<i>Exposed.</i>								
1896—April 28th, original, fresh..	77.2	22.8	1.9	.26	.9	.6	2.4	2.1
May 29th.....	60.6	39.4	2.0	.07	1.1	.7	2.3	2.3
June 29th.....	61.0	39.0		.13				
July 29th.....	54.1	45.9	2.3	.09	1.5	1.0	3.3	3.1
August 29th.....	49.9	50.1	2.4	.09	1.6	1.1	3.7	3.4
September 29th.....	50.0	50.0	2.4	.12	1.7	1.0	3.7	2.9
October 29th.....	47.5	52.5	2.4	.11	1.6	1.1	3.2	3.0
November 29th.....	48.6	51.4	2.4	.12	1.6	1.3	3.3	3.0
December 29th.....	48.2	51.8	2.4	.09	1.7	1.1	3.0	2.6
1897—January 29th.....	50.0	50.0	2.3	.12	1.7	1.3	3.2	3.0
February 28th.....	49.6	51.4	2.5	.13	1.7	1.2	3.3	3.0
March 29th.....	49.9	50.1	2.5	.11	1.7	1.2	3.6	3.2
April 29th.....	50.2	49.8	2.4	.08	1.6	1.2	2.8	2.6

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Without discussing at any length these data, we may point out that it is apparent that very little, if any, advantage is to be obtained from rotting manure for a longer period than three months, even under the best conditions. The chief fermentation changes, which render more available the manurial constituents and "break-down" the organic matter, have by this time accomplished their work. The manure rotted under exposure continues to get poorer and poorer, especially in organic matter and potash. The protected manure remains practically constant in composition after the third month. The greatest changes due to fermentation (not to leaching) are seen to take place during the first month of rotting.

### THE LOSSES THAT OCCUR IN ROTTING "EXPOSED" AND "PROTECTED" MANURE.

By far the more important deductions of this investigation are those relating to the losses that occur under the two systems of preservation used in this experiment, and the effect of rotting upon the availability of the elements of fertility. Table IV., contains in the first column the weights of the manures at the several dates when the samples were taken for analysis. The figures in the columns following have been obtained by multiplying these weights by the percentages of the constituents found by analysis at the dates indicated (see table I.). They consequently represent the amounts of the fertilizing ingredients in the whole mass of the manures at these periods. The last column gives the total value of the nitrogen, phosphoric acid and potash present.\* The importance of these data merits their careful consideration.

TABLE IV.

### AMOUNTS AND VALUES OF FERTILIZING CONSTITUENTS IN FRESH AND ROTTED MANURES.

MANURE. (Horse and cow manure in equal parts.)	Total Weight of Manure.	Organic Matter.	NITROGEN.			PHOSPHORIC ACID.		POTASH.		Total Value of Fertilizing Constituents in Manures on dates specified.
			Total.	As Ammonia, Nitrates and Nitrates.	Total (Soluble in hydrochloric acid).	Available (Soluble in p. c. citric acid).	Total (Soluble in hydrochloric acid).	Available (Soluble in p. c. citric acid).		
									Lbs.	
<i>Protected.</i>										
1896—April 29th, original, fresh.....	8,000	1938.4	48.1	6.6	24.8	15.2	61.2	54.4	10.43	
May 29th .....	5,006	1446.7	41.9	4.7	24.3	22.0	63.0	56.0	9.76	
June 29th .....	3,451	949.7	..	2.5	..	..	..	..	..	
July 29th .....	2,980	879.4	39.6	1.6	24.7	20.0	65.2	61.4	9.63	
August 29th .....	2,452	775.5	36.3	1.5	23.9	15.4	56.3	49.0	8.70	
September 29th .....	2,391	769.6	36.1	2.4	24.4	17.6	57.7	52.3	8.78	
October 29th .....	2,308	802.9	39.6	2.5	26.1	18.9	59.0	51.8	9.36	
November 29th .....	2,298	784.1	37.4	2.0	23.9	17.9	61.3	55.8	9.11	
December 29th .....	2,254	777.8	38.5	2.4	25.4	19.4	61.9	57.9	9.35	
1897—January 29th .....	2,224	759.3	36.5	0.7	25.1	21.5	60.2	56.3	9.01	
February 28th .....	2,208	773.0	39.0	3.4	25.8	18.8	61.8	57.4	9.43	
March 29th .....	2,207	771.3	38.5	2.6	23.8	18.1	60.7	53.9	9.20	
April 29th .....	2,185	773.9	37.6	2.6	23.4	18.7	60.3	55.0	9.05	
<i>Exposed.</i>										
1896—April 29th, original, fresh.....	8,000	1938.4	48.1	6.6	24.8	15.2	61.2	54.4	10.43	
May 29th .....	5,113	1093.1	35.9	1.3	19.9	12.2	40.9	40.9	7.59	
June 29th .....	4,124	984.8	..	2.1	..	..	..	..	..	
July 29th .....	3,903	791.1	33.9	1.3	22.4	15.2	47.6	45.2	7.86	
August 29th .....	3,568	655.4	27.7	1.0	18.2	13.2	42.8	39.2	6.53	
September 29th .....	4,310	710.0	33.8	1.7	24.5	13.3	51.3	41.8	8.77	
October 29th .....	4,124	651.9	33.1	1.6	22.2	14.8	44.1	42.0	7.56	
November 29th .....	4,194	666.0	30.6	1.5	20.1	16.3	44.0	38.2	7.15	
December 29th .....	4,097	617.4	29.3	1.1	21.3	13.9	38.0	32.4	6.73	
1897—January 29th .....	4,189	647.6	29.3	1.6	21.2	17.1	40.5	38.4	6.85	
February 28th .....	4,097	617.8	31.8	1.7	21.6	14.7	41.8	37.3	7.24	
March 28th .....	4,145	610.9	30.9	1.3	20.3	14.9	44.7	39.8	8.13	
April 29th .....	3,838	607.2	30.7	1.3	21.5	16.5	36.8	35.3	6.65	

\* NOTE.—In calculating the pecuniary values we have not taken into consideration the amounts of phosphoric acid and potash that are available, but simply calculated from the "totals" of these constituents present. Were we to assign higher values to the former than to the latter, which we should be quite justified in doing, the differences in value, in favour of the protected manure, would be much greater than those stated in the table.

*Organic matter.*—In the protected manure the total amount of organic matter was reduced from 1,938 pounds to 774 pounds; in the exposed manure, from 1,938 pounds to 607 pounds.

*Nitrogen.*—The loss in nitrogen from the protected manure was 10.5 pounds; that from the exposed manure, 17.4 pounds. This means that the former lost practically one-fifth of its nitrogen, while the latter lost something more than one-third.

*Phosphoric Acid.*—In the protected manure there was virtually no loss of this constituent. Rotting had increased the amount of available phosphoric acid  $3\frac{1}{2}$  lbs.

In the exposed manure there was a loss of  $3\frac{1}{2}$  lbs. in total phosphoric acid, while of the available phosphoric acid there was only 1 lb. more at the end of the experiment than at the beginning.

*Potash.*—The total and available potash in the protected manure remained practically constant throughout. There was but little loss, if any.

In the exposed manure there was a loss of  $24\frac{1}{2}$  lbs. of potash (two-fifths of the potash originally present), and the available potash was 21 lbs. less than in the fresh manure.

From the facts represented in table IV., the following percentages of loss have been calculated.

TABLE V.

## LOSS OF FERTILIZING CONSTITUENTS IN THE ROTTING OF MANURE.

Loss of Fertilizing Constituents.	At the end of 3 months.		At the end of 6 months.		At the end of 9 months.		At the end of 12 months.	
	Pro- tected.	Ex- posed.	Pro- tected.	Ex- posed.	Pro- tected.	Ex- posed.	Pro- tected.	Ex- posed.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
Loss of organic matter. . . . .	55	60	58	65	60	67	60	69
"    nitrogen. . . . .	17	29	19	30	23	40	23	40
"    phosphoric acid . . . . .	None.	8	None.	12	None.	16	4 (?)	16
"    potash . . . . .	None.	22	3	29	3	34	3	36
Loss in value per ton of orig- inal manure. . . . .	20 cts.	64 cts.	27 cts.	80 cts.	36 cts.	90 cts.	36 cts.	95 cts.

Value of fresh manure \$2.61 per ton.

In concluding the discussion on the results obtained in this investigation, we may sum up briefly as follows:—

1. That there is a greater loss of nitrogen and organic matter from the exposed manure than from that protected. The former lost one third of its nitrogen, the latter about one-fifth. Ten per cent more organic matter was destroyed in the exposed than in the protected manure.

2. That there is practically no loss of potash and phosphoric acid from the protected manure.

3. That the exposed rotting manure lost about one-sixth of its phosphoric acid and somewhat more than one-third of its potash.

4. The chief changes, due to fermentation, take place within the first months of rotting, and as far as this experiment goes there is no apparent benefit in rotting for a longer period than three months.

## Experimental Farms.

The benefits of rotting manure may be summarized as follows :—

The manure becomes disintegrated and of uniform character throughout, resulting in easier and more uniform distribution in the field and allowing a more intimate mixing with the soil ; the coarse litter is decomposed and its plant food thus made more available ; compounds are formed from the organic matter that more readily produce humus within the soil ; the availability of the nitrogen of the solid portion of the manure is increased ; the phosphates are made more assimilable ; there is less weight of manure to haul to the fields ; the larger number of weed seeds that may be present are destroyed.

We may again be permitted to call the attention of the reader to the fact—since it is an important point—that the conditions under which manure is kept ordinarily in barnyards are such as would lead to a much greater loss of fertilizing constituents, both from excessive fermentation and leaching, than resulted even from the “exposed” manure of this investigation.

### THE PRESERVATION OF MANURE WITH GYPSUM.

This investigation was undertaken with the view of ascertaining the effect of ground gypsum in retaining the nitrogen of fermenting manure in the pile. Three tons of horse and cow manure, mixed in equal proportions, were allowed to ferment without the addition of any preservative, and an equal weight of the same manure was mixed intimately with ground gypsum or land plaster at the rate of 50 pounds per ton of manure. These lots were fermented at the same time in separate bins inside the small building used in the previous experiment (see illustration). The manures were placed in the building on 15th July, being then fresh, made as compact as possible and not stirred or otherwise disturbed till the close of the experiment, 15th November, when they were again weighed and samples taken for analysis. From time to time both lots of manures were moistened. Both manures, therefore, were, with the exception of the presence of gypsum in the one, rotted under the same conditions.

The results of our analysis of the fresh manure and the same manure rotted alone and with gypsum after four months are presented in Table VI. At the time when the final samples were taken, both manures appeared to be thoroughly rotted.

TABLE VI.

PERCENTAGE COMPOSITION OF MANURES ROTTED WITH AND WITHOUT GYPSUM.

MANURE. (Horse and cow manure in equal parts).	Water.	Organic Matter.	Mineral Matter or Ash.	NITROGEN.		PHOSPHORIC ACID.		POTASH.	
				Total.	As Ammonia Nitrates and Nitrites.	Total (Soluble in hydrochloric acid).	Available (Soluble in 1 p.c. citric acid).	Total (Soluble in hydrochloric acid).	Available (Soluble in 1 p.c. citric acid).
July 15th, 1897, original, fresh . . . . .	70·43	24·51	5·06	·575	·049	·32	·21	1·15	1·07
November 15, 1897, with Gypsum . . . . .	71·77	17·97	10·26	·783	·057	·53	·46	1·37	1·29
November 15th, 1897, without Gypsum . . . . .	70·04	19·79	9·17	·911	·067	·64	·47	1·64	1·64

As we noted in the previous investigation the rotted manures are richer in all the essentials of plant food than the fresh manure, weight for weight.

Calculating these data to a water-free basis, we obtain the figures given in Table VII. These permit a closer comparison of the composition of the manures and show the same general result as regards the increase in the percentage of the elements of fertility, as were noticed in the previous experiment.

By multiplying the percentages in Table VI. by the weight of the manures, the data of Table VIII. are obtained. From these we may deduce the losses due to fermentation, and also learn what action the ground gypsum may have had in retaining or fixing the nitrogen which may escape as ammonia, or more strictly speaking, carbonate of ammonia.

In considering the organic matter, it would appear that the presence of gypsum had had a beneficial effect. From this experiment, it seems that gypsum retards to a certain extent the destruction of this constituent.

With respect to nitrogen, however, no useful result is to be observed under the conditions of this experiment from the use of gypsum. The amounts in the manure rotted with and without plaster are practically the same.

Ground gypsum, undoubtedly, may be used to advantage in the stable. The nitrogenous compound in the urine (*urea*), by the aid of certain micro-organisms, always present in the air, is converted very quickly into carbonate of ammonia. This is volatile and will escape if some suitable absorbent or fixer is not present. Gypsum is such a fixer, converting the carbonate into sulphate of ammonia, which is not volatile.

From the results of the investigations under discussion, it might be inferred that the greater part, at all events, of the nitrogen that escapes from fermenting manure is in the free state, that is, as gaseous nitrogen. If the manures had not been kept constantly moist, the results might have been different.

The practical conclusions from this part of this investigation are (1) that the proper place to use gypsum is in the stable, where undoubtedly the greater waste of nitrogen, as ammonia, frequently occurs, and (2) that when the manure heap is kept *compact and moist* there is not any considerable escape of ammonia.

Fermentation, it will be seen (table VIII.) as in the former experiment, has increased the availability of the phosphoric acid.

It is to be noticed that a considerable loss of potash has taken place in both manures. This must be due to a certain amount of drainage from the manures soaking into the board floor upon which they rested. This drainage was no doubt increased by the water used in keeping the manures constantly moist. This result corroborates the conclusions reached from a consideration of the foregoing investigation with exposed manure, namely, that loss of potash cannot be entirely guarded against without a water-tight, concrete floor, if the manure is to be kept moist by rain or artificial means.

TABLE VII.

COMPOSITION OF DRY MATTER, *i.e.*, WATER-FREE MANURE.

Manure. (Horse and cow manure in equal parts.)	Organic Matter.	Mineral Matter or Ash.	Nitrogen.		Phosphoric Acid.		Potash.	
			Total.	As Ammonia Nitrates and Nitrites.	Total (soluble in hydrochloric acid).	Available (soluble in 1 p. c. citric acid).	Total (soluble in hydrochloric acid).	Available (soluble in 1 p. c. citric acid).
July 13th, 1897—Original, fresh ..	82·88	17·12	1·95	·165	1·08	·71	3·87	3·60
Nov. 15th, 1897—With gypsum ..	63·63	*36·37	2·73	·202	1·89	1·63	4·84	4·58
"   15th, 1897—Without gypsum	69·37	30·63	3·04	·22	2·14	1·57	5·43	5·43

\* Containing added gypsum.

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### TABLE VIII.

AMOUNTS OF FERTILIZING CONSTITUENTS IN MANURES ROTTED WITH AND WITHOUT GYPSUM.

Manure. (Horse and cow manure in equal parts.)	Organic Matter.	Mineral Matter or Ash.	Nitrogen.		Phosphoric Acid.		Potash.	
			Total.	As Ammonia Nitrates and Nitrites.	Total (soluble in hydrochloric acid).	Available (soluble in 1 p. c. citric acid).	Total (soluble in hydrochloric acid).	Available (soluble in 1 p. c. citric acid).
July 13th, 1897—Original, fresh, 6,000 lbs.	1470·6	303·6	34·5	2·9	19·2	12·6	69·0	63·9
Nov. 15th, 1897—With gypsum, *4,050 lbs.	727·8	*415·5	31·6	2·3	21·6	18·6	55·5	52·2
Nov. 15th, 1897—Without gypsum, 3,445 lbs.	680·7	315·9	31·4	2·3	22·0	17·0	56·9	56·9

\* Containing added gypsum.

## SOIL INOCULATION FOR THE GROWTH OF THE LEGUMES.

### THE USE OF NITRAGIN IN AGRICULTURE.†

Nitragin is a bacteriological preparation containing the germs that reside in the nodules on the roots of leguminous plants, and which enable the host plant to utilize and appropriate free atmospheric nitrogen. Its use, by inoculation of the soil or seed, has been recommended to induce a more vigorous growth of the legumes, and in order to test its practical value for this purpose, experiments at the Central Farm were begun during the season of 1897. The results of these investigations and the deductions therefrom were set forth in the report for last year. A distinct increase in the amount of nitrogen, presumably from the application of nitragin, was observed in the crop in several of the inoculated series of plants.

To obtain further evidence on this subject, experiments of a similar character have been conducted during the past season, the treatment and method of culture being practically the same as in 1897.

### PEASE.

The seed was sown on 2nd June; plants thinned to 11 in each pot; experiment closed and samples taken on 4th August, when most of the pods were fully formed. The vines were, however, still quite green and possessed some flowers. Culture used, *Pisum sativum*.

	Grams.
Pots 13 and 14, untreated, 11 plants, stems, leaves and roots.	90·7
“ 15 and 16, soil inoculated, “ “	107·9
“ 17 and 18, seed inoculated, “ “	132·0

†A detailed account of Nitragin, its nature and uses, and of the principles of inoculation for free nitrogen appropriation in the growing of clover, pease, beans, etc., is to be found in the report of this Division for 1897, p. 141, et seq.

All the roots of the untreated pots possessed some nodules, showing that the soil used contained naturally the germs. It would appear that the micro-organisms, which thus assist the growth of the legumes, are widely prevalent in the soil of this district, since but little difficulty is experienced in obtaining a good crop of clover, pease, etc.

The nodules on the roots of the "soil inoculated" plants were apparently in about the same number as on the untreated plants. The effect of the nitragin, therefore, as judged by abundance of nodules, was not noticeable.

On the roots of the "seed inoculated" plants the nodules were more numerous and larger than on either of the preceding.

The analytical data are presented in the following table:—

TABLE I.

PEAS : WEIGHTS OF CROPS, AMOUNTS OF NITROGEN, ASH CONSTITUENTS AND ORGANIC MATTER.

Sown, June 2nd, 1898. Cut, Aug. 4th, 1898.	Pots 13 & 14.			Pots 15 & 16.			Pots 17 & 18.		
	Not inoculated.			Soil inoculated.			Seed inoculated.		
	Stems and Leaves.	Roots.	Total.	Stems and Leaves.	Roots.	Total.	Stems and Leaves.	Roots.	Total.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Weight, when cut . . . .	65.2	25.5	90.7	7.5	32.4	107.9	85.5	46.5	132.0
" nitrogen . . . . .	.450	.148	.598	.535	.172	.707	.546	.193	.739
" ash or mineral constituents . . . . .	2.58	3.96	6.54	2.87	2.42	5.29	2.52	6.42	8.94
" organic matter . . . . .	14.29	3.55	17.84	16.11	3.56	19.67	17.86	5.22	23.08
" "dry matter" . . . . .	16.87	7.51	24.38	18.98	5.98	24.96	20.38	11.64	32.02

Taking an increase in weight of crop as evidence of the activity of nitragin, we may conclude that both in the soil and seed inoculated series this fertilizing agent has been effective. In the first place, it is to be noticed that the weights of the roots, as well as of the stems and leaves, are greater from the treated than from the untreated plants. Secondly, that the amounts of nitrogen, both in foliage and roots, of the inoculated plants exceed those in the plants from the untreated pots. Thirdly, that the amounts of "dry matter", that is, the organic and mineral substances of the plant, are also greater in the crops of the treated than in the untreated pots, showing greater assimilation on the part of the treated plants.

The nitrogen in the roots in all the trials was approximately one-third that in the stems and leaves, or one-fourth of the whole nitrogen present.

Comparing the value of soil inoculation with that of seed inoculation, this experiment shows that the latter was more effective.

In tables II. and III. we record the percentage composition of the fresh material and of the "dry matter." They allow a closer comparison of the composition of the pea plants, treated and untreated, and furnish corroborative evidence in favour of one or two conclusions drawn from last year's experiments.

The data of Table II. show that as regards the percentage composition of the foliage (stems and leaves) there is practically no difference between the treated and untreated plants. The larger amounts of nitrogen contained in the former are therefore due to the larger weight of foliage, produced presumably through the agency of the *nitragin*.

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### TABLE II.

PEAS : PERCENTAGE COMPOSITION OF FRESH MATERIAL.

Constituents.	Pots 13 & 14.		Pots 15 & 16.		Pots 17 & 18.	
	Not inoculated.		Soil inoculated.		Seed inoculated.	
	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.
Nitrogen.....	.69	.58	.709	.53	.639	.416
Ash or mineral matter.....	3.95	15.53	3.81	7.47	2.95	13.81
Organic matter.....	21.92	13.93	21.32	10.98	20.88	11.22
Dry matter.....	25.87	29.46	25.13	18.45	23.83	25.03

### TABLE III.

PEAS : PERCENTAGE COMPOSITION OF DRY MATTER.

Constituents.	Pots 13 & 14.		Pots 15 & 16.		Pots 17 & 18.	
	Not inoculated.		Soil inoculated.		Seed inoculated.	
	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.
Nitrogen.....	2.70	1.97	2.82	2.87	2.68	1.66
Ash or mineral matter.....	15.28	52.71	15.15	40.46	12.38	55.19
Organic matter.....	84.72	47.29	84.85	59.54	87.62	44.81

Though there are some differences in the composition of the dry matter of the treated and untreated plants, these are slight and may be partly accounted for by the unavoidable errors of analysis. It is to be noticed that the composition of the pea plant throughout the series is quite similar. It is not apparent, therefore, from this investigation as some suppose, that the plants inoculated with nitrugin are relatively richer in nitrogen than those not so treated. In this connection, however, we should state that the check or untreated plants were not grown in sterilized soil, so that the present results do not altogether refute that conjecture. In last year's report we said that "the larger amount of nitrogen in the treated crop is rather due to a greater development of root or foliage or both, under the stimulating effect of the micro-organisms furnished by the preparation." This deduction receives confirmation from this year's work.

### HORSE BEANS.

The seed was sown on 3rd June, plants thinned to 11 in each pot ; experiment closed and samples taken August 30th. Culture used ; *Vicia faba*.

Pots 7 and 8, untreated, 11 plants, stems, leaves and roots.....	302.5
Nodules large, but not numerous.	
Pots 9 and 10, soil inoculated, 11 plants, stems, leaves and roots...	324.0
Nodules large and very numerous.	
Pots 11 and 12, seed inoculated, 11 plants, stems, leaves and roots..	261.5
Nodules, about the same as in 7 and 8.	



The data obtained from this series are as follows :—

TABLE IV.

HORSE BEANS : WEIGHTS OF CROP, AMOUNTS OF NITROGEN, ASH CONSTITUENTS AND ORGANIC MATTER.

Sown, June 3rd 1898. Cut, August 30th 1898.	Pots 7 & 8. Not inoculated.			Pots 9 & 10. Soil inoculated.			Pots 11 & 12. Seed inoculated.		
	Stems and Leaves.	Roots.	Total.	Stems and Leaves.	Roots.	Total.	Stems and Leaves.	Roots.	Total.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Weight, when cut . . . .	259·0	43·5	302·5	274·0	50·6	324·0	222·0	39·5	261·5
" of nitrogen . . . .	1·10	·51	1·61	1·10	·5	1·60	·94	·30	1·24
" ash and mineral constituents.	4·89	15·1	19·99	4·73	12·2	16·93	4·89	6·33	11·32
" organic matter.	31·71	13·48	45·19	32·91	11·7	44·61	28·70	7·87	36·57
" "dry matter" .	36·60	28·58	65·18	37·64	23·9	61·54	33·59	14·20	47·79

The largest yield of crop was obtained from the "soil inoculated" plants; the smallest, from the "seed inoculated."

With regard to nitrogen, the amounts in the untreated and "soil inoculated" plants are practically identical; that in the "seed inoculated" plants is somewhat less.

The results in this series with horse-beans are certainly not such that definite conclusions may be safely drawn therefrom. With the "soil inoculated" plants there was, apparently, a benefit from the nitragin, but on the other hand, better returns were obtained from the untreated than from "seed inoculated" plants. The cause for this unsatisfactoriness is difficult to find, more particularly as the experiment was carried out in a similar way to that of 1897, when nitragin gave marked results with horse-beans. It is quite possible that the "culture" used had become impaired through the action of time, light or warmth. The manufacturers of nitragin, Messrs. Meister, Lucius & Bruning, Höchst am Main, Germany, now add a special caution on these points and say that it should be used within four weeks of the date of purchase at the latest.

In tables V. and VI. the percentage composition of the fresh material and dry matter is given.

TABLE V.

HORSE BEANS : PERCENTAGE COMPOSITION OF FRESH MATERIAL.

Constituents.	Pots 7 and 8. Not inoculated.		Pots 9 and 10. Soil inoculated.		Pots 11 and 12. Seed inoculated.	
	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.
Nitrogen . . . . .	·425	1·17	·402	1·10	·425	·764
Ash or mineral matter . . . . .	1·89	34·70	1·72	24·4	2·20	16·03
Organic matter . . . . .	12·23	31·00	12·03	23·4	12·93	19·92
Dry matter . . . . .	14·12	65·70	13·75	47·8	15·13	35·95

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TABLE VI.

HORSE-BEANS : PERCENTAGE COMPOSITION OF " DRY MATTER."

Constituents.	From Pots 7 and 8.		From Pots 9 and 10.		From Pots 11 and 12.	
	Not inoculated.		Soil inoculated.		Seed inoculated.	
	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.	Stems and Leaves.	Roots.
Nitrogen.....	3·0	1·80	2·92	2·09	2·81	2·12
Ash or mineral matter.....	13·35	52·83	12·53	51·14	14·55	44·60
Organic.....	86·65	47·17	87·42	48·86	85·45	55·40

The results in table V. show that differences of note exist in the composition of the roots, mainly due to varying percentages of water. While it might be interesting from a scientific standpoint to discuss the cause for this, we are at present unable to draw any conclusions of practical value, and can only hope that future investigations may give clearer evidence as to the value of this preparation.

## PLOT EXPERIMENTS WITH NITRAGIN : CLOVER, PEAS, BEANS.

The experiments, the results of which have already been recorded were made in pots of special construction, as explained in our report for 1897. In order to test the effect of nitragin in the field, an area of 10 square yards was staked off and fertilized by the following mixture :—Superphosphate, 12 ozs. Muriate of potash, 4 ozs. These chemicals were well mixed with sand previous to application in order to facilitate uniform distribution. The soil selected was almost pure sand, humus and nitrogen being present only in exceedingly small quantities. The area was sown 13th June, as follows :—

- Clover . . . . . 2 rows, seed untreated, 2 rows, seed inoculated.
- Horse-beans . . . . . 2 rows, seed untreated, 2 rows, seed inoculated.
- Pease . . . . . 2 rows, seed untreated, 2 rows, seed inoculated.

*Clover.*—On 28th October, the experiment was closed. The plants from four feet in each row were carefully dug and weighed. Culture used, *Trifolium pratense*.

Clover.	From untreated rows.	From inoculated rows.
Weight of foliage, green.....	8 oz.	9½ oz.
" roots, green.....	8 "	9 "
Total.....	16 oz.	18½ oz.
Weight of foliage, air-dried.....	3 oz.	3¾ oz.
" roots, air-dried.....	2½ "	3¼ "
Total.....	5½ oz.	7 oz.

The crop from the inoculated seed was much more luxuriant than that from the untreated seed, and the above results show that the yield was considerably heavier. In this case it would appear that the nitragin had exerted a beneficial influence of a most marked character.

*Horse-beans.*—The beans were allowed to grow until 10th October, when the crop was dug. The best twenty-four plants from the untreated rows were selected and a similar number of the best plants from the inoculated seed were taken. The data as to weights were obtained from these selected plants. The roots were weighed with the stems and leaves.

Horse Beans.	From untreated seed.	From inoculated seed.
	Lbs. oz.	Lbs. oz.
Weight of 24 best plants, green.....	1 11	1 10½
" " air-dried.....	7	7

It is not apparent from these results that the nitragin was of any value in encouraging the growth of the horse-beans. In the pot experiments with horse-beans, already recorded, it will be remembered that this year no result from the nitragin was observed, which lends further weight to the doubt regarding the vitality of the preparation used.

*Pease.*—The plants, roots and foliage, were gathered on 9th August, six feet from the untreated and inoculated seed rows being taken for the yield.

Pease.	From untreated rows.	From inoculated rows.
	Lbs. oz.	Lbs. oz.
Weight of plants, green.....	1 15	2 ¼
" " air-dried.....	8½	9¼

Here again, though the difference is not a large one, the crop from the inoculated seed is the larger.

Our pot and plot experiments with nitragin for 1898 may, therefore, be said on the whole to confirm the results recorded in last year's report, and furnish further evidence towards establishing the usefulness of this agent in fostering the growth of the legumes.

## FORAGE PLANTS, FODDERS AND FEEDING STUFFS.

### THE GRASSES OF THE UPLANDS AND LOWLANDS OF MANITOBA AND THE NORTH-WEST TERRITORIES.

Information on the relative feeding value of grasses is useful to all engaged in stock raising and stock feeding, but especially so, we may say, to farmers and ranchmen of Manitoba and the North-west Territories, where frequently the native grasses must be relied on to supply the chief cattle fodder.

In order to gain further knowledge on this subject, as well as to be in a position to answer the many questions sent us respecting the relative merits of the *native grasses* and hays as grown on the *uplands* and *sloughs*, respectively, in the Canadian North-west, we have during the past season submitted a number of such grasses to analysis. Nos. 1 to 5, inclusive, were collected and forwarded by Mr. S. A. Bedford, Superintendent of the Experimental Farm, Brandon, Manitoba; Nos. 6 to 11, inclusive, by Mr. Angus Mackay, Superintendent of the Experimental Farm, Indian Head N.W.T.; No. 12 was received

## Experimental Farms.

from Col. Herchmer, Comptroller N.W.M.P., Regina, N.W.T.; No. 13 was sent by Mr. J. A. Smith, Saskatoon, N.W.T. The following notes regarding the botanical character of the samples were kindly furnished by Dr. Fletcher, Botanist of the Farms, who carefully examined these grasses on their arrival. For the other particulars I am indebted to Mr. Bedford and Mr. Mackay.

No. 1.—Grown at St. Norbert, 12 miles S.E. of Winnipeg, Man., on a stony, clay loam. *Lowland* (open prairie) partly flooded in June. Probable yield 2 to 2½ tons per acre. 1898 crop. The sample consisted almost entirely of the barren stems of the following sedges, *Carex aristata* and *Carex stricta*, the fine stems of the latter preponderating\*.

No. 2. Grown at St. Vidal, 5 miles S. of Winnipeg, Man., on clay loam. *Lowland* (open prairie); wet in June. Probable yield, 2 tons per acre. 1897 crop. The sample consisted chiefly of barren stems of carices and grasses in equal proportion. Probably *Carex stricta* and *Deyeuxia neglecta* (Neglected Blue-joint), with a few fragments of *Potentilla*.

No. 3. From Red River Valley, 10 miles N. of Winnipeg on clay loam. *Lowland*, rather wet in June. Cut, 1st July. Probable yield about 2½ tons per acre. It consisted of fine, barren stems of *Carex*, probably *straminea*.

No. 4. Grown in Manitoba, on *Lowland*. The sample consisted entirely of a sedge probably *Carex aristata*.

No. 5. From West Selkirk, 23 miles N. of Winnipeg; grown on black, medium loam, *Upland*, and well drained; yield, 1 to 1½ tons per acre; 1898 crop. This sample consisted chiefly of the following grasses in approximately equal proportions: *Poa serotina* (Fowl Meadow grass), *Poa pratensis* (June grass), and *Phleum pratense* (Timothy). Probably one-fourth of sample was made up of weeds, including Stink-weed, Canada Thistle, *Heliopsis*, Dandelion and leaves of Milfoil.

No. 6. North-west Territories. *Lowland* grass. It consisted chiefly of *Deyeuxia confinis* (Rough Pony grass), but contained some *Hordeum jubatum* (Squirrel-tail or wild barley grass), and *Glyceria aquatica* (Reed Meadow grass).

No. 7. North-west Territories. *Lowland* grass. Consisted entirely of *Flumina arundinaceae* (white top) and had been cut when the seeds were about half ripe.

No. 8. North-west Territories. *Lowland* grass. Chiefly *Deyeuxia confinis*, with a few stems of *Hordeum jubatum* and *Beckmannia*.

No. 9. North-west Territories. *Upland* grass. Chiefly *Festuca scabrella* (Harsh fescue), *Agropyrum glaucum* (Colorado Blue stem) and *Agropyrum caninum* (Bearded Wheat grass; also a few stems of *Stipa spartea* (Spear grass), and *Koeleria cristata* (Western June grass).

No. 10. North-west Territories. *Upland* grass. Chiefly barren stems of the following grasses: *Agropyrum glaucum*, *A. caninum*, *Festuca scabrella*. There were also in the sample *Stipa spartea*, *Avena pratensis* and leaves of wild rose and *Artemisia*.

No. 11. North-west Territories. *Upland* grass. Very similar to Nos. 9 and 10, consisting of *Agropyrum glaucum* and *A. caninum*, mixed with a little wild rose and Western snowberry.

No. 12. From Regina, N.W.T.; sample of hay as fed to horses of North-west Mounted Police. It consisted entirely of the sedge, *Carex aristata*.

No. 13. From Saskatoon, N.W.T., consisted entirely of *Sporobolus cuspidatus*, generally considered a grass of but little agricultural value.

The foregoing data may be summarized as follows:—

Lowland hay from Manitoba, Nos. 1, 2, 3, and 4.

“ “ North-west Territories, Nos. 6, 7, 8 and 12.

Upland hay from Manitoba, No. 5.

“ “ North-west Territories, Nos. 9, 10 and 11.

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\* The carices are perennial grass-like plants of the sedge family and are characterized by solid, generally triangular, stems and rough-margined leaves.

COMPOSITION OF NATIVE GRASSES FROM "UPLANDS" AND "LOWLANDS," COLLECTED IN MANITOBA AND NORTH-WEST TERRITORIES.

Number of Sample.	Name.	Locality.	Hay (Air-dried Condition).					Calculated to Water-free Substance.					
			Water.	Albuminoids.	Fat.	Carbo-hydrates.	Fibre.	Ash.	Albuminoids.	Fat.	Carbo-hydrates.	Fibre.	Ash.
1	Sedges: Carex aristata, Carex stricta.....	St. Norbert, Man., "lowland" .....	7.28	7.12	2.37	42.39	34.39	6.45	7.69	2.55	45.71	37.09	6.96
2	Sedges and grasses in equal proportions: Deyeuxia neg. and Carex stricta.....	St. Vidal, Man. ....	6.28	10.00	3.52	45.49	28.30	6.41	10.62	3.76	48.59	30.19	6.84
3	Sedges: Carex straminea (?). ....	Red River Valley, north of Winni- peg, Man., "lowland" .....	6.38	7.06	2.51	49.41	29.52	5.12	7.50	2.68	52.82	31.53	5.47
4	Sedges: Carex aristata (?). ....	Manitoba .....	7.43	10.00	3.15	44.60	28.43	6.39	10.81	3.40	48.17	30.71	6.91
5	Grasses and weeds: Poa pratensis, Poa serotina, phleum pratense.....	West Selkirk, Man., "upland" .....	6.20	8.62	2.46	46.89	28.21	7.62	9.19	2.62	50.00	30.07	8.12
6	Grass: Deyeuxia confinis, Hordeum jubatum, &c.....	Near Indian Head, N.W.T., "lowland" .....	7.41	7.06	2.76	40.75	34.66	7.36	7.62	2.98	44.02	37.43	7.95
7	Grass: Flumina arundinaceae (White top) .....	" " " " .....	7.20	6.75	2.24	43.61	34.18	6.02	7.25	2.41	47.03	36.83	6.48
8	Grass: Deyeuxia confinis .....	" " " " .....	6.65	7.00	2.75	41.52	35.88	6.20	7.50	2.94	44.49	38.43	6.61
9	Grasses: Fest. scabrella, Agro. glauc., Agro. can. &c.....	" " " " "upland" .....	7.04	8.25	4.06	41.99	30.96	7.70	8.87	4.36	45.19	33.30	8.28
10	Grasses: Agro. glaucum, Agro. caninum, &c., and weeds.....	" " " " .....	6.55	8.25	4.17	41.77	31.39	7.87	8.81	4.46	44.72	33.59	8.42
11	Grasses: Agro. glauc., Agro. can. and weeds .....	" " " " .....	6.94	8.31	3.70	40.66	32.47	7.92	8.93	3.97	43.70	34.89	8.51
12	Sedge: Carex aristata. ....	Regina, N.W.T., "lowland" .....	6.95	9.00	3.10	47.27	26.03	7.65	9.69	3.33	50.79	27.97	8.22
13	Grass: Sporobolus cuspidatus.....	Saskatoon, N.W.T.....	6.33	5.94	2.82	49.39	28.62	6.90	6.31	3.02	49.76	30.55	7.36

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In order to understand the significance of the data contained in the foregoing table, it is necessary to know somewhat of the nature and functions of the nutritive constituents of fodders. We accordingly furnish this information briefly in the following paragraphs, referring our readers to previous reports for a more detailed account of the facts in this connection :

*Albuminoids.*—A collective name applied to the nitrogenous organic substances. They are the most valuable of all fodder constituents, and are essential to the formation of muscle, cartilage and the tissues generally, and of the animal fluids, blood and milk. Hence, they are known as "flesh formers." Though their principal office is repairing waste and making new tissue, they also serve to develop heat and energy when fat and the carbo-hydrates are lacking or in insufficient quantities. They may also serve for fat production. Whether animals are laying on flesh, producing wool or milk, or working, a supply of albuminoids is necessary, and experience has shown that economic feeding consists largely in obtaining these constituents at a minimum cost and feeding them in correct quantities.

*Fat.*—This ingredient has a high nutritive value, and in this respect ranks next to the albuminoids. By its combustion it generates the greater part of the heat of the body. Further, it is readily transformed into fatty tissue in the animal. It aids the digestion and assimilation of the albuminoids and preserves them in the animal economy from undue waste. It is the chief energy-producing constituent.

*Carbo-hydrates.* Consist of sugars, starch, gums and allied substances, and form a large percentage of the organic matter of plants. They are readily assimilated and oxidized in the animal system, producing much heat and energy. Under certain circumstances they may serve for fat production. They are not stored up by the animal. Carbo-hydrates are frequently classed as "Nitrogen-free extract."

*Fibre.*—Compared with the constituents already discussed, fibre has a low nutritive value. It forms the woody parts of the stems and leaves of plants and a large part of the hull or husk of seeds. As a rule, the fibre becomes harder and less digestible as the plant approaches maturity. In chemical composition and function as a food, fibre is similar to the so-called carbo-hydrates.

*Ash or Mineral Matter.*—This contributes to the formation of bone and supplies the tissues throughout the body with the minute quantity of mineral matter they require. It also replaces those saline substances daily excreted.

It will be observed that the Lowland hay is chiefly, sometimes wholly, composed of sedges, which are usually considered as decidedly inferior to the true grasses in feeding value. It is quite doubtful if the sedges are as palatable or digestible as the grasses, being, as a rule, somewhat harsh and tough; yet we have the testimony of many ranchers and stockmen that both horses and cattle thrive well and fatten upon hay entirely made up of sedges. Colonel Herchmer, who sent sample No. 12, informs us that the horses of the North-west Mounted Police eat the sedge hay with avidity and keep in good condition.

The principal sedge in these lowland hays is *Carex aristata*. In albuminoids it compares most favourably with many grasses, and indeed all the data show it to have nutritive qualities of a high order. The various analyses of this sedge here tabulated lead us to infer the samples were not all obtained at the same stage of growth. We may presume that the richer samples are from the earlier cut hay, since in all probability, as with the grasses, the sedges deteriorate as they ripen.

This series contains too few samples of Upland native hay to allow any decisive conclusions being drawn as to their relative merits compared with hay from lowlands. Indeed, the differences, as revealed by the analytical data, are by no means marked. The following averages, prepared from the foregoing table, are, however, interesting:—

Hay.	Number of Samples.	Water.	Albuminoids.	Fat. (Ether extract.)	Carbo-hydrates.	Fibre.	Ash.
Lowland hay, principally sedges	8	6.96	8.03	2.91	44.09	31.37	6.64
Upland hay, grasses with weeds	4	6.56	8.39	3.44	43.10	30.71	7.80

The analysis of the hay of *Sporobolus cuspidatus* (No. 13) from Saskatoon, shows this to be rather a poor grass and decidedly inferior as regards albuminoids to the other hays of this series.

As pointed out in Bulletin No. 19, grasses, like all cereals, are particularly susceptible to environment, improving greatly under cultivation. The rich fertile soils of Manitoba and the North-west Territories should be conducive to the growth of grasses containing high percentages of albuminoids, and we may, therefore, expect that the native grasses of the prairies will under cultivation become still more nutritious than the present results indicate. This deduction must not be understood as in any sense contradictory to the statement made from previous work (Bulletin 19) that these North-west hays are highly nutritious and furnish a coarse fodder of valuable feeding qualities. Regarding the sedges, we must admit to some surprise in finding them compare so well with the grasses; nevertheless it is only to be expected that as the growing of grasses receives more attention in the North-west their use will become confined to certain more or less restricted areas.

#### TIMOTHY AND BROME GRASS HAYS.

Attention was directed to the composition and feeding value of Brome grass in the report of the Division of Chemistry for 1897. The analyses of Brome hay, the results of which are there stated, were made on samples grown on the Experimental Farm, Indian Head, N.W.T. The data showed that this hay possessed nutritious qualities of a high degree.

During the past year we have made a comparative study of the hays of Timothy and Brome grass as grown on the Central Farm, Ottawa, during the season of 1897. Both grasses were cut when considered in the best condition, the samples were taken in February from the barn. The analytical data are presented in the following table:—

COMPOSITION OF THE HAYS OF TIMOTHY AND BROME GRASS, GROWN ON CENTRAL EXPERIMENTAL FARM, OTTAWA, 1897.

Hay.	Moisture.	Albuminoids.	Fat (Ether extract).	Carbohydrates.	Fibre.	Ash.
Timothy hay.....	9.72	5.94	5.38	43.25	31.30	4.41
Brome grass hay.....	10.76	6.61	4.51	41.01	31.86	5.25

The nitrogenous compounds, grouped under the term albuminoids, are the most important from a feeding standpoint, and in this regard the Brome grass is seen to be somewhat the better of the two. Stated in pounds per ton, we have the following figures:—

	Albuminoids pounds per ton.
Timothy.....	118.8
Brome grass hay.....	132.2

By calculating our data to a water-free basis, we may make a closer comparison of the composition of the real cattle food in the two hays.

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### COMPOSITION OF THE "DRY MATTER": TIMOTHY AND BROME GRASS HAYS.

Hay.	Albumin- oids.	Fat (Ether extract.)	Carbo- hydrates.	Fibre.	Ash.
Timothy hay .....	6.58	5.96	47.90	34.67	4.89
Brome grass hay .....	7.40	5.05	45.95	35.69	5.91

### SOJA BEANS (*Soja hispida.*)

During the season of 1897, this annual legume was first tried as a field crop on the Central Farm. The results obtained gave promise of it becoming a valuable fodder for siloing in conjunction with corn. The indications were that it could be grown with greater certainty of success than horse beans—being better able to withstand drought and hot weather. Soja beans share with other legumes the property of being rich in nitrogenous matter.

Further experiments in growing this crop have been made during the past summer, the details and results of which will be found in the report of the Director and Acting Agriculturist for the current year. In connection with those results, we here present analytical data obtained from plants which had been grown with varying distances between the rows and from crops sown at different dates; the object of the investigation being to ascertain what effect, if any, these conditions and factors had upon the nutritive value of the crop.

In the first series, six average-sized plants, from the crop sown 26th April, were taken, severally, from rows (a) 3 feet apart, (b) 2 feet 6 inches apart, and (c) 2 feet apart.

In the second series, a similar selection was made from the crop sown 17th May, the drills or rows being (a) 21 inches apart, (b) 14 inches apart, and (c) 7 inches apart.

All the samples were taken on 12th September, the plants being quite green, well podded and in good condition generally.

The analytical data showing the composition of these plants have been arranged in the following tabular form:—

#### SOJA BEANS—PERCENTAGE COMPOSITION OF FRESH MATERIAL.

Soja Beans.	Water.	Albuminoids (Crude Protein.)	Fat. (Ether Extract.)	Carbo-hydrates. (Nitrogen-free Extract.)	Fibre.	Ash.
Soja Beans, sown 26th April, cut 13th Sept.,						
"    "    "    drills 3 ft. apart.....	71.25	2.58	1.53	13.68	8.85	2.11
"    "    "    2 ft. 6 in. apart.....	71.89	2.80	1.71	12.52	8.99	2.09
"    "    "    2 ft. apart.....	73.16	2.65	1.15	12.00	9.08	1.96
Average.....	72.10	2.68	1.46	12.73	8.97	2.05
Soja Beans, sown 17th May, cut 13th Sept.,						
"    "    "    drills 21 in. apart.....	74.03	2.62	.89	11.57	8.85	2.04
"    "    "    14 in. apart.....	71.48	2.22	1.01	14.42	8.79	2.08
"    "    "    7 in. apart.....	72.64	2.19	1.21	13.39	8.53	2.04
Average.....	72.72	2.34	1.04	13.13	8.72	2.05



It is not observable in the first series that the varying distances between the drills has had any *marked* effect upon the composition of the plants; the differences, as revealed by the foregoing results, being small and irregular, might legitimately be attributed to other causes. In the second series, the later sown plants, those planted with the greatest distance between the rows, are somewhat the richer, since they contain a slightly higher percentage of nitrogenous compounds (albuminoids).

Comparing the composition of the plants from the early and late sowing, we again notice but very little difference. Such as there is, however, is in favour of the earlier sown beans.

To enable the reader to form some estimate of the food value of this new crop, as compared with other legumes, we append the following table, containing results obtained in the Farm laboratories during recent years together with other data gleaned from the publications of the United States Experiment Stations :

PERCENTAGE COMPOSITION OF LEGUMES.

Name.	Water.	Albuminoids.	Fat.	Carbo-hydrates.	Fibre.	Ash.
Red Clover, in bloom.....	72.70	4.30	.90	13.40	6.50	2.20
Alfalfa.....	71.75	4.84	.97	12.39	7.39	2.66
Serradella, in bloom.....	79.85	2.87	.74	9.95	3.45	3.12
Bokhara Clover, in bloom.....	76.52	2.77	.44	12.06	6.59	1.62
Vetch, in bloom.....	83.90	4.04	.63	6.19	3.24	2.00
Cowpea ".....	86.03	3.25	.62	5.34	2.87	1.89
Beans, Broad Windsor, in bloom.....	84.59	3.33	.63	5.67	4.14	1.64
" English Horse ".....	89.24	2.75	.73	2.26	3.71	1.09
" Telephone ".....	83.81	2.99	1.00	6.79	3.70	1.71
" Soja ".....	72.10	2.68	1.46	12.73	8.97	2.05

## BY-PRODUCTS OF THE OAT : OAT DUST : OAT FEED.

In the manufacture of oatmeal, now so largely and almost universally used at breakfast, several by-products are formed, which find a more or less ready sale as feed—more especially for cows—under the name of oat feed, oat shorts, oat dust, oat dust feed, etc. These may vary greatly in character and feeding value, according to the part of the oat grain predominating and the presence or absence of mill sweepings. The hulls and the hair of the kernel probably form the basis of most of the feeds known as oat dust, and must be considered of low, or, at best, but medium feeding value. There are feeds, however, sold sometimes under the name of oat shorts and oat feed that contain large quantities of broken grain, a very small proportion of hulls, and no sweepings. These have a clean, bright appearance, are heavy, close and fine and must be considered as valuable feed, especially at the price they can frequently be obtained from the oatmeal mills.

Many correspondents during the past year have made inquiries respecting the value of these by-products, and several samples of these new feeding stuffs have been received for analysis. The results obtained from their examination are tabulated as follows :—

COMPOSITION OF "OAT FEED", "OAT DUST", "OAT SHORTS", &amp;C.

No.	Sent by.	Moisture.	Albuminoids.	Fat.	Carbohy-drates.	Fibre.	Ash.
1	T. S. Eager, Heckston, Ont.....	5.20	17.93	6.54	56.00	9.92	4.41
2	Robt. Holmes, Langton, Ont.....	5.06	11.25	5.08	51.68	20.24	6.69
3	McKay Milling Co., Ottawa, Ont.....	5.25	11.02	5.09	51.16	21.43	6.05
4	Thos. Fuller, Trenton, Ont.....	5.71	12.81	5.83	57.82	13.40	4.43
5	C. E. F., Ottawa, Ont.....	6.69	12.81	3.97	45.78	18.98	11.77

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No. 1. Was sent by T. S. Eager, Heckstone, Ont., and purported to be a sample of "oat shorts" from the Kemptville Milling Co., and was selling at about \$10.00 per ton. It was the best of all the samples examined. In its percentages of albuminoids and fat, the two most important constituents, it stands highest, and in fibre, the least valuable element, it is the lowest. It must certainly be considered a feeding stuff of high value.

No. 2. Forwarded by Robert Holmes, Langton, Ont., was labelled "Oat Dust from the Tilson Mills, Tilsonburg, Ont." This and the following samples are inferior in feeding value to No. 1. They are somewhat similar as regards composition, though No. 4 should rank next in value to No. 1, owing to its low percentage of fibre.

No. 3. Obtained from the McKay Milling Co., Ottawa, Ont. A good average sample.

No. 4. Sent by Thomas Fuller, Trenton, Ont., and labelled "Oat Meal Dust" from Messrs. Sadler, Dundas & Flavell Milling Co., Lindsay, Ont.

No. 5. Is a sample from the "cleaning up" of oats on the Central Experimental Farm, and is consequently somewhat inferior to the feeds just discussed.

A mechanical separation of these feeding stuffs was made with the results found in the following table:—

OAT FEED, OAT DUST—MECHANICAL SEPARATION.

Material.	FINE. (Passed mesh $\frac{3}{8}$ inch.)	MEDIUM. (Passed mesh $\frac{1}{8}$ inch.)	Hulls.
No. 1—Oat shorts .....	65.5	30.0	4.5
2—Oat dust .....	52.0	30.0	18.0
3— " .....	44.0	40.0	16.0
4—Oatmeal dust .....	43.0	28.0	29.0
5—Oat screenings .....	38.0	40.0	22.0

As before remarked, the larger the proportion of "fine" and "medium", the better quality, in all probability, will be the feed. A careful scrutiny will often enable the farmer to arrive at a fair estimate as to the worth of these materials.

Professor Henry, in his work entitled "Feeds and Feeding," gives the following data as representing the digestible nutrients in oats and their by-products:—

DIGESTIBLE NUTRIENTS OF OATS, OATMEAL, OAT DUST, ETC.

Name of Feed.	Dry Matter in 100 Pounds.	DIGESTIBLE NUTRIENT IN 100 LBS.		
		Albuminoids.	Fat.	Carbohydrates.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Oats .....	89.0	9.2	4.2	47.3
Oat Meal .....	92.1	11.5	5.9	52.1
Oat Feed or Shorts .....	92.3	12.5	2.8	46.9
Oat dust .....	93.5	8.9	5.1	38.4
Oat hulls .....	90.6	1.3	.6	40.1

Until quite recently, oats, it may be said, were grown almost exclusively as feed for animals, and more especially for horses. Since preparations of oats are now so

popular for human consumption, the probabilities are that the supply of these by-products will increase. Dairymen and stockmen, therefore, will do well to know that these materials are exceedingly variable and that good judgment must be exercised in their purchase.

#### FEEDING VALUE OF MOLASSES REFUSE OR SYRUP.

In the refining of sugar, especially that made from the beetroot, a by-product of the nature of molasses is obtained from which it is impossible with profit to crystallize the remaining sugar, owing to the presence of albuminous materials and saline matter, which latter consists more especially of salts of potash. This molasses refuse has been manufactured on the European continent into a cattle food by being mixed with meals of various kinds, and sometimes with turf or moss litter, and subsequently dried and pressed. The product is a "cake", which has been used with great success for milch cows, fattening stock and horses. When the molasses is fed by itself, that is, unprepared, in large quantities it loosens the bowels; but fed judiciously say, in quantities of 2 or 3 pounds daily as a part of a well balanced ration—it has given excellent results and has proved itself a valuable and economical feeding stuff.

In the early part of the present year, inquiries were received from correspondents in Nova Scotia and Quebec as to the composition and value of this crude syrup, and samples were forwarded from General J. W. Laurie, Oakfield, N.S., and Mr. James W. Stairs, Halifax, N.S., for examination. These samples were duly analysed, with the following results:—

#### COMPOSITION OF MOLASSES REFUSE.

	No. 1.	No. 2.
Water.....	24·89	26·42
Cane sugar.....	50·27	50·05
Glucose.....	1·95	5·00
Nitrogenous organic matter.....	7·81	6·85
Nitrogen-free organic matter (undetermined).....	5·98	3·10
Ash or mineral matter.....	9·10	8·58
	<u>100·00</u>	<u>100 00</u>

As regards the important feeding constituents, these samples are practically identical, so that individual consideration will not be necessary.

The large proportion of sugar—which we must regard as immediately digestible food—makes this material undoubtedly a very valuable feed stuff.

Though not wanting in nitrogenous matter, its use for due economy should be supplemented with a certain proportion of some concentrated meal or meals rich in flesh-forming constituents.

The large percentage of "ash" is to be noted, one-half of which is potash. It is the presence of this, no doubt, that is the cause of the looseness of the bowels in cattle fed above a certain quantity per diem. When symptoms of this condition are observed, the quantity of molasses fed should be reduced. Since the potash is not retained by the animal, but is eliminated by the kidneys, the urine will be especially rich in this element and, therefore, should be carefully preserved by the use of absorbent bedding.

General Laurie, who has fed the molasses to fattening steers (at the rate of from 3 to 5 pounds per diem), diluted somewhat and poured upon the cut roughage or coarse fodder, reports that the animals develop a great liking for it, and that to all appearances it is giving good results.

The most important points in favour of this new feeding stuff may be stated as follows:—(1) that it contains a large percentage of sugar, the most assimilable form of carbo-hydrates found in cattle feeds. This class of nutrients is used by the animal for

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the production of energy the maintenance of the vital heat and the production of fat ; (2) that it stimulates the appetite, and (3) probably increases the digestibility of the other constituents of the ration.

The cost of the crude syrup we understand, is three-quarters of a cent per pound at the refinery, and at this price it should prove a profitable feeding stuff. The amount that can be economically or safely fed per day is probably between 2 and 4 pounds.

### COMPOSITION OF COCOA SHELLS.

This is a waste or by-product from the cocoa and chocolate factory. A sample received from Halifax, N.S., with a request for a report on its feeding value, furnished the following data :—

	Per cent.
Moisture.....	5·12
Albuminoids (flesh formers).....	16·44
Fat . . . . .	12·92
Carbohydrates—sugar, etc.....	45·43
Fibre.....	13·17
Ash or mineral matter.....	6·92

### FERTILIZING CONSTITUENTS.

Nitrogen.....	2·63
Phosphoric acid.....	·98
Potash.....	2·59

The analysis makes clear that it contains a high percentage of albuminoids, and is also rich in fat—two of the most important constituents of a feeding stuff. Providing it is fairly digestible, a point upon which we have no information, save that cocoa butter or fat is readily assimilated,—this refuse material is a concentrated feed of high order. If ground to the condition of a fine meal, I am of the opinion that its digestibility would be much increased, and that it would prove serviceable as furnishing a part of the concentrated portion of the ration.

The quantity that could safely or profitably be fed per diem would have to be ascertained by actual experiment ; probably about 2 pounds a day, with other meal, would be the limit. Again, it is not known whether it would impart any flavour to the milk or butter produced, but we should not expect to find any, if used in the amount already indicated.

Attention is directed to the richness of this material in fertilizing constituents, more especially nitrogen and potash. These, for the most part, would be recovered in the solid and liquid excreta of the animals to which it was fed.

### SUGAR BEETS.

At the request of the Department of Agriculture of British Columbia, a chemical analysis has been made of certain samples of sugar beets grown in that province. The beets, comprising 17 samples, were received during December, 1897 and January, 1898. Nearly all the roots had sprouted, and consequently had deteriorated as regards sugar content.

Many of the roots were too large for the sugar factory ; from 1 pound to 2 pounds is the weight sought by experienced growers. Beets heavier than this are invariably low in sugar. Again, many of the beets were forked and irregular in shape, showing a poor tilth and probably a hardy and stony condition of the soil. Such roots are not liked at the factory, as they entail a considerable waste of material.

The following data are furnished by Mr. J. R. Anderson, Deputy Minister of Agriculture, Victoria, regarding the beets. The seed had been supplied to the grower by the Department of Agriculture for British Columbia :—

PARTICULARS *re* SUGAR BEET SAMPLES SENT FOR ANALYSIS.

Number.	Name of Grower.	Locality where grown.	Nature of Soil.	Culture.
1	W. le Poer Trench	North Saanich		
2	S. Knight	Popcum		
3	R. McBride	Sea Island		
4	D. Rowan	Lulu Island	Clay loam	Planted May 18, lifted Nov. 13; 18 ins. between rows, 10 ins. between plants.
5	H. T. Thrift	Hall's Prairie	Black bottom soil; heavy clay subsoil.	Planted May 12, lifted Nov. 9; 18 ins. between rows, 10 ins. between plants.
6	J. A. Catherwood	Mission	Dark sandy loam soil (a year previous was "alder bottom").	Planted May 24, lifted Nov. 13.
7	W. J. Harris	Pitt Meadows	Clay loam	Planted May 24, lifted Oct. 20; 2 ft. between rows.
8	G. H. Hadwen	Quamichan		
9	R. H. Breeds	North Saanich		
10	T. W. Graham	Shuswap	Loam with clay bottom.	Planted May 16, lifted Oct. 3; drilled 26 ins. apart.
11	G. Hutcherson	Delta		Rows 12 ins. apart.
12	J. T. McIlmoyl	North Saanich		
13	H. V. Baker	Cranbrook	Heavy loam	Planted middle June, lifted end of Aug.; 18 ins. between rows and plants.
14	A. C. Wells & Son	Chilliwack	Clay loam	Planted May 14, lifted Nov. 4; 2 ft. between rows, 9 ins. between plants.
15	H. F. Page	Matsqui	Sandy loam	Planted July 1, lifted Nov. 10; 18 ins. between rows, 9 ins. between plants.
16	Thos. Kidd	Lulu Island	Alluvial loam	Planted May 26, lifted 1st week in Nov.; 18 ins. between rows, 8 ins. between plants.
17	J. M. Manley	Agassiz	Sandy; some little clay mould.	Planted May 25, lifted Nov. 1; 2 ft. between rows, 6 ins. between plants.

The value of beets for the manufacture of sugar depends upon their richness in sugar and the purity of their juice (coefficient of purity). To obtain beets with a high sugar content and pure juice, it is not only necessary to procure sow seed from tested roots or varieties of acknowledged richness, but also to pay great attention in the selection and preparation of the soil and the subsequent culture of the beets. For information on this subject the reader is referred to pages 132, 133 of the Report of the Farms for 1890.

## Experimental Farms.

The results of our examination have been prepared in tabular form, as follows:—

ANALYSES OF SUGAR BEETS FROM BRITISH COLUMBIA, 1897.

No.	Percentage of Sugar in Juice.	Percentage of Solids in Juice.	Co-efficient of Purity.	Average Weight of one Root.		Remarks.
				Lbs.	Oz.	
1	15.1	18.0	83.9	1	8	Medium size, regular, good shape.
2	11.4	15.4	74.0	2	3	All sprouted " "
3	11.8	16.3	72.4	3	0	Too large, all sprouted " "
4	10.4	15.2	68.4	3	5	" " much forked.
5	14.8	18.3	80.9	2	9	" " some roots forked.
6	15.3	18.2	88.2	0	9	All sprouted, of good shape and regular.
7	11.0	14.1	78.3	0	12	Very much sprouted.
8	11.9	16.2	73.8	1	15	Regular, not sprouted.
9	14.7	17.8	82.8	1	9	Several roots sprouted, fair shape and size.
10	12.5	16.5	76.0	3	1	All sprouted, good shape, but too large.
11	15.0	18.0	83.3	1	6	All somewhat sprouted, forked.
12	13.2	18.2	72.5	3	12	" " too large, several forked.
13	16.0	21.7	73.9	1	6	" " good size, but forked.
14	12.2	16.9	76.4	3	12	" " good shape, not forked, too large.
15	13.0	18.4	70.7	1	12	" " good size, but irregular.
16	13.5	18.5	73.0	1	1	Not sprouted, regular, good size and shape.
17	14.2	18.6	76.3	0	13	Good size and shape.

These figures do not indicate, in the majority of instances, either a rich or pure juice, but as many of the roots had not received any special culture and were badly sprouted, they must not be regarded as demonstrating the possibilities of British Columbia in producing beets profitable for sugar extraction. There is no reason to suppose there are any conditions of soil or climate in British Columbia inimical to the production of rich beets with a high percentage of sugar.

## CANADIAN AND HUNGARIAN FLOURS.

At the request of the Hon. Minister of Agriculture, the following critical study of samples of Canadian and Hungarian flours was made. The flours selected were "Best Patent," Lake of the Woods Milling Co., and "5-Star best grade E.O.P.O. Hungarian."

ANALYSIS OF FLOURS.

	Best Patents. Lake of the Woods Milling Co.	5-Star Best grade. E. O. P. O. Hungarian.
Moisture .....	11.47	11.51
Albuminoids .....	12.59	11.27
Fat or oil .....	1.82	1.87
Ash or mineral matter .....	.37	.34
Wet gluten .....	34.22	26.17
Dry gluten .....	12.33	9.79
Ratio of "dry" to "wet" gluten .....	2.77	2.67

*Moisture.*—The percentages obtained are so close that the flours, as regards this constituent, may be considered as practically identical.

*Total Albuminoids or Protein:*—The percentages of total albuminoids—the most important constituent of flour from a nutritive standpoint—have been obtained by the usual method, the multiplication of the percentages of nitrogen (directly estimated) by 6.25.

The present results show the Canadian flour to be much the richer of the two (approximately, 10 per cent calculated on the albuminoid content) in these nitrogenous substances, of which the special function in the animal economy is the formation and repair of the principal tissues of the body.

*Fat and Ash.*—As in the case of the moisture, the data representing these two constituents in the two samples differ so little that special comment as to the relative percentages is unnecessary.

*Gluten—Wet and Dry.*—Though not of the same accurate nature as the foregoing analytical data, the determinations recorded under these headings are exceeding useful as indicating the relative “strengths” of the flours. The term *strength*, as used by millers and bakers, denotes, chiefly, the bread yield, which is largely dependant upon the power of a flour to absorb and retain water; it also includes, however, “capacity of a flour for producing a well-risen loaf”, that is, it takes into consideration other physical properties besides that above mentioned—qualities usually concomitant with the absorbent ratio.

The weights of moist and dry gluten from the Lake of the Woods flour exceeded those from the Hungarian sample. If the amounts of moist and dry gluten in the former be each represented by 100, then 77 and 79 will represent the moist and dry gluten, respectively, in the latter. We may therefore, conclude as regards yield of bread from a given weight of flour, that the Canadian brand is far superior. The “falling off” in the oven would be somewhat similar for both flours.

Respecting the *quality* of the gluten, that prepared from the Lake of the Woods sample was found to be firm, tough and elastic; indeed, as far as one could judge, these properties—so valuable in bread-making—were more marked in the gluten from the Canadian flour than that from the Hungarian flour.

The chemical data, strength and gluten estimations, in our opinion, all point to the superiority of the Canadian flour for bread-making purposes.

## CANADIAN SOILS.

But very few soils have been submitted during the past year to complete analysis, owing to the large amount of other and more pressing work. There now awaits examination a considerable number of samples of virgin soils, which will be taken in hand and reported upon as opportunity permits. Certain samples have received a preliminary or partial analysis, and suggestions as to the treatment of these soils drawn from the results obtained, have been furnished to the interested parties. A few of the more important of these reports are here inserted, in the belief that they will furnish useful information to many of our readers.

*From Grindstone Island, Magdalen Islands, Que.* Two soils, the one a virgin soil; the other, cultivated for some years, but never manured, were forwarded by Mr. A. S. D. Van Barnveldt, estate agent and representative, Grindstone Island, who is anxious to establish agriculture among the fishermen there. He requested that the analysis be accompanied by suggestions for economically increasing the fertility of the soil and the most profitable chemical fertilizers to apply. Both samples show the red colour so

## Experimental Farms.

characteristic of the soils of Prince Edward Island. They are light, sandy loams, full of small pieces of the sandstone which has formed the basis of the soils. The fine soil, separated by sifting, was submitted to analysis, with the following results :

- A. Cultivated, but never manured ; had grown oats and hay for several years.
- B. Virgin soil—unmanured and uncultivated.

### ANALYSIS OF SOILS FROM GRINDSTONE ISLAND, MAGDALEN ISLANDS, QUE.

Constituents.	“ A ” Cultivated soil	“ B ” Virgin soil.
Moisture .....	2.49	3.14
Loss on ignition (organic matter) .....	6.31	9.79
Insoluble residue (clay and sand) .....	81.13	77.04
Oxide of iron and alumina .....	8.85	8.90
Lime .....	.17	.25
Magnesia .....	.97	1.33
Potash .....	.14	.19
Phosphoric acid .....	.22	.24
Soluble silica .....	.05	.05
	100.33	100.93
Nitrogen .....	.162	.189

Though these soils, as regards chemical composition and texture, must be considered below the average, they are by no means wanting in the elements of fertility, and their improvement might be undertaken with a fair hope of success, providing the climatic conditions for crop production are not unfavourable.

First, we would advocate the addition of organic matter. This would be especially valuable in making the soil more firm and compact and more retentive of moisture, warmth and plant food. The further decay of such organic matter within the soil would assist in liberating mineral plant food in an available condition. Barn-yard manure, of course supplies organic matter in large quantities, but as I understand there is not an adequate supply of this material on the Island, the use of such naturally occurring fertilizers and by-products as sea-weed and fish offal, both of which contain other elements of fertility in large proportions—the former being rich in potash, the latter, in phosphoric acid—is to be strongly advised. Further, the growth of clover or some other of the legumes would be most beneficial. The turning under of such a crop would not only enrich the soil in humus and available potash and phosphoric acid, but would also increase its percentage of nitrogen. The extensive growth of clover is sure to be followed with good results. It may be sown with all grain crops, the clover being ploughed under as late in the season as the weather allows, or in the following spring. It would also, no doubt, be an economical method to sow clover expressly for the purpose of turning under. This so-called “green manuring” is perhaps the most profitable and permanent method for the enrichment of such soils that could be recommended. To induce a good growth of clover, the soil should receive an application of potash and lime. Wood ashes, kainit, or muriate of potash would supply the former; lime, marl, or gypsum, the latter. If wood-ashes are used, there would be no necessity to add lime or any of its compounds, since they contain about 30 per cent of lime.

These soils are especially poor in lime, and consequently a dressing of lime (20-40 bushels per acre), or gypsum (say, 200 to 500 pounds per acre) would be most advantageous. Nitrogen and phosphoric acid would be furnished by fish offal, of which I suppose there is a more or less ample supply on the islands.

Respecting commercial fertilizers, I would say that their use should only be supplemental to the treatment already outlined. These soils are leachy and must be made more retentive before the greatest good can be expected from the use of soluble plant food as is supplied by chemical fertilizers.



If organic matter and nitrogen can be furnished in the way indicated, and phosphoric acid and potash added by means of fish waste and sea-weed, the further improvement by potash salts, superphosphate, or Thomas slag (for phosphoric acid) and nitrate of soda, will be accompanied with profit. It is impossible to state exactly the amounts of these materials that will give the best results, but the following quantities will serve as a guide. The character of the crop to be grown will necessarily determine this to a large extent :—

Superphosphate.....	300 lbs. per acre.
or	
Thomas basic slag.....	300-500 lbs. “
Kainit .....	200-400 lbs. “

- to be harrowed in after autum ploughing.

After growth has appeared in the spring, broadcast 50 pounds of nitrate of soda per acre, to be followed by another dressing of 50 pounds some three weeks or a month later.

In the treatment of light soils, such as we are now considering, it is always better to apply manures and fertilizers in moderate quantities annually, than large dressings at less frequent intervals.

In comparing the analytical data of the two soils, the exhaustive effect of the cropping without replacing the plant food is quite apparent. In all the principal constituents that go to make up soil fertility—humus, nitrogen, potash, lime, and phosphoric acid—the virgin soil (b) shows much larger amounts. These facts teach a lesson that should not be neglected, for under the present onesided method of farming it will not be long before the store of plant food in the soil is so reduced that crops cannot be profitably grown.

*From Pefferlaw, Ont.*—Forwarded by Thos. Corner : A grayish black, sandy loam of a very loose texture. From appearance, it would be judged as warm and responsive, but light and apt to dry out quickly.

ANALYSIS OF SOIL (AIR DRIED.)

	Per cent.
Moisture .. .. .	1.99
Organic and volatile matter.....	9.62
Mineral matter, soluble in acid, chiefly oxide of iron.....	5.76
“ insoluble in acid, chiefly sand... ..	82.63
	100.00
	100.00
Lime. .... :	Very small quantity.
	Per cent.
Nitrogen .. .. .	. . 264
Sand (approximately).....	78.00
Clay, organic matter, &c. (approximately).....	22.00

For a sandy soil it may be accounted rich in organic matter and nitrogen, though it is doubtful if any large percentage of the latter is in a condition immediately available as plant food.

## Experimental Farms.

In mineral constituents, save iron and alumina, it is poor, and therefore fertilizers supplying phosphoric acid, potash and lime, as well as available nitrogen, should be employed.

In recommending a fertilizer for onions, especially asked for by one correspondent, on this soil, we would point out that if any way possible, the land should have a coating of well-rotted barn-yard manure, poultry manure or rich compost. As it is stated that wood ashes are not obtainable, the following fertilizer would probably be most economical and profitable to use:—

Superphosphate . . . . .	250 pounds per acre.
Muriate of potash . . . . .	200 “ “
Nitrate of soda . . . . .	150 “ “

Apply the superphosphate and muriate of potash in the autumn, if possible, lightly ploughing or harrowing under the mixture. Apply the nitrate of soda broadcast in, say, three top dressings, the first being given soon after the growth of the young plants has begun. The second and third applications may be made at intervals of three weeks.

*From Township of Nepean, near Ottawa, Ont.*—Forwarded by Mr. Hugh Hinds: A grayish red, sandy loam, and would be termed a very light soil.

### ANALYSIS OF SOIL (air-dried).

	Per cent.
Moisture . . . . .	1·31
Organic and volatile matter . . . . .	5·63
Mineral matter, soluble in acid, chiefly oxide of iron . . . . .	6·45
“ insoluble in acid, chiefly sand . . . . .	86·61
	100·00
Lime . . . . . Only present in traces.	
	Per cent.
Nitrogen . . . . .	·154
Sand (approximately) . . . . .	86·00
Clay, organic matter, &c. (approximately) . . . . .	14·0

For a soil of this character, it would not be considered deficient in organic matter and nitrogen, though both of these must be greatly increased, either by stable manure or ploughing under green clover or peas, if the best results are to be expected. The soil would also respond to liberal applications of lime, phosphoric acid and potash. It also stands in need of lime.

To furnish the soil quickly with humus (vegetable matter) and nitrogen, no better material than stable manure—and the soil would easily stand 20-30 tons per acre—could be advised. If wood ashes can be readily obtained, they will probably be the cheapest form of potash available. They also furnish phosphoric acid and lime. For potatoes, vegetables and fruit trees, use from 50 to 100 bushels per acre, lightly ploughed or harrowed under as early in the season as possible.

During the early weeks of growth, give a top dressing (broadcast) of nitrate of soda, for vegetables, and if it can be afforded, for all crops, save the larger fruit trees. It is well to apply this fertilizer in two dressings, a few weeks apart, using about 50 to 60 pounds per acre at each application.

*From near Port Arthur, Ont.*—A yellowish-red sandy loam, and, from appearance, as well as from the analytical results, would be considered a light soil, somewhat below average fertility :—

## ANALYSIS OF SOIL (air-dried).

Moisture.....	1·58
Organic and volatile matter .....	4·48
Mineral matter, soluble in acid, chiefly oxide of iron.....	15·01
Mineral matter, insoluble in acid, chiefly sand.....	78·93
	<hr/>
	100·00
	<hr/>
Lime .....	only present in traces.
Nitrogen.....	·075
Sand (approximately).....	30·8
Clay, organic matter, &c. (approximately).....	19·2

Its chief deficiencies are humus and nitrogen, though in the mineral constituents of plant food it might also be enriched to advantage. Lime is present only in traces, so that an application of marl, gypsum or lime in any form would undoubtedly give a profitable return. If wood-ashes were cheaply obtainable, we could not advise a more economical mineral fertilizer, for they supply potash, phosphoric acid and lime—all of which would increase the fertility of the soil. Instead of wood-ashes, a mixture of superphosphate kaint (the latter contains about 12 per cent of potash) may be used.

Regarding humus (vegetable matter), barn-yard manure, of course, would be most valuable, but as the supply of this material is no doubt limited the deficiency can be made good by the growing of clover alone or with grain crops. In this connection, it is gratifying to learn that this soil will grow good crops of clover. This is due, probably, to the potash, resulting from the ashes of the fire that passed over the district some years ago.

If there are any deposits of muck in the district, the farmers should be advised to utilize them. After digging and piling the muck it should be allowed to weather and air-dry by exposure. It will then form an excellent absorbent to use about the farm buildings and in the barn-yard. In this way much valuable liquid manure will be saved and the inert plant food in the muck rendered available. The resulting manure will prove most valuable to soils of this character.

Being a light soil, it would not be advisable to plough too deeply, but where there is a sub soil of clay within easy reach of the plough I should advise a judicious admixture with the surface soil.

This soil appears to be very similar to a sample sent by Mr. Wm. Wilson, from about six miles west of Port Arthur, the analysis of which appears in the Farm report for 1894. Unfortunately, this sample was destroyed in our disastrous fire in 1896, so that no comparison can be made as to the appearance of these two soils.

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## FERTILIZERS.

### SWAMP MUCK.

From the correspondence and the number of samples of this material received for examination during the past year from farmers in the Dominion, it is evident that the testimony given in former reports of this Division regarding the value of this naturally-occurring fertilizer has attracted attention to many of the muck deposits of Canada. Since, however, we have in previous years devoted considerable time to the analysis of swamp mucks, and being much pressed with other work, these samples have not been submitted to a complete chemical examination. Sufficient work in most instances was, however, done to enable the writer to forward a preliminary report to the sender as to the general character and value. As time permits, these samples, or such as are from districts from which samples have not hitherto been sent, will be analysed and the results published in the annual report.

The following table presents the composition of six samples that have been analysed the past year.

ANALYSIS OF SWAMP MUCK (AIR-DRIED), 1898.

No.	Locality.	Sender.	NITROGEN.			Sand and clay.	Mineral matter soluble in acid.	Water.
			Per cent.	Pounds in one ton of air-dried material	Organic and volatile matter.			
				Lbs.				
1	Georges River Station, N.S.	John McMullen...	2.34	46.8	62.87	15.28	9.37	12.48
2	"	"	1.77	35.4	52.75	27.41	10.48	9.36
3	"	"	1.33	26.6	38.01	40.26	12.99	8.74
4	Churchill, Ont.	F. A. Rogerson...	1.04	20.8	40.59	1.70	8.02	49.69
5	Little York, P.E.I.	J. H. Gill.....	2.11	42.2	55.84	24.22	8.98	10.96
6	"	"	1.49	29.8	78.91	4.22	4.88	11.99

*Nos. 1, 2 & 3.*—It will be noticed that the chief differences between the samples lie in the proportion of vegetable and mineral matter, and that as the organic matter decreases, so does the nitrogen. Since this latter element is the one of greatest importance in mucks, the samples receive their value in the order given. All three specimens would make fair absorbents and prove useful for composting purposes.

*No. 4.*—A very fair sample. If further allowed to dry by exposure it would make an excellent composting material.

*Nos. 5 & 6.*—Usually, the amount of vegetable matter is a measure of the nitrogen present; such, however, in this instance is not the case; that with the largest amount of organic matter contains the least nitrogen, and *vice versa*.

Although swamp muck contains considerable quantities of plant food—and especially of nitrogen—we would remind farmers that this plant food needs preparation before it can be of any service to growing crops. By exposure in the pile, the muck is “weathered” and dried. It is then in an excellent condition to use in conjunction with litter in the cow-house, pig-pen, &c., indeed, everywhere about the farm buildings where

there is liquid manure to absorb and retain. It will also prove a valuable addition to the manure heap, keeping the mass moist, and thus controlling fermentation. When thus further decomposed by rotting manure, the manurial value of the muck is much increased.

For a more detailed account of the methods of treatment and uses of muck the reader is referred to reports of the Division of Chemistry for 1896.

#### BASIC SLAG : THOMAS' PHOSPHATE.

This comparatively new phosphatic fertilizer is now extensively advertised in Canada, and consequently many inquiries have been received regarding its nature, composition, value, etc. To furnish this information the following short article has been written :—

In the manufacture of steel by the Bessemer process a slag is formed rich in phosphoric acid. It is, in fact, chiefly, basic phosphate of lime. This by-product (it was until recently also a waste product) produced by the union of the phosphorus of the iron with the lime of the flux employed, is reduced to a fine powder and put upon the market as an agricultural source of phosphoric acid under the name of Gilchrist Thomas' Slag, Basic Slag, Thomas' Phosphate, etc. Without any further treatment it is applied to the soil.

Basic Slag contains from 15 to 20 per cent of phosphoric acid. In the Report on Fertilizers by the Department of Inland Revenue (Bull. 55), March, 1898, analysis of two samples are given, as follows :—

Basic or Thomas Slag.	No. 820.	No. 848.
Total phosphoric acid . . . . .	16.76	16.25
Total available phosphoric acid . . . . .	5.93	7.80

It also possesses a certain amount of free lime.

As regards the availability of its phosphoric acid it may be said to rank next to superphosphate, for though not immediately soluble in water, it is readily soluble in dilute acids. For this reason we may suppose it to be easily acted upon by the exudations of rootlets and absorbed.

Many agricultural chemists place the phosphoric acid in Basic Slag on a par with the "reverted" phosphoric acid in superphosphate. Extensive experiments in Germany by Wagner and others have established its value for all crops requiring phosphoric acid; this value is approximately estimated at one-half that of superphosphate. Wagner recommends for ordinary crops an application of 500 pounds per acre.

It should always be bought on analysis, and since its usefulness depends upon its fineness, farmers should see that they buy only that which is in the form of an impalpable powder.

It can be used in mixtures with nitrate of soda and the German potash salts without detriment, but should not be previously mixed with sulphate of ammonia as such would result in the loss of valuable nitrogen.

Basic Slag responds best on peaty soils, soils that are sour through insufficient drainage, soils rich in humus and those deficient in lime.

## Experimental Farms.

### SOUTH CAROLINA ROCK.

This is another phosphatic fertilizer that has found its way on to Canadian markets, though as yet it has not received an extensive trial in the Dominion.

"Phosphate Rock" occurs naturally and in vast deposits in North and South Carolina, Florida and Georgia. Two varieties may be recognized, the so-called "river" and "land" phosphates. The river phosphate is dredged from the beds of rivers or taken from swamps; it varies from gray to black, and contains from 50 to 60 per cent of phosphate of lime. It is usually put upon the market in three grades. The "land" phosphate is of a yellowish colour, and frequently contains large percentages of iron and alumina.

These rock phosphates are ground extremely fine and sold as "floats," to be applied directly to the soil. The finer it is ground the more immediately will be its effect upon the crop. For most crops and under ordinary farming conditions we could scarcely advise the use of this untreated phosphate rock, even if finely ground, since but a very small percentage of its phosphoric acid is soluble, and its action is consequently extremely slow. Treated with sulphuric acid it makes excellent superphosphate—a fertilizer valuable for supplying immediately available phosphoric acid. The phosphoric acid in phosphate rock is rated at about 2c. per pound, making the selling price of material worth about \$10.00 per ton.

## WELL WATERS FROM FARM HOMESTEADS.

As in former years, a number of waters from farm wells have been examined in the Experimental Farm laboratories. The results obtained have already been reported in full to the senders of the samples, but it has been thought that the insertion in the annual report of the Chemical Division of the analytical data, together with a brief remark as to the purity or otherwise of the waters—as has been customary in the past—would be both useful for reference and valuable from an educational standpoint. In the following table the results of the examinations are given. These waters, received between 30th Nov., 1897, and 1st Dec., 1898, are, as will be seen, from many widely distant points in the Dominion. Of these, thirty per cent have been passed as free from impurity, sixteen per cent have been reported as decidedly suspicious, and fifty-four per cent have been condemned as dangerous to health.

The desirability, or rather the necessity, of pure water, if the health is not to be endangered, must be realized when we remember the very important part that the water we drink and consume in our food plays in the nourishment of the system. The body is made up largely of water, a man, weighing, say, 148 pounds contains about 90 pounds of water. The blood which bathes every tissue and which carries the digested food products to every part for the growth of bone, flesh and brain, and which constitutes about one twelfth of the body weight, is largely water. The food is digested and assimilated by the aid of water. The waste products of the vital processes within the body are got rid of largely by means of water. All this water, the water that becomes part of our very selves, is the water we drink or take in our food.

The pollution so commonly found in the water of the farm well is of the nature of drainage from the barn-yard, stable, privy or some similar source, in other words, the contaminated water contains liquid excreta or matter dissolved by the rains from the solid excreta. The danger to the system from this may be considered as two fold. First, it acts as a direct poison. Though probably slow and insidious in its action, it nevertheless has a decidedly injurious effect, lowering the tone of the system, undermining the constitution and rendering it liable to catch any disease that may be prevalent, causing sick headache, nausea, indigestion and many disorders of the intestinal tract. Secondly, such polluted water is a most favourable medium for the growth and multiplication of those germs which are the cause of typhoid fever and other diseases caused by the microscopic organisms. Once such germs find an entrance into the well—and this is generally brought about by drainage from the excreta of patients, as for instance, suffering from typhoid—the water becomes a source of infection.

## ANALYSIS OF

RESULTS STATED IN

Number.	Locality.	Marks.	Date.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen in Nitrates and Nitrites.	Chlorine.
1897.							
1	Strathroy, Ont.	J. S.	Dec. 6	.02	.05	6.672	26.0
2	Colborne, Ont.	J. A. S.	" 10	Traces	.16	4.18	136.0
3	Rockburn, Que.	W. J. M.	" 27	1.075	.6	.045	1.0
4	Hazel Hill, N.S.	P. McK	" 27	.63	.096	1.573	22.6
5	"	W. L.	" 27	Free.	.07	1.139	7.8
6	St. Henri de Mascouche, Que.	Rev. E. P. J.	" 30	.274	.020	2.238	2.0
1898.							
7	Gladstone, Man.	H. W. T.	Jan. 5	.032	.112	.019	11.0
8	Westbourne, Man.	P. C.	Feb. 7	2.246	.90	4.271	230.0
9	St. Henri de Mascouche, Que.	Rev. E. P. J.	" 25	Free.	.052	1.460	.76
10	Almonte, Ont.	J. K. D., No. 1.	Mar. 3	"	.032	4.860	70.0
11	"	" No. 2.	" 3	Trace.	.024	1.98	2.20
12	Purpleville, Ont.	E. B.	" 4	.636	.156	.0198	34.0
13	South Wentworth, Ont.	W. G. W.	" 26	.120	.072	1.043	4.4
14	Nelson, P.O., Halton, Ont.	A. E. A.	" 26	Free.	.08	6.95	230.0
15	Chelsea, Que.	J. H.	" 26	"	.080	4.061	31.0
16	Strathroy, Ont.	J. S.	" 28	.082	.028	None.	.60
17	Chelsea, Que.	J. H.	April 5	Trace.	.08	3.462	63.0
18	Cartwright, Man.	R. J. C. S.	" 9	Free.	.384	11.183	116.0
19	Rockland, Ont.	Wm. G.	" 23	.03	.44	.44	4.0
20	St. George, Ont.	F. W. C.	May 9	.06	.024	.082	3.8
21	Hintonburg, Ont.	Wm. B.	" 19	Trace.	.128	1.573	13.0
22	Rockcliffe, Tp. Nepean, Ont.	T. F.	June 9	.03	.085	.387	3.0
23	Souris, Man.	J. C. & H.	" 18	2.09	.075	.156	325.0
24	Wyoming, Ont.	L. W.	" 20	.025	.21	.088	210.0
25	Sydenham, Ont.	A. G., No. 1.	" 23	.195	.373	.037	1.5
26	"	" No. 2.	" 23	.17	.08	1.518	4.0
27	Riverside, Albert Co., N.B.	H. A. T.	" 23	.02	.063	.035	3.5
28	B-rvie P.O., Kincardine, Ont.	J. G.	" 24	.045	.139	18.641	31.0
29	Billings Bridge, Ont.	H. E.	" 27	.095	.10	.189	35.0
30	Rathwell, Man.	L. B.	" 28	.02	.25	.033	105.0
31	Grenfell, Assa, N.W.T.	Dr. G. E.	" 29	.40	.325	1.57	11.0
32	Dalesboro, Assa., N.W.T.	J. H. C.	July 13	.02	.10	.016	1.25
33	Kirks Ferry, Que.	G. G. K.	" 15	.057	.145	.049	.4
34	Curran, Ont.	A. B.	" 15	5.013	.428	.068	4360.0
35	Powell P.O., Carleton Co., Ont.	S. S. H.	" 15	.02	.055	1.795	8.5
36	Minnedosa, N.W.T.	R. P. F.	" 25	.51	.295	.198	15.0
37	Alexandria, Ont.	E. A. H.	" 26	.02	.09	.031	4.5
38	London, Ont.	J. S. P.	" 30	.268	.10	.718	1.40
39	Chelsea, Que.	H. B. F.	Aug. 8	.05	.265	4.685	16.2
40	Glacier, B.C.	Dr. J. P.	" 13	.018	.027	.0246	.10
41	The Brook, Ont.	A. G.	" 13	6.55	.198	.0568	4400.0
42	Chelsea, Que.	A. B. H., A.	" 18	.03	.263	3.426	27.0
43	"	" B.	" 18	.024	.157	8.10	102.0
44	Glacier, B.C.	Dr. Wm. S.	" 23	.018	.037	.0447	.10
45	Port Sydney, Ont.	J. F. C., No. 1.	" 23	.036	.12	2.676	7.6
46	"	" No. 2.	" 23	.021	.132	4.20	19.2
47	Sussex, N.B.	S. W. & E. Co.	" 26	.092	.08	.0971	2.5
48	Middlechurch, Man.	R. R. T.	" 30	.096	.139	.196	54.0
49	Ameliasburg, Ont.	J. S.	Sept. 1	.352	.174	.830	68.0
50	Chelsea, Que.	J. H.	" 2	.026	.092	2.1198	7.5
51	Crossland, Ont.	R. A. L.	" 8	.38	.60	.044	14.0
52	Alberton, P.E.I.	W. B. D., No. 1.	" 10	.02	.076	2.708	62.0
53	"	" No. 2.	" 10	.02	.036	2.643	55.0
54	"	" No. 3.	" 10	.02	.032	2.11	59.0
55	Plaisance, Que.	F. H.	" 14	.02	.317	.062	74.0

# Experimental Farms.

## WELL WATERS, 1898.

PARTS PER MILLION.

Total Solids at 105° C.	Solids after Ignition.	Loss on Ignition.	Phosphates.	Report.
489.2	323.2	166.0	Traces.....	Considerably polluted ; unwholesome.
1068.8	784.8	284.0	Very heavy traces...	Seriously polluted ; dangerous to health.
193.0				Probable organic pollution.
160.8	104.8	56.0	Heavy traces.....	Undoubtedly polluted.
50.8	22.8	28.0	Slight traces.....	Suspicious.
58.8	18.8	40.0	Free .....	Decidedly suspicious.
618.8	384.8	234.0	Traces.....	Pure.
2166.0	970.0	1196.0	Heavy traces.....	Most seriously polluted.
52.0	32.0	20.0	Traces.....	Pure.
646.4	326.4	320.0	Heavy traces.....	Most seriously contaminated.
406.0	266.0	140.0	Slight traces.....	Probably a safe water.
466.0	254.0	212.0	Traces.....	Polluted.
416.0	286.0	130.0	" .....	Suspicious.
1205.2	681.2	524.0	Very heavy traces...	Polluted.
268.0	116.0	152.0	Traces .....	Contaminated.
256.0	190.0	66.0	Large traces.....	Pure.
2374.0	1536.0	838.0	Slight traces.....	Contaminated.
110.0	70.0	40.0	Heavy traces.....	Seriously polluted.
886.0	714.0	172.0	Slight traces.....	Free from pollution.
306.0	210.0	96.0	Heavy traces.....	Free from organic impurity.
272.0	186.0	86.0	None.....	Free from pollution.
1538.0	1458.0	80.0	Traces.....	Pure.
656.0	562.0	94.0	" .....	Seriously contaminated.
375.0	227.0	148.0	Heavy traces .....	Wholesome.
240.4	150.0	90.4	Traces.....	Decidedly impure.
130.0	79.6	50.4	Slight traces.....	Seriously contaminated.
558.4	294.0	264.4	Heavy traces.....	Free from all organic pollution.
269.6	172.6	97.0	Traces.....	Undoubtedly polluted.
4188.0	3640.0	548.0	Slight traces.....	Polluted.
3209.0	2711.0	498.0	Traces.....	Mineral water free from organic pollution.
257.6	164.0	93.6	Heavy traces .....	Polluted.
53.5	32.5	21.0	Slight traces.....	Free from pollution.
9601.0	9112.0	489.0	" .....	Not contaminated.
432.0	358.0	74.0	Traces.....	Mineral water not suited for household purposes.
2265.6	1865.6	400.0	Very heavy traces...	Polluted by drainage.
220.0	127.2	92.8	Traces.....	Most seriously polluted.
223.2	166.4	56.8	" .....	Free from pollution.
261.2	170.0	91.2	Heavy traces.....	Seriously contaminated.
16.8	12.0	4.8	None.....	Polluted.
9004.0	8506.6	497.4	Slight traces.....	Pure.
279.6	298.0	71.6	Traces.....	Mineral water not suited for household purposes.
448.8	275.2	173.6	Slight traces.....	Polluted.
1.6	0.0	1.6	None.....	"
188.0	85.0	103.0	Traces.....	Pure.
190.0	60.0	130.0	None.....	Polluted.
70.0	46.8	23.2	Traces.....	Seriously contaminated.
888.8	626.4	262.4	Slight traces.....	Suspicious.
488.4	356.4	132.0	Traces.....	Decidedly suspicious.
163.5	109.5	54.0	" .....	Seriously polluted.
647.6	400.0	247.6	None.....	Contaminated.
461.6	341.6	120.0	" .....	"
364.8	230.4	134.4	" .....	"
470.8	342.0	128.8	Slight traces.....	"
980.0	796.0	84.0	Heavy traces.....	"



## ANALYSIS OF

RESULTS STATED IN

Number.	Locality.	Marks.	Date.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen in Nitrates and Nitrites.	Chlorine.
			1898.				
56	South March, Ont	G. H. Y	Sept. 17	·024	·088	4·114	36·0
57	"	Rev. W. H. S	" 17	·03	·113	3·62	34·0
58	Ste. Anne de Bellevue, Que.	J. W. M	" 19	1·774	·40	2·922	14·8
59	Pickering, Ont.	S. W.	" 21	·142	·128	1·414	30·0
60	"	E. B.	" 21	·098	·066	·166	34·0
61	Port Sydney, Muskoka, Ont.	J. F. C., No. 1.	" 21	·056	·092	·517	·44
62	"	" No. 2.	" 21	·72	·212	·166	1·6
63	"	" No. 3.	" 21	·02	·04	·655	5·4
64	Yorkton, N.W.T.	F. A. R	" 23	2·465	9·93	·1812	760·0
65	Hull, Que	Rev. C. B	" 28	Free.	·26	·237	1·9
66	Fenaghvale, Ont.	J. G. D	Oct. 7	13·67	·24	·69	5520·0
67	South March, Ont	C. M. C. F.	" 10	·016	·223	·645	10·2
68	"	Wm. G.	" 10	Traces.	·06	2·121	18·8
69	"	M. S.	" 10	·03	·133	1·785	88·0
70	"	J. A.	" 10	·01	·04	·795	5·0
71	"	Rev. W. H. S.	" 10	·96	·25	3·669	51·6
72	Merrivale, Ont.	A. A.	" 18	Traces.	·135	None.	·1
73	Lakeview, Ont.	H. G. M.	Nov. 8	4·22	·06	"	700·0
74	Souris, Man.	McC. & H.	" 9	2·745	·025	·463	328·0
75	Portsmouth, Ont.	M. H. G.	" 22	·110	·349	6·352	16·5

The well located in the barn-yard or near the privy, really acts as a cesspit. The water, and with it the organic filth in the soil of the vicinity is drawn into the well, since water always seeks its lowest level. This is true no matter how impervious the soil is through which the well is dug—though of course the time elapsing before the well is polluted depends upon the character of the soil and the amount of drainage matter. The number of our farm wells which are true springs, that is, in which water is received from a distant subterranean source, is not large. The common practice, then, of sinking the well about the farm buildings is one that we must strongly condemn, for it is sacrificing, or at all events jeopardizing, health to convenience. It would be much wiser and safer to put the well in the front of the farm-house than at the back, as is now the custom.

We are constantly being asked if such contaminated water cannot be purified and rendered harmless and wholesome. Our reply is that by far the safest plan is to abandon such a well and seek another where there is no danger of infiltration of filth. But until this can be done, the only safeguard is to previously boil all water used in the house. This destroys the poisonous compounds and kills any harmful germs that may be present. The ordinary household filters are practically useless for this purpose. Freshly boiled water is flat and insipid to the palate, but if it is allowed to cool in the open it becomes brisk and pleasant again from re-absorption of air.

The following suggestions and advice are offered to those who are interested in this important subject:—

1. If possible, utilize a spring or pure stream some distance from the farm buildings, and if gravity cannot be used for bringing the water in pipes, a windmill pump or ram, neither of which are expensive affairs now-a-days, should be employed. If, however, it is necessary to sink a well, place it at a sufficient distance from all source of pollution as to be beyond possible contamination. No matter how impervious the soil may appear to be, never sink the well in the barn-yard, under a building

## Experimental Farms.

### WELL WATERS, 1898—Continued.

PARTS PER MILLION.

Total Solids at 105° C.	Solids after Ignition.	Loss on Ignition.	Phosphates.	Report.
531.2	382.4	148.8	Traces.....	Seriously polluted.
439.2	278.8	160.4	".....	Polluted.
642.8	464.4	178.4	Heavy traces.....	Seriously contaminated.
392.8	276.8	116.0	Traces.....	Polluted.
435.2	314.4	120.8	Slight traces.....	Contaminated.
54.4				Good and wholesome.
96.0				Contaminated.
56.0				Suspicious.
53676.0	47100.0	6576.0	Very slight traces.....	Exceedingly bad.
260.4	184.0	76.4	Slight traces.....	Free from sewage pollution.
10294.4	9891.2	403.2	Very heavy traces.....	Contaminated.
223.2	186.4	36.8	Traces.....	Free from contamination.
296.0	240.0	56.0	Heavy traces.....	Polluted.
568.8	374.4	194.4	Very heavy traces.....	Contaminated.
247.0	172.0	75.0	Slight traces.....	Free from pollution and wholesome.
531.2	375.2	156.0	Traces.....	Polluted.
270.0	201.6	68.4	Slight traces.....	Free from sewage pollution.
2339.0	2177.0	162.0	".....	Saline water not suited for general household purposes.
1539.2	1471.2	68.0	Heavy traces.....	" " " "
1401.6	1178.4	223.2	".....	Contaminated.

containing animals, or near the privy or the back door. Convenience should be sacrificed, but health should not be jeopardized. Put the well in the front garden rather than in the back yard.

2. Surface and local sewage water should be kept out by lining the well with brick or stone work, laid in cement, to the ground water line. Glazed drain tiles of a foot or so in diameter, cemented together at the joints, make an excellent well, and are not costly.

3. The well should be protected by a closely fitting top, protecting slightly above the level of the ground.

4. The well should be examined and cleaned periodically—frogs, rats, mice, &c., frequently find therein a watery grave.

5. Garbage, household slops, and the like, should never find a resting place near the well. Their proper place is in the compost heap. The habit of throwing both solid and liquid waste outside the back door is both dangerous and wasteful.

6. The well should never be used as a cold storage receptacle—accidents will happen. Neither should the milk cans, &c., be washed at the well, unless there is a very efficient drainage therefrom to carry to a safe distance the waste water.

The subject of cleanliness about the farm buildings is intimately connected with that of pure water, as well as that of economy in fertilizing material; but in this connection I shall only say at present this: that air-dried swamp muck is an excellent absorbent and composting material. Deposits of this naturally-occurring fertilizer are to be found on many farms, and in many localities where such is not the case, it may frequently be obtained for the expense of hauling. It is a material rich in nitrogen, and, therefore, valuable in itself. Its free use in and about farm buildings, where there is liquid manure to be absorbed, will be found profitable, and, at the same time, valuable in keeping the surroundings healthy, and, possibly, the well water pure.



# Experimental Farms.

## REPORT OF THE ENTOMOLOGIST AND BOTANIST

(JAMES FLETCHER, LL.D., F.R.S.C., F.L.S.)

1898.

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DR. W. SAUNDERS,  
Director, Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to hand you herewith a report on some of the most important subjects which have been brought officially under my notice during the past season.

As in former years it is, of course, impossible and unnecessary to treat in the annual report of the Division of many subjects which have required attention by the Entomologist and Botanist and his Assistant during the year. The correspondence has increased considerably and is of a varied character; there were 2,771 letters received and 2,906 sent out.

I have had several opportunities of studying important outbreaks of injurious insects and noxious weeds in the field and of attending meetings in widely separated parts of Canada, where it has always been my endeavour to bring prominently before farmers the work which is being done for them in my Division. These occasions have been of inestimable service to me in learning the different conditions prevailing and the methods of farming in vogue in the various parts of the Dominion.

The experiments with grasses and fodder plants have been continued and are always of great interest to visitors. It is satisfactory to be able to record the great success which has attended the extensive introduction of Awnless Brome grass into the arid regions of the West. Where it has been tried in the East it is also spoken of very highly and is a heavy producer of excellent fodder and hay.

McIver's Rye-grass or Western Rye-grass, a form of *Agropyrum tenerum*, Vasey, found wild in Manitoba and cultivated for some years by the introducer, Mr. K. McIver, of Virden, Man., has given most satisfactory results as a hay and pasture grass. Mr. S. A. Bedford, Superintendent of the Brandon Experimental Farm, who has grown it for many years has always spoken of it in the highest terms. This is also the case with Mr. Angus Mackay, at Indian Head, and with some others who have tried this grass.

Of many mixtures for permanent pastures, grown together under the same circumstances, that known as the Experimental Farm Mixture has again given the best results. This mixture consists of: Timothy, 6 pounds, Meadow Fescue, 4 pounds; Orchard-grass, 2 pounds; Kentucky Blue-grass, 1 pound (where the ground is low, add 1 pound of Red Top); with the above sow the following clovers: Common Red, 1 pound; Mammoth Red, 1 pound; Alsike, 2 pounds; Lucerne, 2 pounds; White Dutch, 2 pounds. The above quantity of seed is for one acre.

Some rather important experiments have been begun along the Ottawa River in the province of Quebec to utilize the swampy lands in places subject to denudation or drowning out during the spring freshets. Mr. C. D. Tylee, of Ste. Thérèse de Blainville,

has been very successful in seeding down some land of this nature which had been broken up and from which the surface soil was carried away or much impoverished by the overflowing of the river in spring.

Another series of experiments is being carried on at the suggestion of Dr. T. Christie, M.P., near Lachute, where there is now a large tract of shifting sand, some five miles in length by about half a mile to one mile in width. The provincial Government of Quebec has encouraged the farmers and assisted them in planting trees. Many of these have done well, and the farmers being all interested are working hard to bring back this tract to what it was only fifty years ago, a beautiful undulating forest land. For the last few years the desert tract has spread very much, the shifting sand drifting over good farm lands and rendering them useless. Several sample packages of seed of the Awnless Brome-grass have been distributed, which it was advised to mix with white clover and sow among the trees. As this land was within quite recent times covered with trees and as all the farmers around it are keenly interested, there is every reason to hope that if all will keep on doing a little every year, planting trees and sowing grass and clover, in time the encroachments of the sand will cease, and the land will be brought back again to usefulness.

Several thousand specimens of plants and insects have been sent in for identification from naturalists in all parts of the Dominion. From these collections several additions have been made to the museum. Many rare and valuable specimens have been added through the kindness of Mr. J. R. Anderson, the Deputy Minister of Agriculture for British Columbia, and from my own collections in British Columbia and the Rocky Mountains during the past summer.

Subjects requiring special attention since I last reported were the following :—

The Rocky Mountain Locust and wheat insects among the enemies of cereal crops ; these are treated of fully in this report. Root maggots did much harm throughout the season to cabbages, turnips, radishes and onions.

Of fruit insects, particular mention may be made of the San José Scale and many other scale-insects sent in by correspondents who had noticed them in looking for the San José Scale. The efforts which have been made to control and prevent the spread of the San José Scale, have been so far successful that it may still be said, I believe, that none of our Canadian nurseries are infested, and, as no nursery stock is now allowed to be imported from infested countries, there is every reason to hope that Canada will soon be free from this terrible scourge of the fruit growers to the south of us.

An unusual outbreak was of the Green Fruit-worms on fruit trees in Western Ontario and on maple trees at Niagara, and near Ottawa at Aylmer and Hull, Que.

Tent Caterpillars were enormously abundant in nearly every province of the Dominion, and no important occurrence of parasites was noticed except in British Columbia, where the caterpillars died in large numbers about the time they began to spin their cocoons.

Plant-lice were very destructive to cherries, currants and turnips. This last named attack on turnips was very severe in Manitoba and also in Ontario, where it constituted one of the chief injuries of the year to field crops.

The apples in British Columbia were much injured by the Apple Fruit-miner and by a small moth which has not been much mentioned of late years but which many years ago, under the name of Plum Moth, was described as destructive to plums in Illinois. It also attacked plums as well as apples in British Columbia this year. I have no doubt that the caterpillar of this moth is the one which has frequently been erroneously referred to by British Columbian correspondents as the Codling Moth.

In the province of Quebec a serious and rather remarkable outbreak was by the Plum Curculio in apple orchards at Chateauguay Basin, the fruit being much distorted and rendered unfit for the market.

A few new insect pests must be mentioned :—

In British Columbia the larvæ of an extremely rare longicorn beetle, *Xylocrius Agassizii*, Lec., were imported as borers in the stems of young gooseberry bushes from Oregon. This insect I hope and believe is not likely to become a serious pest.

## Experimental Farms.

In New Brunswick the larvæ of a sawfly belonging to the genus *Lyda* occurred abundantly upon raspberries at St. John. There is no mention in literature of a similar attack, but several larvæ are wintering in our breeding jars and it is hoped that the perfect insect will be reared next spring and the species identified.

In Ontario, considerable injury was done in beds of violets, grown by Mr. J. Dunlop, the well known florist, of Toronto, by the larvæ of another sawfly, *Emphytus Canadensis*, Kirby. These false-caterpillars have been complained of occasionally in the past as attacking the foliage of pansies (*Viola tricolor*, varieties), but no great injury by them has been previously recorded.

The Bean Weevil, often mentioned as injuring stored beans in the United States, has this year been found at Strathroy in Ontario.

*Meetings attended.*—Under the instructions of the Hon. Minister of Agriculture and in accordance with plans made by you as Director, I have taken part in several important meetings during the past year. In January last I attended a convention of fruit growers, nurserymen and official entomologists at Washington, D.C., to discuss the question of legislation with regard to the San José Scale. During the same month, farmers' meetings were attended at Lachute and Cowansville, Que. In February, a series of several meetings was held in New Brunswick in company with Mr. W. W. Hubbard, of Sussex, N.B., and Mr. J. E. Starr, of Nova Scotia, who had just returned from England, where he had been examining into the transit and sale of Canadian fruit. This series ended with a grand convention at Fredericton. On the 24th and 25th of the month meetings were attended in Montreal and at Huntingdon, Que. On May 7th I visited Lachute to examine grass experiments. On June 15th a large farmers' picnic was attended at Farrelton, Que. June the 16th and 17th were spent in the Niagara district, driving with Mr. Geo. E. Fisher, the energetic San José Scale Inspector, who has done excellent work in detecting and destroying trees infested with the San José Scale.

On June the 27th I left for the West: the first half of July was spent in the province of Manitoba, holding meetings in company with Mr. Hugh McKellar, the Chief Clerk of the provincial Department of Agriculture. There is probably no one better informed as to the history of the development of Manitoba and its requirements than Mr. McKellar. I, therefore, obtained much valuable information from him with regard to the capabilities of the province. The subjects treated at the several meetings were all in connection with weeds and the legislation relating thereto. The meetings this year were held in parts of the province not visited by us during the two previous years. The subject of weeds is of great interest throughout Manitoba and the Territories. It was a great satisfaction to me to notice a decided improvement in the condition of the farms in this respect since four years ago. This must certainly be credited to the vigorous policy adopted by the Hon. Thomas Greenway, the Minister of Agriculture, and his Deputy, Mr. McKellar. A popular feature of this year's campaign was the establishment of a Weed Tent at the Winnipeg Exhibition, where large bundles of all the weeds of the province were exhibited. This tent was always under the charge of some official from the provincial Department of Agriculture, and I was able myself to be present for the first three days. This exhibit may fairly be said to have been thronged by inquiring farmers who wished to examine the specimens or brought with them weeds to be named and to get advice as to their treatment.

On July the 20th I joined Mr. J. R. Anderson, the Deputy Minister of Agriculture for British Columbia, and travelled with him continuously till August the 8th. Through Mr. Anderson's intimate knowledge of the country, no time was lost and a much larger number of meetings was held than could otherwise have been the case. He being also an enthusiastic botanist, assisted me very much in procuring many valuable specimens of rare plants. By many acts of kindness he added much to the pleasure of my visit.

On my way back to Ottawa, in response to a telegram from the Hon. J. H. Ross, Commissioner of Agriculture for the North-west Territories, I stayed off at Regina, and addressed a meeting of farmers upon weeds and their eradication. This meeting, of which Mr. Gerald Spring-Rice was chairman, was fairly well attended and considerable interest was shown in this important subject.

With the consent of the Hon. Minister of Agriculture, I had the pleasure of preparing for the Hon. J. H. Ross, a Bulletin on the Worst Weeds of the North-west Territories. This bulletin of 29 pages and containing many illustrations, has been widely distributed and has been received with favour by North-west farmers.

While in Manitoba in the beginning of July, and again on 16th August, I had an opportunity of investigating an occurrence of the Rocky Mountain Locust. The outbreak had been referred to in several newspapers, and there was much anxiety among farmers. I was pleased to be able to detect a great many parasites and to explain through the newspapers the true state of affairs; at the same time farmers in the infested district were advised what should be done to avoid a recurrence of the injuries experienced this year.

I returned to Ottawa on 20th August. On the 8th September I attended a meeting at Toronto of the new Canadian Horticultural Society, and delivered an address on fungous diseases and insect pests. The 7th and 8th of November were spent at Lachute and Ste. Thérèse examining the progress of grass experiments, and on the 9th November I attended the annual meeting of the Entomological Society of Ontario in Montreal.

*Acknowledgments.*—I am under many obligations to kind friends and scientific specialists for much assistance. Mention must first of all be made of my colleagues, Prof. John Macoun, and Mr. W. H. Harrington, of Ottawa, also of Rev. Dr. Bethune of Port Hope, Ont., for valuable help on many occasions, as well as of the following who have extended many courtesies and furnished me with their invaluable publications:—

Dr. L. O. Howard, United States Entomologist, and his staff at Washington, D.C.; Dr. J. B. Smith, of New Brunswick, New Jersey; Professor W. G. Johnson, of College Park, Md.; and Professor T. D. A. Cockerell, of Mesilla Park, N. Mex., for special identification of insects; Professor L. R. Jones, of Burlington, Vt., and Mr. J. Dearness, of London, Ont., for the identification of many plants and fungous diseases. I must again thank my kind friend, Miss E. A. Ormerod, for her continued interest in our work and much valuable advice always freely given.

In conclusion, I beg again to acknowledge the great help I receive continuously in all branches of the work of the Division from my assistant, Mr. J. A. Guignard, B.A.

I have the honour to be, sir,

Your obedient servant,

JAMES FLETCHER,  
*Entomologist and Botanist.*

## Experimental Farms.

### CEREALS.

The season of 1898 has been a very anxious one for the farmer in Canada. From all quarters correspondents have reported unusual climatic conditions with extremes of heat and drought or low temperatures and heavy rainfall. On the whole, the wheat crop of the Dominion at the end of the season turned out better than could have been anticipated. In British Columbia, with its diverse climates, the small grains gave good returns, particularly on Vancouver Island, in the rich lands along the Fraser River and in the Okanagan Valley. From the North-west the accounts both as to quality and yields are very satisfactory, notwithstanding almost unprecedented rains after the grain was cut. Mr. Angus Mackay, Superintendent of the Experimental Farm at Indian Head, says at the end of September: "From all parts of this district the wheat crop is better than was expected. The lowest yet reported is 28 bushels per acre on stubble land, while many have over 30 bushels per acre. The crops on summer-fallow run from 30 to 45 bushels per acre. There will be an average of from 30 to 35 bushels per acre." In the *Manitoba Crop Report* of August 22, we find: "Perhaps in no year in the history of the province has the productive nature of our soil been so noticeable as the present season. Seeding time was unusually favourable, but for a month or six weeks after seed was sown there was no rainfall. In many fields seed did not even start to grow until late in June, so that, up to the first week in July, prospects were far from promising. A change came during the second week in July, when hot, growing weather gave crops a good start.

"From that time to maturity conditions were favourable. After this, however, another six weeks of cold wet weather set in, from which the wheat suffered considerably. This loss varied much in the different sections of the province, and is variously estimated at from 1 to 33 per cent of the crop. The best reports were from the North-central, South-central and Eastern districts. In the South-west, particularly north of the Turtle Mountains, the crops suffered much from want of rain, and in restricted areas from the ravages of the Rocky Mountain Locust. Some fields never recovered, but others picked up in a most remarkable manner, giving the whole country a strange patchy aspect. The spring drought, followed by rain and growing weather, brought on a copious second growth of grain which, from lack of moisture, had been unable to germinate in the spring."

Mr. Wm. Scott, of the McKay Milling Co., Ottawa, who purchases large quantities of grain both in the Province of Ontario and in the West, says: "The wheat crop this year throughout the Province of Ontario was of exceptional quality, the grain being clean, hard and heavy, some samples grown in the Ottawa valley going 64½ pounds to the bushel. We have received from our correspondents no complaints of attack by weevil or any other insects. The wheat from Manitoba and the Territories is this year of exceptionally good milling quality. The weed question, however, is still one of enormous importance in the Prairie Provinces, and notwithstanding all that has been done, even more effort will have to be put forth by our western farmers in sowing clean seed and weeding their crops, if they hope to maintain their grades of hard wheat and to get the best prices in foreign markets."

In the *Ontario Crop Report* for November, 1898, we find: "Fall wheat: poor yields were exceptional, and large yields were common. The plumpness of the grain is frequently alluded to, in many cases the weight going over the standard and as high sometimes as 63 or 64 pounds to the bushel. Here and there only did correspondents complain of rust, midge or other injury to the crop. The yield is 24 bushels per acre. The acreage of spring wheat is only a little over one-third of that of fall wheat. The crop has been over an average in yield and the quality good."

In the eastern parts of the province of Quebec and through the Maritime Provinces the reports are less satisfactory, rust being frequently complained of; oats, barley,



rye and buckwheat were below the average. The early summer months were very favourable to growth, but the autumn being rainy and foggy had a bad effect on nearly all crops.

“Alberton, P.E.I.—The wheat was very badly rusted, totally ruined in some sections, much damaged everywhere. I never remember a season since I began to make observations when the grains were so universally rusted. The Campbell's White Chaff wheat was being pretty generally sown and this kind suffered most, although no kind was exempt. This was all the more regrettable since the whole crop was so promising. Up to the harvest all went so as to cause us to expect an extraordinary return; such a growth of straw and such fine roots we seldom see; but then came close, damp weather suited to the spread of rust, and the whole province was afflicted with the evil. Besides this we have a short crop of potatoes, and even turnips are not up to the average. The hay crop alone was good, extraordinarily so; but, owing to the great quantities everywhere available, it sells at only half figures. A very moist season like the past advances growth here in this sandy loam of the island wonderfully, if it does not continue too late; if it does, all grain crops are subject to rust. There is this to be remarked, which might well be expected, however, that in these years of blight those who farm intelligently, manure and work well the soil, escape very much better than the makeshift farmers. I would estimate the farm crops of the whole province, as follows: Wheat, a quarter crop; oats, a half crop; potatoes, a half crop; turnips, an under crop; hay, an extra crop.”—[Rev. Father Burke.]

“Pleasant Grove, P.E.I., Sept. 9.—All wheat in this section, with the exception of White Russian, is a failure, with rust, maggots or blight. Harvest is about over with us now, all wheat being housed.”—[Edward Wyatt.]

#### WHEAT INSECTS.

It seems strange that there should be so much lack of knowledge and confusion with regard to the few insect enemies of such an important crop as wheat. The different kinds of wheat insects are few in number and unlike in appearance, but there is no crop with regard to which for purposes of exact identification it is so necessary to see specimens of the pests complained of as in the case of wheat. The words weevil, fly, maggot, joint-worm, rust or blight are made to do service for almost any insect or disease which may occur. The chief insect enemies of wheat in Canada in the past have been the Wheat Midge, the Hessian Fly, the Wheat-stem Maggot, the American Frit-fly, the joint-worms, and the Grain Aphis. There are of course some others, such as wireworms, cutworms, and the Wheat-stem Sawfly, which attack the wheat plant occasionally or locally, but the above mentioned are those most frequently inquired about and which, therefore, are of most interest to wheat growers.

With regard to WIREWORMS, which are sometimes the cause of much injury to grain crops, unfortunately it must be acknowledged that up to the present no practical remedy has been discovered. The only agricultural treatments which have proved beneficial are late fall ploughing and sowing infested land to rye or barley which it is claimed that wireworms do not attack badly.

It may be convenient for reference to give a very brief account of each of the worst pests.

THE WHEAT MIDGE or “Weevil” (*Diplosis tritici*, Kirby).—Several small reddish maggots crowding around the grains of wheat in the ear and causing them to shrivel. Some of these when full-grown fall to the ground and pass the winter beneath the surface. Others remain in the ears of wheat and are harvested with the grain. The eggs are laid in June among the flowers of the wheat, being pushed down between the chaff by means of the long slender ovipositors of the females. There is only one brood in a season.

*Remedies.*—(I.) Burn all rubbish and screenings from the threshing machine. (II.) Plough deeply as soon as the crop is carried.

## Experimental Farms.

Formerly this insect was enormously abundant in the older provinces of Canada, so much so that wheat growing was given up in many sections. Of late years the Wheat Midge almost entirely disappeared from Ontario until the present season, and, although mentioned occasionally by correspondents, no specimens were submitted or those sent in proved to be something else. Wheat Midge injury is probably more wide-spread in the Maritime Provinces just now than in any other part of the Dominion. Mr. Wm. O'Brien, of Windsor, Hants Co., N. S., writes: "The wet weather forced the hay and grain to make very rapid growth. But the grain did not appear to fill well, especially wheat and oats. Wheat only about two-thirds filled and very much affected with weevil." At Middle River, Victoria Co., N.S., there was also slight injury by Wheat Midge.

A restricted but severe outbreak of this insect occurred during the summer of 1898 in the Niagara peninsula, Mr. A. T. Small writes:—

"Beamsville (Lincoln Co., Ont.)—I send you a packet of Wheat Midge sifted from one gallon of tailings, some from each of my two neighbours. One of these, Mr. Tufford, a reliable farmer of long experience, who remembers the Midge when it was so bad here 25 or 30 years ago and who has done most of the threshing in this locality, estimates the damage at about 25 per cent. He says that all fall wheat had Midge more or less, Dawson's Golden Chaff and Seneca suffered most. Spring wheat was not affected, but little is grown here. Goose wheat and White Fife were sown last spring."

Mr. Wolston Small, of Ottawa, who spent the summer of 1898 in the Niagara peninsula, saw the Wheat Midge larvæ "so abundant at the time of threshing that the ground beneath fanning mills was quite yellow." He reported the insect as very destructive all along the lake shore in the county of Lincoln.

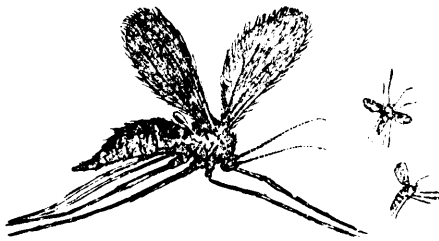


Fig. 1.—The Hessian Fly—enlarged and natural size.

THE HESSIAN FLY (*Cecidomyia destructor*, Say).—This insect has been at different times the cause of serious injury to the wheat crop of all the older provinces, covering practically the same area as the Wheat Midge. The adult is a very small sooty two-winged mosquito-like fly about  $\frac{1}{8}$  of an inch long (Fig. 1). The females lay their minute reddish eggs singly or in clusters on the upper side of the leaf. The young white maggots as soon as hatched work their way down to the bases of the leaves, those of the autumn brood becoming

imbedded in the crown of winter wheat, and those of the summer brood at the base of the first or second joint of the stem under the leaf sheaths; there they attack the stem, weakening it so that it very easily breaks down at the point where the injury occurs.

When full-grown the outside skin of the maggots hardens and turns dark brown in colour, when they bear a very close resemblance to small, slender flax seeds, for which reason the pupal stage is frequently spoken of as the "flax seed" stage (Figs. 2 and 3). There are two broods in the season; the flies from the autumn brood which winter over in fall wheat appear in May and June, together with some of the flies from the first summer brood which did not emerge in the autumn; the flies of the autumn brood appear in August and the early part of September. The change from the maggot to

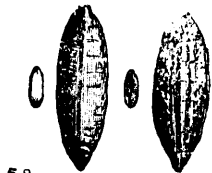


Fig. 2.—Hessian Fly: pupa-cases or "flax seeds"—natural size and enlarged.

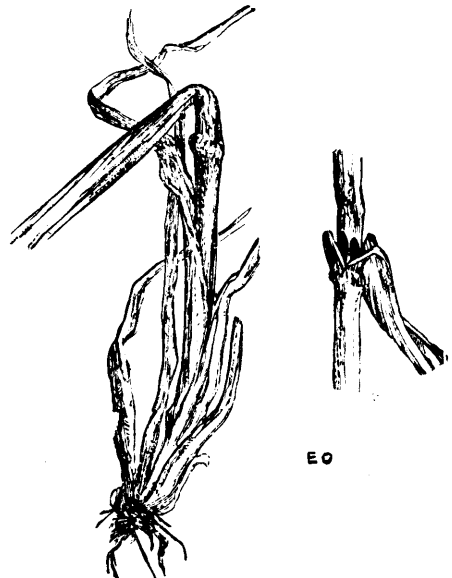


Fig. 3.—Hessian Fly: attacked barley stems: 1, elbowed down; 2, showing "flax seeds."

the pupal condition takes place inside the brown hardened skin of the flax-seed-like pupa-case a short time before the fly emerges.

*Remedies.*—The remedies most relied on are: (I.) Late sowing. The postponement of seeding until after the third week in September delays the appearance of the young plants above the ground until all the Hessian Flies of the second brood are dead. (II.) Burning refuse. As a large proportion of the “flax seeds” are carried with the straw and at threshing are dislodged and thrown down beneath the machine among the rubbish and broken straw, it is of great importance to destroy all rubbish or screenings wherever it is known that grain has been infested. (III.) Treatment of stubble. As soon as the crop is cut, a harrow should be run over the field so as to start a volunteer crop from the grains which have dropped in harvesting. By the time the fields will require to be ploughed, many flies of the August brood will have emerged and laid their eggs on these plants. The eggs will thus be destroyed at the same time as many seedlings of weeds, when the land is ploughed in the autumn. If fields are conveniently situated away from barns, houses and stacks, much good may be done by burning over the stubbles before ploughing, for the pupæ occur, as a rule, at the first and second lowest joints of the stem. To facilitate burning, a little dry straw may be scattered lightly over the stubble. Should the Hessian Fly ever develop as a serious enemy of wheat in Manitoba and the West, where fall wheat is not grown, burning over and ploughing down of stubbles immediately the crop is cut, will be the best remedies. (IV.) When it is found that a young crop of fall wheat has been injured by the Hessian Fly, it is a good plan to apply the following spring a light dressing of some quick-acting special fertilizer.

The worst attacks by the Hessian Fly which have come under my notice this year have been in Prince Edward Island, and in the province of Ontario in the counties lying between Lake Ontario and Lake Huron. References to injuries by the Hessian Fly in the province of Manitoba were, as far as I could learn, erroneous, although this insect may at some time be expected to appear there also as an injurious species, for Prof. Otto Lügger finds it in Minnesota, in the Red River valley, where the conditions are similar to those of a large part of Manitoba, he says: “A large area is infested, especially the western part of Central Minnesota from Brown’s Valley to the Mississippi River at St. Cloud. Further north and south the fly is found in lesser numbers, and only a few occur in the northern part of the Red River valley and along the Iowa State line. The damages in some places amounted to more than 25 per cent, in others to 5 per cent and less, but on an average our farmers lost from 5 to 10 per cent of their entire wheat crop.” (Otto Lügger, *2nd Ann. Rpt.*, 1896.)

“Pleasant Grove, P.E.I., Sept. 9:—I send you two samples of infested straw, one from my own field and the other from my neighbour’s, which fell down badly this year. There were only a few plants in my field which fell down this season. Since learning from your reports the history of these pests, I have grown good crops of wheat by sowing late and dressing the land with a coat of good manure. My crop this year is a good one, the straw is as yellow as gold and almost free from rust.”—[Edward Wyatt.]

Mr. Wyatt kindly supplied me with several samples of infested wheat straws and also with many stems of grasses from a field which had been badly attacked by Hessian Fly. Among these it may be mentioned that two stems of Timothy grass (*Phleum pratense*, L.) contained undoubted puparia of the Hessian fly. This was a matter of considerable interest to me because from the statement made in Miss Ormerod’s well-known *Manual of Injurious Insects* I have frequently endeavoured to find traces of the Hessian Fly in any of the wild grasses. The statement referred to (quoted from Dr. C. Lindemann, of Moscow, Russia) is as follows: “Two kinds of wild grasses subject to the attacks of Hessian Fly are Timothy grass and Couch grass. In 1887 the first named of these was found to be severely attacked in the Russian Government of Tambov, and Couch grass was attacked in the Government of Tambov and also of Woronetz; Couch grass was so severely attacked that in whole districts covered with this grass, it was destroyed.” This statement is of interest because of its possible bearing on the question of the original home of the Hessian Fly. A species which attacked a wild grass so severely as

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above mentioned would appear to be much more at home than where it attacked only a cultivated plant of exotic origin, such as wheat is in America.

From Mr. Wyatt's observations it would appear as though at least two or three different kinds of insects were attacking the wheat on Prince Edward Island.

Samples of Hessian fly were received from several other places on Prince Edward Island. One sample, which came through Mr. F. G. Nash, of the Charlottetown *Patriot*, and was taken from a field of wheat on the farm of Mr. Joseph Wise, was found to be very much parasitized by minute hymenopterous enemies.

**THE WHEAT-STEM MAGGOT** (*Meromyza Americana*, Fitch).—The presence of this insect in a crop of wheat is very easily detected in the summer time when the ears of attacked stems turn white before the rest of the crop ripens. This injury is known under various names in different parts of Canada, such as "white heads," "bald heads," "silver top." If these stems are examined, it will be found that the base of the top-

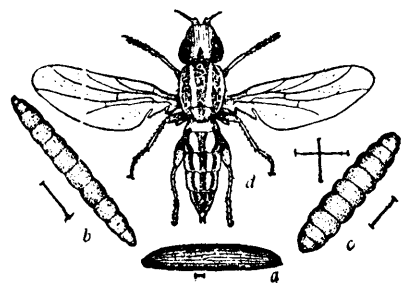


Fig. 4.—The Wheat-stem Maggot: a, egg; b, maggot; c, pupa; d, fly—all enlarged. (Figure by Prof. H. Garman.)

most joint of the stem has been gnawed away by a slender glassy green maggot a quarter of an inch in length, pointed at one end and having black horny mouth parts; to this injury is due the dying of the heads before the grain ripens. In addition to the above, there is another attack on the wheat crop by the same insect, similar to that of the autumn brood of the Hessian Fly, in the root shoots of fall wheat; it also occurs in many kinds of wild grasses. There is besides an intermediate brood which feeds upon grasses and volunteer wheat and barley. The severity of the summer attack in wheat fields seems to vary very much in different years, according to the season. Occasionally the injured stems will constitute as much as 5 per cent of the crop. This was the case nine years ago in Ontario. When full-fed the larva of the brood which attacks the stems works its way up to the upper portion of the sheath and turns to a slightly flattened and very transparent green puparium, from which the fly emerges at the end of July and during August.

The perfect insects, of which three distinct broods appear at Ottawa, viz., in the beginning of June, at the end of July, and at the end of September, are active, greenish-yellow flies, one-fifth of an inch in length, with shining green eyes and three dark stripes extending down the back (Fig. 4d). The hind thighs are much thickened, and when the fly is at rest the fore part of the body is raised. Very soon after emerging, the sexes pair and the eggs for the next brood are laid. These are snow-white, spindle-shaped, beautifully marked with narrow longitudinal lines, some of which run into each other. These lines are connected with each other by much slighter transverse lines. When looked for, the eggs are easily seen on the upper sides of the leaves, owing to their white colour, although, of course, they are comparatively minute, about  $\frac{1}{10}$  of an inch (Fig. 4a).

The Wheat-stem Maggot, which, owing to its attack at the roots of wheat, is also called the Wheat-bulb Worm, occurs all through Eastern Canada, and although the adult flies are enormously abundant in meadows and prairies all the way from northern Quebec through the Lake Superior region, Manitoba and the North-west Territories, its attacks in grain fields have not been complained of under its own name until last season, when it was discovered by Mr. George Greig, the Manitoba agent of the *Farmer's Advocate*, that this insect is the cause of a considerable part, at any rate, of the injury to wheat in Manitoba which has of late years attracted so much attention under the name of "dead heads". In company with Mr. Greig, I was able to confirm this observation at several points in the province of Manitoba during the past summer. There were, however, several stems of wheat which showed the "dead heads", in which we could find no injury by the Wheat-stem Maggot. Some of these stems in one locality had been bruised, without being broken down, by hail. In no case could I find any trace of fungus attack. From the observation of Prof. Otto Luggler, it appears that "dead

heads" are also caused by the attacks of a Frit-fly (*Oscinis soror*, Macq.), the maggot of which is described as boring inside the lower portion of the culm. Throughout the province, although many enquiries were made, there were far fewer complaints of "dead heads" this season than last.

Mr. Peter Elder, of Blyth, near Rounthwaite, Man., showed me all through one of his large fields where last year a serious loss occurred from "dead heads," and not a trace was this year to be seen. Mr. A. C. Hawkins, of Swan Lake, Man., cited in my last report, writes: "Sept. 10.—According to promise, I endeavoured to procure specimens of the larva causing damage to wheat, known as 'dead heads'; but the only sign of insect work I found was an empty cocoon a little over  $\frac{1}{8}$  of an inch long and yellowish-white in colour. (Undoubtedly of Wheat-stem Maggot.—J.F.) There were very few 'dead heads' in the crop." Mr. George C. Mannix, of Stonewall, who suffered last year, also writes: "I am happy to say there are no 'white heads' in the wheat this year."

References to "dead heads" made by Manitoban farmers all speak of this injury as being a new one, and, judging from the behaviour of the Wheat-stem Maggot in Ontario, and in Manitoba during the past season, I think it may be confidently hoped that this is not going to be a constant source of loss to the wheat farmers of the West. The insect feeds naturally in the grasses of the prairies, to which under ordinary circumstances it will chiefly resort, and I believe that its attacks upon wheat occurring so occasionally are due to climatic conditions which are not likely to occur every year. Moreover, wherever I have collected the mature flies by sweeping the prairie grasses with a collecting net, I have invariably found large numbers of its special parasitic fly, *Calinius meromyzæ*, Forbes. Notwithstanding the above, however, Prof. Otto Lügger, of Minnesota, who has also studied it in his State, where in 1895, 1896 and 1897 it was common from the Red River valley to the central part of East Minnesota, says that it threatens to become in the future a serious enemy of their crops of small grain. "In some parts of the State the late sown rye, which had made but little growth during the autumn and which grew slowly in spring, was greatly damaged, in some cases to the extent of one-tenth of the crop. Wheat did not entirely escape, and the plants infested by the insects showed their presence by their small size and general weakly appearance."

*Remedies.*—(I.) Should the attack of the Wheat-stem Maggot increase seriously and its presence be shown by the "dead heads," certainly much may be done towards reducing the numbers of the next brood by sowing a drill or two of wheat or barley in close proximity to the infested fields. This should be sown as soon as the injury is detected, so that the young plants may be up in time to attract the females for egg laying. After the middle of August these strips should be fed off by sheep or ploughed down. All stubble should be harrowed as soon as possible after the crop is carried, so as to start a volunteer crop, which should be ploughed down early in September. The late sowing of fall wheat, where this crop is grown, could not profitably be delayed long enough to escape the egg-laying period of the last brood.

(II.) The application of special fertilizers as a top dressing when young wheat is known to be attacked, will help injured plants to throw out new stools and overcome to some measure the effects of the attack.

THE AMERICAN FRIT-FLY (*Oscinis carbonaria*, Loew.).—The maggot of this enemy of the wheat is only  $\frac{1}{2}$  of an inch in length and yellowish-white in colour. These maggots may be found in autumn destroying the bases of the stems of several kinds of grasses and of fall wheat. They also occur in spring wheat and grasses in June, attacking the young root-shoots close to the ground and either destroying or seriously weakening them. Some eight or ten years ago the American Frit-fly was the cause of extensive and widespread loss in Canadian wheat fields, but since that time hardly a mention of it has been made by correspondents; nor have its attacks been noticed



Fig. 5.—The American Frit-fly—enlarged.

## Experimental Farms.

on grain crops at Ottawa. In 1890 this insect was very injurious in Kentucky, and was well worked up by Prof. H. Garman, who published an excellent bulletin thereon under the name *O. variabilis*, Loew. (*Bull. 30, Ky. Ag. Ex. Sn.*) Prof. Garman writes: "I think it very likely that the *Oscinis carbonaria* of Coquillett's notes is the *O. variabilis* observed by you and me in 1890. I never felt quite satisfied with the determination. The flies were abundant here at that time, but have not been seen since." The life history in many particulars agrees with those of the Wheat-stem Maggot and the Hessian Fly, but there is still some uncertainty as to the range of variation in its habits. Such part of the life history as had been worked out up to 1890 is given in the Annual Report of the Experimental Farms for that year. In Prof. Luggers Second Report, 1896, what is apparently an allied species is described with the important difference of habit that the larva bores inside the stems of wheat causing them to break down, and before that producing the appearance known as "dead heads." This attack was not observed at Ottawa when the American Frit-fly was so abundant, but the family to which this insect belongs is one which is remarkable for the diversity which is found in the feeding habits of the larvæ.

**Remedies.**—The remedies for this insect are the same as those for the Hessian Fly, viz., the late sowing of fall wheat, the harrowing of stubble (or in the West the burning over or ploughing down of stubble), and the application of special fertilizers in spring.

As some of my correspondents have had difficulty in distinguishing between the American Frit-fly, the Hessian Fly and the root-infesting larvæ of the Wheat-stem Maggot, I quote from my annual report of 1890 the chief differences:—

"The three insects are easily distinguishable in all their stages.

In the larval or maggot stages, in which they do all their injury to crops, they may be known by the following characters:—

1. *The American Frit-fly*:—Maggot long and slender, yellowish-white with two small but distinct black hook-like jaws. The last division of the body bears two little knob-like processes. Length when full grown  $\frac{1}{2}$  of an inch.

2. *The Wheat-stem Maggot*:—This resembles the last named in shape and structure, but is conspicuously different by reason of its clear glassy green colour, and also by its much larger size,  $\frac{1}{4}$  of an inch when full grown.

3. *The Hessian Fly*:—This is proportionately much broader than the other two, of a clearer white than the American Frit-fly maggot and nearly always shows a green stripe down the centre. Instead of the two hook-like black jaws which are present in the two previously mentioned maggots, the Hessian Fly larva has a horny forked organ sometimes called the 'breast-bone.' Length when full-grown,  $\frac{1}{3}$  of an inch.

"In the chrysalis stages the differences are equally marked:—

1. *The American Frit-fly*.—The pupa-case is shaped as shown above (Fig. 6) and is of a pale chestnut brown.

2. *The Wheat-stem Maggot*.—Changes to a pale translucent pale green pupa-case (Fig. 4c).

3. *The Hessian Fly*.—The pupa-cases of this insect are of a deep rich brown, like small flax seeds (Figs. 2 and 3), and it is in this stage that farmers will most easily recognize the Hessian Fly.

"The perfect insects are very unlike. The American Frit-fly is shown at Fig. 5 very much enlarged. The colours are black and yellowish-white. It is a very small insect, large specimens being only  $\frac{1}{5}$  of an inch in length. They are extremely active and hard to observe. The fly of the Wheat-stem Maggot is a slender yellowish-green fly  $\frac{1}{5}$  of an inch in length, with three dark lines down the back, eyes golden green (Fig. 4d). The Hessian Fly is a delicate dusky gnat, well shown in Miss Ormerod's excellent figure where it is represented magnified and enlarged (Fig. 1)."



Fig. 6.—The American Frit-fly: pupa-case—enlarged.

The JOINT-WORMS (*Isosoma*).—There are probably more species than one belonging to the genus *Isosoma* which attack the wheat plant in Canada. These injuries appear to be of rare occurrence, but have sometimes been serious in certain localities. In 1895 specimens of fall wheat infested by a Joint-worm were received

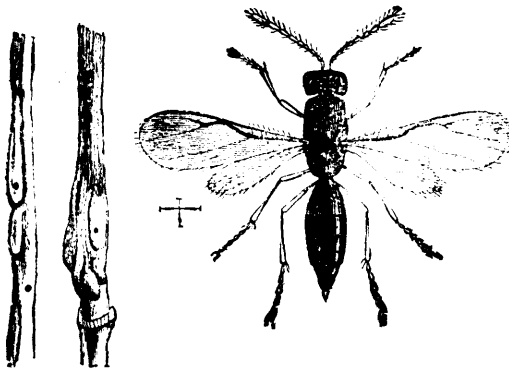


Fig. 7.—The Joint-worm: galls on wheat stems—natural size; fly—enlarged.

tissues of the stems and not in the leaf sheaths, that this occurrence may be of a different species of joint-worm. Mr. Welsh writes at the end of the season of 1898: "The joint-worm, which was so abundant last year has done little injury this season. I made many examinations for the insect but could find very little damage. In the grain after threshing there were very few of the hard broken pieces such as I sent you last spring. This disappearance, I think, may have been due to the very wet spring and early summer we had." Unfortunately, the exact identity of the Meaford specimens could not be determined; but, through the kind assistance of Mr. Welsh, who has sent several parcels of infested straw from Verdun, large numbers of the flies have been bred. These were chiefly from stubble collected in the spring, April 15, in a clover field, where they had lain on the ground from the time the fall wheat was cut the year before. Specimens of stubble from the same field, but collected in November, 1897, and broken joints from the stems taken from the threshed wheat which had been kept in breeding jars through the winter, failed to produce more than two or three specimens of the perfect insect, whereas the stubble which was left in the field all through the winter gave hundreds of specimens of the gall-former, all the females of which were winged like the males. Besides these there were two kinds of hymenopterous parasites. Specimens of all of these were submitted to Dr. Howard, so as to get an authoritative decision on the species.

Dr. Howard reports as follows: "The species is undoubtedly *Isosoma tritici*, Fitch (*nov* Riley). If you will consult my Bulletin 2, Technical Series, page 17, on Phytophagic Eurytominae, you will find that this is the species called *I. hordei* by Walsh. I think Walsh's specimens also came from Canada. Among the material sent by you after it was mounted I found two species of parasites, viz., *Homoporus chalcidiphagus*, Walsh, and *Eupelmus epicaste*, Walker."

There are so many discrepancies between the descriptions of the galls and their modes of occurrence and with regard to important points in the life histories of the joint-worms that with a view to working out the identity of the different species I shall be pleased to receive specimens from anyone who may find his crops attacked by joint-worms. The galls will somewhat resemble the figure (Fig. 7), given herewith or may be as in the case of the Verdun specimens mentioned above, merely hardened and somewhat curved portion in the straws of wheat, barley or rye.

*Remedies.*—There is only one brood of the joint-worms, and as they pass the winter in the straw, for the most part so near to the ground that a large proportion of the larvae occur in the stubble left on the fields, they can be largely reduced in numbers by burning over the stubble or by ploughing it down deeply. The broken off hardened

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pieces of straw observed in threshing and cleaning should be carefully gathered and burnt. Sometimes, as stated above, there are no galls formed, the presence of the larvæ causing merely slight swellings and the hard thickened condition of the straw. These portions break off in threshing and many are carried through with the grain. The threshed straw should be examined, and if the larvæ are found therein it should be destroyed either by feeding or some other consumption before the ensuing spring.

THE GRAIN APHIS (*Siphonophora avenæ*, Fab.).—The green, yellow, red or blackish plant-lice which are frequently seen upon all the small grains are well known by most farmers. These insects are found in some numbers every year and in occasional seasons increase to such an extent as to cause widespread alarm. Notwithstanding this general increase in numbers, it cannot be said that their attacks have ever materially decreased the wheat crop of the year, for they are invariably accompanied by various parasites which gradually increase in numbers and feed upon the plant-lice until most of them are destroyed. The two most numerous of these parasitic species in Canada are *Aphidius granariaphis*, Cook, and *A. obscuripes*. In addition to these there are always many of the leech-like larvæ of the Breeze-flies, *Syrphidae*, which crawl about among the colonies of plant-lice and every day destroy large numbers, as they feed entirely upon plant-lice.

The Grain Aphis multiplies with great rapidity and the insects may be found of all sizes and colours all on the plants at the same time. The females bring forth living young continuously and these young lice are in a few days full-grown and themselves begin to propagate in the same way. There are no practical artificial remedies which can be applied on a large scale to fields of grain.

The WHEAT-STEM SAWFLY (*Cephus pygmeus*, L.), treated of at length in my report for 1896, has only been mentioned by one correspondent.

“Buffalo Lake, Moose Jaw, Assa., March 3, 1898.—I send a few heads of wheat such as appeared in one of my fields last year. This field was hailed out in 1896 and having been sown on summer-fallow the straw was burnt as it stood in the spring of 1897. A week or two previous to cutting, I noticed a great many straws and heads like those I enclose scattered loose among the grain, fully 5 per cent of the crop. You will notice that the heads were well developed at the time. Is this the work of the Wheat-stem Sawfly?”—[George S. Tuxford.]

It may be hoped, I believe, that the attacks of this insect upon grain will be only of an intermittent nature, for where the insect was abundant at Souris, in Southern Manitoba, no appearance of it has since occurred. Mr. J. Wenman writes me again this year that he has not heard of nor seen any trace of the insect since 1896. In company with Mr. Angus Mackay, I examined carefully the wheat fields around Indian Head, where I had collected specimens in 1895 and at the date the mature insects should have been flying, but although the standing grain was swept with a collecting net at all times of the day and in several different localities not a single fly could be found.

CUTWORMS in grain.—Occasionally considerable harm is done in grain crops by cutworms. There are several grass-feeding species in this large family which are liable to attack cereal crops. The injuries to Indian corn are well known and can be prevented to a large measure, but when a field of the small grains is attacked the only recourse is to adopt some agricultural treatment founded on the known life-history of the depredator. The exact identity, then, of the species is of importance, so that the life-history, if recorded, may be used as a guide to escape loss. An instance of the value of such information is found in the following correspondence:—

“Carleton Place, Carleton Co., Ont., May 26.—We send a box containing some cutworms. They have destroyed two fields of our oats. What can be done to prevent them from destroying all our crop? Would spreading lime over the field kill them, and how long will it be until they have passed away, so that it will be safe to sow some other grain or to plant corn on the fields where they ate the crop off?”—[J. Yuill & Sons.]

Reply: “Your letter of the 26th inst. containing cutworms from your oat field came to hand, but the cutworms had eaten each other until only one shrivelled up bitten



specimen remained alive. Please send me some more, and if possible in a tin box with plenty of food. There are two kinds of these cutworms much alike, and I cannot, from the specimen I have, tell whether they are of one which matures early, or of the other which does not reach full-growth sometimes till July. In this case exact identification is very important before I can advise you what crop to sow on your land. Corn for ensilage may, I suppose, with you be sown as late as 12th or 14th June, turnips up to 20th June and rape or Hungarian grass up to 1st July. Spreading lime would have no effect whatever on these caterpillars."

"June 2.—We send you another sample of cutworms, as requested, and have cultivated the field again. We are now waiting your answer to know when we shall be safe to sow again. If it would be safe to sow oats soon, we should prefer that crop."—[J. Yuill & Sons.]

Reply: "I am in receipt of your letter of the 2nd inst. as well as the cutworms sent. These are the Glassy Cutworm, the caterpillar of the Devastating Dart Moth



Fig. 8.—The Glassy Cutworm.

(*Hadena devastatrix*, Brace). I have waited a day or two before answering your letter so as to be able to say—what I now believe to be the case—that you can sow oats safely on your land. If you have any convenience for turning chickens or turkeys on to the field for a day before the oats are sown, they would doubtless destroy large numbers of the caterpillars or their chrysalids. I shall be very much obliged to you if you will let me hear from you later in the season what success you obtain from sowing oats on this land so late in the season.

You will, I suppose, probably cut them for green feed.

"The other cutworm referred to which resembles very much the Glassy Cutworm, but is whiter and has a redder head, is the caterpillar of the Amputating Brocade Moth (*Hadena arctica*, Bdv.), a species which also attacks the roots of grasses and grain. This caterpillar does not reach full-growth usually till after the middle of June."

"Dec. 28.—We broke up about 30 acres of sod land. The autumn before being so dry, we did not get it ploughed. Ten acres of this were sown in peas, the remainder was sown in oats. There were no cutworms in the peas, but all the oats that were sown on sod were eaten more or less. About ten acres was eaten clean out. Following your advice, we turned the turkeys and chickens on the fields and have no doubt but they would have cleaned the cutworms, had it not been that the crows took so many of the young chickens that we were obliged to bring them home."

"On the eighth of June we sowed with peas and oats, about 3 parts oats to 1 of peas. This crop was not injured by the cutworms. We had a very heavy crop which we cut a little green and are using for fodder."—[J. Yuill & Sons.]



Fig. 9.—The Glassy Cutworm Moth.

## THE ROCKY MOUNTAIN LOCUST

(*Caloptenus spretus*, Uhler).

It is now some years since any serious injury has been reported in Canada by the Rocky Mountain Locust, although from time to time mention was made in newspapers of the temporary spread up into Southern Manitoba, of small swarms from parts of the Turtle Mountains in North Dakota, where the species breeds probably every year. Such was the case in the autumn of 1897, and the females were seen laying their eggs on the farm of Mr. John Scott, near Deloraine. From these eggs enough young locusts hatched in the spring of 1898 to cause considerable loss in grain crops. The season was

## Experimental Farms.

exceptionally dry, and there was no green thing in the country for the young locusts to eat except the settlers' grain crops. The injury of this attack was augmented by the fact that from lack of spring rains a large proportion of the seed grain had failed to germinate, and, consequently, all crops were very thin on the ground.

I visited the infested localities, in company with Mr. Hugh McKellar, Chief Clerk of the Manitoba Department of Agriculture, and drove with him to all the places at which it was known that locusts had been observed. None of the farmers, with the exception of Mr. John Scott, remembered seeing locusts in injurious numbers before. Considerable damage was done on the farms of Mr. J. H. Urie, Messrs. Leonard and Robert Sawyer, Mr. John Scott and Mr. D. S. McLeod. The farm of the last named is at Lennox, the most westerly point visited; this is just round the spur of the Turtle Mountains from Deloraine. I was unable to visit some farms said to be infested near Boissevain, but through the kindness of Mr. Arthur S. Barton, of the Dingle, Boissevain, and Mr. Charles A. Sankey, of Boissevain, I was kept well informed as to the visitation and provided with specimens for examination. On my return to Ottawa and at the time when the farmers would have finished their harvesting and be at liberty to plough their land, I prepared the following article upon this important subject, and so that it might reach as many farmers as possible, sent it to the *Farmer's Advocate*, which has a very large circulation and which published it both in its Manitoba and its general edition. Similar articles were also published in the *Weekly Star* of Montreal and two or three in the *Winnipeg Free Press*.

### THE ROCKY MOUNTAIN LOCUST.

During last June notices appeared in the newspapers that injury was being done by grasshoppers or locusts in southern Manitoba. These reports naturally caused much anxiety among the old settlers who had been in the Prairie Province at the time of the serious locust depredations during 1868, 1870, 1872, and 1874.



Fig. 10.—The Rocky Mountain Locust.

By instruction of the Honourable Sydney Fisher, and at the request of the Hon. Thomas Greenway, I visited the localities reported to be infested in the beginning of July and again in the middle of August. The reports of injuries to growing crops were found to be correct, and the locust which was doing the injury was, as in the former invasions referred to, the Hateful or Rocky Mountain Locust (*Caloptenus spretus*, Uhler).

The exact identification of the species was in this case a matter of no little importance, for it is well known that, although there are many kinds of locusts in the west, none of them are to be feared as crop destroyers to anything like the same extent as the above named, which has exceptional powers of flight and is gregarious in its habits. As is usually the case in such matters, when conviction on this point involved a good deal of extra labour, some farmers were slow to believe that such an ordinary-looking insect could be so serious an enemy as was claimed by those who recognized in the grasshopper of this year their old enemy of the early seventies, and doubts were being cast on the correctness of the identification. This question was at once decided upon catching a few specimens near Deloraine. To one who has studied these insects it is, of course, just as easy to distinguish the Rocky Mountain Locust from its near allies as it is for a farmer to tell wheat from rye, barley or oats.

A good use of this special knowledge was made by Mr. John Scott, who has lived a few miles south of Deloraine for many years. He noticed a swarm of the locusts to alight on his farm last autumn, and this spring warned his neighbours to be on their guard and take some steps to protect their crops, similar to those he himself adopted. As soon as the grasshoppers hatched he spread rows of dry straw across the field where they were most numerous; the young hoppers gathered into these at night in large

numbers and were destroyed by the straw being set on fire after nightfall. This was repeated four nights running, and myriads were thus killed before they had spread far from their hatching grounds or had done any appreciable harm. Had Mr. Scott's neighbours followed his advice and example, there is no doubt that the loss would have been much less than was the case in that district last summer.

The area over which the Rocky Mountain Locust occurred in Manitoba this year was a narrow strip only a few miles in width, lying to the south of Deloraine and Boissevain, and running along the northern slope of the Turtle Mountains. It is probable that this locust breeds regularly every year in parts of the Turtle Mountains, but it is many years since it spread from these breeding grounds north into Manitoba. It has, however, shown only too well in previous years that it is able to breed and multiply on our prairie lands when once established there. As, therefore, judging from the experience of the last twenty years, it is unlikely that fresh swarms will for some time again spread from their permanent breeding grounds, it is of the utmost importance that everybody in the infested region should do everything possible to help in exterminating this formidable foe. This is particularly the case in the present instance, because if all will work together complete extermination should be a matter of comparative ease. The life habits of the insect are well understood, and the experience of farmers living in regions where it occurs much oftener than with us, shows that by making a very small change in the ordinary methods of working their farms, and at no very large extra expense, this dire enemy can be practically wiped out, even where eggs have been laid in enormous numbers.

#### WHAT TO DO.

It is conceded by all that the best remedy is the ploughing down of the eggs so deep—five or six inches is sufficient—that when the young locusts hatch in spring they may not be able to work their way up to the surface. The important things, then, for Manitoban farmers to do now are to discover where eggs have been laid on their farms and to see to it that every rod of this land is ploughed either this autumn or next spring before the young locusts emerge and move off into the crops.

#### WHERE THE EGGS ARE LAID.

The places where the mother insects lay their eggs can be discovered only by seeing them at work, or by examining the soil carefully for the egg-pods. The time required for boring the hole and laying the complement of eggs is three or four hours.

The appearance of the insect itself, the pods and the separate eggs are well shown of natural size in Dr. Riley's excellent figure herewith.

The female locust lays her eggs in the ground, about an inch beneath the surface, in small pod-like masses, as shown in the figure. The egg-pod consists of a coating of a waterproof mucous material, which is deposited at the same time as the eggs. There are in each pod about 30 eggs, and each female lays about three pods during the autumn. There is only one brood in a season, the winter being passed in the egg. When the young locusts hatch, they emerge through the upper end of the egg-pod.

In Manitoba last season the young hoppers were noticed about the 1st of June, but they probably hatched early in May, because it takes seven or eight weeks for the insects to attain full growth, and winged hoppers were abundant by July 8th at Deloraine.

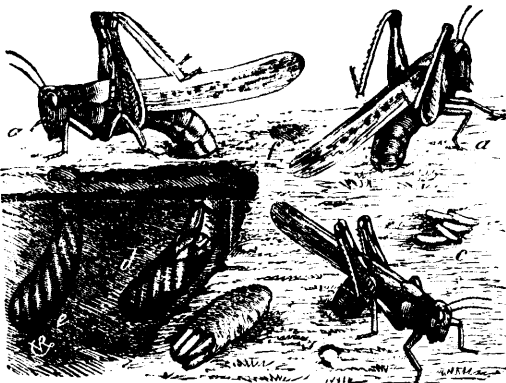


Fig. 11.--Locusts laying their eggs.

## Experimental Farms.

The eggs are laid for the most part in stubble fields. They are very seldom laid in thick sod or in loose, newly-ploughed earth. In the first case it is difficult for the female to form the chamber in which she lays her eggs, owing to the numerous roots of the grasses, and in the second case the burrows could only be made with great difficulty in the dry, powdery earth. All observers report that eggs are rarely laid in newly-ploughed and well-harrowed land.

The late Dr. C. V. Riley wrote: "The egg may be laid in almost any kind of soil, but by preference they are laid in bare sandy places, especially on high dry ground, which is tolerably compact and not loose. . . . Newly ploughed land is not liked, it presents too loose a surface; but new breaking is often filled with eggs." (This is doubtless owing to the firm surface of the sod before backsetting.) "Sandy soil that is compact, especially when having a south or east exposure, is much chosen; but in loose and shifting sand the eggs would perish."

Prof. Otto Lugger, State Entomologist of Minnesota, writing in July, 1889, after examining a district which had been devastated, says as to the places chosen for egg-laying: "A close inspection soon revealed the fact that fields with last year's stubble contained large numbers of eggs, whilst stubble land of the previous year and older contained none or but very few. . . . There were some eggs in denuded spots of timothy fields; . . . where the timothy plants covered the ground entirely no eggs could be detected; a similar observation was made in pastures; if well sodded, no eggs; if bare of vegetation, a few could be detected. No eggs could be found in the native prairie land, and but a few along roads and the elevated beds of railroads."

In the Special Bulletin issued on this subject by the North Dakota Agricultural Experiment Station in 1891, it is stated: "As the eggs are never laid in thick sod nor in loosely ploughed earth, it will be seen that the ploughing need not extend to any land except the stubble fields."

From the foregoing extracts by three of the leading authorities on the subject, it is evident that if farmers will attend carefully to their stubble lands, where by far the greatest proportion of the eggs are laid, there is every hope that next year there may be no trouble from locusts; but, at the same time, it must be borne in mind that unless all help, there were certainly sufficient locusts this year in the district I visited, for the young to commit serious depredations next year, and to spread over a much wider area in the Province.

### REMEDIES.

*Ploughing.*—The remedy above all others, as stated above, which has given satisfactory results is the ploughing down of the eggs, and although harrowing has been recommended by some, it cannot be relied on. Knowing the importance of giving definite advice to the farmers of southern Manitoba, I corresponded with the State Entomologists of Minnesota and North Dakota, both of whom have had extensive experience in fighting the Rocky Mountain Locust. I submit herewith quotations from recent letters giving most valuable information:

"St. Anthony Park, Minn., August 23.—Ploughing from 4 to 4½ inches deep is the only true remedy. It is not necessary to plough during the fall, though best; if ploughed early in the spring the surface of the field will become quite compact by rain, even by the wind. None or but very few young locusts will reach the surface, and these will starve before reaching plants upon which to feed. Permit no stubble fields. They should all be ploughed, as in them most of the eggs will be deposited. A few acres of stubble land can and will breed enough locusts to endanger the crops of all the surrounding fields. In the past I have repeatedly tried the plan of harrowing in the autumn instead of ploughing, and have invariably failed, since sufficient numbers of locusts hatched to destroy the crop. In fact, the trouble near Perham was almost entirely caused by a party who insisted on harrowing the fields containing eggs instead of ploughing them. He harrowed thoroughly during the autumn, but in spring I found numerous eggs and egg-pods. At my request he harrowed again in spring (would not plough) and seeded with a drill. This field was the principal one in which numerous locusts hatched and from which they migrated to others."—[Prof. Otto Lugger.]

“Agricultural College, N. Dak., Aug. 30.—There is no question as to the efficacy of ploughing. Fields lying side by side on the same ridge of land that were visited by Rocky Mountain Locusts last fall showed this point very clearly. One of the fields was left unploughed, and from this small area probably 250 bushels of grasshoppers hatched out, while in the fields that were ploughed no trace of grasshoppers could be found except as they came from unploughed fields. The farmers in parts of this State find that early fall ploughing gives a much better yield of wheat than either late fall ploughing or spring ploughing, and, for this reason, as well as for the destruction of the locusts, we recommend that all fields in the infested localities be ploughed as early as possible.

“So far as ploughing simply to destroy the eggs of the locusts, there is no reason why this need be done in the fall any more than in the following spring. In fact, in the localities where grasshoppers appeared this year, fields that were ploughed immediately before seeding were as free as those ploughed shortly after harvest, though the ground in both cases was undoubtedly filled with eggs.

“Now, in regard to harrowing, there is no doubt that if the egg masses are brought to the surface and broken at this time of the year the vitality of the eggs will be destroyed. The only question connected with harrowing is how thoroughly the egg-masses will be broken up. Where soil is firm I have recommended harrowing, and then cross-harrowing, so as to disturb every portion of the surface. The disk harrow used for pulverizing sod about five or six weeks after breaking would probably do good work if the ground is too firm for the ordinary harrow. The heavy rains which usually come in August and September here, compact the soil so much that ordinary harrowing would probably fail to serve the purpose. Disking the fields immediately after harvest would leave the soil in such loose condition that the insects would probably avoid that locality for egg-laying.”—[Prof. C. B. Waldron, Horticulturist, N. Dak., Agr. Exp. St.]

To secure the best results as far as the destruction of the locusts is concerned, fall ploughing is undoubtedly the most effective method; but, if from press of other work it is impossible to plough all land which was under crop this year, much good may be done by early spring ploughing before the insects hatch or before they are large enough to move from their hatching grounds to adjacent crops. Stubble land which it is intended to summer-fallow next year must be turned down, if possible, before the 1st of June, and at the latest by the middle of that month.

*Other Remedies.*—Should grasshoppers, notwithstanding all precautions, be found abundant, farmers may have recourse to burning by means of strips of straw, as was done by Mr. Scott this year, or to the use of hopper-dozers or tar pans, which are implements made of sheet-iron, containing some tar or coal oil in the bottom. A cheap and

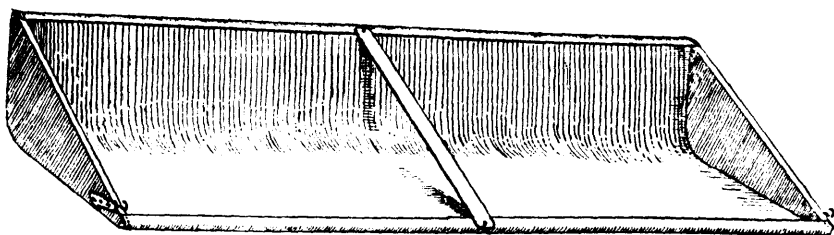


Fig. 12.—Grasshopper Dozer.

simple plan of one of these, costing from \$1.50 to \$2, was described many years ago by Prof. Riley. It consists of a strip of sheet-iron, 8 or 10 feet long, turned up 1 inch in front and 1 foot behind, with pieces soldered in at the ends (or made of wood) and hooks placed in front at both ends for the attachment of ropes. If to run on rough ground, it will be better to put runners, 1½ or 2 inches high, underneath. Into this put a layer of coal tar ½ inch deep, or water and coal oil. The implement can be drawn by a boy at each end, or by a horse if preferred. (*Farmer's Advocate*, Winnipeg, 5 Oct., 1898.)

## Experimental Farms.

When examining the insects on Mr. Leonard Sawyer's farm a few miles south of Deloraine, on 8th July, Mr. Sawyer took me to a ravine where he had noticed a great many dead locusts lying among the grass. These were found to have been destroyed by the larvæ of a dipterous parasite. By digging down into the ground beneath the dead locusts, from 1 to 8 of these larvæ could be found, and the dead locusts were so numerous that they lay in every direction among the grass at a distance of only an inch or two from each other. Tachina flies and Flesh-flies were extremely abundant. Upon catching several of the locusts in both the pupal and the perfect stages, by far the larger proportion of them were found to contain the maggots of a fly, and in addition a great many of them were infested with locust mites, *Trombidium locustarum*, Riley. Although many of the maggots of the parasites had buried, none were found which had hardened into brown puparia. This was on 8th July, which may be considered the time when the first brood of maggots leaves the locusts. These latter were just passing the last moult and assuming the winged form. They were hanging in every direction from the stems of grasses, stretching their tissue-paper-like wings by means of their long hind legs. A box was filled with the parasitic maggots and from these were bred (22nd to 26th July), both at Ottawa and by Dr. Scudder, at Boston, large numbers of a flesh-fly which has been named through the kindness of Mr. D. W. Coquillett, of Washington, and pronounced to be "a species of *Sarcophaga* near *incerta*, Walker." They were bred from the living locusts, some of the larvæ being actually taken from insects caught flying in the field.

Dr. Scudder, who kindly furnished me with this identification, also named some other locusts taken at Deloraine among the specimens of *M. spretus*, as *Melanoplus atlantis*, Riley, *M. minor*, Scudd., *Camnula pellucida*, Scudd., and *Gomphocerus* sp.

Efforts were made during the past autumn to discover where eggs were laid and to secure specimens, but all to no avail. Many observers in all the infested localities tried to help me in this matter, but none could find that eggs had been laid. The weather was exceptionally dull and wet. Notwithstanding that no eggs could be found, farmers are earnestly urged to plough all the stubble land that is possible, and endeavour to do this before the middle of June, whether it is to be cropped or summer-fallowed. This matter is one of far too much importance for any one to run the risk of trusting to luck that all will be well, when so much is at stake. Although no eggs have been found, I observed the locusts copulating on 17th August, and large numbers of healthy females with their abdomens well filled with eggs.

I append extracts from letters referring to this outbreak in which most of the points of importance are brought forward :—

"Boissevain, July 9.—I received your letter respecting the locust invasion in southern Manitoba. I have made general inquiries and had extracts from your letter published in local papers. So far, no one has observed any parasitic destruction of the pests; but that may have been from the fact that, soon after I reported to you, the colony which appeared close to the bush on two farms near here seemed to disperse in a northerly direction. Some were found three miles north of the point where they first appeared. Of course, in this scattered fashion no immediate or general destruction of crops has been observed, but the danger may be all the more serious for another year. I understand that extensive precautions are being taken to the south in the way of deep ploughing, &c."—[Charles A. Sankey.]

"Boissevain, August 14.—I have been unable to discover any number of dead locusts or any of the parasites you asked about. The swarm is now scattered over a distance of a five or six mile radius from the spot where they were first observed, in varying numbers; we have them here in small quantities. I found one farm, near the bush, where small patches of the wheat heads appeared to have been stripped of the grains, and I discovered a few locusts and a number of several species of ordinary grasshoppers in the grass surrounding the field. I hope you will discover from your investigations that the danger for next year is, after all, not so great as we fear, but I do trust that if there is any danger you will not minimise it in the least, as farmers are only too ready to put off the thought of an evil day, especially if they can avoid

thereby any present inconvenience or expense. There are a number, however, who are only waiting for your report to take energetic action, should you consider it necessary."—[Arthur S. Barton.]

"Boissevain, September 10.—I have not yet found any eggs of locusts. They are still pairing, and great numbers can be found on the lee side of the wheat stooks. Is there any distinguishing mark on the ground where they lay their eggs?"—[Charles A. Sankey.]

"Deloraine, September 14.—I met Mr. D. Steedsman to-day. He has his man ploughing the ground you advised him to, and the man reported that he had not seen a single grasshopper. Yesterday, Mr. Steedsman himself went with the plough all round the field and did not see a single grasshopper nor any trace of eggs. Per contra I have noticed several hoppers six miles north of Deloraine. There is one point which it may be of importance to mention: during the two weeks preceding Friday, 9th September, we had very unusual weather—cloudy, heavy fogs by night, occasional heavy showers of rain, one especially so on Friday, 2nd September, when for two hours we had a perfect deluge. On Thursday, 8th September, we had a sharp frost, since which the weather has cleared, but to-day (14th September) is again cloudy and threatening rain."—[Dr. Robert S. Thornton.]

"Boissevain, September 24.—"I have not been able to discover any locust eggs as yet, and I have delayed writing in the hope of finding some. There are locusts on nearly every stook of grain. They are still mating, but appear very sluggish, frequently being lifted on to the stack on the sheaf and not attempting to move; this is principally in cloudy weather. I have scraped and dug, and examined (and so have my friends and neighbours), but so far we have not discovered a single egg. Can you tell me, if not too late, if there is any indication or mark left on the surface of the ground that would guide one in looking for the eggs?"

"I saw a pretty sight last Friday: a large flock of Black-headed Terns or gulls came swooping down the field: dividing at the leeward side, they ranged the rows of stooks to the other side of the field: returning with the wind in a body, they again and again quartered the field. I was near enough to see them picking the locusts off the stooks as they passed. I came to the conclusion that it was not their first experience, and it would be interesting to learn if their absence this summer was due to locusts further south (in Minnesota), or whether their usual breeding place at Whitewater Lake was too dry for them. In other years we have a constant procession of them backwards and forwards from the lake to the bush, and constantly they follow the plough, picking grubs and larvae out of the freshly turned furrows."—[Arthur S. Barton.]

"Boissevain, October 22.—I have made a close search for eggs of locusts, but so far with no result. Mr. Barton has also been unsuccessful, though it seems almost incredible to think that none have been laid; apparently a disaster in the shape of a severe snow-storm and frost has destroyed them. I do not think more than one supply of eggs can have been laid."—[Charles A. Sankey.]

"Deloraine, November 14.—With regard to grasshopper eggs: I have not written to you sooner because I had no information to give you. I have scraped and looked on our wheat stubble and on my neighbours' fields and have seen but one female loaded with eggs and no eggs in the ground. I heard of some being found two miles north-east of here and I went there to get some, but I could not find any. Mr. David Steedsman said that they had all moved north from his place and he did not think that there were any eggs laid on his land. Mr. Leonard Sawyer says he saw numbers of small grasshoppers full of eggs. I caught lots of them, and a good many had those worms in them which you showed me when you were here. I do not think many eggs have been laid here, where we had them thickest last year. The grasshoppers seem to have moved north and east and cover more territory than they did last year. While some farmers have ploughed a good deal of land, the fall has been so backward and the harvest prolonged that people have, on the whole, done very little work. I believe we all intended to follow your instructions as much as possible, but now we are frozen up. I heard of eggs being found 8 miles north of Deloraine, through reading your description of them in the *Weekly Star*.

## Experimental Farms.

I may find some yet, and if I do will forward them to you without delay. I am very much afraid the province may have more hoppers next year than most people have any idea of. I know that Mr. C. A. Young was trying to get information to send you, but he has nothing definite, so has not written lately."—[John Scott.]

Another outbreak of locusts occurred in the Nicola Valley in British Columbia. This was brought to my notice by Mr. Hewitt Bostock, M.P., who also forwarded specimens for examination.

Reports were also received from Mr. Pooley and Mr. Sidney J. Solomon as follows:—

"Nicola Lake, B.C., September 7.—Yours received *re* grasshoppers. I am sending by this mail some grasshoppers and their eggs, which I hope will be of some use to you in determining the species. The injury done by the hoppers was principally to the ranges and bunch grass pasture fields: also considerable injury to the oats, by their eating off the small stem which connects the grain with straw, and consequently all the oats were lodged on the ground. Injury to wheat, not any; peas, scarcely perceptible. This is the second time the grasshoppers have appeared in our valley. The first time (which was in 1890) they made complete havoc, and unless something happens to destroy the eggs before hatching, it will be very little use putting in a crop next spring. The eggs are deposited on gravel and sandy hills (about an inch below the surface). Some of the eggs seem to have become dried, but the majority are quite fertile. Nearly all the grasshoppers have disappeared and a great many have died."—[William Pooley.]

"Nicola Lake, B.C., Dec. 31.—I could not grow enough feed to keep any quantity of hogs. The grasshoppers were very bad last summer and laid their eggs, so that we are expecting our crops will be all eaten by them next year. I shall put in very little wheat or oats, but principally peas and potatoes, as they do not bother these crops so much."—[Sidney J. Solomon.]

The early disappearance of the locusts mentioned by Mr. Pooley would indicate the probable presence of parasitic insects or some fungous disease. As it was important to know the exact identification of the species which were committing these depredations, the specimens received were forwarded to Dr. Scudder, who reported:—

"Cambridge, Mass., U.S., Dec. 2.—The mass of the material was a species of *Trimerotropis*, probably *cincta*, Thom. Out of the balance, I made out *Camnula pellucida*, Scudd., (many specimens), *Circotettix verruculatus*, Kirby, and *Melanoplus atlantis*, Riley."—[Dr. S. H. Scudder.]

The most numerous species was *Camnula pellucida*, which is sometimes extremely abundant and destructive in the West. This was the case between Kelowna and Vernon, B.C., in 1895.

In the case of this species, undoubtedly the use of hopper-dozers before the locusts have developed their wings would be attended with good results, and if, as is frequently the case with *Camnula pellucida*, the places chosen for egg laying are restricted areas, these may be treated early in June with much less trouble than later.

The poisoned bran remedy recommended for cutworms, page 190, has also been found very effective against locusts in California.

When the eggs are found to be laid in cultivated ground, the ploughing of this in fall or spring would destroy all the young locusts contained in these eggs, and, if circumstances would permit of it, it might be tried in the Nicola Valley, by placing several small piles of the poisoned bran in the hatching grounds. This material seems to have a wonderful attraction for the locusts.



## VEGETABLES AND ROOT CROPS

**CUTWORMS.**—The complaints of injury to garden vegetables and root crops have been this year fewer than usual, most references to the ordinary garden pests, such as cutworms, Tarnished Plant-bug, plant-lice, etc., being merely to mention their absence. In the province of Quebec, however, there was serious loss in some localities from cutworms, both in gardens and field crops. Very few specimens were submitted for examination, so only general instructions could be given. If correspondents would always send in specimens with their inquiries it would be far easier for the Entomologist and Botanist to give definite information and instructions, and he could thus be of more service to inquirers than is now sometimes the case when no specimens are forwarded.

“Quebec, June 14.—We are receiving from different parts of the province of Quebec letters informing us of the immense damage which is being done to vegetables by the plague of cutworms, against which our farmers do not appear to have any means of protecting themselves.”—[S. Sylvestre, Secretary, Dept. Agr.]

“Causapscal, Rimouski Co., 30th May.—I am instructed by the Directors of the Agricultural Circle to send you the accompanying specimens of caterpillars which are occurring here in large numbers and eating up completely our peas, at first the stems and then even the seed pease in the earth. Farmers have been obliged to sow their fields of peas over again. Can you tell us where this pest comes from, how long it will continue to devastate our crops, what it will change to, and above all the best means of destroying it? If we are not able to check this plague, our crop will be a total failure.”—[V. O. Morrissette.]

As specimens accompanied this inquiry it was seen at once that they were the so-called Black Army-worm (*Noctua fennica*, Tausch.) and had reached full-growth, so that the application of a remedy was not necessary. These caterpillars were also somewhat abundant in gardens at Ottawa, where they attacked every kind of vegetables, and also to some extent in clover fields. This insect is one which from time to time appears suddenly in large numbers, and then does a good deal of harm. In the last stage of its growth it is a voracious caterpillar which eats indiscriminately almost every kind of vegetation. Prof. Luggler, who treats of it under the name of the Erratic Army-worm, when recording an outbreak which occurred in the State of Minnesota, says that: “The caterpillars devoured every green thing upon the face of the ground. They preferred, however, such plants as were bitter, hence the foliage of cherries, willows, poplars and sumachs was the first to be eaten. After these nearly all others were devoured.”

From my own observations of several occurrences of this insect at Ottawa I believe its natural food plants to be the Leguminosæ—cultivated peas and clover being particularly relished. The early maturing of the caterpillars (generally by the end of May or very early in June) frequently prevents the injuries of this insect from being as serious as they might be and actually often seem to be. In 1891 a three-acre field of peas upon the Central Experimental Farm was swept bare by an army of these caterpillars. The damage was stopped promptly by spraying a strip 50 feet wide ahead of the caterpillars with Paris green, one pound in 100 gallons of water, to which 4 pounds of soap had been added to make the solution adhere to the pease. This was applied with knapsack sprayers. Although the pea plants were eaten down entirely on three acres of the field mentioned, owing to the injury being done so early, the plants threw out fresh roots and gave actually a better crop than an equal area in the uninjured portion of the field.

Professor Luggler gives a similar instance in his Second Annual Report, as follows: “Nor was the actual damage done very great, as all the wild plants soon recovered and made a denser growth. The cereals which had been cut down to the very ground, assisted by the moist warm days which followed this invasion, not only recuperated but were in some cases even improved as they stood better than those not cut by the worms.”

## Experimental Farms.

The full-grown caterpillar is a handsome creature between  $1\frac{1}{2}$  inches and  $1\frac{3}{4}$  inches in length, cylindrical in shape, about  $\frac{1}{8}$  of an inch in diameter. The general colour being velvety black, with white longitudinal stripes; head, red, black in front; legs, reddish. The dorsal area is more or less shaded with brick red; dorsal stripe of velvety black diamond-shaped marks; the lower edges of the dorsal area clearly defined by a black line, shaded beneath with an equally distinct white thread; sides dull-black, spotted with a few white points which hardly form a line. Spiracles black; sub-stigmatal band distinct, white and undulating, bearing in the centre a very ragged black line washed with yellow, the upper margin dipping below each spiracle and then running up considerably higher than it towards the posterior margin of each segment. Ventral surface semi-translucent, dusky, mottled with white, the green contents of the body showing through the thin skin. When full-grown, about the end of May, the caterpillars burrow rather deeply into the ground and turn to dark brown chrysalids from which the moths emerge about a month or six weeks later. The perfect insect is for a cutworm moth handsome, and all the markings are sharply defined. It expands about  $1\frac{1}{2}$  inches across the wings. The upper wings are dark blackish-brown, the orbicular and reniform spots white, bearing a few yellow or reddish scales and outlined with black. In the male the inner margin of the upper wings is yellowish brown, by which this sex can be recognized at once. The lower wings are gray, darker at the margins. There is in Professor Lugger's Second Report a beautiful plate by L. M. Hart, showing the caterpillars, the chrysalis and the perfect moths.

*Remedies.*—When the Black Army-worm attacks field crops, remedial measures must be taken with due regard to the nature and condition of the crop to be protected. In all instances which I have seen when the caterpillars were abundant enough to march in swarms, it has been possible to forestall them by adopting the well known methods

used against the true Army-worm, namely, running a deep furrow in advance of them, burning them in wind-rows of straw, or poisoning them by spraying a strip of the vegetation before they reach it, with a strong poisonous mixture. In gardens, they may be advantageously combated by the same methods used against other cutworms. Owing to their large size at the time when garden vegetables are very small, two or three caterpillars can in a single night work terrible havoc in young vegetables grown in rows. This was the case at Ottawa last spring where the larvæ of this species worked at the same time with the caterpillars of the White Cutworm (*Carneades*

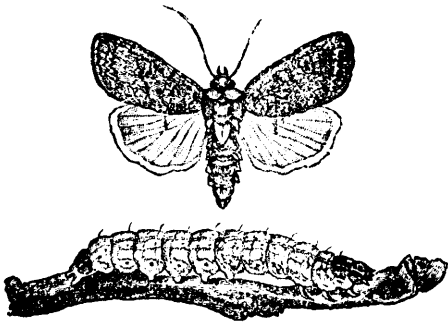


Fig. 13.—The White Cutworm.

*scandens*, Riley, Fig. 13) and the Red-backed Cutworm (*Carneades ochrogaster*, Gn.) and all three species were particularly troublesome in radish beds.

THE WHITE-CUTWORM (*Carneades scandens*, Riley), "The Climbing Cutworm" of Dr. Riley, is an uncommon species at Ottawa and has not been sent in from elsewhere, although it is recorded as having done much damage to orchard trees in Western Ontario some years ago. The full-grown caterpillar measures about  $1\frac{1}{2}$  inches in length. Its general colour is a pinkish white. The head, the thoracic feet and the thoracic and anal shields are yellowish-brown, dotted with minute black points. The spiracles are deep black and the piliferous tubercles very dark, but not so black as the spiracles. This cutworm is easily recognized by its delicate whitish almost glaucous colouring. I was surprised to find it in large numbers at Ottawa in a garden with only two small poplar trees growing near. These were in no way injured, but it seemed as though the cutworms spread from a bed of Couch-grass (*Agropyrum repens*, Beauv.) which was growing at the base of one of these trees. The White Cutworm passes the winter about half grown, but in the piece of sandy land where the attack

referred to occurred some individuals did not revive until a surprisingly late date last spring, namely, the end of May. Some half grown specimens were dug from the bed of Couch-grass in November last. The moths expand about  $1\frac{1}{2}$  inches across the wings. The general colour of the forewings is pearly bluish-gray, tinged in some specimens with pink or brown scales; different specimens vary very much in distinctness of the transverse lines, but all show a well defined white subterminal line shadowed on the inner side by a row of dark triangular marks, and the reniform spot shows more distinctly than any of the other markings. Hind wings whitish, with a broad, pale fuscous band and discal spot. Head and body concolorous with the forewings.

*Remedies.*—When it is known that cutworms are abundant in gardens or even in fields, much can be done by the use of well-known and well tried remedies to destroy them and prevent injury. Several correspondents have borne testimony to the benefits of clean culture, by which all haulms, vines, stems and leaves of crops which had been gathered were promptly destroyed and the land kept free from weeds, so that the female cutworm moths when egg laying were not attracted to the spot. The banding of freshly set out annual plants, either with rings of paper or tin, has as usual given good results. An enterprising Ottawa firm, Messrs. Taylor and Gilbert, has put out a device made of a specially prepared stiff paper 10 inches long by 3 wide, called the Taylor Plant Protector for tobacco, cabbage, tomatoes, etc. These are stated to be a sure protection against cutworms, cold winds, light frosts, etc. The price, less than \$1 a thousand, brings them within the reach of all. A great many were used at the Experimental Farm both in this Division and by the Horticulturist and were found to be extremely satisfactory. Cutworm injuries are of so much interest to every grower of vegetables, flowers and fruits in all parts of the Dominion, that I think it well to draw attention to the above device. I may mention that identically the same thing has been used for many years by Mr. George Thurber, of Upton Village, Que., to protect tobacco plants from frosts and cutworms.

The most striking results have been obtained from the use of the poisoned bran remedy, which consists of a mixture of bran and Paris green in the proportion of 50 of the former and 1 of the latter. In making this mixture (which may be applied either wet or dry) it is best to dampen the bran slightly with water containing a little sugar. After mixing thoroughly, so that the whole mass may be permeated very slightly with moisture, add the Paris green by shaking on a very little at a time and stirring it in. If the Paris green be added to the bran when it is perfectly dry, it will, owing to its weight, sink at once to the bottom when stirred. If it is desired to use this mixture as a wet application, more sugar and water must be added until it is of about the same consistency as porridge; but if to be used dry, a little more dry bran may be added until the mixture will run through the fingers easily. Mr. F. A. Serrine, of Geneva, N.Y., drew attention to the fact that the mixture could be used dry with even better results than when applied wet. It is far easier to distribute and lasts longer without getting mouldy. A convenient implement for distributing this poisoned mixture, among crops which are grown in drills or rows, is a combined wheel hoe and seed drill. The seed box is filled with the poisoned bran, and lines of it are run across the field or along the rows close to the crop. In sandy land it was found convenient first to run a shallow furrow and then drop the bran into this shelter, which prevented the bran from being blown away by the wind. Strange as it may seem, it certainly appeared as if the bran mixture was more attractive to the cutworms than the living plants.

This remedy is, after all, only a modification of the poisoned trap remedy which has been used so successfully for many years, and which will continue to find favour with many, as green succulent vegetation suitable for the purpose is nearly always to be had, for it must be remembered that any weed will answer the purpose, whereas bran or shorts would have to be purchased.

*THE CUTWORM LION* (*Calosoma calidum*, Fab.)—Cutworms have many enemies. In addition to various insectivorous birds and small mammals, there is a host of parasitic

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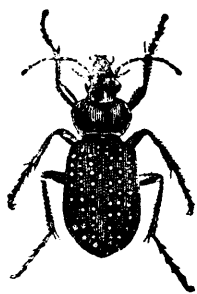


Fig. 14.—Cutworm  
Lion beetle.

Columbian specimens the spots are almost invariably green, the red spotted form being exceedingly rare. Both as a perfect beetle and as a grub (Fig. 15) this insect



Fig. 15.—Cutworm  
Lion.

destroys enormous numbers of cutworms. The following letter is similar to many others which have been received concerning this useful insect :  
"Mattawa, June 25.—I applied to you last June for instructions how to fight the cutworm which had made a complete havoc of my garden, and I received your valuable treatise on insects that are destructive which gave me valuable instructions. I followed your advice and kept down weeds during the later summer and in the fall. After I got the crops off I cut all weeds in field corners, raked them up together with all potato tops and other refuse and burnt all ; the result is that this year, while the cutworm has destroyed everything in my neighbours' gardens, they have troubled me very little ; in fact, nothing to complain of, for of 2,000 plants transplanted, I have not had two per cent loss caused by the cutworms, and in plants grown from seed what little harm they may have done was not perceptible. I inclose you a specimen of a little insect that seems to be a mortal foe to the cutworms. One day recently I noticed a cutworm making very fast movements and contortions, so I picked it up and found one of these insects fastened to it just at the back of the head. I put both into a tin can and watched for the result of the combat. Several times I caused the insect to loosen its hold and placed each as far as possible apart ; when the insect was let go it would immediately attack the cutworm again, always trying to fasten about the back of the neck. The result was that the cutworm was dead in twenty minutes. On Thursday last I found the inclosed specimen and then secured a cutworm and put both into a can, when the combat of the few days previous was renewed, with the same result. I put two more cutworms, one each time, into the can, and the black grub killed both."—  
[C. G. Hurdman.]

THE PEA MOTH (*Senasia nigricana*, Steph.).—In previous reports I have referred to the common injury to green peas, particularly the large late garden varieties, by the caterpillars of a small moth. During the past summer this insect was found in many districts, where it had doubtless always occurred, but from which no reports had been received. One of the localities where the insects has done most harm is Constance, in Huron Co., Ont. Mr. John McMillan, M. P., puts the loss in 1897 at no less than one-third of the crop. Up to the present no specimens of the moth have been caught in the field, but some specimens were reared in the insectary during 1897, which emerged between the 12th and 15th of July, and last summer three more specimens emerged at the same dates, namely, from 13th to 15th July. This would indicate that the natural time for egg laying is not till after the middle of July. Therefore, if peas are planted in good time and of early varieties—of which there are now several of high quality—good crops of green peas for the table can be secured before they are liable to be attacked by the caterpillar of the Pea Moth. At Ottawa several varieties of the small early peas can be picked by the first week in July, and the first crop of all the

best large varieties before the end of the month. The caterpillars of the Pea Moth would not be large enough to enter the pods and injure the green peas at earliest before the end of the month; consequently, at Ottawa and in localities with the same summer climate, green peas for the table can always be grown if early varieties are chosen and seed is got into the ground in good time. Mr. W. T. Macoun, Horticulturist of the Central Experimental Farm, has furnished me with the following list of what he considers the six best early varieties and of the dates when they were ready for picking:—

Alaska . . . . .	June 17	Gradus . . . . .	June 18
American Wonder . . . . .	“ 17	Nott's Excelsior . . . . .	“ 20
Gregory's Surprise . . . . .	“ 17	McLean's Little Gem . . . . .	“ 23

In his annual report for this year is given a list with dates of maturing of 25 of the best varieties of all kinds. Where peas are grown for the seed they will be injured in districts where the Pea Moth is prevalent. Experience would indicate that early sowing is in all cases advantageous, but it is also possible that late sowing, so as to hold back the podding, if possible, late enough to escape the season of egg-laying, might give a crop of uninjured seed.

**THE PEA WEEVIL** (*Bruchus pisorum*, L.).—This perennial pest is, year after year, the cause of enormous loss, notwithstanding the fact that millions of the beetles are destroyed every season in the “bug houses” of the large seed dealers. Prof. C. C. James says in his November *Crop Report*:—“Pease seem to have been the most unfortunate of the grain crops. The drought of the early part of the summer and a frost about the 10th July told upon the growth, and the bug made its appearance in nearly every section of the province. Some of those reporting are inclined to take a discouraging view of the outlook for pea growing, owing to this pest.”

It is probable that there has been some confusion in the reports of which the above extract is a summary, between the injury of the Pea Weevil and that of the Pea Moth. The distribution of the Pea Weevil is very much more restricted than that of the Pea Moth, and there are large areas in the province of Ontario where the highest quality of seed pease can be grown without any danger of infestation by the Pea Weevil.

**THE BEAN WEEVIL** (*Bruchus obtectus*, Say).—*Attack*.—Small beetles closely resembling in shape and movements the Pea Weevil, but only half its size, namely,  $\frac{1}{10}$  of an inch long, oval in form, with the head bent down and more or less concealed as seen from above, and prolonged into a short squarely cut snout. Antennæ distinctly jointed and enlarging towards the tip; the first 4 and the last joints reddish. The wing covers marked with ten impressed and dotted longitudinal lines. The whole body covered with short silky hairs. The lines on the wing covers are broken up into pale yellowish dashes and dark brown spots. The tip of the abdomen extends beyond the wing covers and is of the same reddish tinge as the tips of the antennæ and the legs, but is covered more or less with short silky hairs and bears a central white line, but there is no appearance of the two black spots which are so conspicuous in the Pea Weevil.

The life-history of the Bean Weevil differs in some important points from that of the Pea Weevil. The eggs of both are laid upon the pods while these are young and tender. On hatching, the young grub of the Bean Weevil eats its way inside and penetrates one of the forming beans, several grubs entering a single bean, each one forming for itself a distinct cell. They become full-grown and change to pupæ in the autumn and a little later to the perfect beetles. The date of emergence from the seed depends very much, as in the case of the Pea Weevil, on the temperature in the autumn months; it may be in the late autumn or not until the spring; when the seed beans are stored in a warm building, the beetles may emerge at any time through the winter. One of the important differences between the life-histories of the Pea and Bean weevils is that, whereas in the case of the former the young grubs can only enter the soft green seeds, those of the Bean Weevil can propagate for three or four generations in the dry stored seeds. This fact renders the well known domestic remedy for the Pea Weevil of holding over the seed for two years quite ineffective in the case of the Bean Weevil; that is, if a

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bag of pease infested with Pea Weevil were put away for two years, the Pea Weevils would emerge the first spring and die in the bags. But, in the case of a bag of beans infested by the Bean Weevil kept in the same way, the beetles on emerging would at once set to work laying eggs upon the beans. The young grubs when hatched would penetrate the dry seeds and go through all their stages, and this breeding might be repeated as long as the supply of beans lasted. Curiously enough, the Pea Weevil does not bore holes through the paper or cotton bags in which infested seed has been stored, but in the case of the Bean Weevil such bags are readily perforated and the beetles escape,—frequently, when this happens in houses, as is sometimes the case, to the great consternation of the inhabitants.

The Bean Weevil seems to be a cosmopolitan species, the original home of which was in Asia. It was probably introduced into America through commerce and has been the cause of considerable damage in various States of the American Union. It has been mentioned in the reports of several United States entomologists, full articles being given by Professors Riley, Popenoe and Lintner. There has been a great deal of discussion as to the proper name of the species. The last decision seems to be that the beetle should be called *Bruchus obtectus* of Say. The Bean Weevil has never been recorded as an injurious insect in Canada until the present year, when I received from Mr. B. Gott, of Strathroy, Middlesex Co., Ont., specimens of the beetles and some seed beans which had been entirely destroyed for seed or food purposes. Each seed had been so perforated and the contents eaten away that it could be crushed with gentle pressure between the fingers. These specimens answered in every particular to Dr. Riley's description of *Bruchus fabae* given in his *Third Missouri Report*, but authorities now consider that *B. fabae*, Riley, and *B. obtectus*, Say, are identical.

Mr. Gott stated that the beans had been held over from the spring in strong paper bags and put away in a cool room. At the time of his writing, December, 1898, large numbers of the beetles had been found in his house. They were thought at first to be Pea Weevils, but Mr. Gott noticed that they were different, and after some search found that they came from the bags of beans, of which the paper was perforated with numerous holes.

*Remedies.*—As in the case of the Pea Weevil, the best remedy for this insect is the destruction of the weevils inside the beans as soon as possible after the crop is ripe. Fumigation with bisulphide of carbon is the best treatment in every way. It must not be forgotten that this liquid and its vapour are very dangerous to use, owing to their extreme inflammability. The most convenient way to fumigate seed is to place it in an ordinary coal oil barrel and pour on the beans one ounce of the bisulphide of carbon for every 100 pounds of grain, then close the barrel tightly, first with a wet canvas or cloth and, on the top of this, boards which should be left undisturbed for two days at least.

THE CARROT RUST-FLY (*Psila rosae*, Fab.), mentioned in my last report, has been sent in as having appeared in injurious numbers at two new localities in the province of Quebec and also occurred in small numbers at Ottawa. This year white field carrots were attacked, as well as red ones. The semi-transparent yellowish maggot  $\frac{1}{4}$  of an inch long perforates the roots in every direction, leaving dirty brown burrows. The maggots are blunt at the tail end, but taper towards the head, where is a black hooked tip forked at the base, by means of which the maggots burrow their way through the roots. The pupa-case is reddish-brown and, as a rule, is found in the earth outside the carrots. The mature fly is  $\frac{1}{4}$  of an inch long, bright shining black with yellow legs and red eyes. There are at least two broods, if not more, in a season.

This is a serious pest of the carrot, rendering the roots quite unfit for table use. Its occurrence, however, has been intermittent, bad attacks one year being sometimes followed the next season by a total absence of injury.

“Knowlton, Brome Co., Que., July 6.—I send you to-day by mail a little box in which are a few carrots badly infested by a small white maggot. Nearly one-third of my patch of carrots are dead from the effects of it, and it is only a few days since they

began eating them. Can you give me any information as to what to do to get rid of them? What is it that lays the eggs? It is something new to me as I never noticed them before."—[J. Raymond Ball.]

"Quebec, Oct. 18.—I send you herewith a White Belgian carrot. My crop this year has been almost ruined by this disease, which you will be able to examine on the samples sent to you. Please tell me what is the matter and how to prevent it."

"Quebec, Oct. 27.—In reply to your inquiry as to whether my crop is the only one in this neighbourhood which has been injured by the Carrot Rust-fly, I beg to inform you that this year is the first that I have known the carrots to be injured by this fly. I secured a superb crop from the same field last year without any trace of the disease. My farm is situated at Ste. Marie, Beauce, and all the crops of carrots in the district have been attacked by the fly this season."—[A. B. Dupuis.]

*Remedies.*—Spraying the carrots along the rows with kerosene emulsion, 1 part to 10 of water, by means of a knapsack sprayer, or sprinkling along the rows dry sand, land plaster or ashes, with which coal oil has been mixed at the rate of half a pint to 3 gallons of the diluent, or crude carbolic acid at the rate of half a pint in 5 gallons, are the only applications which I know to have been used to any advantage. This should be done once a week through June from the time the roots begin to form and particularly after the rows have been thinned. Late sowing has also been found very useful.

Changing the location of the beds as far as possible from infested land has also been attended with excellent results and this common sense precaution should always be practised, when possible, in the case of all attacks of injurious insects. Where carrots are stored during the winter in sand or earth, this, of course, must be treated to destroy the pupæ which leave the roots and enter the soil to pass their last preparatory stage. Miss Ormerod suggests that this earth might be put into a wet manure pit so as to prevent the hatching out of the flies. Should neither of these methods be convenient, at any rate, the earth might be buried in a deep hole dug in the ground for the purpose.

**THE TURNIP APHIS** (*Aphis brassicæ*, L.)—One of the worst attacks upon root crops this year has been by the Turnip Aphis. In many parts of Ontario Swede turnips were badly injured. In Manitoba, likewise, an outbreak of this pest was brought to my notice by Mr. Bedford. The following extracts bring out the chief points upon which information was asked by correspondents:—

"Eddystone, Northumberland Co., Ont., Sept. 2.—On account of the very hot weather, lice are threatening to destroy the turnip crop in this part of the country. Is there any cure or preventive for it? Can spraying be successfully done?"—[W. G. Sargent.]

"Sherwood, York Co., Ont., Nov. 25.—In reply to your letter I would state that lice on turnips are not an entirely new pest, but they have never appeared in such numbers or with such destructiveness as this year. They have appeared in past years in small patches and were not considered very damaging. I think the reason that they were so numerous was the dry weather, as we had no rain from 1st July till the beginning of September, and it was exceedingly hot also. It wilted the mangel leaves in some localities. In the townships east and south of us, where they had more rain, the injury to the crop was not so great. In answer to your other question, I notice that the pest was destructive on all soils except perhaps some very low wet soils where sufficient moisture was obtained to keep up a steady growth."—[James H. Keffer.]

"Morden, Man., Sept. 28.—I send herewith a turnip leaf infested with some sort of insect. Last fall the same insect attacked the turnips, destroying the crop entirely. The root starts to decay as soon as the plant is attacked. All the turnips in this district went the same way. I should like to know what can be done to save the crop another year. I am taking up those turnips not already affected.

"Morden, Man., Dec. 28.—When you replied to my inquiry *re* turnip aphis, you asked me whether there had been much damage done in this neighbourhood. I have been inquiring of those who grow turnips, and find that nearly all the turnips in this district were damaged. In some cases the turnips were not attacked till late in the fall, and these were not damaged to any great extent."—[Alfred Bradshaw.]

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The plant-louse which does most harm to the Swede turnips in Canada, is the same species which is also sometimes destructive to cabbage and is better known as the Cabbage Aphid. It does not usually appear on turnips until August, and is stated by many correspondents to be worst in dry years. There is a general impression that nothing can be done to prevent injury, and as a consequence these insects are, as a rule, left unmolested and a great loss sometimes occurs.

*Remedies.*—At the time these plant-lice first appear in fields, they are nearly always found in patches of restricted area. These should be looked for at the time the turnips are hoed and thinned, when good service may be done by simply hoeing out the infested plants and, having pulled some earth over them with the hoe, then pressing it down firmly with the foot. When the plant-lice are too numerous for this simple treatment, the plants should be promptly sprayed with a knapsack sprayer, using as an insecticide kerosene emulsion, 1 part to 9 of water, or whale-oil soap, 1 pound in 8 gallons of water.

Root MAGGOTS in turnips are seldom complained of in the West, where radishes are grown to the greatest perfection. Occasionally, however, there is a local outbreak of these troublesome insects. Mr. T. N. Willing, of Sylvan Glade, near Olds, Alta., sends specimens of the Cabbage Root-maggot (*Phorbia brassicæ*, Bouché), which, he says, "are from a larva about  $\frac{3}{8}$  of an inch long, whitish with black hooks at end, which feeds in the Swede turnips. From one small turnip I found about 75 had entered the sand in which I had placed the turnip, and were in the pupa form. I inclose some with the flies. I had the turnip in the house about three weeks before these flies hatched out. Quite a large proportion of my turnips were damaged by this fly. I suppose it would be well to change the location of my turnip patch next season."

There were, as usual, inquiries from several other parts of Canada where the maggots of this fly are known to occur injuriously, one of the worst occurrences being along the shores of the lower St. Lawrence in the province of Quebec, where sad havoc was wrought in the gardens of the poor fishermen, who have to depend to a large measure on the products of their gardens. An account of this outbreak was sent to me by Dr. A. Mackenzie Forbes, of Montreal.

*Remedies.*—A sure remedy for these troublesome maggots is still much needed. Every year they are the cause of much loss in crops of great importance to a large number of people, such as cabbages of all kinds, turnips, radishes, onions, and sometimes beans and corn. A great many experiments have been tried with the object of discovering something of use. Many materials give partial immunity in ordinary seasons, but in bad years everything seems after a time to fail.

With onions and radishes, kerosene emulsion of the ordinary strength, 1 to 9, or carbolic soap-wash sprayed along the rows once a week gave tolerably good results, indeed some of the best results of many applications tried. The carbolic wash was made as follows: Dissolve 2 quarts soft soap in one gallon of boiling water, add 1 pint crude carbolic acid; when required for use, take 1 part with 50 of water. The most satisfactory application, but only to a small measure and early in the season, was White Hellebore or Pyrethrum powder dusted dry along rows of radishes at the time they appeared above ground and once a week afterwards. This is only applicable on a small scale. Experiments with kainit showed that this material assisted the plants very much in outgrowing injury, which in the case of cabbages is of very great importance. Kainit has also insecticidal value; but not, I think, to the degree which is claimed for it. It was tried (i.) broadcasted along the rows of onions and radishes, (ii.) sunk in a drill close to the rows and (iii.) in solution. When sunk in a drill it seemed to give better results than with the two other methods. In solution, when used strong enough to affect the maggots, it also injured the bulbs of the radishes, causing black spots, which afterwards rotted. Onions, however, were not injured, and the treated rows were decidedly better than the untreated. Experiments with cabbages showed that the best results were secured with a mixture of 4 ounces of kainit and 4 ounces of hellebore in  $2\frac{1}{2}$  gallons of water, half a teacupful being poured round the base of each cabbage after pulling away the soil down to the true roots and applied in the third week of June, just as soon as the maggots were detected.



Through the kindness of Mr. M. V. Slingerland, of Cornell University, I was supplied with a number of the Goff tarred-paper cards. These are hexagonal pieces of ordinary tarred building paper, 3 inches in diameter, with a slit from one angle to the centre, where there is a star-shaped perforation to allow the placing of the card around the stem of a young cabbage. These were asked for rather too late in the season to give them a fair trial, but the plants upon which they were tried were well protected by them, and all those growers of cabbages who have used them speak highly in their favour.

#### POTATO INSECTS.

The potato crop in Ontario has been a good one. The seed was got in early and the plants suffered no checks from severe frosts. The Colorado Potato Beetle was less destructive than usual. Fine weather at the time of digging, except in some parts of the Maritime Provinces, allowed the crop to be got in in excellent order. There were very few complaints of insects or potato rot. In Manitoba and British Columbia the only adverse reports were from the drier sections, where in some instances the sets had failed to sprout. This was almost entirely where the tubers had been cut before planting. Moderate-sized whole potatoes had given by far the best results. In the Maritime Provinces potatoes were not so favourably reported upon as usual, owing to the wet autumn. Mr. B. W. Chipman, the Secretary for Agriculture of Nova Scotia, in his November *Crop Report*, says: "The potato crop this season, owing to the rains, which caused a great deal of rot, is only 68 per cent of an average, just the same as last year, but the prices have been fair." In Prince Edward Island where potatoes are a crop of very great importance, Father Burke estimates that there was only half a crop. He says: "The crop came up well and showed every sign of being large. The potato beetle came so late that many thought we were going to escape it. The wet early season was against its spread; later the beetles multiplied fast enough, but were controlled by Paris green, which everybody but those a thousand years behind the age now uses. The potato beetle did no injury to our crop this year." Several correspondents in Nova Scotia, Quebec and Ontario refer to the small losses from the Colorado Potato Beetle, but in Manitoba where this insect is very seldom a serious pest, it occurred in injurious numbers in several places and required constant attention.

White Grubs and Wireworms have been reported as doing more harm to potatoes than for many years, and unfortunately nothing can be suggested as a remedy. In Nova Scotia where wireworms are sometimes very destructive in potato fields, it is a practice, when digging or ploughing up a crop in infested land, to pick up the potatoes immediately they are dug, when most of the wireworms will be taken with them from the field. After a short time, the wireworms will leave the potatoes and, if the crop is gathered in sacks or in carts, when the tubers are emptied out the wireworms will be found at the bottom and can be killed.

The **FOUR-LINED LEAF-BUG** (*Pæcilocapsus lineatus*, Fab.).—A somewhat unusual attack on potatoes, which early in the season appeared as if it might prove serious, was by the Four-lined Leaf-bug at Carrville, York County, Ont. Mr. J. Lahmer sent specimens and told of their ravages on some rows of potatoes which he had seen in a neighbour's garden. In acknowledging receipt the usual remedies for sucking insects were given and the life-history of this particular one was described. Later in the season, Mr. Lahmer wrote that the bugs did not spread further over the potato patch, but merely remained on the plants first attacked or on the bushes near by. The owner of the garden when he learnt that they were not a new pest lost interest in the matter and neglected to apply any remedy. The Four-lined Leaf-bug attacks many kinds of plants in gardens, having a special liking for sage and mint, currants, gooseberries and several other plants. The presence of the bugs is easily detected by the numerous brown spots about as big as a pin's head upon the leaves near the tips of the branches.

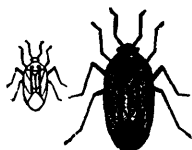


Fig. 16.—The Four-lined Leaf-bug.

## Experimental Farms.

The remedies consist of (I.) Spraying the nymphs or partially developed bugs which cannot fly, with a strong kerosene emulsion (1 to 6); (II.) The jarring or beating of the nymphs and perfect insects from the attacked plants into open tins containing coal oil and water; and (III.) The destruction of the eggs, which are always laid in the twigs of bushes, particularly the currant, near the tips; these are white, and, as they protrude slightly through the bark, when once seen they are easily recognized again, and thus this attack may be controlled to a large measure by winter pruning.

## FRUITS.

The fruit crop of Canada has again been a good one. In Ontario, apples, as stated in the November *Crop Report*, were considered more than sufficient for home consumption; very large shipments were made to England and the United States from the western fruit-growing sections; pears, peaches, plums and smaller fruits were also shipped from many localities. From Nova Scotia, the other large fruit exporting province, Mr. R. W. Starr, of Wolfville, N. S., a successful fruit grower and shipper of many years' experience in the Annapolis Valley, writes: "The spring opened early; fruit trees showed a mass of bloom everywhere, but cold rainy weather set in; bees and other insects could not work and pollination was imperfect, especially among apples. Many orchards that showed much young fruit apparently well set, some ten days later, had the ground covered with young apples, leaving apparently very few on the trees. As the season passed on we had frequent showers, but the total rainfall was not more than usual. All the fruit that set healthily developed rapidly, and the extra size made up largely for lack of numbers; the export will, after all, be a good average quantity, say, 250,000 barrels, and the quality better than usual."

Mr. S. C. Parker, Secretary of the Nova Scotia Fruit Growers' Association, says: "The damage to crops this season by insects has, perhaps, been the least of any season in my experience. All insects noted in the orchard and garden were fewer in numbers than for some years past. The means of combating these different pests and the best remedies have been made so widely known that farmers are on the alert to clear them out when they show themselves. Cutworms were conspicuous by their absence. Curculio did not appear to be as destructive as usual, at any rate, did not materially lessen the enormous plum crop. There were no complaints of Codling Moth or Shot-hole Borer, and the Bud-Moth was not as common as usual. Apples were good, more than usually free from Black Spot; the prices were away up and there was a fair crop. There were two bad enemies, however, of plum trees: the Shot-hole Fungus (*Septoria cerasina*, Peck) has devastated many plum orchards, and I expect to see a lot of dead trees next spring; the Black Knot (*Plowrightia morbosa*, Sacc.) has been very bad. Many have about given over fighting it. With plums a drug on the market, the game is not worth the candle."

With reference to the prevalence of fungous diseases, Mr. R. W. Starr also writes: "In most plum orchards rot set in badly, and as a rule, there was more fruit left in the orchards than was picked for the market. Some kinds were worse than others, especially Lombards; whole orchards also were ruined by Leaf Blight and were bare of foliage when the fruit was two-thirds grown. The Japanese varieties seemed to stand a wet season better than the descendants of *Prunus domestica*, L. Burbank did especially well. Abundance seemed to be rather susceptible to Shot-hole Fungus. Most of our early peaches rotted on the trees. Red Rust Fungus on the quince formed lumps somewhat resembling Black Knot in shape. Currants and gooseberries were stripped of their leaves by a blight, and pears showed more Fire Blight than for many years. You will gather from the above that fungous diseases have been very prevalent. I think we must ascribe this to the dull showery weather. I have wondered how the apples escaped as well as they did. Former experience would have led me to forecast a very different result."

It is satisfactory to hear from Prof. F. C. Sears, the Director of the Nova Scotia School of Horticulture, at Wolfville, N.S., that "Spraying was much more generally practised this year than ever before, and the results were very satisfactory, especially so in the use of Bordeaux mixture to control the Black Spot of the apple and the Shot-hole Fungus of the plum. I held about fifteen spraying meetings in different parts of the province and induced fruit growers to experiment also for themselves. I sprayed some rows and left others. The results have been very conclusive in most cases."

In Prince Edward Island, Father Burke says: "Despite our spraying, we had our share of apple-worm, some sorts of apples being badly injured; the season being so wet, the Bordeaux mixture did not stay on long enough to do its work. Owing to the wet season, there was also a lot of Black Spot, but, on the whole, we have a fair apple crop."

In British Columbia, fruits of all kinds were abundant, but there was much loss from insect pests. The two worst enemies of the apple growers were the Apple-fruit Miner (*Argyresthia conjugella*, Z.), and the small moth described by Walsh in *First Illinois Report* under the, as it has since been ascertained, rather inapt name of the Plum Moth (*Grapholitha prunivora*, Walsh).

The fruit interests of the Pacific province are well looked after by the energetic officers of the provincial Department of Agriculture. The Deputy Minister, Mr. J. R. Anderson, and his Assistant, Mr. E. A. Carew-Gibson, have done excellent scientific work in investigating the botany and entomology of the province, particularly in solving some doubtful points in the life-histories of important enemies of crops. Mr. R. M. Palmer, the Inspector of Fruit Pests, has devoted special attention to the practical questions of orchard treatment, of making known the best remedies for pests and the way to apply them, of keeping the provincial markets clear of infested fruit, and thus incidentally creating a better market for home products. British Columbia is blessed to a remarkable degree with a climate and soil suitable for the production of fruits of many kinds, and the wise and energetic measures which have been adopted and fearlessly carried out by the officials of the provincial government have certainly been attended with much success. Up to the present time, notwithstanding statements to the contrary, the Codling Moth has not been detected in any British Columbian orchard.

THE APPLE FRUIT-MINER (*Argyresthia conjugella*, Z.), which has called for so much attention of late years by its injuries to apples in British Columbia, was again this year the cause of considerable loss. In mixed orchards containing several varieties of apple trees, I noticed last summer that crab-apples were more particularly attacked than the larger kinds. Mr. Palmer makes the following report on the occurrence of this insect in British Columbia during 1898:—

"Victoria, B.C., Dec. 15.—On the Islands, especially in the neighbourhood of Victoria, the Apple Fruit-miner (*Argyresthia conjugella*) has been very prevalent this year. The native crab-apple crop was a failure, and this pest attacked cultivated fruits (apples) to an alarming extent. It preferred cultivated varieties of crab-apples to ordinary varieties of apples, and a much larger percentage of larvæ completed their growth in infested crab-apples than in the finer fruit. The entire crop of many crab-apple trees (cultivated varieties) was completely ruined, being tunnelled in every direction, all through the pulp of the fruit. Every effort has been made to get infested fruit destroyed, as, although in 1896 some loss was sustained from the pest, it was not nearly so large as in this season, and I now apprehend there is some danger of the insect becoming a constant feeder on cultivated varieties at least of crab-apples, and possibly of some others.—[R. M. Palmer.]

An interesting account of a Japanese insect, *Laverna herelella*, Dup., which, if different, resembles in most respects the Apple Fruit-miner in a very remarkable manner, is given with an excellent figure in *Bulletin 10, New Series*, Div. of Ent., U.S. Dept. Agr., by Prof. Matsumura, of Sapporo, Japan. In a foot-note to this article, Dr. Howard has suggested, from the resemblance of Prof. Matsumura's figure to bred specimens of the Apple Fruit-miner from British Columbia, which he was good enough to examine, the identity of the two insects. Although it is true the figure cited and the perfect moths

## Experimental Farms.

of the Apple Fruit-miner do agree closely, the habits of the larvæ as given by Prof. Matsumura (*loc. cit*) and as described in my annual report for 1896, differ upon what seem to be such important characters that for the present I can hardly think that the two attacks are by the same species. The writer of the article referred to says that the larvæ live only in apple cores, injuring the seeds, that there is usually only one egg deposited on each apple, and that the cocoons are made in the earth whenever possible.

The British Columbian insect very rarely attacks the cores and seeds of the fruit. There are usually several, two, three or more, larvæ in each apple, and the cocoons are made beneath flakes of the bark on the trees or beneath leaves or rubbish on the surface of the ground.

I have lately received the following interesting note from Prof. Enzo Reuter, of Helsingfors, Finland, on the occurrence of *A. conjugella* in Europe:—"I have read your report with great interest. *Argyresthia conjugella* has during the past summer infested the fruit of apple trees throughout the whole of Finland. This is owing to a total failure of sorb-apples (*Sorbus Aucuparia*, L.)\* and bird-cherries (*Prunus Padus*, DC.), in which the larvæ commonly feed."

All efforts to discover the egg or the egg-laying habits of the moth have so far failed, and no proved, practical remedy is yet available. At Mr. Palmer's suggestion, many of the fruit growers in the districts where this insect has been troublesome, have adopted the wise precaution of picking and destroying every apple which showed the attacks of the larvæ.

Prof. Matsumura suggests the catching of the moths of the Japanese insect by suspending large-mouthed bottles containing sweet solutions beneath the trees at night; he points out that these should be closed during the day time so that many useful or harmless insects may not be destroyed.

THE PLUM MOTH OR LESSER APPLE-WORM (*Grapholitha* [*Semasia*] *prunivora*, Walsh).—For many years British Columbian apple growers have referred to a small caterpillar which in every thing but size answered to the caterpillar of the Codling Moth. The insect was not abundant and all efforts to obtain specimens to rear the moth failed. Last year a few were secured by Mr. E. A. Carew-Gibson and successfully reared to maturity. The perfect insect, a small moth, was kindly identified by Dr. L. O. Howard, the United States Entomologist, and proved to be the same insect as was treated of and figured by Benjamin Walsh in his *First Report as State Entomologist of Illinois*, under the name of the Plum Moth (*Semasia prunivora*). Walsh bred specimens of the moth from plums, from the fungous growth known as the Black Knot of the plum, from the Cock's-comb-like hollow gall (*ulmicola*, Fitch) on the leaves of elms, which is produced and inhabited by plant-lice, and lastly from a hollow gall on the leaf of red oak. In addition to the above, the late Dr. C. V. Riley (*Am. Ent. (III)*, n. s., I, 131) adds that he has bred the moth from galls on oak, from haws, from crab-apples and abundantly from cultivated apples. I have at different times bred the moth from apples and haws at Ottawa, from near Toronto and from Lachine, Que. I can find no reference in recent publications to serious injury to either apples or plums by this moth. Single specimens of the caterpillar have been sent in occasionally from Quebec and Ontario, but, as far as I am aware, they have never been sufficiently abundant to be more than noticed by the curious. Last year, however, Mr. R. M. Palmer expressed fears, from the numbers he was finding in British Columbian apples, that the insect might develop into a pest of importance. At that time he complained only of the commonest form of attack by the caterpillar, which is to feed beneath a web upon the skin of the apple, around and inside the cup at the calyx end, or occasionally to burrow more or less extensively under the skin. When visiting British Columbia last summer, in the last week of July, I was shown by Mr. Carew-Gibson a large number of apples which had been handed over to him by Mr. Palmer, which were very seriously infested both by this insect and also by the Apple Fruit-miner. Upon cutting open several of the infested apples, I was surprised to find how exactly in many instances the work o

\* In this country called "Mountain Ash" or "Rowan tree."

the larvæ of *G. prunivora* resembled that of the Codling Moth (*Carpocapsa pomonella*, L.). Not only was the skin and flesh just around the calyx eaten, but the apple was bored into extensively, the core being frequently reached and the pips eaten in precisely the same way as is done by the Codling Moth caterpillar. Every specimen was examined carefully and proved to be *G. prunivora*. This same fruit was also found, as stated above, to be badly infested by the Apple Fruit-miner, as well as the Lesser Apple-worm, both kinds occurring in the same apple.

"Victoria, May 8.—The specimen that I am sending is the only adult that I have managed to rear; you will note in size it is not more than half the size of the Codling Moth; it has also different markings and its larva never reaches more than half the size of the Codling Moth larva when full-grown. This is the insect whose larva is so often mistaken in this province for the larva of Codling Moth and reported as such. It is fairly common in some spots, but owing to its size cannot do so much damage to the fruit it attacks."—[E. A. Carew-Gibson]

"Victoria, Dec. 15.—The larva of *Grapholitha prunivora* has been found this season widely distributed all through the lower mainland and the Islands as well. Although usually attacking apples, feeding at the calyx end of the fruit for about  $\frac{1}{2}$  an inch down, it is also often found inside the fruit, and has been frequently mistaken for the larva of the Codling Moth (*Carpocapsa pomonella*). It has also occurred quite often in plums and prunes, and specimens of fruit so infested have been sent in or collected from the whole of the districts named.

"This pest and the Apple Fruit-miner evidently need more attention at the hands of our fruit growers in the future than has heretofore been accorded them. In the case of the Lesser Apple-worm, I think that spraying with Paris green as for the Codling Moth may be of considerable value. I shall be glad of any suggestion you can make as to dealing with these pests.

"A large number of the larvæ collected this season have been carefully attended to by Mr. E. A. C. Gibson, and it is hoped that a number of specimens of the perfect insects and perhaps some parasites will hatch out in the spring. Many specimens of fruit collected contained larvæ of both species."—[R. M. Palmer.]

From the past history of this insect, particularly in British Columbia, and after talking the matter over with Mr. Palmer and Mr. J. R. Anderson, who three years ago found numbers of apples badly infested in Capt. Gaudin's garden, at Victoria—from which, however, the insect has since entirely disappeared—I think it hardly likely that this caterpillar will develop into a serious pest of apples or plums. It is probable that the injuries of this year, which are certainly exceptional, were due to the failure of the wild crabs to produce fruit this year in British Columbia, and that both this insect and the Apple Fruit-miner were driven to cultivated fruits, as it is related in Dr. Reuter's interesting letter was the case with *Argyresthia conjugella* in Finland this year.

Should injury by the Lesser Apple-worm continue, I have no doubt, as suggested by Mr. Palmer, that spraying with Paris green should be the first remedial experiment tried.

*Notes on the Lesser Apple-worm, by Mr. E. A. Carew-Gibson.*

Aug. 16, 1897.—Received from Hornby Island, a number of apples infested with a small boring worm.

Sept. 17.—Found six larvæ from above apples spun up, five in the paper beneath the apples, using the paper fibre for their cocoon, and one spun up on the cork of a small specimen bottle using cork dust for its cocoon; all the spun up larvæ at this date unchanged. The specimens are  $\frac{3}{8}$  inch long,  $\frac{1}{16}$  inch in diameter, tapering slightly towards both extremities: reddish pink to pale pink in colour, lightest in colour between the segments. Head smaller than 1st segment, with blotchy darkish brown markings, thoracic and anal plates also darkish, marked with brown. Body covered with white bristles, with finely dotted surface to the skin (under the microscope). Surface with lumps and depressions. Very active when placed in the sunshine, evidently at once seeking shelter for spinning up. The larva spun up on the cork very closely covered over with cork dust.

May 7, 1898.—One very active little moth emerged.

E. A. CAREW-GIBSON.

## Experimental Farms.

The moth expands about  $\frac{5}{8}$  of an inch across the wings. The ground colour of the front wings is black, with large patches of rusty red and a central steel blue blotch. Along the costa are seven very conspicuous short white streaks, arranged 2, 2 and 3 together, of which the longest are the 1st, 3rd, 5th and 7th; these streaks are nearly parallel to each other and are obliquely directed toward the posterior angle of the wing. The hind wings are dusky gray at the base, shading into black at the tip.

The other insects which have attacked fruit trees during the past summer are well known species. Of these none have called for more attention by their excessive numbers than the TENT CATERpillars, which swarmed on forest and orchard trees in many sections of almost every province of the Dominion.

Enormous numbers of Tent Caterpillars of the two common species, the Forest Tent Caterpillar (*Clisiocampa disstria*, Hbn.), and the American Tent Caterpillar (*C. Americana*, Harr.), occurred in the woods and on trees in gardens and orchards for many miles around Ottawa and through the counties of Carleton, Russell and Grenville; nor were they confined to this part of the province, for specimens or letters of inquiry came in from every direction. Aspen poplars, maples and basswood seemed to be the favourite food plants, but where the caterpillars were abundant the foliage of all plants was eaten.

"Victoria, B.C., Dec. 15.—On the Lower Mainland the most troublesome pests of the season were the Forest-tree Tent Caterpillars. They were present in countless thousands and fruit trees in proximity to native trees such as alders and willows, where the pests hatched undisturbed, were in danger of being defoliated, even when considerable attention was devoted to fighting the pests. Fruit trees from which the leaves were eaten, put on foliage again later in the summer, but went into winter in poor condition to withstand vicissitudes of weather. Fortunately, by far the larger proportion of the

Fig. 17.—American Tent Caterpillar.



larvæ were parasitized and egg masses of the pests are not nearly so numerous as last year; besides this, fruit growers were roused as a rule to the danger from these voracious insects and better prepared to fight them both by the destruction of eggs during the winter months and by means of Paris green spraying later on."—[R. M. Palmer.]

When I was in British Columbia last August, Mr. T. A. Sharpe, of Agassiz, drew my attention to the fact that a very large percentage of these caterpillars had been destroyed by a very fatal disease after they had spun their cocoons. He examined one hundred cocoons before he found one containing a living pupa. Unfortunately no such state of affairs happened in the Ottawa outbreak, for at the present time the

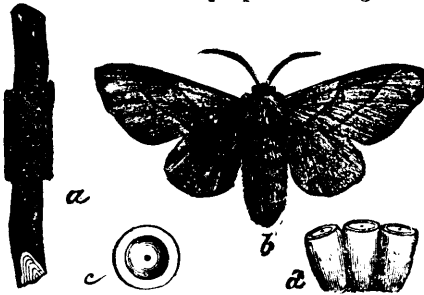


Fig. 18.—The Forest Tent Caterpillar: a, egg cluster on twig; b, moth—natural size; c, d, eggs—enlarged.

egg clusters (Figs. 18a and 19) are to be found abundantly on trees and shrubs in every direction. On one small cherry tree 10 feet high, I collected no less than 37 egg clusters. The eggs in every one of them appeared to be in a healthy condition, and the young caterpillars hatched out in thousands in my office. There is the greatest necessity for all who wish to save their trees to take steps next season, in the first place, to clear from the trees during the winter such eggs as can be reached, and to provide themselves with spraying apparatus so as to be ready to destroy the caterpillars



Fig. 19.—Egg cluster of the American Tent Caterpillar.

next spring while they are still small, using the ordinary standard mixture for foliage-eating insects, namely, 1 pound of Paris green, 1 pound of quick lime, and 200 gallons of water.

THE PLUM CURCULIO (*Conotrachelus nenuphar*, Hbst.).—Plum growers have pretty generally adopted spraying with Bordeaux mixture and Paris green as the best remedy against the Plum Curculio upon plums. The treatment, however, is by no means claimed to be a perfect remedy, although I believe that the saving in the quality of the crop will always make it pay handsomely to spray plum trees, and in the mean time it is the *best* remedy. The fact that most of the large plum growers have adopted spraying as a regular practice speaks for itself and shows that it pays them to do so. Spraying cherries and peaches has not been quite so satisfactory as in the case of the plum, and upon the apple to which the Plum Curculio is sometimes very destructive it would appear that spraying is even less effective. Nevertheless, it pays to spray as in the other cases.

In October last, I received through Mr. W. T. Macoun, some specimens of apples which had been utterly ruined for the market by the Plum Curculio, being gnarled and indented wherever the beetles had bitten (“stung”) them. At the same time the growers of the apples, Messrs. R. Jack & Sons, of Chateauguay Basin, Que., sent a bottle filled with specimens of Plum Curculio taken on the apple trees from which the injured fruit was sent. Messrs. Jack & Sons write :—

“Chateauguay Basin, Que., Nov. 8.—You ask if plums are badly affected by Curculio with us. They are, very badly, both on the farm and all round this section of country. I have known the pest sometimes to destroy the whole of the crop on some of the trees. You ask also whether the female uses the young apples to deposit her eggs in. That is the way in which most damage is done. Sometimes we have not been able to find a sound apple on some trees with about a bushel of apples on. Most of the apples had eggs deposited in them or had been punctured, and some of the apples would have as many as three or four eggs in them. We have noticed some apples injured within two or three days after the blossoms have fallen. We notice very little difference between sprayed and unsprayed trees. They seem to be very little affected by Paris green. Last season we used Paris green in the first two applications of Bordeaux mixture, *i.e.*, once before blossoming, and immediately after the blossoms had fallen, at the rate of 8 ounces to 50 gallons of water, and still they injured great quantities of apples. The kinds which they seem to have a preference for are Duchess, Yellow Transparent, Astrachan, Grimes Golden, and Golden Ball, but if these kinds are scarce they work on the other varieties. In fact, the Curculio does us more damage than all the other pests and fungous diseases combined. A good many apples fall prematurely with the larva in them. Do you think it would be any advantage to pasture the orchard with sheep, so that they would eat the fallen apples and so destroy the grub? We send you under separate cover samples of apples which have been injured by them.”

“November 18.—Your favour of the 12th instant to hand. In it you ask how long it is since we noticed the Curculio destroying the apples. We would say that it is about six or eight years since we have noticed them doing any injury to any extent to apples, but they have troubled the plums for a good deal longer period. They also do considerable damage to cherries. We have along one of the line fences between our neighbour and ourselves, a row of common red plums which have been infested with Curculio as long as we can remember, but the place where the Curculio is worst is at the other side of the orchard. We intend to have these old plum trees cut down this fall and have the land cultivated for a couple of years. There is in a field next to the orchard a clump of hawthorns of which the haws have been infested with little grubs, but we have never experimented to see if they were Curculio or not. Perhaps you could give some information? I notice that the Curculio does not seem to do so much damage where the trees are cultivated often.”—[R. Jack & Sons.]

The above letters were in reply to questions which are well indicated by the answers given. Some of the apples forwarded by Messrs. Jack had from 5 to 25 punctures and were utterly useless for the market. It is well known that the Plum Curculio lays

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its eggs in apples and that the larvæ can develop in this fruit, but most of the injuries in this case were of the nature of a hollow cavity beneath the skin, the flesh appearing to have been eaten out through a central orifice. Frequently these cavities were at the bottom of deep depressions, and there were no galleries in the flesh of the apple. That the injury to apples extended further than the immediate vicinity of Chateaugay Basin was shown by my receiving specimens injured in exactly the same way from Professor L. R. Jones, of Burlington, Vt., with the information that the injury was quite common on Baldwins and Greenings and that considerable injury had been caused in the State of Vermont. The advantage of attending to windfalls, either by collecting them or pasturing sheep or pigs in the orchard was pointed out, and the opinion was expressed that the grubs which had been found in the haws were more likely to be those of the true Apple Curculio (*Anthonomus quadrigibbus*, Say.) than of the Plum Curculio. The fruit of the hawthorn is nearly always infested by *Anthonomus quadrigibbus*, and, as far as my own experience goes, it is a very rare enemy of the apple. As a remedy for this attack on apples by the Plum Curculio, nothing further can be suggested than spraying the trees regularly with Paris green, beginning early and continuing as late as possible through the season. Where it is practicable, jarring the trees over large sheets placed on the ground and then destroying the beetles will, of course, reduce very much the amount of injury.

THE GREEN FRUIT-WORMS (*Xylina*).—The larvæ of two or three species of this genus were unusually abundant and destructive in some parts of Ontario last summer.

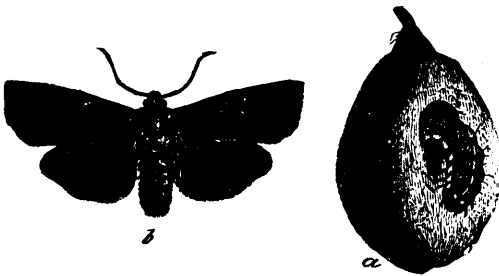


Fig. 20.—A Green Fruit-worm :  
a, caterpillar ; b, moth.

Mr. W. M. Orr found them in many orchards when superintending the Provincial Government spraying experiments. He estimates the loss from these caterpillars at between 20 and 30 per cent. Mr. N. H. Cowdry, of Waterford, Norfolk County, Ont., sent specimens of the caterpillars, together with their work on young apples and pears. He said: "They seem to feed exclusively on the young fruit to which they are exceedingly destructive, but they do not touch the foliage. They are very numerous about here, and, owing to their habit

of eating the fruit only, are hard to destroy by spraying." An account of injury by Green Fruit-worms, was also received from Mr. John A. Link, of Sombra, Lambton Co., Ont.

At Aylmer, Wright Co., Quebec, large silver maple trees (*Acer dasycarpum*) and to a smaller degree other trees and shrubs growing near were almost defoliated by the larvæ of a species of *Xylina*, which were in such numbers that every tree trunk and fence was swarming with them in the third week in June, as they moved from tree to tree in search of food. Almost all the specimens collected died from injuries inflicted upon each other in the breeding jars. A single specimen of the moth was reared which seems to be *Xylina Grotei*, Riley. The caudal end of the pupa resembles that of *X. laticinerea*, Grote, as figured by Mr. Slingerland on Plate II. of his Cornell University *Bulletin 123*, except that the cremastral spines are less pronounced.

Another outbreak, not quite so severe as the one above mentioned, occurred at Niagara on the Lake, where large maples planted as shade trees were covered with these caterpillars to the great inconvenience of passers by in the streets. In this case, I think it hardly possible that many of these larvæ could have reached the perfect stage, for the trees were visited incessantly by warblers and other insectivorous birds who vied with a swarm of English sparrows in the branches above and numerous chickens on the ground below, in destroying every caterpillar that moved. It is several years since these insects have been abundant enough to call for special treatment, but similar outbreaks to those mentioned upon forest and shade trees occurred in the vicinity



of Ottawa in 1885. The caterpillars of three distinct species of moths are known by the name of the Green Fruit-worms. These resemble each other very much in appearance and habits. They are discussed in detail by Mr. M. V. Slingerland, in his characteristically careful and accurate manner, with beautiful figures, in Cornell University *Bulletin* 123. The caterpillars may be described generally as cylindrical in shape with heads almost as wide as the body. Colour, pale leaf green, striped longitudinally and dotted with creamy white. The full-grown caterpillar measures from  $1\frac{1}{4}$  inches to  $1\frac{1}{2}$  inches in length by  $\frac{1}{4}$  of an inch in diameter. The food consists of the leaves of the apple, pear and several kinds of forest trees; the maple, poplar, hickory, wild cherry, box elder and the buds of roses are recorded among their food plants. Their greatest injuries, however, are to the fruit of apples and pears.

The moths vary considerably in appearance, but are characterized by the cold ash-gray colour of the front wings, which are variegated with darker gray. The most constant characters seem to be: a pale space at the base of the front wings and on the upper half, the pale upper part of the orbicular spot and the dark sub-terminal line. The expanse of the wings is from  $1\frac{1}{2}$  inches to  $1\frac{3}{4}$  inches.

"The moths are night fliers, remaining concealed on the bark of the trees or in secluded places during the day. Most of them appear during September and October, and, hibernating in sheltered places, appear again in March, April and May; some evidently remain in the ground as pupæ over winter, the moths not appearing until spring. They are readily attracted to lights or sweetened baits at night, and are 'often found in maple groves while sugaring is going on. Sometimes sap-pails are found in the morning with the surface of the liquid completely covered with the moths.'" (M. V. Slingerland, *Bulletin* 123.)

THE SAN JOSÉ SCALE (*Aspidiotus perniciosus*, Comstk.).—Since the passing of the San José Scale Act, on the 13th of March, 1898, every effort has been made, both by the Federal Government and the Provincial Government of Ontario, to detect any occurrence of this extremely injurious insect and to eradicate it with as little delay as possible. A thorough examination has been made of that section of the province of Ontario in which it was known that colonies of this scale insect had been found in 1897. Wherever infested trees were detected, they were dug up and destroyed. Trees known to have been imported from States or nurseries in which the scale had occurred during the last few years were followed up and examined in the orchards where they had been planted. It is satisfactory to know at the conclusion of this inspection that the prevalence of this insect in Canadian orchards is far less than it was feared last spring might be the case. The only locality where a new occurrence of special interest, from its northern latitude, has to be recorded is at Guelph, Ont., where the winters are sometimes very severe, the thermometer occasionally falling as low as 15 degrees below zero, Fahr. The scales in this case were imported on pear and plum trees and had passed through at least two Canadian winters; although the scales had survived, they had not spread to other trees. The passing of the San José Scale Act has naturally given rise to a great deal of correspondence as to what kinds of plants come within the provisions of this Act and are prohibited from being imported into Canada from any country where the San José Scale is known to exist. In framing this Act, great care was taken by the Hon. Minister of Agriculture to interfere as little as possible with established lines of trade and only to prohibit such plants as it was thought were a source of danger to this country. It is known that the San José Scale is liable to occur in a living state, and that thus it might possibly be introduced, upon any woody-stemmed tree or shrub, except conifers, the stems of which do not naturally die down to the ground every year. Such plants, therefore, may not be imported into Canada from any country where the San José Scale has been found. A very few exceptions have been made to this rule in the case of some plants which are only grown in greenhouses. These exceptions were authorized by Order in Council at the time of the passing of the Act and made public through the *Canada Gazette*. They have also been published in the reports of the Entomological Society of Ontario, of the Fruit Growers' Association of Ontario, and of other societies. No further exceptions to the Act have been made, and in the case of such plants as

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raspberries and some other small woody-stemmed shrubs it was considered wise by the Hon. Minister, for the present at any rate, not to allow these to be imported, even when cut right down to the roots, for fear that this cutting might not be done thoroughly enough. True herbaceous perennials, like the perennial phlox, dahlias, herbaceous pæonies, and perennial asters, the stems of which die back right down to the roots every autumn, can be safely imported and consequently are not prohibited. The scale has been known to spread occasionally on to several plants with herbaceous stems, but as it can never move again after once settling down on any plant, which it does within two days after birth, and as during its active life it must constantly be supplied with liquid food, even, were it introduced in the dormant condition in which it passes the winter on the stems of herbaceous perennials which had died down naturally, such scales could never revive nor propagate; in the first place, they would have no food in the dead, sapless stems, nor could they move to search for it elsewhere, owing to the scales which they have formed over their bodies since they settled down, and also to the important fact that very soon after settling they undergo their first moult, from which time they are absolutely without legs or other means of locomotion. In the second place, they could not propagate because they pass the winter in a half grown condition, and being deprived of food it is impossible for them to reach maturity.

The question is frequently asked at farmers' meetings when specimens of the San José Scale are shown on pieces of twigs and branches, whether there is not danger of introducing the scale into new localities by this means. For the reasons given above, there is manifestly no danger to be feared in this direction. The only way in which the scale can be spread is by the migration of the young insects during the short time that they are able to crawl about. The sap in any piece of infested wood which could be conveniently taken to a meeting for exhibition dries up in a few hours and very few of the young scale-insects could be born before the females died, even if the wood were taken at the time when the females were bearing young, and then these young insects would have to find their way on to living trees before many hours or they would die. It has been objected that upon wood bearing the Oyster-shell Bark-louse myriads of the young have been found moving several weeks after the scale-bearing branch had been severed from the tree. It must be remembered, however, that the habits of the Oyster-shell Bark-louse and those of the San José Scale are entirely different. When mature, the female of the former, before dying, lays beneath her scale a large number of eggs, which remain unhatched for many months from autumn until the following summer, during which time, of course, being eggs, they require no food; so it does not matter how dry the branch bearing them beneath their mothers' scales may be; but whenever these eggs are brought under favourable conditions they will hatch and the young bark-lice appear. With the San José Scale, on the contrary, eggs are never laid, but the females bring forth their young alive and at that time must be constantly supplied with liquid food. As stated above, if the scale-bearing wood is removed from the trees during the period of dormancy in which the San José Scale passes the winter, all the scale-insects upon such wood are immature and must soon die. This period of dormancy lasts in Canada, at any rate, from the beginning of November till the beginning of June. Close study of this insect has shown that none but the immature insects live through the winter, and, further, that these do not begin to produce young until after a considerable time of active life and growth the following season.

The keen interest which has been aroused with regard to all insect pests by the advent of the San José Scale has also drawn attention to various other kinds of scale-insects which have been found upon Canadian fruit trees. Many kinds of these have been sent in for examination. The Forbes Scale, the Putnam Scale, the New York Plum Scale and the Scurfy Bark-louse were all found in some numbers upon orchard trees. Although widely spread through the province of Ontario, not one of them was sufficiently abundant in any locality to be considered a serious menace to fruit growers.

In addition to the above, the Oyster-shell Bark-louse is extremely abundant all through Canada and is very destructive.

The standard remedies for scale-insects are kerosene emulsion or whale-oil soap solution (1 lb. in 2 to 4 gallons of water), applied early in the spring, just before the buds open.

APHIDES or PLANT-LICE have again this year been conspicuous in orchards. In the Niagara district the CHERRY APHIS (*Myzus cerasi*, Fab.), appeared in enormous numbers early in the season and, although it disappeared as mysteriously as it had come, in some places, in orchards of cherries, particularly the sweet varieties, it did a great deal of harm. Mr. C. F. Purdy, of St. Catharines, this year lost heavily from this insect, which in his orchard was far worse than last year. Mr. Martin Burrell, of the same place, writes: "I find in my notes that the Black Cherry Aphis was very abundant on 27th May. Under date of 2nd June, I find: 'Black Aphis breeding rapidly, very few *Syrphus* larvæ or lady-birds'. I have no other notes, but, on the whole, the later injuries were not as bad as in 1897. We used whale-oil soap (1 lb. to 7 gallons) with fairly good results." Mr. R. M. Palmer, of Victoria, B. C., says: "The Black Cherry Aphis was commoner than usual all through the lower portions of the province. It is, too, much more difficult to kill by means of sprays and is not so much attacked by parasites as other species. The quassia spray No. 2, I found quite effective if used hot, as hot as the hand would bear; if used cold, only partially so." The spray referred to is given in the useful pamphlet "Insect Pests and Plant Diseases" issued by Mr. Palmer for the provincial Board of Horticulture and is as follows:—

Quassia chips .....	8 lbs.
Whale-oil soap .....	7 lbs.
Water .....	100 gallons.

"Boil the quassia chips in about 8 gallons of water for 1 hour; dissolve the soap in hot water; strain and mix both solutions together and dilute with sufficient water to make 100 gallons altogether. To be used with a spraying pump, with as much force as possible in applying. This mixture is the standard remedy for Hop Aphis, and has given most satisfactory results against other Aphides with no injury to the foliage of the trees treated."

THE APPLE APHIS (*Aphis mali*, Fab.), like the last named, was unusually prevalent at the time the apple trees were budding and caused much anxiety in Ontario, Quebec and Nova Scotia. The remedies which were recommended were whale-oil soap (1 lb. in

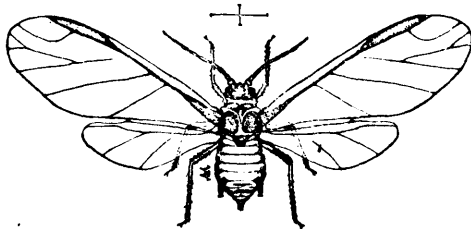


Fig. 21.—The Apple Aphid—enlarged.

8 gallons of water) and kerosene emulsion (1 to 9); but fruit growers on a large scale were advised to wait until, at any rate, the middle of May, to see if the natural parasites did not reduce the plant-lice sufficiently to make remedies unnecessary. This recommendation I believe from experience to be safe for Ontario, but in British Columbia the Apple Aphid requires treatment as early as it shows itself, for in that province it is a far more injurious pest than in any other part of Canada. Dr. D. Young, of Adolphustown, Ont., during the course of some correspondence about an outbreak of Apple Aphid on his apple trees, writes:—

"Adolphustown, April 20.—It would take about 270 sixty-gallon barrels of solution to spray my orchard, at 2 gallons per tree, so that I should need 1,065 gallons of kerosene and 266 lbs. of soap, besides the expense of labour. The tobacco spray would cost probably as much. I shall be glad to know whether you think it would pay me to spend a couple of hundred dollars in spraying for this pest or not."

In reply, Dr. Young was advised to wait a week or ten days, and if the plant lice did not increase perceptibly to do nothing beyond his regular spraying for Codling Moth and fungous diseases. Later in the season, I learned that this outbreak had passed away without doing serious harm to the crop.

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**THE BRONZE APPLE-TREE WEEVIL** (*Magdalis aenescens*, Lec.).—Some specimens of apple boughs containing the young larvæ of this insect were received from Victoria, B.C., and Nanaimo, B.C. Mr. Palmer says of this insect :—“ These small bark-borers, larvæ of *Magdalis aenescens*, continue to do much harm, especially in young orchards on dry lands of the Island. The lime, soap and carbolic acid wash is effective against them, if renewed at the end of May, but one application made early in spring has not proved sufficient. Many young trees were killed outright or so badly damaged that they will scarcely recover, where preventive measures were neglected.”

From what I have seen of the injuries of this weevil, I am of the opinion that while the eggs are generally laid in trees which are in a feeble condition, at the same time they are also found in young and healthy apple trees. The attack by the beetles feeding upon the leaves of cherries noticed by Rev. G. W. Taylor on Gabriola Island last year was again noticed this season to a lesser extent, but appears to be a regular habit of the beetle. This might be taken advantage of for poisoning the mature insects as a means of reducing their numbers.

### THE BLACK GOOSEBERRY-BORER

(*Xylocrius Agassizii*, Lec.).

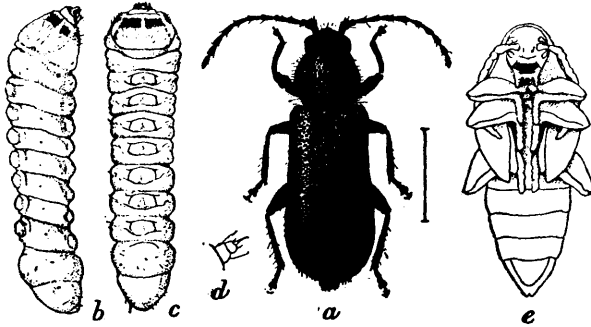


Fig. 22.—The Black Gooseberry-borer : a, beetle ; c, d, larva ; e, pupa—enlarged.

One of the most interesting attacks which has come under my notice during the past season is by the extremely rare boring beetle (*Xylocrius Agassizii*), which may be called from the colour of the mature beetle and its habits, the Black Gooseberry-borer. The introduction of this insect into British Columbia, its detection and almost certain extermination by the Inspector of Fruit Pests, and also the successful rearing of the mature insect by Mr. E. A. Carew-Gibson are detailed in the following letters. It is hardly probable that this insect will ever become a serious pest of gooseberries, for it has been so extremely rare in the past that few collections possess specimens, while at the same time its probable native food plants, the various species of *Ribes*, are abundant on the Pacific slope.

“ Victoria, B.C., March 1.—I am sending you by present opportunity under separate cover a box containing a bottle with borer grub and remains of roots of some young gooseberry bushes, which you will note have been hollowed out. Can you name this borer for me? I have not seen it nor heard of it before.”—E. A. Carew-Gibson.

“ Victoria, B.C., March 3.—I am sending you by same mail some specimens of roots of gooseberry bushes infested with a root borer, also a specimen borer in fluid. These plants came from Oregon last fall in a large consignment of plants, part of which—the younger bushes—are not infested, while many of the larger of older growth, are like those sent herewith. I am very glad indeed that the pest has been discovered soon enough to have the infested plants destroyed before the grubs mature, and I am busy now following up this work. I find that to detect the borer the roots must be snapped, which they do much easier than sound roots.”—[R. M. Palmer.]

“Victoria, December 31.—In regard to the gooseberry bushes infested [with larvæ of *Xylocrius Agassizii*: the plants were sent into the province from Oregon—shipped by the Oregon Wholesale Nursery Co., of Salem, to Victoria, in November, 1897. In all, 500 plants were condemned. These were a portion only of a shipment of



Fig. 23.—The Black Gooseberry-borer: infested stem—reduced  $\frac{1}{3}$ .



Fig. 24.—Larva in stem—slightly enlarged.

10,000 plants, and every package or bundle of the plants found to contain infested bushes was condemned and destroyed excepting only the specimens which were retained

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for investigation, and some of which were forwarded to you. Upon referring the matter to the shippers of the plants, they stated that the stock was not grown by them, but bought from another nursery in their neighbourhood, and that the pest was altogether new to them. Mr. H. E. Dosch, of the Oregon State Board of Horticulture, also wrote in regard to the pest that he had not found it in Oregon in the course of his experience, which would indicate that its occurrence in Oregon as a fruit pest is, at least, unusual.

"I shall be glad to know where the borer belongs, and its usual food plants, if you can supply the information. I had supposed it was a species native to Oregon, and that it probably fed naturally upon indigenous plants.

"I feel quite safe in stating that there is no possible chance of any of the insects from this lot of plants having escaped destruction, but in view of the fact that large quantities of gooseberry bushes have been imported from Oregon for many years past, it is quite possible that it may exist in the province, and I propose to examine closely for it all plants which come under my observation. I am glad to say that Mr. E. A. C. Gibson has been successful in rearing mature specimens of the insect and is forwarding some to you as well as capital photographs of the larvæ and pupæ as they occurred in the plants.—[R. M. Palmer.]

In reply to an inquiry as to the occurrence of the Black Gooseberry-borer as an enemy of the gooseberry on the Pacific coast, Prof. A. B. Cordley, Entomologist of the State Agricultural College, at Corvallis, Oregon, writes: "The attack of *X. Agassizii*, which you describe, has never come under my notice, and I hardly think that this borer could have appeared in injurious numbers of late years in this State, or I should have heard of it."

Mr. Carew-Gibson, who by successfully carrying through to the perfect form three specimens of this very rare insect, has added one more to his triumphs in the investigation of the life-histories of insect pests, has forwarded to me the following notes upon this species:—

### *Notes on the Black Gooseberry-borer by Mr. E. A. Carew-Gibson.*

The gooseberry bushes from which the specimens sent you were reared were brought into this province in a consignment of 500 two year old gooseberry bushes which came from the Oregon Wholesale Nursery Co., late in the fall of 1897. At the time of their importation no signs of the presence of the borers could be detected. The bushes were heeled in when received, and the damage done by the borers was first noticed in the spring of 1898, when the bushes were being planted out. Later on, after a thorough further examination, the whole of this consignment of 500 bushes was condemned by the Inspector of Fruit Pests and, except those bushes kept for experimental purposes, was destroyed under the inspector's direction. On inquiring from the Oregon Wholesale Nursery Co., it was ascertained that these bushes were not really their own stock, but had been bought from a neighbouring nursery to fill up the order.

The larva of which you can form a very fair idea both from the photo I send and from what you saw of them while here this summer, seems able to adapt itself very readily to its surroundings. I have now (31st December, 1898) a grub from the same lot of bushes which I took from a stem on 12th September, when it appeared to be full grown, and placed in a small glass phial tightly corked. It is still alive and wriggling; for the first two months it appeared undecided as to whether it would pupate without further food or not, later it began gnawing the cork of the phial, and it has now worked its way into the centre of the cork. One of the grubs pupated on 19th August (see photo) and the adult beetle appeared on the 18th day after, although at the time it was still soft. On opening another twig on 13th September I found another adult beetle apparently ready to emerge. There only appeared to be a single grub in each affected tree, and as the bushes were small this proved a very wise arrangement, as there would not have been room for more than one. The grub generally starts in from a convenient crotch somewhere about where the branches make a fork, it then works downwards, apparently wintering in the roots, in one case I noticed that it had worked so near to the soil that there must have been only the thinnest possible covering between it and the

soil, it then appears to work upwards in much the same way as the Raspberry Cane-borer, and after reaching some inches above ground, having first made a chamber with only the thinnest possible covering dividing it from the air, it pupates. I am sending you the only additional specimens I have for identification purposes, and these I take to be the larger the female, and the smaller the male; you will note considerable difference in their size. I caged these two beetles on a living bush inside a large glass on my table on 14th September; on the 15th I found an egg resting in the crotch formed by a thorn on one of the twigs, but I lost this egg while examining it under the microscope; it was very small and had its surface beautifully ornamented. 21st September, female apparently dying, male still very active. 22nd, female dead; on the 27th the male was still strong. I could discover no more eggs.

E. A. CAREW-GIBSON.

The specimens of the beetles sent by Mr. Carew-Gibson proved to be two females and a male of the rare longicorn beetle above-named. I am indebted to Mr. W. H. Harrington and Dr. L. O. Howard for the exact identification of the species. Through the courtesy of Dr. Howard also, the beautiful figure 22 given above has been specially drawn for this report by Miss L. Sullivan, the accomplished Artist of the Division of Entomology, at Washington, D.C, under the supervision of Mr. F. H. Chittenden of the same Division. Figures 23 and 24 are from photographs by Mr. Carew-Gibson.

The genus *Xylocrius* is characterized as follows by Leng in the *Bulletin* of the Brooklyn Entomological Society, vol. VII., p. 113.

"*Xylocrius*, Lec.—This genus presents another remarkable form. The antennæ are very stout, quite hairy, the thorax very convex and rounded at the sides, the elytra constricted behind the base and strongly rounded at tip, and the entire surface deeply punctured and pubescent. Two species have been distinguished:—

More slender; elytral punctures before middle gross, somewhat confluent,  
surface shining; behind middle, punctures finer, surface opaque.....*Agassizii*.  
More robust; surface all shining; punctures large, foveate, irregular, more or  
less confluent.....*cribratus*.

"*X. Agassizii*, Lec. (*Proc. Ac. Phil.*, 1861, p. 357)—The hair behind the middle of elytra is more dense; 3rd and 4th joints of antennæ about equal. Length, .45 inch = 12 mm. Habitat: California.

"*X. cribratus*, Lec. (*S. M. C.*, 1873, No. 247, XI., p. 172).—Pubescence equal throughout; 3rd joint of antennæ one-half longer than 4th. Length, .55 inch = 15 mm. Habitat: California, Nevada."

The following description was made from the three specimens sent by Mr. Carew-Gibson:—Length, male,  $\frac{3}{8}$  inch; female,  $\frac{1}{2}$  inch. Colour, deep dull black; whole body covered with downy, rather sparse, pubescence; erect bristles on head and thorax; elytra slightly constricted in the middle; thorax and humeral half of elytra coarsely punctate; apical half, velvety, silky, opaque; abdomen of male shiny black, of female piceous; antennæ rather short and stout, of about the same length in both sexes; thighs swollen in both sexes; general appearance between *Asemum* and *Callidium*.

#### SPRAYING.

From every province overwhelming evidence proves the very great value of spraying fruit trees for the prevention of damage by both injurious insects and fungi. Owing to the large amount of capital invested in fruit farms and the permanent nature of the plantations, a great deal more attention has been devoted to the enemies of fruits than to those of any of the other ordinary crops which occupy the land for only one or two years, or even less. The consequence is that the habits of these pests are pretty well understood and standard practical remedies have been devised for most of them. These have been made known widely by means of official reports, agricultural periodicals and the daily press.

## Experimental Farms.

Up-to-date fruit growers know well the advantages they derive from attending carefully to the work of spraying their crops. It is very seldom now-a-days that one hears from practical business men engaged in fruit growing the childish, illogical excuse that they have not "had time" to spray their trees, as these men know well that "spraying trees" and "making money" are almost synonymous terms. There are now to be had free for the asking in Canada publications setting forth the advantages of spraying and giving full instructions as to the best way to prepare and apply simple, cheap and effective remedies for almost any insect or fungous disease that is likely to be found injuring orchard crops. Indeed, to those who have thought upon this subject it may seem unnecessary to again draw attention to this matter in an official report; but in travelling through Canada, notwithstanding the fact that many of the provinces have able and enthusiastic officers who are doing their utmost to teach farmers the great benefits which they may derive from this simple method of protecting their crops, I find that there are thousands of fruit growers everywhere who have never had enterprise enough to follow the advice given. Knowing well, after many years study of this subject, what enormous saving may be made for the whole Dominion through the sure advancement of every individual, I again draw attention to some statements by reliable men, which I trust may have the effect of persuading more of our Canadian fruit growers and farmers that *spraying does most decidedly pay*, and, as far as I have seen, successes follow intelligent, careful and conscientious effort, much more surely in the case of spraying fruit trees than in any other branch of agriculture or of most other walks of life.

"Much loss has been caused by insect pests. The apple crop in particular suffered much from worms in unsprayed orchards." (*Ontario Crop Report*, Nov., 1898.)

"Wolfville, N.S., Dec, 1898.—Cankerworms have been less abundant this year than usual, but some orchards in Grand Pré and Avonport were stripped. Where spraying was practised, very little damage was done.

"Spraying with Bordeaux mixture and Paris green combined is now generally practised by most of our best fruit growers, both before and after blossoming. They know that it pays them to do so, and is necessary if they are to secure fruit which will bring the highest price. The methods, however, are evidently not as yet thoroughly understood; for some varieties of apples have been somewhat injured in appearance this year, *i. e.*, they are russeted by a too strong solution, or perhaps too frequent applications; but practice and experience will soon give the necessary skill to get the happy medium between over and under dosing."—[R. W. Starr.]

"The day of good crops of fair apples, *without effort*, is for ever gone, unless conditions change greatly, but the prospects were never higher for the pains-taking, thorough orchardist. If any one needs a full, conclusive, and final demonstration that spraying is a necessary part of apple culture, let him look at almost any unsprayed orchard, then compare it with any sprayed orchard which he may find. If he does not see the difference, if he cannot find evidence that spraying has paid 500 to 1,000 per cent, it will be because he is not open for conviction." (Extract from *Report American Pomological Society*, in *Nova Scotia Crop Report* for November, 1898.)

"Victoria, B. C.—Most of the pests and diseases of fruit trees found here have been successfully dealt with by simple remedies which have been recommended through *Bulletins and Reports*. Enormous advantage has followed the adoption of spraying, and the feeling of uncertainty as to their success which certainly existed at one time in the minds of many of our fruit growers, is gradually being removed. Those who attend to their business properly are, as a rule, well satisfied."—[R. M. Palmer, Provincial Inspector of Fruit Pests.]

In this connection, special attention may be drawn to the series of spraying experiments which have been carried on during the last four years by instruction of the Hon. John Dryden, Provincial Minister of Agriculture and Arts of Ontario. These experiments were at first supervised by Mr. A. H. Pettit, of Grimsby, Ont., and for the last three years by Mr. W. M. Orr, of Fruitland, Ont. A great many orchards in all parts of the province have been sprayed under the personal supervision of the inspector. Fruit growers in the different districts have been invited to be present at these demon-



trations and receive instruction in the way to prepare the materials and apply them. At the last Industrial Fair held at Toronto in September, 1898, one of the most instructive exhibits was undoubtedly the display of fruit taken from sprayed and unsprayed trees in the same orchard. In this collection, which attracted naturally much attention, there were exhibited about 250 plates of fruit from 24 different localities, those from sprayed and unsprayed trees being placed in separately side by side for easy comparison. The fruit was sent in by the owners of the different orchards where the experiments had been carried out, and was not seen by the inspector until they arrived in Toronto, to be arranged and placed on exhibit.

In a most interesting report upon these experiments which was read by Mr. Orr, at the last meeting of the Fruit Growers' Association of Ontario, held at St. Catharines, Ont., in December, he stated that this year he had worked at 30 points covering the province from Amherstburg to Renfrew. The agents visited each point seven times and his dates were announced by poster, postal card and in the press, so that as many as possible might know when these experiments were to be carried on. That the farmers appreciated this effort of the Ontario Government to benefit them and demonstrate to them the best methods of caring for their orchards, is shown by the fact that over 3,500 attended, besides many who visited the orchards at other times when the agents were not there. This is almost double the number who attended two years ago. There was always kept on hand a good supply of the spraying bulletin issued by the Ontario Government which had been revised and brought up to date, and a copy was given to all who wished to receive it. Work was simplified as much as possible, only one solution being used, viz., the ordinary Bordeaux mixture and Paris green, of the strength advised for orchard use: Copper sulphate 4 lbs., fresh lime 4 lbs., and water 40 gallons, Paris green 4 ounces. Notwithstanding the fact that on account of the law which forbids the spraying of fruit trees when in full bloom, and on account of inopportune rains, many applications were lost, as it was necessary to do the work upon the exact dates and at the hours advertised, so that the agent might keep his engagement at the next point he was due at, the results on the whole were most satisfactory, as is clearly indicated by the enthusiasm of some of the orchard owners on whose trees the experiments were carried out. In estimating the percentage of perfect apples, a part of each tree was picked clean and the fruit was carefully examined, every specimen which had a worm or a spot, no matter how small, being rejected as imperfect. This report will be published in full by the Fruit Growers' Association of Ontario, and will contain the reports of the individual owners of the orchards. In concluding his report, Mr. Orr, who is a practical fruit grower, says: "It appears from results obtained in experimental work that from 65 to 80 per cent of perfect fruit can be secured when spraying is regularly and properly done and when the conditions are favourable."

It is perhaps not worth while now devoting more space to this subject; the facts are well known and taken advantage of by all enterprising horticulturists who keep themselves posted on all the subjects which materially affect the profits of their labours. Those who do not know and do not by spraying save every year more than 25 per cent of nearly every crop they grow from the ravages of their many insects and fungus foes, at any rate have not the excuse that they have not had every opportunity of learning.

Every year, as the time for spraying and otherwise treating crop plants comes round, horticultural publications and the weekly and daily press contain articles giving the experience of practical men who have tried these methods and at the same time full advice as to the best way of carrying on the work.

## Experimental Farms.

### THE APIARY.

I submit herewith Mr. John Fixter's report as manager of the apiary. This branch of the work has been left entirely in Mr. Fixter's hands. It must be attributed to his good management and skill that the bee department this year has become so popular. Meetings of bee-keepers were addressed by Mr. Fixter, at the following places:—Duncanville, Bell's Corners, Merivale, Rockland, and Bearbrook, all in the Ottawa district.

The season for bee-keepers has been a remarkably good one. The clover crop was better than has been seen for many years in Ontario and Quebec, and all shrubs bloomed profusely in early spring.

#### REPORT OF MR. JOHN FIXTER.

##### EXPERIMENTS IN WINTERING, 1897-98.

The following seven experiments have been tried: Four were tried in the cellar (Nos. 1, 2, 6 and 7), one in a root-house (No. 3), one in a pit dug in a hill side (No. 4), and another in the House Apiary (No. 5).

The cellar is below a private house. The walls are stone and the floor cement. The bee-room, 11 feet 6 inches wide by 15 feet long and 7 feet high, allows three tiers of shelves and two passages. It is boarded off from the remainder of the cellar by a partition which extends all around the chamber, and far enough from the stone wall to allow of a small air space. Under the cement floor a layer of small stones 8 inches thick acts as a drain and keeps the cellar perfectly dry. The lowest shelf is 18 inches from the floor, the second 20 inches in the clear above, and the third 20 inches above that. Neither the hives on the third shelf nor the uprights supporting the shelves touch the ceiling, so that no vibration can reach the hives from the ceiling. This chamber is thoroughly ventilated, also the whole cellar. There is a three inch pipe passing through the bee chamber up to a stove pipe provided with a damper with which to regulate the draught.

Before entering the bee-room is a smaller room with a door leading outside and another leading to the bee-room; both rooms are provided with sliding ventilators, so that outside air may be let in at will. Ventilation is carefully attended to and sudden changes of temperature are avoided; for this, a thermometer which is always kept in the cellar, is watched. The best temperature for the bee cellar has been found to be from 42 to 46 degrees Fahrenheit.

This arrangement has given entire satisfaction. In former years there was not proper ventilation, and the cellar was always damp. Since the concrete floor has been laid and the ventilators put in, the cellar has been much drier and cleaner. It is also rat and mouse proof, which is a very great advantage. The difference in the consumption of honey by the bees is marked, the quantity being now only half what it was before the cellar was improved. The coal stove which was formerly in the smaller room to keep a uniform temperature and to keep the cellar dry, has been abandoned, as the cellar and hives can be managed so as not to require it. I would not recommend any one to use artificial heat.

*Experiment No. 1.*—Eight colonies were put into winter quarters in the cellar and placed on the shelves. Under the back end of each hive was placed a three-inch block, by which means the back of each hive was raised so as to insure free ventilation. Each hive was besides raised from its own bottom board by a small three-eighths of an inch block placed at the back. All front entrances were left wide open, the wooden covers all removed, and replaced with cushions made of chaff 4 inches thick, and wide and long enough to lap over the hive 2 inches.

Temperature was taken once a week all through the winter :

November, 46 to 47 degrees.	February, 46 to 50 degrees.
December, 47 to 48 “	March, 48 “
January, 44 to 46 “	“

The bees were quiet, only a very slight hum being noticeable up to February, when, the temperature having risen to 50, the bees began to get uneasy and make considerable hum. Cold air was carefully let in during the night by opening the slides in the doors at night and closing them in the morning; this lowered the temperature and the bees quieted down. During the past winter every colony in this experiment was perfectly dry and clean, and all came out in excellent condition.

Average weight of each hive when put into winter quarters, 53½ pounds; when taken out on 26th March, 44½ pounds per hive, showing that each hive had lost 9 pounds on the average, which is very much less than the usual amount. This small amount is owing to the comfortable cellar. In former years, before this same cellar was arranged as it is, the hives lost on an average 20 pounds, which represented the weight of honey consumed during the winter.

*Experiment No. 2.*—Two colonies were put into the cellar on 12th November, with tops and bottoms of the hives left on, just as they were brought in from the bee-yard. They were watched for dampness, and to compare the amount of honey consumed. Temperature of cellar the same as in No. 1. During December and January both hives made considerable hum. 27th December, drops of water were noticed all along the entrance of both hives. This same trouble continued in January, when they were both given more ventilation at the bottom by a three-inch block being placed in front between the bottom board and the brood chamber. During February and March both hives got perfectly dry and quiet. 26th March, both hives were removed to their summer stands in fairly good condition; one had spots of fæces on the entrances; both hives were damp and the combs were slightly mouldy, but there were very few dead bees in either hive. Average weight of each hive when put into winter quarters, 62½ pounds; when taken out on 26th March, 48 pounds, showing that each hive had lost 14½ pounds per hive. Another examination was made on 23rd April, when both were found building up rapidly as the season was favourable. 21st May, both in excellent condition for a honey flow.

*Experiment No. 3.*—Two colonies stored in a root-house. The hives were placed on a shelf nailed up against the wall, about 3 feet from the ceiling and projecting 2 feet. A curtain was hung from the wall over the top and down in front of the hives so as to keep out all light; wooden covers removed and replaced with a chaff cushion. A strip of wood 2 by 2 inches was placed all along both sides between the brood-chamber and the bottom board, so as to give more ventilation at the bottom, both back and front were left wide open. In former years the hives kept in the root-house did not appear to have ventilation enough; this extra space has proved very satisfactory. Temperature was taken every Monday of each week. November, highest temperature, 38, lowest 36; both hives quite dry but very noisy. December, highest temperature, 42, lowest 36; both colonies were very noisy, but were perfectly dry; mice had found their way into both hives and disturbed the bees; some strips of tin put around prevented them getting in again. January, highest temperature, 41, lowest, 39; during January, both hives had drops of water along the entrance and were making considerable sound; no trouble from mice this month. February, temperature 38 to 39, both hives were very much drier, and by the end of the month they were perfectly dry and fairly quiet. March, highest temperature 40, lowest 36, both hives were very noisy and quite damp. 26th March: Both hives removed to bee yard. Both colonies showed signs of dysentery, dampness and mould, but were very strong in numbers.

Average weight of each hive when put in in autumn of 1897, 57 pounds, 12 ounces; spring 1898, 44 pounds, 12 ounces; a loss of 13 pounds. On 23rd April another examination was made. Both hives were building up and in excellent condition for a honey flow.

*Experiment No. 4.*—November 12. Two colonies were put into a pit dug in the side of a hill, 3 feet deep, 3 feet wide, and 10 feet long, in such a way that the ventilators

## Experimental Farms.

at both ends might not be immediately above the hives, which were in the middle of the pit. The hives rested on two cedar poles laid along the full length of the pit. The ventilators, which were 3 inches by 4 inches, were made of boards, three of which reached down to the bottom of the pit, the fourth only to the top of the pit, and the ventilators rose 3 feet above the ground, wooden covers removed and replaced by chaff cushions. In each hive 2 by 2 inch strips of wood were laid under both sides and under the back end between the brood chambers and the bottom boards, so as to provide more space at the bottom of the hive in case a quantity of dead bees should accumulate there. The pit was covered with cedar poles laid along its length, the middle ones higher than the others, and these covered with a layer of straw and one foot of soil. A small shaft was also arranged between the hives, down which a thermometer could be lowered by means of a string, so that the temperature of the pit could be ascertained. Temperature was taken once each week. From November to March the temperature did not go below 38 nor above 39. On 26th March the pit was opened, when it was found that water had got in and risen half way up the hives, both colonies appeared to be fairly strong in numbers, combs were badly moulded. On 5th April one hive was noticed to be very weak. On 23rd April it was deserted. The other hive came through well, and on 23rd April was building up rapidly.

This experiment did not come out as well as in former years, owing to the water getting into the pit. This water came from a trench dug above the pit, with no outlet but into the pit. There was no trench dug in former years and no water had troubled.

It will also be noticed no straw was put in the pit over and around the hives as in former years. We find it much better without any straw. Weight of each hive in the autumn of 1897, 62 pounds, and in the spring of 1898, 50 pounds 6 oz., a loss of 11 pounds 10 oz. each.

### *Experiment No. 5.—Wintering in House Apiary.*

Two colonies Nos. 47 and 48, were left in the house apiary with some additional packing. The House Apiary faces the south, the walls are double boarded, with an air space of four inches. The floor, which is about one foot from the ground is also double boarded and there is no draught under it. The hives were moved one foot from the wall, and placed on a double thickness of sacks laid on the floor; the wooden covers were removed and replaced by chaff cushions. In addition to this, the hives were covered above and all around with a double thickness of the same sacking. Also 1 foot of cut straw was put below and all around. A small shaft 1½ inch square extended from the opening of each hive to the outside of the shed; 2 inch strips of wood were placed under both sides and under the back, between the bottom board and the brood chamber, so as to give more space at the bottom of the hive in case a quantity of dead bees should accumulate.

No flying took place from 12th November, 1897, until 7th March, 1898, when several bees flew out but were not seen to return. On 8th March they were flying briskly going out and returning. From 8th March to 26th they flew 9 days.

On 26th March they were unpacked: Hive No. 47 had 2 inches of dead bees on the bottom board and was in a very weak condition. Hive No. 48 also had 1 inch of dead bees on the bottom board but appeared to be in better condition than No. 47.

Another examination was made on 21st April, when hive No. 47 was found to be deserted, the combs were quite dry and clean and there was plenty of sealed honey in the hive.

Hive No. 47 weighed in the autumn of 1897, 54 pounds, and in the following spring 34½ pounds, showing a loss of 19½ pounds. Hive No. 48 weighed in the autumn of 1897, 56 pounds, and in the following spring 39½ pounds, a loss of 16½ pounds.

*Experiment No. 6.*—Two colonies were put into the cellar with bottoms of the hives left on, just as they were brought in from the bee-yard. The wooden covers were removed and nothing left on except a tightly sealed propolis quilt, the entrance was left wide open. During the entire winter the bees kept perfectly dry, and very slight hum could be heard.

March 26th.—Both hives removed to bee-yard; appeared to be in excellent condition; there were scarcely any dead bees and the hives were dry and clean.

Total weight of the two hives when put in,  $104\frac{1}{2}$  pounds; when taken out, 83 pounds, a loss of 10 pounds 12 oz. each. Another examination was made 21st April, when they were both found to be building up rapidly and in excellent condition for a honey flow.

*Experiment No. 7.*—Two colonies were put in the cellar and placed on the shelves, a three inch block being placed between the bottom board and the brood-chamber only *in front*, making the full entrance 3 inches high across the whole front. The wooden covers were removed and replaced with a chaff cushion. Temperature same as No. 1.

During the whole winter both colonies in this experiment were perfectly dry and clean and showed no uneasiness of any kind. They came out in the spring in excellent condition.

Average weight of each hive when put into winter quarters  $58\frac{1}{2}$  pounds; when taken out on 26th March, 47 pounds 10 ounces, showing that each hive had lost 10 pounds 10 ounces.

#### Conclusions.

*Experiment No. 1.*—Has given entire satisfaction for the past four years. The amount of honey consumed during the winters per colony was in 1894-95, 12 pounds 9 ounces; in 1895-96, 10 pounds; in 1896-97, 9 pounds 6 ounces; 1897-98, 9 pounds; or an average for the four years, 10 pounds per colony.

*Experiment No. 2.*—Hives put in the cellar as they came from the bee-yard had not sufficient ventilation. This result agrees with that of the past three winters.

The amount of honey consumed during three winters was: 1895 to 1896, 13 pounds per colony; 1896 to 1897, 11 pounds 8 ounces; 1897 to 1898, 14 pounds 8 ounces; or an average for the three years of 12 pounds  $13\frac{1}{3}$  ounces each. Although the amount of honey consumed is not large, the vitality of the bees was not as good as in several of the other experiments tried.

*Experiment No. 3.*—Wintering in a root-house. This experiment was again fairly satisfactory; although an extra space of 2 inches was given at the bottom, the hives were damp and mouldy. Considering the amount of disturbance the bees are subject to in this experiment, I would consider they came out well.

Once or twice each week the large doors of the root-house were thrown wide open to allow the teams in to draw the roots out, and this let in much cold air which came suddenly upon the hives; also the teams, drawing over the floor, jar them very much. The amount of honey consumed per colony was in 1896-97, 14 pounds, and in 1897-98,  $14\frac{1}{2}$  pounds.

*Experiment No. 4.*—Wintering in a pit dug in a dry hill side. This experiment has been very satisfactory. The past year a misfortune happened; when covering the pit a trench was dug in such a way that water could not run out of it and finally got into the pit. The amount of honey consumed per colony in 1896-97 was 9 pounds, in 1897-98, 11 pounds 10 ounces.

*Experiment No. 5.*—Wintering in a House Apiary. This experiment was again a failure. The extra packing with 1 foot of cut straw was not sufficient to keep out the cold. I would not advise any one where the temperature reaches 15 below zero to winter in a house apiary such as described in No. 5 experiment.

The amount of honey consumed per colony during the winter of 1896-97 was  $15\frac{1}{2}$  pounds, and in 1897-98  $16\frac{1}{2}$  pounds. This shows a larger amount consumed; the condition of the bees when taken out in the spring was besides very weak. The colonies either dwindled out or did very little good the following summer.

None of our experiments in wintering out of doors have given the same satisfaction as those in the cellar, even when extra packing was given.

*Experiment No. 6.*—Hives put in the cellar as they came from the bee-yard, excepting that the wooden covers were removed, leaving on only the thick propolis quilt. This mode of wintering has given satisfaction the past winter but will be tried further.

*Experiment No. 7.*—Hives in the cellar raised in front only so as to give very wide opening for ventilation. This experiment was also satisfactory and will be further tried.

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SEASON OF 1898.

March 9th being a warm, sunny day, twelve colonies were removed from their winter quarters: six were placed in the House Apiary, and the other six in the exposed apiary, where the snow was about eighteen inches deep. All began to fly at once, and the snow soon became very much spotted with faces, but there were very few dead bees around the entrances of the hives. The hives in the exposed apiary were covered with coarse sacks as a protection, leaving a very small entrance for the bees. In the House Apiary no such protection was given. From 9th to 26th March the bees flew eight days. The remaining colonies were taken out on 26th March.

From 26th March to 9th April the bees flew five days. On 9th April the first pollen was noticed to be gathered. From 9th to 27th April they gathered pollen very freely off soft maple and willows, also off the Manitoba maple. They were seen gathering sap from hard maples, wherever the trees were cut. On 27th April, a very fine and warm day, all colonies were inspected. Any that were found short of stores were fed with warm syrup. For this an empty frame was taken out and held slightly slanting, the syrup was poured on the empty comb until every cell was filled, then the frame was returned to the hive. This plan of feeding answers very well for spring, but not for autumn feeding. The first new honey was noticed on 1st May. Up to 1st May the bees in the house and sheltered apiaries appeared to work better than those in the exposed apiary. On many days when the weather was cool, they were flying well, while none of the others were flying. Those set out early appeared to be in the best condition, as they had several cleansing flights before the others were set out.

May was very fine and warm. The bees worked unusually well, gathering honey and pollen from maples, apple, plum, cherries, Siberian pea-tree, buckthorn, and also from dandelions, buttercups, white and alsike clovers. On 27th May two fine swarms came off; one from the house apiary, and one from the sheltered apiary. Supers were put on all the hives which were full of bees. Many at once began to work in them.

June was very favourable for the bees to work, white and alsike clover being abundant, very much honey was stored in the supers.

July 4th, all supers containing clover honey were removed to a warm room, where the temperature was not lower than 65°. We have found by experience that honey kept in a cool or damp room does not ripen properly. The basswood was just then coming into bloom; the bees gathered considerable honey from it up to 20th July. The supers containing basswood honey were removed on 25 July, as the buckwheat was then beginning to bloom.

On 3rd August when the buckwheat was ploughed under as a fertilizer, the bees had already gathered much honey from it. From 3rd to 18th August the bees were working well on the second growth of alsike and Bokhara clovers. On 18th August all supers were removed, and any honey gathered after that date was left for winter stores. All the colonies were carefully examined at this date to see if they were good and strong, and had a good laying queen. Several were found queenless, and were at once supplied with young queens. It is very important to see that there are no caterpillars of bee-moths around or in the hives. If any traces of moths are noticed these should be cut out at once, and the hives examined at short intervals afterwards.

September 1st to 12th the weather was fine and warm; there was considerable flying. All the hives were weighed, and any that did not weigh over 50 pounds were given full frames of sealed honey. The beginning of September is a good time to inspect winter stores. If syrup has to be fed, the bees will take it down better when the weather is warm, and will thus have a chance to seal it over, which is very important for wintering. But rather than feed syrup to the bees, I would strongly advise every bee-keeper, unless he is thoroughly experienced, to save a few frames of sealed honey in case his bees have not enough to carry them through the winter. He will find it to his advantage to place one or two full frames in the hive in preference to feeding syrup. Feeding syrup to the bees in the autumn gives them a tendency to rob. A good receipt for bee syrup is the following: Boil the water, then remove it from the stove, add at once two parts of granulated sugar to one part of water (by weight) and stir until dis-

solved. It may then be fed to the bees moderately warm in the evening. The old method of dissolving the sugar while the boiler is on the stove is inadvisable as the sugar is liable to be burnt, which would be harmful to the bees.

In order to secure a provision of frames filled with syrup, the best way is to get the strongest colonies to fill and seal them. For this purpose an extracting super is placed on the top of a strong colony, to which syrup is then fed. The bees will then work and fill the frames in the super with syrup. When the frames are filled they are removed and afterwards given to the colonies that require to be fed. If weak colonies were fed in many cases they would be robbed by the stronger ones.

#### EXPERIMENTS WITH FOUNDATIONS OF DIFFERENT SIZES IN THE SECTIONS.

There were two objects in view in these experiments. One was to find out which size of foundation the bees would start to work on first; second, to find out which sections would be filled best and have the fewest empty cells around the sections. Several supers were used having the sections so arranged that all would have an equal chance of being filled.

Experiment No. 1: sections with full sheets of foundation fastened on top only.

Experiment No. 2: sections with half sheets of foundation fastened on top, and experiment No 3: one inch square of foundation fastened on top in the centre.

In every instance, the bees worked first on the full sheet, and these sections when finished had the fewest holes or empty spaces around them. In the sections which had half sheets of foundation the bees did not work as soon as on the former ones, and the sections were not so well filled. The sections which had one inch square of foundation sheets attached to the top were the last worked on. They also had most vacant spaces around the sections. These experiments should be tried again, also others with pieces of foundation attached at different points around the sections.

#### HOUSE APIARY.

The House Apiary was again tried, and in 1898 to a greater extent than former years. Two tiers of hives have been put in, one on the floor which is one foot from the ground. The second tier was set on a shelf 3 ft. 6 inches from the floor. This plan can be safely recommended for cities or towns where space is scarce, and two tiers can be arranged as well as one in the same building. It has many advantages for the summer, but fails for the winter. See former reports.

#### RETURNS.

The past season has been a very good one. The returns of the Central Experimental Farm Apiary for the season of 1898 show an average of 78 sections per colony. The colonies which were run for extracted honey gave  $94\frac{1}{2}$  pounds per colony.

Swarming for the season on the whole has been satisfactory. Colonies should not be allowed to give more than one swarm in a season. Excessive swarming may be prevented by the following method: As soon as a colony swarms out and the swarm is well settled, hive it. Remove the hive that it came out of to another stand, then place the new hive on the old stand. Many of the workers returning from the field will help to build up the new colony. If the old colony is found to be still very strong take out two or three frames and shake the bees off in front of the newly hived swarm. This will weaken the old colony and prevent it from swarming again. You will then have a good strong swarm in the best shape for gathering honey.

JOHN FIXTER.

## Experimental Farms.

### FARM STOCK.

THE HORN-FLY (*Hamatobia serrata*, Rob.-Desv.).—In the provinces of Ontario and Quebec the Horn-fly was reported as being slightly more troublesome than last year. This was also the case in some places in Nova Scotia, but at most places the annoyance was less. In Prince Edward Island, where this year it was expected to give more trouble than elsewhere, Father Burke writes from Alberton, P.E.I.: "The Horn-fly was not so bad early in the season as in other years, as the wet weather was fatal to the larvæ, but later it was a troublesome pest and, I feel sure, was as numerous as in its first years here. People did not oil so systematically or persistently, and this may have been the cause. I do not think that any effort is being made to disturb the cattle droppings in the fields where the flies breed."

*Remedies* —These consist of applying to the animals some oily substance obnoxious to the flies to prevent them from biting. Of many kinds tried, Mr. Robert Elliot, the Herdsman at the Central Experimental Farm, has for 2 or 3 years used when necessary a mixture of 1 pound of pine tar in 10 pounds of lard, and still finds it the most convenient and effective remedy.

Regularly spreading out the fresh cattle droppings in the field with a rake, so that they dry up and become unfit for the maggots to breed in, has been found an easy and useful remedy. The eggs are laid by the flies at once on fresh droppings, and if these are disturbed every other day in the favourite places in pastures where the cattle congregate, large numbers of the larvæ are destroyed.





## Experimental Farms.

# REPORT OF THE POULTRY MANAGER.

(A. G. GILBERT.)

To Dr. WM. SAUNDERS,  
Director Dominion Experimental Farms,  
Ottawa.

SIR,—I have the pleasure to submit to you the eleventh annual report of the Poultry Department.

The operations of the year are explained in detail. It is gratifying to note that notwithstanding the reduction in daily rations from three to two, made the year previous, there was an increase in the number of eggs laid last winter season, the period of high prices, and which was one of the objects aimed at. Experience shows that the obtaining of eggs in winter, in the colder districts of the Dominion, is an exact science. If too much, or too stimulating food is given, disaster follows. If the rations are too stinted, there is no satisfactory result.

As further experience is gained, there is every reason to hope for still better results, at further reduced cost.

It is worthy of remark that notwithstanding the increased number of eggs laid by the hens of the farmers and the large quantities held over, in cold storage, that the prices in late fall and early winter, in Ottawa and Montreal, were little, if at all, affected. A letter received from Mr. Walter Paul, a leading grocer in Montreal, by the writer, reads as follows :—

“MONTREAL, 18th Dec., 1898.

“DEAR SIR,—Your favour of 16th instant received. I am getting lots of fresh eggs. I am paying 40 cents per dozen here for the best. They are all fresh from farmers. I will not take any eggs from storekeepers. I get eggs from as far west as Chatham, Guelph, Cobourg, Belleville, &c.

“Yours truly,

WALTER PAUL.”

Mr. W. J. Wilson, poultry breeder, Auherst Park, Montreal, writes: “I am receiving 40 cents per dozen just now for all the eggs I can get.”

The price in Ottawa, at the same time, to farmers was 35 cents per dozen.

Prices such as quoted offer a large margin of profit to farmers, who will doubtless be most interested in the details given in report herewith, as to the composition and effect of the less bulky and costly ration.

I have to acknowledge the present of 16 Pekin duck eggs from Mr. A. Thompson, the well-known breeder of Allan's Corners, Que., also a setting of Buff Leghorn from C. R. Frith, Esq., M.D., of Winchester, Ont.

During the year addresses were delivered at the following points :—

London, Peterborough, Owen Sound, Cobourg, Baltimore, Pakenham, Madoc (2), Perth and Smith's Falls. At the first four places named, displays of dressed poultry were made.

It affords me pleasure to again remark on the faithful and zealous discharge of his duties by Mr. George Deavey, to whose intelligent manipulation of the rations so much of the success in the winter production of eggs is due.

I have the honour to be, sir,

Your obedient servant,

A. G. GILBERT.

## REPORT ON THE WORK OF 1898.

The work of the past year may be said to have been to a great extent confirmatory of that of the previous one. It is important that it should have been so, for at the beginning of the winter of 1896-97, the rations had been reduced to two *per diem*. While the results were gratifying, it yet remained for the experience of another year to confirm or modify the data then obtained and given in detail in report of last year, 1897. The experience of the past year confirms the beneficial results following the reduction of the rations to two in number. It has also shown that under favourable conditions, such as cheaper price of grain and still further reduction in kind and bulk of rations, it is possible to yet reduce the cost of the daily rations. Indeed this reduction in cost would have been secured last year, but for the increased price of wheat from one cent to one cent and a quarter per pound, and the cost of cut bone from one to one cent and a half per pound. It being remembered that the object is always to have eggs during the winter season, the period of high prices, in as great quantity and at as little cost as possible. It will be interesting then to note :—

- 1.—The difference in the winter rations of 1896-97 and 1897-98.
- 2.—The egg yields of the two years so as to permit of comparison.

### THE DIFFERENCE IN THE COMPOSITION OF THE TWO RATIONS.

First we take the daily rations for the winter of 1896-97 (the winter before last), which was made up as follows :—

20 pounds wheat, or buckwheat, at 1 cent per pound.....	20
18 do cut green bone, do .....	18
Grit and vegetables.....	03
	41c.

The above was fed to 151 hens and 53 pullets, a total of 204.

The feeding of winter rations generally commenced about the beginning of November, sometimes earlier.

The ration was varied by the feeding of warm mash about 3 time per week in lieu of the cut bone. The mash was composed of ground grains in such quantity as not to exceed the value of 18 cents.

### THE RATION OF LAST WINTER.

Before giving the composition of the new ration some explanation, as to the manner in which it differed from its predecessor, is necessary. It principally differed in being divided into two parts, viz. :—

- Part 1.—For hens one year of age and over.
- “ 2.—For pullets.

The division was considered necessary, for the reason, that the experience of previous winters had led to the conclusion that the pullets would stand more food and, perhaps, lay better, while the same quantity, if given to older hens would tend to make them so fat as to lay few, if any eggs. The pullets accordingly received more food—were

## Experimental Farms.

forced a little more—in the shape of a small quantity of mash every day, while the older hens received it only occasionally. The rations of last winter 1897-98, were composed as follows:—

### PART I.—FOR 157 HENS OVER 1 YEAR OF AGE.

10 pounds wheat at $1\frac{1}{4}$ cents per pound.....	12 $\frac{1}{2}$
1 $\frac{1}{2}$ " " oats at 1 cent per pound.....	1 $\frac{1}{2}$
Grit and vegetables.....	1 $\frac{1}{2}$
Mash composed of—	
Shorts, 3 pounds at 1 cent per pound.....	3
Cornmeal, 2 pounds at $1\frac{1}{2}$ cents per pound.....	3
Ground oats, 3 pounds at 1 cent ".....	3
Small potatoes, 2 pounds at $\frac{1}{4}$ cent per pound.....	$\frac{1}{2}$
Blood meal, 1 pound 4 oz. at 3 cents per pound.....	4
	13 $\frac{1}{2}$
	29

Another day 10 pounds of cut bone would take the place of the mash when the ration would be as follows:—

Cut bone 10 pounds at $1\frac{1}{2}$ cents per pound.....	15
Wheat 10 pounds at $1\frac{1}{4}$ ".....	12 $\frac{1}{2}$
Grit and vegetables.....	1 $\frac{1}{2}$
	29

### PART II.—FOR 63 PULLETS.

Wheat, 5 pounds at $1\frac{1}{4}$ cents per pound.....	6 $\frac{1}{4}$
Mash composed as follows:—	
Shorts, 2 pounds at 1 cent per pound.....	2
Cornmeal, 2 pounds at $1\frac{1}{2}$ cents per pound.....	3
Small potatoes, 4 pounds at $\frac{1}{4}$ cent per pound.....	1
	6
Grit and vegetables.....	1 $\frac{1}{2}$
	13 $\frac{3}{4}$

When cut bone was given the ration would be:

Wheat, 5 pounds at $1\frac{1}{4}$ cents per pound.....	6 $\frac{1}{4}$
Cut bone, 3 pounds at $1\frac{1}{2}$ cents per pound.....	4 $\frac{1}{2}$
Grit and vegetables.....	1 $\frac{1}{2}$
	12 $\frac{1}{4}$

Making the total daily ration of one day to cost..... 42 $\frac{3}{4}$  cts.  
 And when cut bone was fed..... 41 $\frac{1}{4}$  "

As compared with the 41 cents daily ration of the previous year there is a slight increase  $\frac{3}{4}$  cents in one case and  $1\frac{1}{4}$  cents in the other. But the rations calculated at the price of wheat, of the previous year, one cent per pound and cut bone at 1 cent per pound, would show a decrease in the daily rations for the hens of 7 cents and about 3 cents in the case of the pullets.

## THE QUANTITIES IN WHICH THE ABOVE RATIONS WERE FED.

The above rations were fed in the following quantities :—

CUT GREEN BONE in proportion of one pound to 15 or 16 hens.

MASH, composition of which is shown in previous page, about one pound to 15 or 20 hens. To the pullets a little every day.

WHEAT, 10 pounds at one time to 157 hens. To the pullets 5 pounds at one ration. When cut bone was fed only 2 pounds of wheat were given to the pullets.

The rations were fed at various times. For instance, cut bone would be given one day as a morning ration and the next in the afternoon.

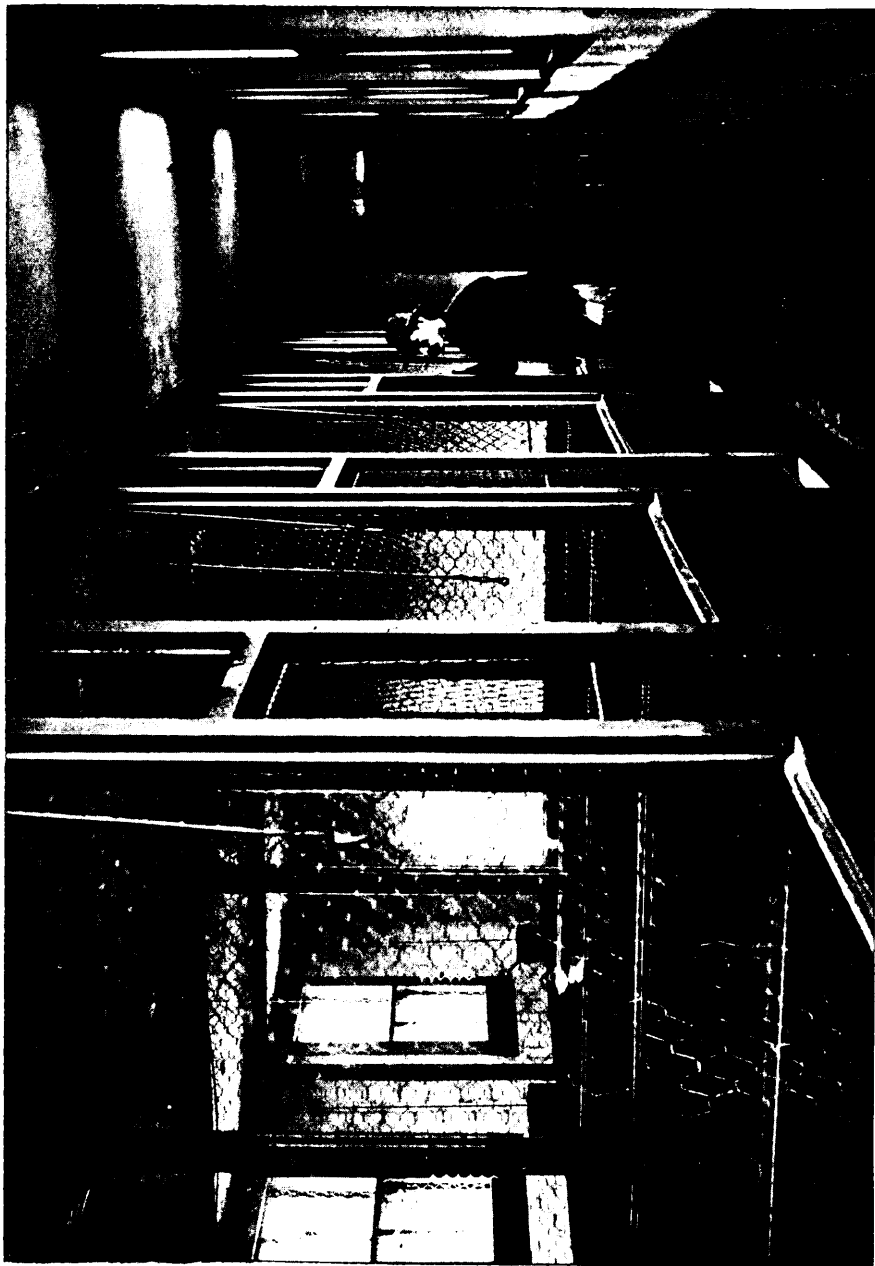
The feeding of a small quantity of mash to the pullets every day was continued until the middle of January, when it was fed only three times per week, as the pullets were becoming too fat. It was thus shown that caution was required in pushing the pullets with an extra allowance of soft food. It is to be remembered that by this time the early pullets were well matured, as was to be seen in the increased size of their eggs as well as of their bodies. This was particularly noticeable in the case of the Barred Plymouth Rocks.

## REASONS FOR ADOPTING THE ABOVE METHOD OF FEEDING.

The quantities given above may appear a small apportionment for 157 hens and 63 pullets, but (as shown later) vegetables and grit were always in liberal supply. The aim was not only to secure as great an output of eggs at as little cost as possible, but to secure the good health of the laying stock and immunity from vicious practices most frequently met with in the shape of egg eating and feather picking. The experience of past years has shown that active exercise is not only a chief factor in the winter production of eggs, but in the prevention of the two vices named. Experience has also taught that if the laying stock are overfed at the morning ration, as is too commonly the case, they are not inclined for exertion. Hence the object in feeding a light morning ration was to leave the layers ready to search for the small quantity of grain always scattered in the straw on the floor of the pens, soon after the ration was fed. The 5 pounds of oats as shown in Ration 1, for hens, were used for this purpose. The following summary of the manner and purpose of feeding may be useful as furnishing a daily Bill of Fare :—

1. The feeding of the morning ration in light quantity and as early as possible, so as to leave the layers inclined to search for more food.
2. About half an hour afterwards the scattering of a few hands-full of oats, or, other grain in the litter on the floor to incite the layers to exercise.
3. At 11 a.m. the feeding of lawn clippings which had been steeped in boiling water the night previous, for the purpose of supplying a cheap and wholesome form of green food.
4. No noon ration, except in the case of the pullets of late hatch, and which required gentle foraging.
5. About 3 p.m. the feeding of the afternoon ration in the shape of whole sound grain and in such quantity as to send the layers to roost with full crops. The grain was always thrown in the straw on the floor, so as to cause the hens to look for it.
6. The rations were fed as regularly as possible and careful observation made of their effect.

The lawn clippings, which usually came out of the hot water of good colour, were fed in the small narrow troughs fastened to the side of the pens, and were eaten with avidity. They had been gathered during the summer, thoroughly cured and put away. Where lawn clippings cannot be conveniently had, clover will make almost as good a substitute. Cut up into small lengths and steamed, clover is an excellent constituent of the morning mash and should always be in it.



Interior of Poultry House showing arrangement of Pens.

## Experimental Farms.

### NO NOON RATION.

It will be noticed in the above bill of fare that no noon ration is given. It is not necessary in the case of the older hens and as, already remarked, should only be given to the pullets when their condition shows that it is required. If the layers wanted more food, than the quantity embraced in the rations, there were vegetables and roots in the shape of mangels or cabbage before them all the time and they could eat of them. Mica grit and ground oyster shells were always in abundant supply, as was pure water for drink. The vegetables, roots and grit were always eaten in such quantity as to show that they were indispensable. It is necessary to their well-being that the laying stock should eat a quantity of green food and grit and they are not likely to do so if overfed on mash or whole grain. It is imperative to have variety in the composition of and manner in feeding the rations. Experience goes to show that the cheaper foods, which are, as a rule, most abundant on a farm, make the most effective rations.

### CERTAIN RULES EXPERIENCE HAS TAUGHT.

The experience of past years has, with other points already mentioned, made it very plain that the observance of certain rules is necessary before there can be an abundant supply of eggs in winter, immunity from vicious practices and the good health of the laying stock. These rules may have been mentioned in previous reports, but they are essential to success and will bear repetition. They are:—

1. Hens of proper age. Not over two years.
2. Varied, carefully prepared and regularly fed rations.
3. Grit, pure drink water and shell making material (in some form) in constant supply.
4. The keeping of the laying stock in as constant activity as possible.
5. A fairly comfortable house, with floor space of about 5 square feet to each layer.
6. The culling out of all non-layers.
7. Freedom of house and layers from lice.
8. Selection of laying stock from the best egg laying strains and of robust parentage. The latter applies with particular force to turkeys.

### COMPARATIVE EGG YIELDS FOR THE PAST TWO YEARS.

The details which have been given, in a previous page, show wherein the rations differed in composition and quantity fed. The following tables will show the output of eggs for the years 1896-97 and 1897-98.

	1896-97.	1897-98.
November .....	568	267
December .....	1,466	1,469
January .....	1,540	1,653
February .....	1,351	1,553
March .....	1,668	2,063
April .....	2,139	2,430
May .....	1,846	1,837
June .....	1,190	1,115
July .....	859	389
August .....	736	325
September .....	655	428
October .....	339	300
	14,357	13,829

The above figures show a less number of eggs laid last year. It should be stated that in the season of 1896-97 there were 151 hens and 53 pullets as compared with 157

hens and 63 pullets last winter season, a difference of 6 hens and 10 pullets in favour of last winter. But by comparing the output of eggs during the winter months of the two years, it will be at once seen that a greater number of eggs were laid during the winter months of 1897-98 when eggs were of the most value for eating or setting.

	1896-97.	1897-98.
December .....	1,466	1,469
January .....	1,540	1,653
February .....	1,351	1,553
March .....	1,668	2,063
April .....	2,139	2,430
	8,164	9,168

The difference in the total number of eggs for the year may be accounted for by the number of broody hens during the summer months and likely to follow the extra laying of the late months of spring. It will be interesting to note if the lesser egg output of July, August, September and October is followed by a corresponding increase in eggs during the forthcoming winter months of December and January.

#### CARE AND TREATMENT OF PULLETS.

It is stated in a previous page that the pullets of last winter received a greater quantity of food than did those of the previous one. The determination to give the pullets more liberal rations was not dictated by the experience of the previous winter in the farm poultry department alone. But several correspondents had written to the effect that what were suitable quantities of food for the older hens did not seem enough for the pullets. In one case a correspondent had given the lesser quantities to growing pullets, which was certainly a mistake. While growing, the pullets require to be well fed and cared for and even after beginning to lay they may be gently pushed.

The composition of and quantity of rations fed to the pullets of last winter have already been given. The following will show the response made in the case of three pens of pullets, of late and comparatively early hatching, from beginning of winter laying in November until the breeding pens were broken up at the end of June following:—

Varieties.	November.	December.	January.	February.	March.	April.	May.	June.	Total.	Average
17 White Leghorn pullets.....	9	113	223	185	154	228	154	85	1,151	67 $\frac{1}{2}$
28 B. P. Rock " .....	14	196	291	329	356	374	260	155	1,975	70 $\frac{1}{2}$
10 S. L. Wyandotte pullets.....		8	69	84	98	114	74	42	489	48 $\frac{3}{8}$
									3,615	

Among the above were comparatively early and late hatched pullets. Experience has made it clear that it is not advisable to have early and late hatched pullets together, particularly where the obtaining of eggs in winter is an object. Very often such a practice is attended with overcrowding. It is better to dispose of the late hatched pullets than overcrowd the older ones. To overcrowd is to seriously handicap the old pullets. Again, if the house is cold the late pullets most frequently remain non-progressive until spring. If too crowded, meanwhile, they are apt to pine away, and if they do not die, remain immature specimens. Where possible, hens and pullets should be kept apart.



# Experimental Farms.

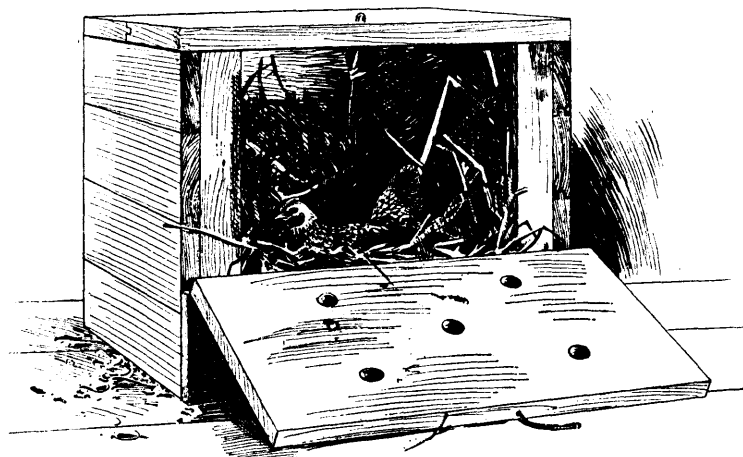
## BREEDING PENS MADE UP.

At the end of February and the first week of March the breeding pens were made up as follows :—

Varieties.	Cocks.	Cockerels.	Hens.	Pullets.
Barred P. Rocks, No. 1 pen	1		9	
" " 2 "	1			13
" " 3 "	1			12
White P. Rocks	1		9	
Light Brahmas		1	9	
Langshans	1		7	
Coloured Dorkings,		1	9	
S. L. Wyandottes, No. 1 pen	1		8	
" " 2 "	1			8
White Wyandottes	1		9	
White Leghorns, No. 1 pen		1	11	
" " 2 "	1		9	
Brown Leghorns		1	2	
Black Minorcas	1		9	
White "	1		15	
Andalusians	1		7	
<i>Crosses.</i>				
White Indian Game-W. Java		1	6	

On the 17th March the Light Brahma cockerel died suddenly, and soon after was followed by the Langshan cockerel. Both birds were valuable ones. They were replaced as quickly as possible and by equally good birds.

### THE SITTING HENS.



Box Nest for setting hen

The sitting hens received no more attention than any careful farmer could have given them. The nests were made of straw arranged in small square boxes, without bottoms and with hinged door in front as shown in diagram.

Having no bottoms, the boxes could be placed on the ground or wooden floor, as desired. The nests were arranged, six or eight in number, in small compartments. Mixed grain, grit and drink water were in supply in each pen or compartment. On the nests being made they were liberally dusted with carbolic, or, other disinfecting powder. Two or three china eggs were then placed in each nest, and the broody hens, first being well dusted with a disinfectant, were placed on the eggs and shut in. Next morning the doors of the nest boxes, would be opened four at a time and the sitters allowed an opportunity to get out, if so inclined. If the newly set hens proved reliable the china eggs were taken away and the valuable eggs 11 or 13 in number—the former if early in the season—were given to them. Meanwhile the insect powder had likely killed any vermin that might have been on the body of the hens. Lice infested hens are not likely to sit at ease and when too much irritated have been known to leave their nests for good. Such precaution is necessary, particularly, where brooding hens are brought—as they often are—from not over clean quarters. Where incubators and brooders are used there is no likelihood of trouble from such a source.

## EGGS SET AND CHICKENS HATCHED.

When Set.	Description of Eggs.	When Hatched.	No. of Chickens.
March 28.	13 White P. Rock	April 18.	2
April 4.	13 " (from Toronto)	" 25.	10
" 9.	13 Barred "	" 30.	8
" 9.	13 White " (from Arnprior. Eggs badly packed and injured)	" 30.	1
" 18.	13 B. Minorca	May 9.	9
" 18.	13 White P. Rock	" 9.	6
" 18.	13 Light Brahma	" 9.	9
" 18.	13 White Minorca	" 9.	9
" 21.	13 White P. Rock	" 12.	9
" 23.	13 Langshan	" 14.	4
" 25	13 "	" 16.	5
" 25.	13 Andalusian	" 16.	13
" 25.	13 Indian Game and Java Cross	" 16	8
" 25.	13 White Minorca	" 16.	8
" 26.	13 White Wyandotte (from Guelph)	" 17.	10
" 26.	13 B. Leghorn	" 17.	11
May 3.	13 W. Wyandotte (from near the city).	" 24.	5
" 3.	13 B. P. Rock	" 24.	6
" 5.	13 B. Minorca	" 24.	7
" 10.	5 " 6 Langshan (from British Columbia)	" 31.	7
" 10.	13 Indian Game (from Rigaud, Que.)	" 31.	2
" 10	13 Andalusian	" 31.	3
" 10.	13 S. L. Wyandotte (from Rigaud, Que.)	" 31.	6
" 21.	13 Buff Leghorn (from Chesterville, Ont.)	June 11.	6
" 21.	13 Langshans	" 11.	7
" 21.	15 White Leghorn (from Lindsay).	" 11.	10
" 26.	13 S. L. Wyandotte	" 16.	4
June 16.	10 W. Minorca, 3 Andalusians	July 7.	8
364 About 28 settings of 13. Average result 55 per cent.			193

Some of the small hatches, as shown above, were due to erratic sitters, or from eggs which were much shaken up in transit. As to the results from eggs from outside sources, experience varies. In some cases eggs from a great distance hatch well, while from eggs obtained from a near-by source there may be only two or three chickens. Much depends upon the freshness and fertility of the eggs before being sent, the manner in which the eggs are packed and the handling of the package *en route*. But the rest depends upon the manner in which the eggs are set and the care given to them by the receiver. It will be seen in the above table that 11 eggs from British Columbia

## Experimental Farms.

gave 7 chickens, while from 13 eggs from Rigaud, Que., only two chickens were hatched. No eggs could be more carefully packed than were the latter. The number of chicks hatched from the British Columbia eggs, and the vigorous growth made by them, told plainly of robust parent stock and strong germs. All that seems possible to be done under the circumstances, by the breeder, is to have his laying stock in proper condition, well mated, and to send out none but strictly fresh eggs packed carefully. It is for the express companies to transport as safely as possible, and for the consignee to set the eggs under a reliable sitter, as soon as possible after receiving them.

### CARE AND SKILL REQUIRED IN OBTAINING EARLY FERTILE EGGS.

If the farmers' hens lay well during the winter months there may be difficulty in obtaining a satisfactory percentage of fertile eggs to put under the early March and April sitters, and from which are expected the early chickens, so desirable. Skill and experience are required in the feeding and handling of the laying stock, so as to have plenty of eggs at the period of high prices and early fertile eggs. Particularly so in cases where the layers are confined to limited quarters from the beginning to end of the winter months. Later on, when the season is warmer and the hens run out there can be no difficulty in having 10, 11 and 12 chicks from 13 eggs, usually put under a sitter, of medium size, at that period. But it is to be borne in mind that for market purposes and early layers, the early chicks are worth much more than those hatched in late May or early June. It should be the aim to have pullets to begin to lay in September and keep on doing so until the yearling and older hens are over their moult and join with them in egg production for the winter. It is worth some effort then to get the early chickens. Experience has shown that hens of the sitting varieties which lay well in winter make early sitters. It is an object then for the farmer, who desires early sitters and who does not use artificial means, to have his hens lay in winter.

### FOOD AND GROWTH OF THE CHICKENS.

Experience of many years has proved the necessity of the careful looking after and proper feeding of the chickens from time of hatching. The chickens were allowed to remain in the nest with the mother hen twenty-four hours, or until they were quite strong on their legs. With the mother hen they were then placed in a coop on the grass outside, weather permitting. On the floor of the coop was dry sand to the depth of one or two inches. The coop was so arranged that the chicks could run in or out, while the hen was confined inside. By this method the chicks can be better looked after and more regularly fed. Their rations were placed on a clean board in front, which at night was used to securely fasten up the front part of the coop. The mother hen received her food in the shape of corn or wheat, and water was always within her reach. The first food of the chicks was stale bread crumbs, or stale bread soaked in milk and squeezed dry. Next day granulated oatmeal or rolled oats were added to the bill of fare. No foods have been found better for the newly hatched broods. Later on, crushed corn was added, and still later on whole wheat, in small quantities at first. As the chicks grew, a mash composed of shorts, cornmeal, bran, stale bread and a small quantity of blood meal was substituted for the more dainty and expensive first rations. For drink, milk sweet, or skimmed, sometimes mixed with water was used. The food was given, at first a little and often. Afterwards four or five times per diem. The sand in the coops was regularly renewed, and the latter were, occasionally, sprinkled with coal-oil, so as to prevent the lodgment of lice. Lice on hens or chickens was prevented, as far as possible, by occasionally rubbing the feathers of the former, under wings and breast the wrong way, with a cloth dampened, *not wet*, with coal-oil. Chicks showing signs of lice were dusted with insect powder. Experience has shown that chickens intended for early market, or for early layers, must be carefully looked after from time of hatching. It must be borne in mind that a chicken which has become "stunted" from being "stinted" in the first five weeks of its existence, will never make

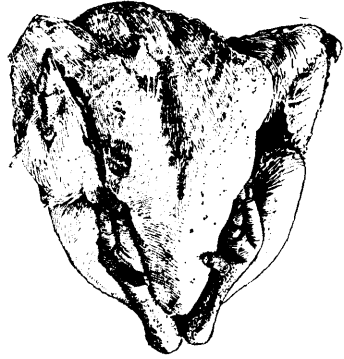


Experimental Farms.



No. 1.

Dressed White Plymouth Rock Cockerel  
as prepared for Home Market.



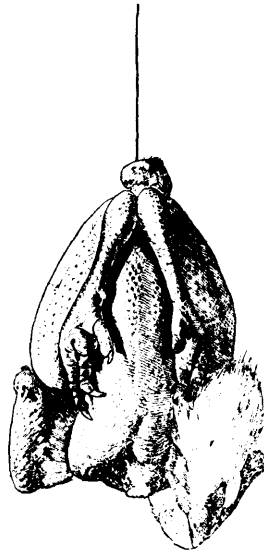
No. 2.

Cockerel White Java and White  
Indian Game Cross.



No. 3.

No. 3 same as No. 2.—Dressed for English  
Market—back view.



No. 4.

Front view of same cross.

## THE MOULTING PERIOD.

During the moulting period the fowls received the necessary care and attention as fully described in report of 1896. Experience confirms the necessity of looking after the laying stock at this period of non-production, if eggs in November are desired. Any extra care and trouble at this season will be amply repaid by an output of eggs when they are of the highest value. The foods and treatment best calculated to secure an early moult and in the shortest time are subjects that are being earnestly discussed by the leading poultry breeders of Canada and the United States. Early hatched pullets to begin to lay when the older hens are moulting, and so keep up a continuous supply of new laid eggs are the real and most desirable solution of the problem, but they are not always easy to get (except by artificial means) in the colder districts of the Dominion. A farmer may have early setters from hens which have laid all winter and are of a setting breed, but he certainly will not have them from hens which only begin to lay in spring.

## WHEN THE PULLETS COMMENCED TO LAY.

The pullets laid in the following order :--

Barred P. Rock pullet,	7th Nov.	Hatched	April.
Black Minorca	" 5th Dec.	"	9th May.
Brown Leghorn	" 12th "	"	17th "
White Minorca	" 16th "	"	9th "
White P. Rock	" 17th "	"	25th April.

No effort was made to push the pullets, while running at large, beyond receiving regular feeding and good house accommodation. On going into winter quarters they were given rations calculated to stimulate egg production.

## BEGINNING OF WINTER LAYING.

The hens went into winter quarters about the second week in November. Winter laying commenced about the first of December, somewhat later than last year.

## DISEASES OF POULTRY.

Inquiries were made from time to time and from different parts of the country during the year, as to ailments affecting poultry. In most cases the sickness and fatal termination could be traced to roup in its varied forms. In several cases the symptoms described pointed to overfeeding and its consequence in liver derangement. As pointed out in a previous report the overfeeding of the morning mash and whole grain, with lack of green food, overcrowding, lack of exercise and over age are the most frequent causes of sickness and death.

## ARTIFICIAL INCUBATION.

In the early part of the month of April last, a Prairie State Incubator of 100 egg capacity and a brooder were purchased from the Prairie State Manufacturing Company of Homer City, Penn., U.S.A. The incubator is heated by hot air which circulates over and around the eggs and is made hot by a coal oil lamp placed under and to the right side of the egg chamber. A sensitive thermostat over and partly under the egg tray regulates the temperature. Two shallow pans at top of egg chamber may be used for the supply of moisture, if necessary. The eggs are turned by fitting one tray on top of another, withdrawing them from the incubator and turning carefully. Full directions for its proper working accompanied the machine. The incubator was placed in a small office at the end of the main poultry building. The two first attempts to operate the incubator were not successful. In the first instance two chickens were hatched and only one in the second. The first two chickens hatched

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in April turned out to be pullets and were early winter layers, one laying its first egg on 7th November, as already noted. On the 3rd of June, the incubator was again filled with 100 eggs of the following description :—

White Leghorns.....	36
Andalusian.....	22
Black Minorcas.....	18
Brown Leghorns.....	11
Colored Dorking.....	13
	<hr/>
	100

The temperature of the room varied from 64 to 80.

The lowest reading of the thermometer in the egg chamber during the twenty-one days was 102½ and the highest 103.

The eggs were tested twice, and thirty-five clear and doubtful ones removed, leaving 65 eggs with apparently strong and healthy germs.

On the 18th day one of the moisture pans was filled with warm water, the air space in the eggs showing necessity for moisture.

The result of the hatch was 25 chicks, five of which were not as strong as the others.

The eggs which did not hatch were carefully examined, and the great majority of them contained fully developed chicks which had apparently died between the 18th and 20th days. On being transferred to the brooder the chickens made satisfactory progress, with the exception of the weaklings which died at different times.

The results were certainly not very encouraging. But they go to show that further careful experimental trials will have to be made in order that the experience so essential to success can be gained. It would be unfair, if it were possible, to attribute with certainty the lack of better results to machine, or eggs, or operator until that experience is gained that will permit of expert decision. Future trials and careful observation will, no doubt, in time disclose where the shortcoming or fault is. Meanwhile, we know that the artificial hatching and rearing of chickens, ducks, &c., is the source of handsome profit to joint stock companies and private individuals in our own and other countries. The number of inquiries received from time to time as to machines and methods of operation shows that it is rapidly becoming more in vogue, and that a thorough knowledge of modern machines and methods is necessary in the interest of the great number of farmers who are now turning their attention to poultry breeding in all its different phases.

### DUCKS AND GEESE.

From 16 duck eggs presented to the farm by Mr. A. Thompson, of Allan's Corners, Que., 7 Pekin and 1 Aylesbury duck were hatched. One Pekin duck died but the others made famous progress. One of the birds hatched on 26th June weighed on 20th October following, 3 months and 20 days, 8 pounds 3 ounces. Another hatched at same time weighed at same date, 7 pounds 1 ounce. The foregoing were drakes. An Aylesbury duck of same age weighed at same time 5 pounds 15 ounces. One wild goose remains, of the four sent 12 years ago to the farm.

## STOCK ON HAND.

The stock on hand at present is as follows :—

	Cocks.	Cockerels.	Hens.	Pullets.
Barred Plymouth Rocks	3	6	20	8
White "	1	9	8	11
Light Brahmas	1	3	4	3
Langshans		5	5	12
White Wyandottes		4	9	6
Silver Wyandottes		4	6	3
Coloured Dorkings	1		7	
White Leghorn	2	4	22	8
Brown "	1	2	2	11
Buff "				2
Black Minorcas		9	7	8
White "	2	3	3	6
Adalusians	1	4	7	3
White Indian Game	1			
Cornish "				1
White Indian Game-Java Cross		2		4
White Javas			3	
Mixed fowls		14	26	
	13	69	123	86

### EXPERIMENTAL FATTENING OF CHICKENS WITHOUT FORCED METHODS.

Of recent date much attention has been directed in Canada to the subject of fattening of chickens—and so improving their condition—by the English and French methods of “cramming,” or forcing of food into the crops of the birds by a machine operated in most cases by foot and in many places by hand, and known as a cramming machine. According to this method the fowls or chickens are penned in specially arranged coops, and allowed to eat all they will or can for ten or twelve days, of a ration composed in England, principally of finely ground oats, skim milk and tallow. At the end of the time mentioned experience has shown that the birds do not eat with the same avidity, as they did at first and the crammer is then brought into requisition. The time taken to properly fatten a bird is 21 days, in some cases a week longer. The chickens which are of mixed breeds and of both sexes, are purchased from the English farmers, when three to five months of age by the higgler or fatteners, who place the birds in long rows of coops and in numbers varying from 320 to 1,200, according to size of premises. The rearing of the chickens is the work of the farmer. The fattening is done by the higgler. They are, in the great majority of cases, two distinct occupations and are a source of profit to both first and second parties. It is an object to obtain large chickens which will make heavy weight. Crosses in which Indian Game or Dorking predominate are preferred. But will it pay our farmers to breed crosses, solely for flesh production, while they have within easy reach thoroughbreds which not only make greater and more rapid flesh development, but good winter layers? Our farmers have a winter market of paying prices. With thoroughbred Plymouth Rocks, Wyandottes, &c., they are in a position to cater to the winter market and rear heavy weight chickens in season, for export or home markets. They have actually two strings to their bow. Experience has shown that the barn-yard fowls, or “scrubs,” to be found in such numbers on the farms of the country, are neither good for eggs nor flesh production. First crosses of the larger thoroughbreds are certainly better flesh formers, but they must be made every year, or they will degenerate. All things taken into consideration there is every reason for our farmers stocking their barn-yards with those thoroughbreds which Experimental



## Experimental Farms.

Farm reports for some years past and the writer on many platforms, in different parts of the country, have named as the best winter layers and the heaviest and most rapid flesh formers. In connection with the foregoing, the following experiment, which was carried out with the view of finding out the relative merits, as flesh formers, of scrubs, first crosses and thoroughbreds, will be of interest. The experiment was commenced on the 1st of November, and continued for five weeks. Special coops with slatted bottoms and fronts and with feeding troughs in front, were erected in an upper compartment of the main poultry building.

The coops were filled with 34 cockerels and 2 pullets of the following description :

8 barn-yard chickens, some showing Barred Plymouth Rock and Wyandotte origin and others Leghorn and Minorca, were purchased from neighbouring farmers.

4 cockerels of first cross between Light Brahma and Buff Cochin. They were purchased from a farmer on the Richmond Road.

4 first crosses of White Indian Game and White Java hens from Experimental Farm poultry department. Two of the number were pullets.

20 thoroughbred cockerels of the following breeds, viz. :

4 Barred Plymouth Rocks, 4 Light Brahmas, 4 Silver-laced Wyandottes, 4 White Plymouth Rocks, 4 White Wyandottes. All from the Experimental Farm.

These were divided in groups of 4 each and the birds were respectively numbered from 1 to 36.

The rations were composed of—

2 parts of finely ground oatmeal,  
1 “ “ barley meal,  
1 “ ordinarily ground cornmeal,

and were mixed with sweet milk.

The birds were fed at 7 a.m., noon, and 3.30 p.m., each day, with regularity, all the food they could eat. The exact figures of amount fed are given elsewhere.

On the 15th November, 15 days from beginning of experiment, beef suet in the proportion of one ounce to each group of 4 fowls was added to the ground grains ration and fed three times per day.

Water was regularly supplied, as the birds seemed to desire it.

Mica crystal grit was furnished twice during the five weeks.

The birds were weighed on the afternoon of 31st October, placed in their coops and fed their first ration, a light one. The regular feeding of the rations began next morning, 1st November. The nature and progress of the experiment are shown in the following tables.

The first table shows the weight of the birds on 31st October, their progress per week, the gain made by each bird per week, and the total gain at the end of five weeks. The last column shows the loss in weight from end of fifth week, December 6th to December 8th, two days. The birds were then fasted for 36 hours and killed. It should be explained that the original intention was to dispose of the birds at the end of the fifth week, but as circumstances did not permit they were fed for two days longer.

It is to be borne in mind that the birds were allowed to partake of the food in as great quantity as they felt inclined. There was no machine used for the purpose of forced feeding.

TABLE I.

SHOWING weight of birds on 31st October, when put into coops to fatten ; the progress made by each bird per week, and total gain made in five weeks by each bird. The last column shows the weights and losses at end of the two extra days.

GROUP 1.—BARN-YARD CHICKENS.

	Number.	Weight on 31st October.		Weight on 8th November.		Weight on 15th November.		Weight on 22nd November.		Weight on 29th November.		Weight on 6th December.		Gain in 5 Weeks.		Weight on 8th December.	
		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
Gain per bird per week...	1	5	7	5	13	6	14	6	44	6	8	6	9	1	2	6	7
" " .....	2	5	7 $\frac{1}{2}$	5	11 $\frac{1}{2}$	6	14 $\frac{1}{2}$	7	34	7	7	7	1	14	7	loss	1 $\frac{1}{2}$
" " .....	3	4	7	4	14	5	14	5	64	5	7 $\frac{1}{2}$	5	10	1	3	5	9
" " .....	4	3	12	4	7	4	10 $\frac{1}{2}$	4	13	5	1	5	1	6 $\frac{1}{2}$	5	"	1
" " .....					9		5 $\frac{1}{2}$		2 $\frac{1}{2}$		4		1 $\frac{1}{2}$			"	4 $\frac{1}{2}$

GROUP 2.—BARN-YARD CHICKENS.

Gain per bird per week...	5	3	10	4	4 $\frac{1}{2}$	4	11	4	13	5	..	5	3	1	9	5	2
" " .....	6	3	14 $\frac{1}{2}$	4	10 $\frac{1}{2}$	4	14	4	12	4	15	5	2	1	3 $\frac{1}{2}$	5	loss 1
" " .....	7	3	10 $\frac{1}{2}$	4	12	4	15 $\frac{1}{2}$	5	1	5	9 $\frac{1}{2}$	5	13	2	3 $\frac{1}{2}$	5	gain 3
" " .....	8	3	2	3	10	4	6 $\frac{1}{2}$	4	13	4	4 $\frac{1}{2}$	4	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$	4	6
" " .....					8		6 $\frac{1}{2}$		1	..	3	..	3	..	..	..	loss 1 $\frac{1}{2}$

GROUP 3.—LIGHT BRAHMAS,—BUFF COCHIN, 1st CROSS.

Gain per bird per week...	9	6	13	7	8	7	15	8	8 $\frac{1}{2}$	8	11 $\frac{1}{2}$	8	13 $\frac{1}{2}$	2	..	8	13
" " .....	10	6	9 $\frac{1}{2}$	7	3 $\frac{1}{2}$	7	11 $\frac{1}{2}$	8	1 $\frac{1}{2}$	8	3	8	10 $\frac{1}{2}$	2	1	8	loss 8
" " .....	11	5	10	6	10	6	13 $\frac{1}{2}$	7	6	7	6 $\frac{1}{2}$	7	7 $\frac{1}{2}$	1	12	7	2 $\frac{1}{2}$
" " .....	12	6	3	7	13 $\frac{1}{2}$	7	6	3	9 $\frac{1}{2}$	8	6	5	8 $\frac{1}{2}$	2	5 $\frac{1}{2}$	8	5
" " .....					13 $\frac{1}{2}$	..	2 $\frac{1}{2}$	..	6 $\frac{1}{2}$	..	11 $\frac{1}{2}$	..	3 $\frac{1}{2}$	..	..	..	1

GROUP 4.—LIGHT BRAHMAS—EXPERIMENTAL FARM.

Gain per bird per week...	13	6	12 $\frac{1}{2}$	7	3	7	3	8	3	Died	on 17th	inst.	4	8	12	
" " .....	14	6	8 $\frac{1}{2}$	6	15 $\frac{1}{2}$	7	9 $\frac{1}{2}$	8	3	8	10	8	12 $\frac{1}{2}$	2	..	
" " .....	15	5	13 $\frac{1}{2}$	6	7	6	10 $\frac{1}{2}$	7	10	9 $\frac{1}{2}$	7	7	2 $\frac{1}{2}$	2	1 $\frac{1}{2}$	7
" " .....	16	5	7 $\frac{1}{2}$	6	2 $\frac{1}{2}$	6	10 $\frac{1}{2}$	7	13	5	5	5	2 $\frac{1}{2}$	2	14 $\frac{1}{2}$	8
" " .....					9	..	9 $\frac{1}{2}$	..	13 $\frac{1}{2}$	..	9	..	5 $\frac{1}{2}$	..	..	..

# Experimental Farms.

## TABLE I—Concluded.

SHOWING weight of birds on 31st October, when put into coops to fatten, &c.—Concluded.

### GROUP 5.—S. L. WYANDOTTES—EXPERIMENTAL FARM.

	Number.	Weight on 31st October.		Weight on 8th November.		Weight on 15th November.		Weight on 22nd November.		Weight on 29th November.		Weight on 6th December.		Gain in 5 Weeks.		Weight on 8th December.	
		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
Gain per bird per week..	17	5	5	5	7	6	..	6	4 $\frac{1}{2}$	6	12 $\frac{1}{2}$	6	15 $\frac{1}{2}$	1	10 $\frac{1}{2}$	6	12
	18	5	5	5	7	6	1	6	4 $\frac{1}{2}$	6	13 $\frac{1}{2}$	7	3 $\frac{1}{2}$	1	13 $\frac{1}{2}$	7	loss 3 $\frac{1}{2}$
" "	19	4	8	5	2	5	10	5	9 $\frac{1}{2}$	5	3	5	5	1	4	5	2 $\frac{1}{2}$
" "	20	4	13	5	8	5	7	5	6 $\frac{1}{2}$	6	8 $\frac{1}{2}$	5	12	1	4	5	1 $\frac{1}{2}$
" "	..	..	..	5 $\frac{1}{2}$	2 $\frac{1}{2}$	..	11 $\frac{1}{2}$	..	6 $\frac{1}{2}$	..	2 $\frac{1}{2}$	..	loss 6	..	..	..	2 $\frac{1}{2}$

### GROUP 6.—WHITE INDIAN GAME,—W. JAVA CROSS—EXPERIMENTAL FARM.

Gain per bird per week..	21	4	10	5	4 $\frac{1}{2}$	5	8	5	9 $\frac{1}{2}$	5	11	5	15 $\frac{1}{2}$	1	5 $\frac{1}{2}$	5	14
	22	4	5 $\frac{1}{2}$	4	12 $\frac{1}{2}$	5	6 $\frac{1}{2}$	5	13 $\frac{1}{2}$	6	21	6	4 $\frac{1}{2}$	2	..	..	loss 1 $\frac{1}{2}$
" "	23	3	15 $\frac{1}{2}$	4	4	4	12 $\frac{1}{2}$	4	14 $\frac{1}{2}$	5	1	5	3 $\frac{1}{2}$	1	4	5	3
" "	24	3	11 $\frac{1}{2}$	4	4 $\frac{1}{2}$	4	12 $\frac{1}{2}$	5	1	5	6	5	13 $\frac{1}{2}$	2	1 $\frac{1}{2}$	5	12 $\frac{1}{2}$
" "	..	..	..	7	..	..	10	..	4 $\frac{1}{2}$	..	5	..	7	..	..	..	1 $\frac{1}{2}$

### GROUP 7.—BARRED P. ROCKS—EXPERIMENTAL FARM.

Gain per bird per week..	25	7	5 $\frac{1}{2}$	7	5	7	12	7	12	8	11 $\frac{1}{2}$	9	4 $\frac{1}{2}$	1	11	9	..
	26	5	6 $\frac{1}{2}$	5	12 $\frac{1}{2}$	6	3	6	4 $\frac{1}{2}$	6	11 $\frac{1}{2}$	7	..	1	9 $\frac{1}{2}$	7	loss ..
" "	27	5	13 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	7	6	1 $\frac{1}{2}$	6	7	6	4 $\frac{1}{2}$	1	2	6	15
" "	28	5	2 $\frac{1}{2}$	5	5 $\frac{1}{2}$	5	8 $\frac{1}{2}$	6	2	9	7	7	7	2	..	7	3 $\frac{1}{2}$
" "	..	..	..	3	..	..	7	..	11 $\frac{1}{2}$	..	7 $\frac{1}{2}$	..	3 $\frac{1}{2}$	..	..	..	1 $\frac{1}{2}$

### GROUP 8.—WHITE P. ROCKS—EXPERIMENTAL FARM.

Gain per bird per week..	29	5	8	5	9	6	4 $\frac{1}{2}$	6	15	7	7 $\frac{1}{2}$	7	9	2	1	7	8 $\frac{1}{2}$
	30	5	6 $\frac{1}{2}$	6	7	7	11 $\frac{1}{2}$	7	10 $\frac{1}{2}$	8	8 $\frac{1}{2}$	..	1 $\frac{1}{2}$	2	10 $\frac{1}{2}$	7	loss 1 $\frac{1}{2}$
" "	31	6	8	6	16 $\frac{1}{2}$	6	13 $\frac{1}{2}$	7	6 $\frac{1}{2}$	6	6	8	1	3	7	..	2 $\frac{1}{2}$
" "	32	5	6	5	11 $\frac{1}{2}$	5	13 $\frac{1}{2}$	6	7 $\frac{1}{2}$	5	6	11 $\frac{1}{2}$	6	11 $\frac{1}{2}$	1	5 $\frac{1}{2}$	10 $\frac{1}{2}$
" "	..	..	..	5 $\frac{1}{2}$	..	..	2	..	7 $\frac{1}{2}$	..	6 $\frac{1}{2}$	..	..	..	..	..	1

### GROUP 9.—WHITE WYANDOTTES—EXPERIMENTAL FARM.

Gain per bird per week..	33	5	2	5	9 $\frac{1}{2}$	6	2 $\frac{1}{2}$	6	8 $\frac{1}{2}$	6	13	6	12 $\frac{1}{2}$	1	10 $\frac{1}{2}$	6	10
	34	3	12	4	2	4	9	6	6	4	4 $\frac{1}{2}$	..	loss 3 $\frac{1}{2}$	..	..	..	loss 2 $\frac{1}{2}$
" "	35	3	4	3	6	4	4	3	3	..	6	6	2	..	3	6	3 $\frac{1}{2}$
" "	36	5	5	5	11	6	10 $\frac{1}{2}$	6	6	9 $\frac{1}{2}$	7	6	17	..	11	6	9 $\frac{1}{2}$
" "	..	..	..	6	..	..	11	..	3 $\frac{1}{2}$	..	6 $\frac{1}{2}$	..	..	..	..	..	2 $\frac{1}{2}$

On the 17th November, No. 13 Light Brahma Cockerel died. On being examined the liver was found deep in colour and highly gorged with blood. There was an accumulation of 3 ounces of fat around the gizzard. The organs and body were otherwise healthy. There was no apparent cause of death.

Nos. 20 S. L. Wyandotte and 34 White Wyandotte were not in good condition for a portion of the time. They did not eat well and lost in weight.

TABLE II.

THE following table shows the gain in weight and quantity of food consumed by the nine groups during five weeks and two days. The last two days show a loss in weight which indicates that after a certain time there is little or no progress by their eating at will :—

Group	Gain 1st week.		Food Consumed.		Gain 2nd week.		Food Consumed.		Gain 3rd week.		Food Consumed.		Gain 4th week.		Food Consumed.		Gain 5th week.		Food Consumed.		Last 2 days.		Food Consumed.			
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.		
1	1	10	9	14½	1	15	9	..	14	7	13	..	10	5	7½	..	8½	4	13½	..	loss	8½	1	6		
2	2	13	9	10½	1	7	9	..	2½	7	5½	..	1	14	4	15½	..	13½	5	14	..	..	1	5		
3	3	3	10	13	1	7½	9	..	1	7	8	..	1	10	6	3½	..	12	6	2½	..	..	4½	1	9½	
4 (3 fowls)	1	2½	10	13	1	14	9	..	2	4	8	..	1	9	6	..	10½	6	2½	..	..	5	1	7½		
5	1	13	10	13	2	5½	9	..	1	3½	7	8½	..	15½	5	9½	..	5½	5	10	..	10½	1	6		
6	1	9	10	..	2	4	9	..	14½	8	..	..	14½	6	4½	..	1	15	5	3½	..	..	4	1	5½	
7	..	7½	10	1½	1	13½	9	..	15	7	11½	..	2	5½	6	5	..	13	3	15½	..	..	1½	1	9½	
8	1	4	10	13	2	4	9	2	2	8	..	..	1	5	5	7½	..	5½	6	5½	..	..	6	1	11	
9	1	7½	10	..	3	2½	8	14	1	10	7	6½	..	1	1½	5	3½	..	12	4	12	..	..	4½	1	5½

TABLE III.

SHOWING daily and weekly amount of food consumed by each group from afternoon of 31st October, when first ration was fed, to 7th December.

—	Group 1.		Group 2.		Group 3.		Group 4.		Group 5.		Group 6.		Group 7.		Group 8.		Group 9.	
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
October 31	..	12	..	14	..	15	..	15	..	15	..	13½	..	15	..	15	..	15
November 1	1	..	1	..	1	..	1	..	1	..	1	13½	..	1	..	1	..	1
" 2	1	4½	1	4½	1	4½	1	4½	1	4½	1	4½	1	4½	1	4½	1	4½
" 3	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8
" 4	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8
" 5	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
" 6	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
" 7	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
Total for the week	9	14½	9	10½	10	1½	10	1½	10	1½	10	..	10	1½	10	1½	10	½
November 8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	10	1	6
" 9	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4
" 10	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4
" 11	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
" 12	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
" 13	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
" 14	..	14	..	14	..	14	..	14	..	14	..	14	..	14	..	14	..	14
Total for the week	9	..	9	..	9	..	9	..	9	..	9	..	9	..	9	2	8	14

## Experimental Farms.

Beginning with November 14th, each group received 3 oz. per day,  $\frac{3}{4}$  oz. to each fowl, of beef suet unrendered, cut fine and passed through a meal cutter,  $\frac{1}{4}$  oz. to each fowl at each meal.

	Group 1.		Group 2.		Group 3.		Group 4.		Group 5.		Group 6.		Group 7.		Group 8.		Group 9.	
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
November 15.....	1	4	..	13 $\frac{1}{2}$	1	4	1	4	..	13 $\frac{1}{2}$	1	4	..	15 $\frac{1}{2}$	1	4	..	17 $\frac{1}{2}$
" 16.....	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
" 17.....	..	13	..	14	1	..	1	..	1	..	1	..	1	..	1	..	1	..
" 18.....	1	4	1	2	1	4	1	4	1	4	1	4	1	4	1	4	1	4
" 19.....	1	..	1	..	1	..	1	..	1	..	1	..	1	..	1	..	1	..
" 20.....	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
" 21.....	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4
Total for the week ..	7	13	7	5 $\frac{1}{2}$	8	..	8	..	7	8 $\frac{1}{2}$	8	..	7	11 $\frac{1}{2}$	8	..	7	6 $\frac{1}{2}$
November 22.....	1	2	..	10	1	2	1	2	1	2	1	2	1	2	1	2	1	2
" 23.....	1	..	..	12	1	..	1	..	1	..	1	..	1	..	1	..	1	..
" 24.....	..	13	..	12 $\frac{1}{2}$	..	14 $\frac{1}{2}$	1	..	11 $\frac{1}{2}$	..	12 $\frac{1}{2}$	..	10 $\frac{1}{2}$	..	13 $\frac{1}{2}$	..	12 $\frac{1}{2}$	..
" 25.....	..	8 $\frac{1}{2}$	..	8 $\frac{1}{2}$	..	8 $\frac{1}{2}$	..	9 $\frac{1}{2}$	..	9 $\frac{1}{2}$	..	18 $\frac{1}{2}$	..	15 $\frac{1}{2}$	..	12 $\frac{1}{2}$	..	9 $\frac{1}{2}$
" 26.....	..	5 $\frac{1}{2}$	..	8 $\frac{1}{2}$	..	10 $\frac{1}{2}$	..	6 $\frac{1}{2}$	..	4	..	7 $\frac{1}{2}$	1	..	..	3	..	11 $\frac{1}{2}$
" 27.....	..	13	..	13 $\frac{1}{2}$	1	..	1	..	1	..	1	..	1	..	1	1 $\frac{1}{2}$	..	14 $\frac{1}{2}$
" 28.....	..	15 $\frac{1}{2}$	..	14	1	..	..	14	..	13 $\frac{1}{2}$	..	11	..	8 $\frac{1}{2}$	..	7	..	9 $\frac{1}{2}$
Total for the week ..	5	7 $\frac{1}{4}$	4	15 $\frac{1}{4}$	6	3 $\frac{1}{2}$	6	..	5	9 $\frac{1}{4}$	6	4 $\frac{1}{2}$	6	5	5	7 $\frac{3}{4}$	5	3 $\frac{3}{4}$
November 29.....	..	5 $\frac{1}{4}$	..	13	..	14 $\frac{1}{2}$	..	14 $\frac{1}{2}$	..	14	..	11 $\frac{1}{2}$	1	3	..	14 $\frac{1}{2}$	1	8
" 30.....	..	14 $\frac{1}{2}$	..	15	..	14 $\frac{1}{2}$	1	4 $\frac{1}{2}$	..	15 $\frac{1}{2}$	..	15 $\frac{1}{2}$	1	3	..	1	3	..
December 1.....	..	12 $\frac{1}{2}$	1	..	1	..	14 $\frac{1}{2}$	..	13 $\frac{1}{2}$	..	4 $\frac{1}{2}$	..	13 $\frac{1}{2}$	..	15 $\frac{1}{2}$	..	12 $\frac{1}{2}$	..
" 2.....	..	11 $\frac{1}{4}$	..	9 $\frac{1}{4}$	..	12 $\frac{1}{4}$	..	11 $\frac{1}{4}$	..	10	..	9 $\frac{1}{4}$	..	10 $\frac{1}{2}$	..	11	..	10
" 3.....	..	12	..	9 $\frac{1}{2}$	1	..	15 $\frac{1}{2}$	..	14 $\frac{1}{2}$	..	13	..	12 $\frac{1}{2}$	..	14 $\frac{1}{2}$	..	13	..
" 4.....	..	11	..	8	..	10 $\frac{1}{2}$	..	9	..	10	..	14 $\frac{1}{2}$	..	12 $\frac{1}{2}$	..	13	..	8 $\frac{1}{2}$
" 5.....	..	11 $\frac{1}{2}$	..	11	..	14	..	13	..	12	..	15	..	11	..	14	..	10
Total for the week ..	4	13 $\frac{1}{2}$	5	1 $\frac{1}{2}$	6	2 $\frac{1}{4}$	6	2 $\frac{1}{2}$	5	10.	5	3 $\frac{1}{2}$	3	15 $\frac{1}{2}$	6	5 $\frac{1}{2}$	4	12
December 6.....	..	10 $\frac{1}{2}$	..	11	..	11 $\frac{1}{2}$	..	10 $\frac{1}{2}$	..	10	..	9 $\frac{1}{2}$	..	10 $\frac{1}{2}$	..	11 $\frac{1}{2}$	..	10 $\frac{1}{2}$
" 7.....	..	11 $\frac{1}{2}$	..	10	..	14	..	13	..	12	..	12	..	15	..	15 $\frac{1}{2}$	..	12
Total.....	1	6	1	5	1	9 $\frac{1}{2}$	1	7 $\frac{1}{2}$	1	6	1	5 $\frac{1}{2}$	1	9 $\frac{1}{2}$	1	11	1	5 $\frac{1}{2}$

### RESULTS AFTER THE FASTING, KILLING, PLUCKING AND COOKING.

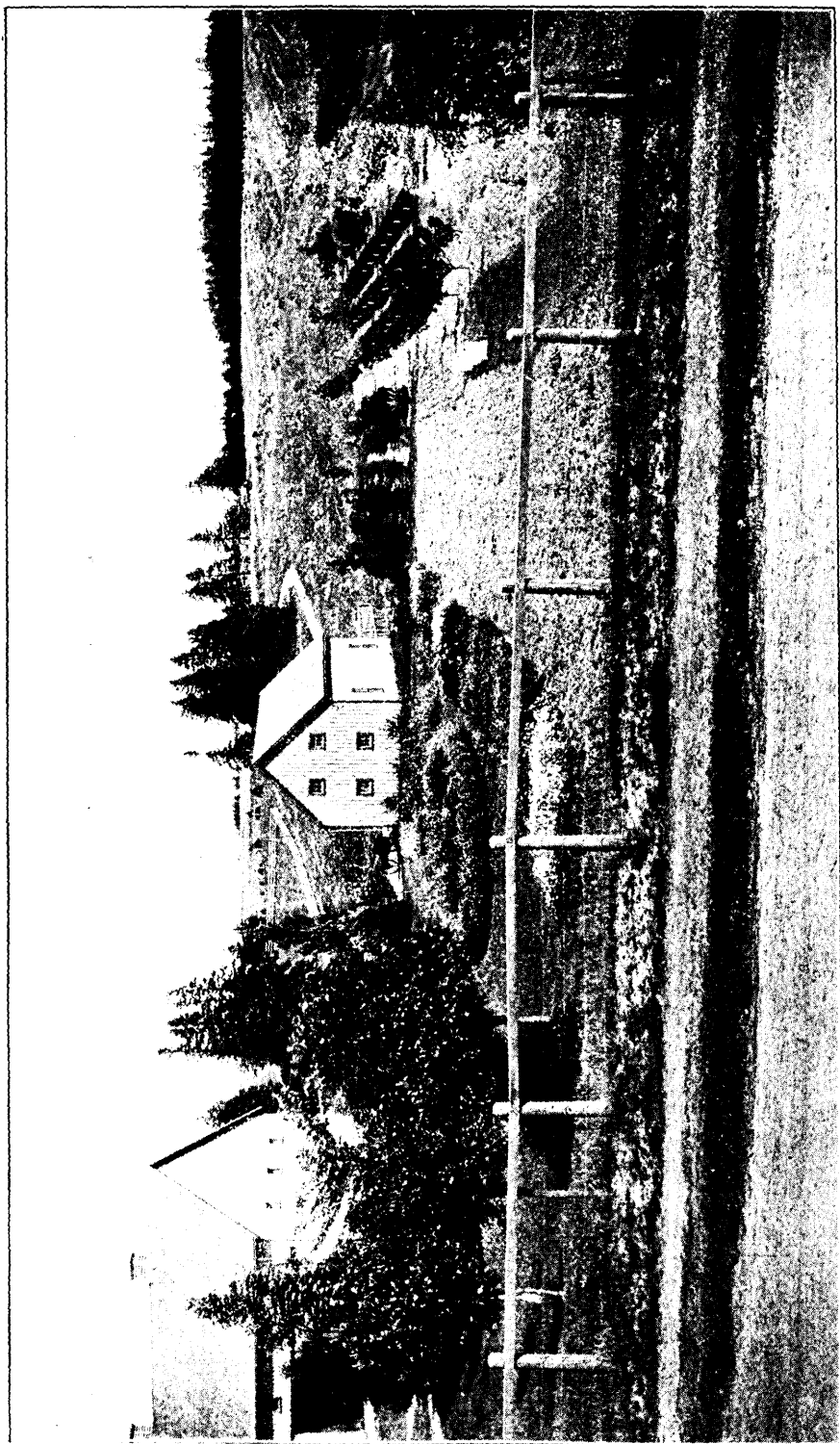
As already stated, the birds were fed their last ration on the afternoon of December 7th. They were given no food for 36 hours previous to being killed, in order to secure complete emptiness of crops and intestines. This is a matter of great import. If crops or intestines contain any food after death it is likely to decompose and ruin the carcass. It is an imperative condition, in the preparing of poultry for shipment to Great Britain, that the birds be fasted for 24 to 36 hours previous to killing. Experience has shown that 36 hours is the better margin. The birds were killed by dislocation of the neck. The easiest manner of killing and causing instantaneous death. The birds were immediately plucked. The plucking of the bird can be much more expeditiously and perfectly done while the body of the fowl is warm. The birds were carefully dry picked. Care was taken to avoid any abrasions of the skin, which is apt to occur with careless handling. The scalding of the birds, in order to permit of easy picking, should be avoided in any case, but it ruins the birds for sale in the English market. After plucking, the birds were placed in a small trough made by nailing a board to the wall of the loft of the poultry house at an angle of 45 degrees. The birds were allowed to remain in this trough until cool. Meanwhile they had assumed a round and compact shape, which added much to their appearance. The birds were then packed into cases to be sent to cold storage, with the exception of 9 which were retained for further

experiment. The birds chosen were composed of one from each group and were fairly representative ones, but by no means the best. The following table shows the loss in weight occasioned by 36 hours fasting, plucking and the waste in dressing and boiling:—

TABLE IV.

SHOWING loss in weight from fasting, plucking, dressing and boiling.

—	Weight.		After fasting 36 hours.		After plucking.		Weight of entrails.		Weight of waste, head, feet, &c.		After dressing.		Weight of giblets.		Weight of fat.		After boiling 14 hours.		Weight of flesh.		Weight of bone.		Weight of extractive.			
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Oz.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	
<i>Group 1.</i>																										
No. 1	6	7 $\frac{1}{2}$			6	3 $\frac{1}{2}$	6 $\frac{1}{2}$	13 $\frac{3}{4}$	4	1	3 $\frac{3}{4}$	8 $\frac{1}{2}$			2	12 $\frac{1}{2}$	10 $\frac{1}{2}$									
" 2	5	9 $\frac{1}{2}$			5	2																				
" 3	5	4 $\frac{1}{2}$			4	9 $\frac{1}{2}$																				
" 4																										
<i>Group 2.</i>																										
No. 5	5	2			4	8 $\frac{1}{2}$																				
" 6	5	2 $\frac{1}{2}$			4	9	7	11 $\frac{1}{4}$	3	1 $\frac{1}{2}$	3 $\frac{3}{4}$	2			2	7	8								3	
" 7	5	13			5	5 $\frac{1}{2}$																				
" 8	4	6			3	14 $\frac{1}{2}$																				
<i>Group 3.</i>																										
No. 9	8	13			8	2																				
" 10	8	8			7	15 $\frac{1}{2}$	8	1	4 $\frac{1}{2}$	5	7	5	5 $\frac{1}{2}$		3	6 $\frac{1}{2}$	13								5	
" 11	7	5			6	11																				
" 12	8	8 $\frac{1}{2}$			7	14																				
<i>Group 4.</i>																										
No. 13	dead.																									
" 14	8	12	8	8 $\frac{1}{2}$	7	14																				
" 15	7	13	7	10	7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	1	3 $\frac{3}{4}$	4	8 $\frac{1}{2}$	5 $\frac{1}{2}$	5		3	2 $\frac{1}{2}$	11 $\frac{1}{4}$								4 $\frac{1}{2}$	
" 16	8	4	8	1	7	8 $\frac{1}{2}$																				
<i>Group 5.</i>																										
No. 17	12	6	9 $\frac{1}{2}$	6	2																					
" 18	7	6	13 $\frac{1}{2}$	6	7 $\frac{1}{2}$																					
" 19	5	10 $\frac{1}{2}$	5	8 $\frac{1}{2}$	5	1 $\frac{1}{2}$	6	12 $\frac{1}{2}$	3	7 $\frac{1}{2}$	4	3 $\frac{3}{4}$			2	6 $\frac{3}{4}$	9 $\frac{1}{4}$								4	
" 20	5	14 $\frac{1}{2}$	5	11	5	4																				
<i>Group 6.</i>																										
No. 21	5	14	5	12 $\frac{1}{2}$	5	8	6 $\frac{1}{2}$	10 $\frac{1}{2}$	3	12 $\frac{1}{2}$	3 $\frac{3}{4}$	6 $\frac{3}{4}$			2		7 $\frac{1}{2}$								3	
" 22	6	4 $\frac{1}{2}$	6	2	5	13 $\frac{1}{2}$																				
" 23	5	3	5	1	4	12 $\frac{1}{2}$																				
" 24	5	12 $\frac{1}{2}$	5	10 $\frac{1}{2}$	5	7																				
<i>Group 7.</i>																										
No. 25	9	8	13 $\frac{1}{2}$	8	7 $\frac{1}{2}$																					
" 26	7	6	14	6	7	8 $\frac{1}{2}$	15 $\frac{3}{4}$	4	7 $\frac{3}{4}$	4 $\frac{1}{2}$	2 $\frac{1}{4}$				2	13 $\frac{3}{4}$	11 $\frac{1}{2}$								5 $\frac{1}{2}$	
" 27	6	15	6	12	6	4 $\frac{1}{2}$																				
" 28	7	3 $\frac{1}{2}$	7	2	6	10																				
<i>Group 8.</i>																										
No. 29	7	8 $\frac{1}{2}$	7	6	7	3 $\frac{1}{2}$																				
" 30	7	14 $\frac{1}{2}$	7	11	7	3 $\frac{1}{2}$																				
" 31	7	9	7	6	6	14	8	1	2	4	10 $\frac{3}{4}$	5 $\frac{1}{2}$	3 $\frac{1}{2}$		3	1	10 $\frac{1}{2}$								5	
" 32	6	10 $\frac{1}{2}$	6	8 $\frac{1}{2}$	6	3 $\frac{1}{2}$																				
<i>Group 9.</i>																										
No. 33	6	10	6	8	6	1	8	12 $\frac{3}{4}$	4	1 $\frac{3}{4}$	5	4 $\frac{1}{2}$			2	12	12 $\frac{1}{2}$								4 $\frac{1}{2}$	
" 34	4	4	4	3	3	12 $\frac{1}{2}$																				
" 35	6	9 $\frac{1}{2}$	5	5 $\frac{1}{2}$	5																					
" 36	6	15	6	12 $\frac{1}{2}$	6	3 $\frac{1}{2}$																				



View on the Experimental Farm at Nappan, Nova Scotia, showing Garden and part of Experimental Plots.

## Experimental Farms.

# EXPERIMENTAL FARM FOR THE MARITIME PROVINCES

REPORT OF R. ROBERTSON, SUPERINTENDENT.

NAPPAN, N.S., 30th November, 1898.

TO DR. WM. SAUNDERS,  
Director Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit herewith the following report of the operations on the Experimental Farm for the Maritime Provinces, at Nappan, N.S., during the year 1898.

### WEATHER.

December, 1897, came in cold with severe frost on the 3rd, followed by open weather to the 17th, when it set in cold again, remaining so until the 27th, which was moderate. The mercury fell to 2° below zero on the 30th. The first of January was more moderate, but the temperature fell to 4° below zero on the 3rd; and 3, 10 and 3 degrees below zero on the 4th, 5th and 6th respectively. The 7th and 8th was again soft weather, the mercury falling and keeping from 2° to 10° above zero as a minimum temperature until the 18th; when the thermometer registered 23° below zero; on the 19th, 22°; on the 22nd, 8°; on the 23rd, 7°; on the 26th, 5°; on the 27th, 0°; on the 28th, 8°; on the 29th, 23°; on the 30th, 24°; and the temperature fell to 30 degrees below zero on the 31st.

Slight snow fell on the 3rd of January and sleighs were used in some places; but sleighing was not good until the 13th, when there was quite a fall of snow, and on the 21st we had a heavy storm with wind, followed by a more severe one on the 24th. The first of February was still cold with a snow storm on the 1st and a very heavy one again on the 3rd. On the 4th of February, the mercury registered 17° below zero, but did not fall to zero again after that time. The weather was milder on the 6th and continued so until the 12th. The remainder of the month was pleasant with some quite severe frosts.

March was quite a moderate month being somewhat broken with snow and wind storms until the middle of the month. On the 30th there was a heavy rain; with a strong wind and another rain storm on the 31st and snow and rain again on April 1st. April was fine after this until the 15th and 16th, which days were wet; then it was again fine until the 21st, on the 25th it rained and on the 26th it snowed all day, but rained again on the 27th, the weather remaining cloudy and dull until May the 3rd, after this fine weather prevailed until the 14th, when there was a heavy warm rain. No heavy rain occurred again until the last of May and first of June.

On the 13th of April, the first grain was sown on a dry part of the farm, on the 23rd a small plot of barley was sown, but no further seed was sown until the 5th of May. Seeding then continued uninterrupted from the 9th to the 14th and from the 21st to 29th. The month of June was somewhat colder than usual being only fair growing weather and having little rain until the latter part of the month. July came in fine and warm and good growing weather continued.

The first hay was cut 1st July, and two weeks of excellent haying weather followed, after which the season was broken. The last of the English hay was gathered by 10th



August, and on the 30th broad leaf haying was finished. Winter Rye was cut 2nd August, and the first spring sown grain was cut 6th August. After the middle of August there was a week of splendid weather, with broken weather again until September.

The first frost occurred on the 13th September, it did not, however, fall below 31°, yet this injured some of the grain plots.

September was an exceptionally fine month until the 23rd, when it became wet and continued dark with almost continuous rains, not often heavy, until the 25th of November, when the first severe frost occurred. On the 11th of November there was a slight fall of snow, followed with rain, and a very heavy wind and snow storm on the 27th, the remainder of the month continued wet.

The fall has been exceptionally open having no heavy frosts. The thermometer registered the lowest temperature for September, 31° on the 22nd and 26° on the 25th; for October 26° on the 7th; 28° on the 10th; 24° on the 11th; 32° on 14th and 24° on the 29th; for November 31° on the 2nd; 28° on the 4th; 29° on the 8th and 31° on the 10th.

MAXIMUM and minimum thermometer readings for the year beginning with 1st December, 1897, and ending with 30th November, 1898.

## TEMPERATURES.

Month.	Maximum.	Minimum.
1897.		
December .....	56° above zero on 16th	2° below zero on 30th
1898.		
January.....	41° " 8th	30° " 31st
February.....	45° " 13th	17° " 4th
March.....	54° " 30th	3° above zero on 3rd
April.....	62° " 13th	20° " 11th
May.....	75° " 27th	24° " 10th
June.....	78° " 26th	33° " 18th
July.....	88° " 28th	40° " 6th
August.....	79° " 4th	42° " 29th
September.....	80° " 6th	26° " 25th
October.....	77° " 4th	24° " 11th
November.....	50° " 25th	21° " 27th

## HAY.

The hay crop on the marsh was a good average yield, while the upland was over an average crop. The 35 acres of marsh, growing English hay, produced 81 tons 1,000 pounds and the 6 acres of broad leaf marsh 10 tons 400 pounds. Thirteen acres of upland yielded 38 tons 1,600 pounds making total of 130½ tons. Considerable rain during hay making time made the haying season long; the hay was, however, gathered in good condition.

## EXPERIMENTS WITH OATS.

The land on which the oat plots were sown was a light clay loam. It was mudded in the winter with 60 two-horse loads of marsh mud per acre. Complete fertilizer at the rate of one barrel per acre was drilled in with the seed. This land was previously devoted principally to grain crops and was very poor and weedy, never having had any barn-yard manure. Mammoth Red Clover, 10 lbs. per acre was sown with the grain, but made only poor growth.

## Experimental Farms.

Sixty-four varieties were sown in one-twentieth acre plots on the 11th and 12th of May. There was some smut in the grain, the varieties named King and Dawson suffering more than the others. Most of the grain was slightly rusted. The following results were obtained:—

OATS—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw Per Acre.		Yield per Acre.	Weight per Bushel.
							Lbs.	Bush. Lbs.		
			In.		In.					Lbs.
Thousand Dollar.....	Aug. 16..	97	32	Stiff.....	7	Branching..	3,300	50	..	34
Cream Egyptian.....	" 15..	96	32	".....	6	Sided.....	3,500	48	8	37
Abundance.....	" 17..	98	30	".....	6	Branching..	3,480	48	8	33
Columbus.....	" 17..	98	32	Medium.....	6	".....	3,240	48	8	33
Lincoln.....	" 17..	98	30	Stiff..	6	".....	3,440	48	8	34
Prize Cluster.....	" 13..	94	36	".....	7	".....	3,460	47	22	37½
Oderbruch.....	" 19..	100	30	".....	6	Sided.....	3,300	47	2	37
Abyssinia.....	" 15..	96	32	".....	7	".....	3,660	45	30	37
White Schonen.....	" 19..	100	36	".....	7	Branching..	3,540	45	10	34
Banner.....	" 19..	100	30	".....	6	".....	3,100	44	24	34
Bavarian.....	" 19..	100	32	".....	6½	".....	3,040	44	24	33
White Russian.....	" 17..	98	32	".....	6	".....	3,500	44	24	34
Early Blossom.....	" 20..	100	28	".....	5	Sided.....	3,000	43	18	37
Doncaster Prize.....	" 17..	98	30	".....	7	Branching..	3,320	42	32	36½
Black Mesdag.....	" 16..	97	30	Medium.....	7	".....	2,540	42	32	34½
Victoria Prize.....	" 15..	96	33	Stiff..	9	".....	3,560	42	12	37
White Giant.....	" 19..	100	31	".....	6½	".....	4,100	42	12	33
Siberian O. A. C.....	" 20..	101	32	".....	8	".....	2,600	42	12	33
Mennonite.....	" 16..	97	32	".....	7	".....	2,840	42	12	34
Flying Scotchman.....	" 13..	94	36	".....	7	".....	3,100	41	6	38
Rennie's Prize White.....	" 13..	94	32	".....	8	".....	3,160	40	..	40½
Wide Awake.....	" 19..	100	30	".....	6	".....	2,200	40	..	34
Early Maine.....	" 16..	97	27	".....	7	".....	3,140	40	..	35
Golden Giant.....	" 22..	103	30	".....	6	Sided.....	2,100	40	..	34
American Beauty.....	" 19..	100	32	".....	5	Branching..	2,540	40	..	32
Danish Island.....	" 19..	100	30	".....	6	".....	2,300	39	14	33
White Wonder.....	" 15..	96	34	".....	8	".....	3,460	38	28	37
California Prolific Black.....	" 17..	98	30	".....	7	Sided.....	3,100	38	28	32
Hazlett's Seizure.....	" 16..	97	30	".....	7	Branching..	2,700	38	28	38
Wallis.....	" 19..	100	30	".....	7	".....	2,200	38	28	34
Imported Irish.....	" 13..	94	32	".....	8	".....	2,800	38	8	40
Prolific Black Tartarian.....	" 15..	96	32	".....	7	Sided.....	3,600	36	16	33
Poland.....	" 13..	94	32	".....	7	Branching..	2,600	35	30	38
Golden Tartarian.....	" 24..	105	30	".....	6	Sided.....	2,140	35	30	32
Early Golden Prolific.....	" 19..	100	30	".....	6	Branching..	2,040	35	10	34
Welcome.....	" 17..	98	32	".....	7	".....	2,000	35	10	37
Scottish Chief.....	" 19..	100	33	Medium..	6	".....	2,300	35	10	37½
Golden Beauty.....	" 20..	101	30	Stiff..	7	".....	2,700	35	10	33
Mortgage Lifter.....	" 16..	97	32	".....	8	".....	1,900	34	4	37
Early Archangel.....	" 17..	98	31	".....	6½	".....	2,200	34	4	37
Newmarket.....	" 17..	98	30	".....	6	".....	1,760	34	4	34
Master.....	" 20..	101	30	".....	7	".....	2,760	33	18	36
Rosedale.....	" 17..	98	30	".....	6	Sided.....	1,800	33	18	37
Early Gothland.....	" 19..	100	30	".....	6	".....	2,260	33	18	37½
Bonanza.....	" 19..	100	31	Medium..	7	Branching..	2,100	32	32	35
Cromwell.....	" 22..	103	28	".....	6	".....	1,840	32	12	35
Buckbee's Illinois.....	" 24..	105	28	Stiff.....	5	".....	1,840	31	26	35
King.....	" 19..	100	28	".....	5	".....	2,140	31	26	35
American Triumph.....	" 20..	101	34	".....	7	".....	1,880	31	26	34
Improved American.....	" 19..	100	30	".....	5	".....	1,840	31	6	33
Joanette.....	" 16..	97	28	Medium..	6	".....	2,000	30	20	35
Brandon.....	" 22..	103	30	".....	7	".....	1,740	30	20	35
Dawson.....	" 19..	100	30	".....	8	".....	1,800	29	14	38
Holland.....	" 22..	103	26	Stiff.....	6	Sided.....	1,880	28	8	34
Miller.....	" 19..	100	28	".....	6	Branching..	1,960	28	8	34
Russell.....	" 22..	103	28	Medium..	6	".....	2,100	28	8	35
Olive.....	" 16..	97	28	Stiff.....	6	Sided.....	1,800	27	22	36

OATS—TEST OF VARIETIES.—*Concluded.*

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.		Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.		Yield per Acre.		Weight per bushel.
			In.	In.				Lbs.	Bush. Lbs.	Lbs.		
Holstein Prolific.....	Aug 20..	101	26	Stiff.....	5	Branching..	1,680	27	22	34		
Coulommiers.....	" 24..	105	28	".....	6	".....	1,860	27	22	33		
Medal.....	" 20..	101	26	Medium.....	6	".....	1,960	26	16	35		
Improved Ligowo.....	" 16..	97	30	Stiff..	7	".....	1,700	25	10	33		
Oxford.....	" 20..	101	26	".....	6	".....	1,740	24	4	36		
Winter Grey.....	" 16..	97	30	Medium.....	7	".....	1,700	22	12	37		
Pense.....	" 20..	101	26	Stiff.....	5	Sided.....	1,560	22	12	36		

NOTE.—The weights given here, and also in all other grain tables in this report, were taken as the grain came from the threshing mill, and are not the maximum weights that the grain could be brought to by cleaning.

## TREATING OATS TO PREVENT SMUT.

In order to test the relative value of different materials for treating seed oats to prevent smut, experiments were tried in accordance with instructions received from the Director, with three different kinds of oats, which were tested as follows :

1st. Bordeaux mixture made with 4 lbs. of sulphate of copper to 4 lbs. of lime, in a 40 gallon barrel full of water in which the seed was soaked for four hours.

2nd. Formalin 2 parts in one thousand made by mixing 3 oz. of formalin in 10 imperial gallons of water in which the seed was soaked for two hours.

3rd. Formalin 3 parts in one thousand made by mixing 4½ oz. of formalin in 10 imperial gallons of water in which the seed was soaked for two hours.

After the grain had been soaked for the periods named it was taken out of the solution, where it had been suspended in a bag, and drained for a short time after which it was exposed to the air and dried before sowing. A fourth plot of each variety was not treated but left as a check plot. The seed was sown in plots measuring 33 by 3 feet on 13th May, and a record of the smutty heads and those free from smut was taken 20th August. The following results were obtained.

## OATS TREATED FOR SMUT.

Varieties and how treated.	Good Heads.	Smutty Heads.
<i>Doncaster Prize.</i>		
Bordeaux Mixture.....	3,450	30
Formalin, 2 parts in 1,000.....	3,066	.....
" 3 ".....	4,014	36
Untreated.....	2,550	156
<i>Mortgage Lifter.</i>		
Bordeaux Mixture.....	2,646	6
Formalin, 2 parts in 1,000.....	2,658	.....
" 3 ".....	3,048	.....
Untreated.....	3,854	126
<i>Flying Scotchman.</i>		
Bordeaux Mixture.....	2,514	30
Formalin, 2 parts in 1,000.....	3,402	.....
" 3 ".....	2,814	.....
Untreated.....	3,192	132

# Experimental Farms.

## EXPERIMENTS WITH BARLEY.

The test plots of barley consisted of 24 varieties of six-rowed and 17 varieties of two-rowed. The soil on which they were grown was a clay loam which had roots as a previous crop. One barrel of complete fertilizer was used per acre. The fertilizer was drilled in with the seed. The "Wisner" seed drill with fertilizer attachment was used for sowing all grain plots.

Some of the varieties had smut in them; but the straw was free from rust. Ten pounds of clover, the Mammoth Red variety per acre was sown with the grain and made a splendid growth; having quite a sward to turn down late in the autumn. The seed was sown 10th May in one-fortieth acre plots at the rate of two bushels per acre. The results obtained are given in the following table:—

BARLEY, SIX-ROWED—TEST OF VARIETIES.

Name of Variety.	Date of Ripening,	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per acre.	Yield per acre.		Weight per Bushel.
			In.		Inches.	Lbs.	Bus.	Lbs.	Lbs.
Pioneer	Aug. 9	91	42	Stiff	3	3,800	50		51
Stella	" 15	97	40	"	2 $\frac{3}{4}$	4,080	46	32	49
Oderbruch	" 8	90	34	Medium	2 $\frac{1}{2}$	4,200	45	40	50
Baxter	" 6	88	38	"	2 $\frac{1}{2}$	4,200	41	32	49
Odessa	" 8	90	36	"	2 $\frac{1}{2}$	3,640	40	40	48
Trooper	" 9	91	34	Stiff	2 $\frac{3}{4}$	3,000	40	40	48
Vanguard	" 8	90	34	Medium	2 $\frac{1}{2}$	3,240	38	16	49
Common	" 8	90	34	"	2 $\frac{1}{2}$	3,200	37	24	49
Mensury	" 6	88	36	Stiff	2 $\frac{1}{2}$	3,600	37	24	48
Success	" 6	88	36	"	2 $\frac{1}{2}$	4,200	36	32	41 $\frac{1}{2}$
Summit	" 15	97	46	"	3	4,040	36	32	48 $\frac{1}{2}$
Rennie's Improved	" 8	90	36	"	2 $\frac{1}{2}$	4,000	34	8	48
Nugent	" 9	91	32	"	2 $\frac{1}{2}$	3,660	34	8	48
Phoenix	" 9	91	35	"	2 $\frac{1}{2}$	3,400	34	8	49
Empire	" 12	94	38	"	2 $\frac{3}{4}$	3,200	34	8	48
Excelsior	" 6	88	38	"	2 $\frac{3}{4}$	3,720	33	16	40
Blue Barley	" 9	91	35	"	2 $\frac{3}{4}$	3,400	33	16	41
Mansfield	" 11	93	38	"	2 $\frac{1}{2}$	3,480	33	16	46
Royal	" 8	90	36	"	2 $\frac{1}{2}$	3,400	33	16	48
Argyle	" 9	91	38	"	2 $\frac{1}{2}$	3,400	32	24	47
Petschora	" 9	91	34	Medium	3	2,880	29	8	45 $\frac{1}{2}$
Surprise	" 15	97	37	Stiff	2 $\frac{1}{2}$	3,200	29	8	48
Champion	" 6	88	36	"	2 $\frac{1}{2}$	3,080	25		41

BARLEY, TWO-ROWED—TEST OF VARIETIES.

Beaver	Aug. 12	93	34	Stiff	3 $\frac{1}{2}$	2,800	40	40	49 $\frac{1}{2}$
Bolton	" 12	93	34	"	3	2,600	35		51
Newton	" 12	93	34	"	2 $\frac{1}{2}$	3,500	33	16	48
Danish Chevalier	" 15	96	32	Medium	3 $\frac{1}{2}$	3,600	33	16	47 $\frac{1}{2}$
Dunham	" 12	93	38	Stiff	3	2,920	32	24	47 $\frac{1}{2}$
Sidney	" 15	96	34	"	3	2,680	32	24	50
French Chevalier	" 15	96	35	Medium	3 $\frac{1}{2}$	3,400	30		48
Victor	" 12	93	37	Stiff	3	2,920	29		50 $\frac{1}{2}$
Nepean	" 12	93	35	Medium	2 $\frac{1}{2}$	3,080	28	16	49
Canadian Thorpe	" 12	93	34	Stiff	3	2,920	27	24	49 $\frac{1}{2}$
Prize Prolific	" 15	96	32	"	4	3,000	27	24	47
Leslie	" 12	93	36	"	2 $\frac{3}{4}$	2,600	26	32	49
Facer	" 12	93	36	"	2 $\frac{3}{4}$	2,680	25	40	48 $\frac{1}{2}$
Logan	" 12	93	38	"	3	2,840	25	40	48
Kinver Chevalier	" 15	96	35	Medium	3 $\frac{1}{2}$	3,200	25	40	47
Monck	" 15	96	34	Stiff	3	3,240	25		49
Thanet	" 15	96	32	"	3	2,440	24	8	48 $\frac{1}{2}$

## EXPERIMENTS WITH SPRING WHEAT.

Forty-two varieties of spring wheat were sown in these experimental plots. The straw rusted very badly and consequently the grain did not fill out, the crop being almost a complete failure in some cases. The soil on which these wheats were grown, was a clay loam, similar to that on which the barleys were grown and received the same treatment.

The plots were one-fortieth acre each. The seed was sown 9th May at the rate of  $1\frac{3}{4}$  bushels per acre. Mammoth red clover at the rate of 10 pounds per acre was sown at the same time with the grain. The clover made vigorous growth and quite a heavy crop was consequently turned under when ploughed in the autumn. The results obtained were as given below:—

## SPRING WHEAT—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per acre.		Yield per Acre.		Weight per Bushel.
							Lbs.	Bush.	lbs.	Lbs.	
Wellman's Fife.....	Aug. 24.	107	37	Stiff .....	3	Beardless.	2,560	25	20	57	
Pringle's Champlain..	" 18.	101	34	" .....	2 $\frac{1}{2}$	Bearded..	3,800	24	40	58.	
Beauty .....	" 23.	106	34	" .....	2 $\frac{1}{2}$	Beardless.	2,280	23	20	55	
Progress .....	" 19.	102	34	" .....	3	" ..	3,000	22	40	57	
Alpha .....	" 22.	105	38	" .....	2 $\frac{1}{2}$	" ..	2,800	22	40	58	
Admiral .....	" 22.	105	34	" .....	2 $\frac{1}{2}$	" ..	2,400	22	..	58	
Hungarian .....	" 23.	106	36	" .....	2 $\frac{1}{2}$	Bearded..	2,600	22	..	58	
White Connell .....	" 23.	106	36	" .....	2 $\frac{1}{2}$	Beardless.	2,520	22	..	56	
Emporium .....	" 23.	106	36	" .....	2 $\frac{1}{2}$	Bearded..	2,800	21	20	57	
Huron .....	" 23.	106	38	" .....	3	" ..	2,600	21	20	55	
Countess .....	" 19.	102	35	" .....	2 $\frac{1}{2}$	Beardless.	3,400	20	40	55 $\frac{1}{2}$	
Colorado .....	" 18.	101	36	" .....	2 $\frac{1}{2}$	Bearded..	3,800	20	40	57	
Rio Grande .....	" 24.	107	38	" .....	3 $\frac{1}{2}$	" ..	2,880	20	..	57	
Monarch .....	" 25.	108	38	" .....	3 $\frac{1}{2}$	Beardless.	2,680	20	..	56 $\frac{1}{2}$	
Herisson Bearded..	" 19.	102	32	Weak .....	1 $\frac{1}{2}$	Bearded..	2,360	20	..	58 $\frac{1}{2}$	
Blenheim .....	" 23.	106	38	Stiff .....	3	" ..	3,800	20	..	56 $\frac{1}{2}$	
Red Fife .....	" 23.	106	36	" .....	2 $\frac{1}{2}$	Beardless.	2,120	19	20	56	
Beaudry .....	" 19.	102	37	Medium..	2 $\frac{1}{2}$	Bearded..	2,800	19	20	56 $\frac{1}{2}$	
Rideau .....	" 19.	102	32	" .....	2 $\frac{1}{2}$	Beardless.	2,600	18	40	55	
Harold .....	" 19.	102	33	Weak .....	2	Bearded..	2,240	18	40	57	
Plumper .....	" 19.	102	33	Medium..	2 $\frac{1}{2}$	" ..	2,720	18	40	55	
Old Red River .....	" 24.	104	32	Stiff .....	2 $\frac{1}{2}$	Beardless.	2,560	18	40	56	
Captor .....	" 23.	106	36	" .....	2	" ..	2,280	18	..	56.	
Red Fern .....	" 18.	101	36	" .....	2 $\frac{1}{2}$	Bearded..	2,360	18	..	57	
Preston .....	" 18.	101	37	" .....	3	" ..	2,200	17	20	56	
Goose .....	" 19.	102	34	Medium..	2 $\frac{1}{2}$	" ..	2,800	17	20	59	
Percy .....	" 22.	105	38	Stiff .....	2 $\frac{1}{2}$	Beardless.	2,400	17	20	57	
Vernon .....	" 19.	102	35	" .....	2 $\frac{1}{2}$	Bearded..	2,600	17	20	52	
Advance .....	" 24.	107	36	" .....	3	" ..	2,600	17	20	55	
Stanley .....	" 24.	107	36	" .....	3	Beardless.	2,600	17	20	55	
White Fife .....	" 22.	105	36	" .....	3	" ..	2,380	17	20	55	
Dufferin .....	" 18.	101	39	" .....	2 $\frac{1}{2}$	Bearded..	2,600	16	40	56 $\frac{1}{2}$	
Golden Drop .....	" 18.	101	32	" .....	2 $\frac{1}{2}$	Beardless.	2,200	16	..	52	
Campbell's White Chaff	" 19.	102	36	" .....	2 $\frac{1}{2}$	" ..	3,680	16	..	52	
Crown .....	" 24.	107	34	" .....	2 $\frac{1}{2}$	Bearded..	1,920	16	..	54 $\frac{1}{2}$	
Ladoga .....	" 18.	101	40	" .....	3	" ..	3,800	15	20	53	
Blair .....	" 19.	102	37	Medium..	2 $\frac{1}{2}$	Beardless.	2,840	15	20	56	
Dion's .....	" 22.	105	35	Stiff .....	3	Bearded..	2,320	15	20	55	
Black Sea .....	" 18.	101	38	" .....	3	" ..	2,680	14	40	52	
Dawn .....	" 18.	101	36	" .....	3	Beardless.	1,800	14	00	54	
White Russian .....	" 19.	102	33	" .....	2 $\frac{1}{2}$	" ..	2,200	13	20	50	
Mason .....	" 19.	102	33	Medium..	2 $\frac{1}{2}$	" ..	1,920	12	40	54	

# Experimental Farms.

## EXPERIMENTS WITH PEASE.

Forty-seven varieties of pease were sown on land similar to that on which the oats were grown. No mud was applied, but complete fertilizer at the rate of one barrel per acre was used. This land was very poor, never having had any barn-yard manure. Soon after the plots were sown, a weed called "spurry" *Spergula arvensis* L. came up so thickly that it completely choked the growth of the pease so that it was thought advisable to cut many of them for green fodder. Under the circumstances no comparative report can be given which would be of any value as to the relative merits of the varieties tested.

### RESULTS OF EARLY MEDIUM AND LATE SOWINGS.

The sowing of grain at different periods to test the relative value of early, medium, and late sowings was again carried on this year. The first set of these plots was sown 5th May and continued until 9th June, one set each week, making six sowings in all, one week apart. Two varieties each of wheat, barley, oats and pease were used in this test.

The soil was a clay loam of poor quality. Pease had been grown on the land for the two previous years. This season it was worked up with the disc harrow and stable manure at the rate of twenty 30 bushel cart loads per acre was applied and worked in. The seed was then sown, and one barrel of complete fertilizer per acre was applied at the same time. The last set of wheat plots were injured by frost on 13th September. The early wheat plots were more rusted than the later ones. The oats were slightly rusted and the barley had a considerable quantity of smut in it. The plots were one-fortieth of an acre each. The results obtained were as follows:—

#### OATS—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing	Weight of Straw per acre.		Yield per Acre.		Weight per Bushel.
				Lbs.	Bush.	Lbs.	Lbs.	
No. 1—Banner.	May 5.	Aug. 15.	102	3,400	52	32	32	
Abundance.	" 5.	" 15.	102	2,840	50	20	32	
No. 2—Banner.	" 12.	" 20.	100	3,480	48	8	33	
Abundance.	" 12.	" 20.	100	2,920	48	8	32	
No. 3—Banner.	" 19.	" 27.	100	3,280	48	8	33	
Abundance.	" 19.	" 27.	100	2,520	36	16	32	
No. 4—Banner.	" 26.	" 31.	97	2,840	41	26	32	
Abundance.	" 26.	" 31.	97	2,400	32	32	31	
No. 5—Banner.	June 2.	Sept. 6.	96	2,800	36	16	32	
Abundance.	" 2.	" 6.	96	3,200	43	18	29	
No. 6—Banner.	" 9.	" 12.	95	2,640	29	14	27	
Abundance.	" 9.	" 12.	95	2,520	23	18	31	

#### BARLEY—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

No. 1—Odessa	May 5.	Aug. 6.	93	3,000	40	40	48
Canadian Thorpe.	" 5.	" 8.	95	4,400	44	8	50
No. 2—Odessa	" 12.	" 11.	91	4,000	29	8	47½
Canadian Thorpe.	" 12.	" 13.	93	4,000	25	..	49½
No. 3—Odessa	" 19.	" 15.	88	2,800	23	16	47
Canadian Thorpe.	" 19.	" 18.	91	3,800	24	8	49
No. 4—Odessa	" 26.	" 26.	92	3,000	25	..	46
Canadian Thorpe.	" 26.	" 26.	92	2,840	25	40	50
No. 5—Odessa	June 2.	Sept. 5.	93	2,800	31	32	46
Canadian Thorpe.	" 2.	" 5.	93	2,920	25	40	49
No. 6—Odessa	" 9.	" 12.	93	2,320	23	16	40
Canadian Thorpe.	" 9.	" 12.	93	2,520	25	..	45

## SPRING WHEAT—EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing	Weight of Straw per acre.		Yield per acre.		Weight per Bushel.
				Lbs.	Bush.	Lbs.	Lbs.	
No. 1—Red Fife.....	May 5..	Aug. 20..	107	2,500	20	..	57	
Stanley.....	" 5..	" 20..	107	2,200	18	..	57	
No. 2—Red Fife.....	" 12..	" 24..	105	2,540	21	20	56	
Stanley.....	" 12..	" 24..	105	2,000	16	..	56	
No. 3—Red Fife.....	" 19..	" 30..	103	1,920	14	..	57	
Stanley.....	" 19..	" 30..	103	2,080	15	20	56	
No. 4—Red Fife.....	" 26..	Sept. 4..	101	2,040	17	20	58	
Stanley.....	" 26..	" 4..	101	2,280	14	..	55	
No. 5—Red Fife.....	June 2..	" 11..	103	1,920	15	20	55	
Stanley.....	" 2..	" 11..	103	1,880	12	40	52	
No. 6—Red Fife.....	" 9..	*	..	..	..	..	..	
Stanley.....	" 9..	*	..	..	..	..	..	

## PEASE—EARLY, MEDIUM AND LATE SOWINGS.

No. 1—Golden Vine.....	May 5..	Aug. 15..	102	1,800	11	20	54
Mummy.....	" 5..	" 15..	102	1,800	12	..	58
No. 2—Golden Vine.....	" 12..	" 22..	102	1,800	12	..	54
Mummy.....	" 12..	" 22..	102	1,880	11	20	56
No. 3—Golden Vine.....	" 19..	" 27..	100	1,400	9	20	54
Mummy.....	" 19..	" 27..	100	1,440	10	40	58
No. 4—Golden Vine.....	" 26..	" 30..	98	1,080	8	..	56
Mummy.....	" 26..	" 30..	98	1,120	10	..	57
No. 5—Golden Vine.....	June 2..	Sept. 4..	94	1,080	11	..	56
Mummy.....	" 2..	" 4..	94	1,720	13	20	56
No. 6—Golden Vine.....	" 9..	" 9..	94	1,320	9	20	55
Mummy.....	" 9..	" 9..	94	1,360	11	20	55

\*Destroyed by frost.

## EXPERIMENTS WITH INDIAN CORN.

The previous crop grown on this land was hay. Stable manure at the rate of 20 30-bushel cart loads per acre was spread on the sod and ploughed under. The land was worked up and marked out in rows and hills 3 feet apart. Three barrels of ashes and 300 pounds of complete fertilizer per acre was sown as the seed was planted and covered in at the same time.

One set of plots was planted in rows 3 feet apart and a duplicate set alongside in hills 3 feet apart each way. The soil was a light clay loam. Twenty-five varieties were planted on June 1st and the following crops was obtained:—

## INDIAN CORN—TEST OF VARIETIES.

Name of Variety.	Height.	Leafiness.	When Tasselled.	In Silk.	Condition when Cut.	Weight per acre	
						grown in rows.	grown in hills.
Thoroughbred White Flint.....	In. 102	Very	..	..	Sept. 26. Tasselled....	23 1,850	22 1,650
Early Mastodon.....	108	Fairly	..	..	" " " " " "	21 1,450	19 830
Sanford.....	90	Very	Aug. 20	Aug. 25	Soft glazed.	20 1,800	20 150
Red Cob Ensilage.....	100	"	..	..	Tasselled....	18 300	22 ..
Pearce's Prolific.....	80	"	Aug. 18	Aug. 25	Soft glazed.	17 1,200	15 1,350
White Cap Yellow Dent.....	102	"	" 25	" 30	" " " " " "	17 1,200	18 300
Longfellow.....	84	"	" 18	" 25	" " " " " "	17 650	16 1,550
Canada White Flint.....	84	Fairly	" 20	" 25	" " " " " "	17 100	16 450
King of the Earliest.....	90	"	" 18	" 27	" " " " " "	17 100	12 970
Mamm. Eight-rowed Flint.....	96	Very	" 20	" 27	" " " " " "	16 1,770	17 100

# Experimental Farms.

## INDIAN CORN—TEST OF VARIETIES.—*Concluded.*

Name of Variety.	Leafiness.		When Tasselled.	In Silk.	Condition when Cut.	Weight per acre grown in rows.	Weight per acre grown in hills.
	Height.						
	In.					Tons. Lbs.	Tons. Lbs.
North Dakota White.....	100	Very.....	Aug. 20	Aug. 27	Soft glazed.	16 1,770	15 1,130
Mammoth Cuban.....	120	".....	" 27	Sept. 1	".....	16 1,770	12 750
Kendall's Giant.....	80	".....	" 20	Aug. 27	".....	16 1,560	15 1,050
Giant Prolific Ensilage.....	96	Fairly.....	".....	".....	Tasselled.....	16 1,550	19 500
Compton's Early.....	80	".....	Aug. 18	Aug. 25	Soft glazed.	16 1,550	14 270
Champion White Pearl.....	106	".....	" 28	Sept. 1	Late milk..	16 1,220	16 120
Angel of Midnight.....	80	".....	" 18	Aug. 25	Soft glazed.	16 450	14 350
Pride of the North.....	90	".....	" 25	" 29	".....	15 1,350	18 300
Extra Early Huron Dent.....	90	".....	" 20	" 27	".....	15 1,020	11 1,320
Selected Leaming.....	108	".....	" 28	Sept. 1	Late milk..	14 1,150	15 250
Cloud's Early Yellow.....	80	".....	" 25	Aug. 31	Soft glazed.	12 1,850	16 1,220
Early Butler.....	96	".....	" 25	" 31	".....	12 970	12 970
Evergreen Sugar.....	80	Leafy.....	" 27	" 31	".....	11 550	12 1,360
Mitchell's Extra Early.....	60	".....	" 4	" 18	Hard glazed	9 1,250	10 350
Ruby Mexican.....	72	".....	".....	".....	Tasselled.....	9 150	12 200

### CORN PLANTED AT DIFFERENT DISTANCES APART.

Three varieties of corn were used in this experiment, and three sets of rows were sown for each plot with duplicate plots in hills. The crop from the middle row of each plot was weighed and the yield per acre ascertained from it; by so doing the narrower or wider rows alongside would not influence the weight of the row cut.

These were grown on land similar to that on which the corn was grown for test of varieties and the same preparation was given. The plots were planted 1st June and cut 26th September. The wider rows gave a larger proportion of ears. The results obtained from this experiment are given below in yields per acre:—

### INDIAN CORN GROWN AT DIFFERENT DISTANCES APART.

Varieties and how sown.	Rows.		Hills.	
	Tons.	Lbs.	Tons.	Lbs.
<i>Longfellow.</i>				
2 feet apart.....	18	1,950	17	1,475
2½ ".....	17	980	15	360
3 ".....	14	1,810	12	750
3½ ".....	12	998	14	1,243
4 ".....	11	1,017	10	1,450
<i>Champion White Pearl.</i>				
2 feet apart.....	23	1,355	22	550
2½ ".....	19	148	13	1,324
3 ".....	19	1,270	15	1,350
3½ ".....	17	903	12	527
4 ".....	13	1,782	10	1,037
<i>Selected Leaming.</i>				
2 feet apart.....	21	570	19	115
2½ ".....	18	696	16	208
3 ".....	16	1,550	13	950
3½ ".....	14	1,809	11	1,583
4 ".....	13	1,415	10	1,862



EXPERIMENTS WITH FERTILIZERS ON INDIAN CORN.

The land on which these experiments were conducted had previously grown hay and clover. The soil was a light clay loam, and the manure was spread on the sod and then ploughed under. The land was ploughed just before planting, was then worked up, and after the corn was planted the complete fertilizer was sown broadcast and harrowed in.

*Plot 1.*—Twenty 30-bushel cart loads of stable manure per acre and 250 lbs. of complete fertilizer were used per acre. The yield was 13½ tons per acre.

*Plot 2.*—250 lbs. of complete fertilizer was used per acre. The yield was 8 tons per acre.

*Plot 3.*—Had no fertilizer and no manure. The yield was 7 tons 1600 lbs. per acre.

It will be observed that the effect of the complete fertilizer on the weight of the corn crop was very slight. The field on which these tests were made was one-half acre, and the three plots referred to were ¼th acre each, and were measured off from the half acre.

EXPERIMENTS WITH TURNIPS.

The soil on which these were grown was of a clayey loam nature. The previous crop was corn. The land was ploughed in the spring and manured with twenty-five 30-bushel cart loads of stable manure per acre, after which it was again ploughed and worked up. Fertilizers at the rate of 250 lbs. of complete fertilizer per acre, 200 lbs. of bone meal and 200 lbs. of salt per acre were then sown broadcast and harrowed in, after which the drills were run up 28 inches apart.

Two sets of plots were sown, two weeks intervening between the sowings. The yield of all the root plots per acre has been calculated from the quantity obtained from two rows each 66 feet long. Nineteen varieties were sown, which gave the following results :—

TURNIPS.—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.		Yield per Acre.	
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.	1st Plot.	1st Plot.	2nd Plot.	2nd Plot.
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Carter's Elephant	May 25	June 7	Oct. 14	Oct. 14	30	1915	1031	55	25	25	833	45
Mammoth Clyde	" 25	" 7	" 14	" 14	30	1190	1019	50	21	755	712	25
Halewood's Bronze Top	" 25	" 7	" 14	" 14	30	465	1007	45	29	1160	986	..
Hartley's Bronze	" 25	" 7	" 14	" 14	30	175	1002	55	27	1535	925	35
Hall's Westbury	" 25	" 7	" 14	" 14	29	1740	965	40	23	1125	785	25
Giant King	" 25	" 7	" 14	" 14	29	725	978	45	23	1125	785	25
Marquis of Lorne	" 25	" 7	" 14	" 14	29	..	966	40	26	490	874	50
Bangholm's Selected	" 29	" 7	" 14	" 14	28	840	947	20	21	50	700	50
Skirving's	" 25	" 7	" 14	" 14	28	1275	954	35	20	1650	394	10
Selected Champion	" 25	" 7	" 14	" 14	28	550	942	20	23	1415	790	15
Pearce's Prize Winner	" 25	" 7	" 14	" 14	28	115	935	15	22	225	737	5
Perfection Swede	" 25	" 7	" 14	" 14	28	115	935	15	28	1275	954	35
Selected Purple Top	" 25	" 7	" 14	" 14	27	1825	930	25	22	950	749	10
Drummond Purple Top	" 25	" 7	" 14	" 14	27	1390	923	10	21	1790	729	50
Sutton's Champion	" 25	" 7	" 14	" 14	27	1390	923	10	22	515	741	55
Jumbo or Monarch	" 25	" 7	" 14	" 14	27	1100	918	20	23	400	773	20
Shamrock Purple Top	" 25	" 7	" 14	" 14	27	375	906	15	21	1500	725	..
East Lothian	" 25	" 7	" 14	" 14	27	375	906	15	23	400	773	20
Prize Purple Top	" 25	" 7	" 14	" 14	26	925	882	5	25	1475	857	55

# Experimental Farms.

## EXPERIMENTS WITH MANGELS.

Eighteen varieties of mangels were sown on the same kind of soil as that used in the experiments with turnips and received similar treatment. Two sowings were made of each variety and the following table gives the results obtained:—

MANGELS.—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.		
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot			
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.
Giant Yellow Intermediate (Steele)	May 25	June 7	Oct. 6	Oct. 6	30	1,635	1,027	15 25	1,475	857	55
Giant Yellow Globe	" 25	" 7	" 6	" 6	30	175	1,002	55 38	125	1,268	45
Giant Yellow Intermediate (Ewing)	" 25	" 7	" 6	" 6	29	1,450	990	50 18	1,700	628	20
Gate Post Yellow	" 25	" 7	" 6	" 6	29	725	978	45 16	1,350	555	50
Gate Post	" 25	" 7	" 6	" 6	28	1,275	954	35 22	1,387	756	27
Giant Yellow Half-long	" 25	" 7	" 6	" 6	28	550	942	30 18	250	604	10
Mammoth Long Red	" 25	" 7	" 6	" 6	27	1,390	923	10 27	1,100	918	20
Champion Yellow Globe	" 25	" 7	" 6	" 6	26	925	882	5 24	140	802	20
Yellow Intermediate	" 25	" 7	" 6	" 6	25	1,040	850	40 23	1,850	797	30
Norbital Giant	" 25	" 7	" 6	" 6	25	750	845	50 16	625	543	45
Prize Mamm. Long Red	" 25	" 7	" 6	" 6	23	1,415	790	15 23	1,850	797	30
Red Fleshed Globe	" 25	" 7	" 6	" 6	22	1,675	761	15 19	425	640	25
Warden Orange Globe	" 25	" 7	" 6	" 6	21	1,500	725	20	1,325	688	45
Ward's Large Oval-shaped	" 25	" 7	" 6	" 6	20	1,325	688	45 15	1,175	512	55
Canadian Giant	" 25	" 7	" 6	" 6	19	1,875	664	35 21	1,500	725	..
Red Fleshed Tankard	" 25	" 7	" 6	" 6	19	1,875	664	35 21	1,500	725	..
Selected Mamm. Long Red	" 25	" 7	" 6	" 6	19	1,875	664	35 19	1,875	664	35
Golden Fleshed Tankard	" 25	" 7	" 6	" 6	19	425	640	25 18	250	604	10

## EXPERIMENTS WITH CARROTS.

Sixteen varieties of carrots were tested. The plots were on land similar to the mangel and turnip plots and received the same treatment. Two sowings were made of each variety and the yields obtained were as follows:—

CARROTS—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.		Yield per Acre.	
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot				
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Mamm. White Intermediate	May 25	June 7	Oct. 7	Oct. 7	17	75	567	55 13	1,555	459	15	
Half-long White	" 25	" 7	" 7	" 7	16	915	548	35 14	275	471	15	
White Belgian	" 25	" 7	" 7	" 7	15	740	512	20 8	1,855	297	15	
Giant White Vosges	" 25	" 7	" 7	" 7	15	450	507	30 12	1,665	427	45	
Improved Short White	" 25	" 7	" 7	" 7	15	15	500	15 14	565	476	5	
Green-Top White Orthe	" 25	" 7	" 7	" 7	14	1,725	495	25 10	735	345	35	
Early Gem	" 25	" 7	" 7	" 7	14	1,000	483	20 14	565	476	5	
Iverson's Champion	" 25	" 7	" 7	" 7	13	1,550	459	10 10	1,460	357	40	
Half-long Chantenay	" 25	" 7	" 7	" 7	13	825	447	5 13	390	439	50	
Ontario Champion	" 25	" 7	" 7	" 7	13	100	435	.. 11	185	369	45	
Yellow Intermediate	" 25	" 7	" 7	" 7	11	1,490	391	39 13	825	447	5	
Carter's Orange Giant	" 25	" 7	" 7	" 7	11	40	367	20 10	1,315	355	15	
Guerande or Oxheart	" 25	" 7	" 7	" 7	10	1,750	362	30 14	1,725	495	25	
Long Orange or Surrev	" 25	" 7	" 7	" 7	9	1,865	331	5 9	415	306	55	
Scarlet Altringham	" 25	" 7	" 7	" 7	8	240	270	40 10	300	338	20	
French Intermediate	" 25	" 7	" 7	" 7	7	935	248	55 6	1,050	217	30	

EXPERIMENTS WITH SUGAR BEETS.

Six varieties of sugar beets were tested. These were grown on soil of similar character and prepared in the same manner as that on which the turnips, carrots and mangels were grown. Two sowings were made of each variety and the following results were obtained :—

SUGAR BEETS—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.			
					1st Plot.	1st Plot.	2nd Plot	2nd Plot				
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Danish Red Top	May 25.	June 7.	Oct. 6.	Oct. 6.	28	1,565	959	25	19	1,585	659	45
Red Top Sugar	" 25.	" 7.	" 6.	" 6.	24	1,300	821	10	17	365	572	45
Danish Improved	" 25.	" 7.	" 6.	" 6.	23	1,850	797	30	22	1,240	754	..
Improved Imperial	" 25.	" 7.	" 6.	" 6.	21	775	712	55	17	1,255	587	15
Wanzleben	" 25.	" 7.	" 6.	" 6.	16	625	543	45	14	335	472	15
Vilmorin's Improved	" 25.	" 7.	" 6.	" 6.	15	1,175	519	35	11	765	379	25

EXPERIMENTS WITH POTATOES.

One hundred and two varieties of potatoes were planted all on the 4th of June on a light clay loam. The previous crop grown on this land was barley and the land had a good catch of clover on it which was ploughed under in the spring. This was then worked up and drills were run 30 inches apart. 400 pounds of "Pidgeon's" potato fertilizer was sown per acre in the drills and the seed planted. No barn-yard manure was used. The potatoes were sprayed with Bordeaux Mixture 27th July, 5th August and 11th August. Paris green was also used in the first two applications. The plots consisted of two rows each 66 feet long, and 30 inches apart. All the varieties were dug on the 22nd September, and the following yields were obtained.

Many of the varieties were injured more or less by rot. Among those which suffered most from this cause were the following—Lizzie's Pride, Maggie Murphy, Early Gem, American Giant, Honeoye Rose, Charles Downing, Pride of the Market, Carman No. 1, Columbus and Brownell's Winner.

POTATOES—TEST OF VARIETIES.

Name of Variety.	Total Yield per Acre.		Yield per acre of Marketable.		Yield per Acre of Un-marketable.	
	Bush.	lbs.	Bush.	lbs.	Bush.	lbs.
Irish Daisy	448	48	385	..	63	48
Hale's Champion	402	36	343	12	59	24
Reading Giant	398	12	352	..	46	12
Seattle	387	12	347	36	39	36
McKenzie	387	12	349	48	37	24
Polaris	365	12	310	12	55	..
Money Maker	360	48	303	36	57	12
Great Divide	360	48	308	..	52	48
Lizzie's Pride	358	36	253	..	105	36
Bill Nye	358	36	303	48	52	48
Flemish Beauty	356	24	299	12	57	12
Carman No. 1	356	24	281	36	74	48
Delaware	354	12	327	48	26	24

# Experimental Farms.

## POTATOES—TEST OF VARIETIES—Continued.

Name of Variety.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Un-marketable.	
	Bush.	lbs.	Bush.	lbs.	Bush.	lbs.
Lee's Favourite . . . . .	352	..	290	24	61	36
American Giant . . . . .	349	48	277	12	72	36
Seedling No. 230 . . . . .	332	12	297	..	35	12
Irish Cobbler . . . . .	332	12	261	48	70	24
Quaker City . . . . .	330	..	279	24	50	36
Rural Blush . . . . .	327	48	268	24	59	24
Earliest of All . . . . .	327	48	270	36	57	12
Pride of the Table . . . . .	325	36	237	36	88	..
Early Gem . . . . .	321	12	270	36	50	36
New Variety No. 1 . . . . .	316	48	279	24	37	24
Carman No. 3 . . . . .	316	48	288	12	28	36
Maule's Thoroughbred . . . . .	316	48	266	12	50	36
Clay Rose . . . . .	314	36	261	48	52	48
King of the Roses . . . . .	312	24	266	12	46	12
Early Six Weeks . . . . .	312	24	253	..	59	24
Reeve's Rose . . . . .	310	12	228	48	81	24
Charles Downing . . . . .	303	36	193	36	110	..
Dreer's Standard . . . . .	303	36	261	48	41	48
Late Puritan . . . . .	303	36	235	24	68	12
Pearce's Prize Winner . . . . .	301	24	248	36	52	48
Russell Seedling . . . . .	301	24	233	12	68	12
Vanier . . . . .	299	12	246	24	52	48
Hopeful . . . . .	297	..	242	..	55	..
New Queen . . . . .	297	..	270	36	26	24
Seedling No. 7 . . . . .	297	..	266	12	30	48
Bovee . . . . .	294	48	233	12	61	36
Cambridge Russet . . . . .	294	48	255	12	39	36
Peerless Junior . . . . .	292	36	242	..	50	36
Ideal . . . . .	288	12	244	12	44	..
Rose No. 9 . . . . .	288	12	259	36	28	36
Pride of the Market . . . . .	288	12	211	12	77	..
Maggie Murphy . . . . .	288	12	204	36	83	36
Honeye Rose . . . . .	286	..	220	..	66	..
State of Maine . . . . .	283	48	261	48	22	..
Burpee's Extra Early . . . . .	281	36	242	..	39	36
Queen of the Valley . . . . .	279	24	233	12	46	12
Rochester Rose . . . . .	275	..	246	24	28	36
Everett . . . . .	270	36	197	..	83	36
London . . . . .	270	36	213	24	57	12
Harbinger . . . . .	264	..	200	12	63	48
Rural, No. 2 . . . . .	259	36	233	12	26	24
Green Mountain . . . . .	257	24	198	..	59	24
Early White Prize . . . . .	253	..	184	48	68	12
Troy Seedling . . . . .	253	..	224	24	28	36
I. X. L. . . . .	250	48	215	36	35	12
Chicago Market . . . . .	248	36	187	..	61	36
Beauty of Hebron . . . . .	248	36	217	48	30	48
Vick's Extra Early . . . . .	246	24	193	36	52	48
Columbus . . . . .	244	12	176	..	68	12
American Wonder . . . . .	242	..	204	36	37	24
Early Puritan . . . . .	239	48	204	36	35	12
Thorburn . . . . .	237	36	191	24	46	12
Orphans . . . . .	231	..	198	..	33	..
Lightning Express . . . . .	228	48	195	48	33	..
Brown's Rot Proof . . . . .	224	24	180	24	44	..
Monroe County . . . . .	224	24	169	24	55	..
Holborn Abundance . . . . .	222	12	198	..	24	12
Crown Jewel . . . . .	217	48	162	48	55	..
Algoma . . . . .	217	48	147	24	70	24
Sharpe's Seedling . . . . .	211	12	154	..	57	12
Early Rose . . . . .	211	12	178	12	33	..
Wonder of the World . . . . .	203	24	122	..	81	24
Seedling, No. 214 . . . . .	202	24	132	24	66	..
Early Norther . . . . .	200	12	154	..	46	12
Early Ohio . . . . .	198	..	165	..	33	..
Table King . . . . .	198	..	154	..	44	..

POTATOES—TEST OF VARIETIES.—*Concluded.*

Name of Variety.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Un-marketable.	
	Bush.	lbs.	Bush.	lbs.	Bush.	lbs.
Clarke's No. 1.....	198	..	167	12	30	48
General Gordon.....	195	48	143	..	52	48
Daisy.....	194	48	135	24	59	24
Sir Walter Raleigh.....	187	..	169	24	17	36
Ohio Junior.....	187	..	132	..	55	..
Brownell's Winner..	182	36	138	36	44	..
Dakota Red.....	180	24	156	12	24	12
Early Harvest.....	178	12	136	24	41	48
White Beauty.....	171	36	138	36	33	..
Burnaby Seedling.....	169	24	136	24	33	..
Record.....	165	..	132	..	33	..
Stourbridge Glory.....	165	..	125	24	39	36
Good News.....	165	..	116	48	46	12
Uncle Sam.....	160	36	121	..	39	36
Freeman.....	160	36	125	24	35	12
Satisfaction.....	156	12	134	12	22	..
World's Fair.....	154	..	94	36	59	24
Early Sunrise.....	151	48	118	48	33	..
Prize Taker.....	149	36	129	48	19	48
Pearce's Extra Early.....	149	36	134	12	15	24
Empire State.....	145	12	99	..	46	12
Victor Rose.....	145	12	94	36	50	36
Northern Spy.....	145	12	125	24	19	48
Houlton Rose.....	145	12	79	12	66	..
Fill-Basket.....	132	..	110	..	22	..

## EXPERIMENTS WITH JAPANESE MILLET.

The land on which this millet was grown was previously in timothy and clover. The soil was a clay loam, and no fertilizer was applied. The seed of this millet from Japan was forwarded by the Director with instructions for conducting these experiments. The object was to gain information as to the best distance at which to sow this variety of millet to produce the largest returns. The seed was sown 5th June, and the crop harvested and weighed 13th September. The following table gives the yields obtained per acre.

How sown.	Yield per acre.	
	Tons.	Lbs.
1, Sown broadcast.....	14	1,870
2, Sown in drills 15 inches apart.....	16	1,960
3, " 12 ".....	12	205
4, " 9 ".....	13	780

## EXPERIMENTS WITH HORSE BEANS.

These experiments with horse beans, sown at different distances apart, were carried on in accordance with instructions from Ottawa, for the purpose of gaining information as to the quantity which could be grown upon an acre under different methods of planting, also to compare their value with soja beans grown under similar treatment. The soil on which these plots were grown was a clay loam in a fair state of fertility—complete fertilizer only at the rate of 400 pounds per acre was sown in the rows when the seed was planted. The plots were one-fortieth acre each. They were sown 5th June, and the crop was harvested 26th September. The following results were obtained:—

How Sown.	Yield per acre.	
	Tons.	Lbs.
1, Sown in drills 2 feet apart.....	13	400
2, " 2½ ".....	11	1,400
3, " 3 ".....	9	.....

## Experimental Farms.

### EXPERIMENTS WITH SOJA BEANS.

The seed used in these experiments was of a very early variety of soja bean from Japan, sent by the Director. The experiments were planned with the object of finding out the best distance apart for growing this variety of bean, and also its value as a forage crop. They were grown in plots of one-fortieth acre each; these plots were adjoining those on which the horse beans were planted, and received similar treatment. The seed was sown 5th June, and the crop was cut and the following particulars obtained 26th September:—

	How sown.	Yield per acre.	
		Tons.	Lbs.
1,	Sown in drills 2 feet apart.	5	600
2,	“ 2½ “	4	600
3,	“ 3 “	3½	...

### FIELD CROPS OF ROOTS.

#### MANGELS.

The land used for this crop was in roots the year previous. It was ploughed in the spring and manured with twenty 30-bushel cart-loads of stable manure per acre, then ploughed again and worked up. 250 pounds of complete fertilizer, 200 pounds of bone-meal and 200 pounds of common salt were sown broadcast per acre. The rows were then drilled to twenty-eight inches apart. The seed of the varieties named was sown 28th May, and the yields were as follows:—

Name.	Yield per acre.	
	Bush.	Lbs.
Yellow Globe	1,053	..
Giant Yellow Intermediate	971	20
Mammoth Long Red	955	16

#### TURNIPS.

The land for this crop was similar to that on which the mangels were grown. One-half of it, however, was in a barley crop the previous season. The same quantity of barn-yard manure was used and the land had the same treatment as the mangels, but in place of the additional fertilizers given to the mangels, Bowker's square brand fertilizer at the rate of 400 lbs. per acre was applied on one-half, and the Thomas' Phosphate at the rate of 400 lbs. per acre was applied to the remainder. The field of 1½ acres yielded 1,275 bushels. In this case there was a slight increase of yield of 750 lbs. only where the Bowkers fertilizer was used.

#### FIELD CARROTS.

These were grown on land adjoining the mangel plots and received the same kind of treatment. The following varieties were sown 28th May in two rows each 528 feet long:

Name.	Yield per Acre.	
Mammoth Intermediate	651 bush.	4 lbs.
Giant White Vosges	628 “	16 “
Half-long White	618 “	8 “
White Belgian	532 “	.. “
Short White Vosges	435 “	44 “
Orange Giant	397 “	44 “

## GENERAL STATEMENT OF CROPS.

Five acres of marsh yielded 125 bushels of oats. The upland, in grain of different sorts, not including the plots and including 50 bushels of buckwheat, yielded 475 bushels, making a total of 600 bushels of grain.

The total root crop was 3,329½ bushels made up as follows : Turnips, 1,504 bush. ; mangels, 1,517 bush. ; carrots 257 bush. 44 lbs. ; sugar beets, 50 bush. 49 lbs.

All the corn, except the uniform test plots of varieties and the plots sown at different widths, were sown with horse-beans, at the rate of one peck of horse-beans per acre with the usual quantity of corn. These were cut and weighed together and have been reckoned in this general estimate as corn crop. The horse-beans formed but a small percentage of the whole. About six acres in all were covered with this mixture. The sunflower heads amounted to 2 tons 215 lbs. The total amount of ensilage secured was 66 tons 905 lbs.

## STOCK.—CATTLE.

In addition to the dairy stock that was on the farm, when I assumed the superintendency, fifteen grade cows and six thoroughbred cattle have been purchased. The stock now consists of :—

Two Guernsey cows, one Guernsey bull, two Guernsey bull calves ; two Ayrshire cows, one bull (1 year old), two Ayrshire heifers ; two Holstein cows, one Holstein bull calf, one Holstein heifer calf ; twenty-five Grade cows.

Sixteen 2 and 3 year old steers, representing the Hereford, Polled Angus, and Shorthorn breeds were lately purchased. These, together with four scrub cattle, also lately purchased, are included in a feeding test which will be carried on this winter.

## PIGS.

The thoroughbred stock of pigs kept are 3 Tamworths, 2 Yorkshires, and 2 Berkshires, with from 25 to 40 grades and crosses, which are disposed of from time to time, as pork, weighing from 140 to 180 pounds per carcass.

The value of the feed fed to the grade pigs during the year has been kept on record, with the object of finding out the value of the skim milk fed, with the result that, from 15 to 17 cents per hundred was obtained from it by converting it into pork. Experiments are now being conducted with different lots of pigs to determine the value of different grain feeds as well as that of skim milk for the production of pork.

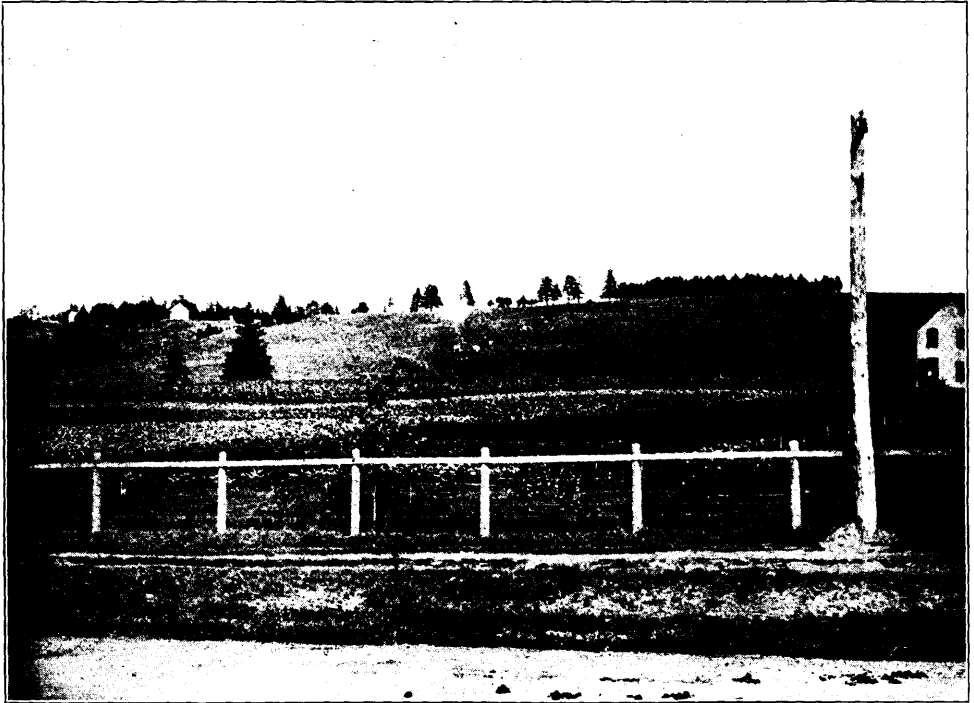
## SHEEP.

In the spring 24 sheep were purchased and put upon a very poor piece of land containing 10 acres. The object in so doing was to raise the fertility of that piece of land by the sheep alone without the additional use of commercial fertilizers or stable manure. Two acres of this field was fenced off and sown to rape for feeding later in the season ; but the land was so poor that the crop grew only 3 inches high, and did not furnish much food. While the land may have been improved, the sheep did not do at all well ; another season may give better results. There are at present on hand 25 old sheep and 4 lambs. The value of the remainder of the increase, and the wool, was given to the sheep in feed while on the pasture.

## POULTRY.

The different breeds of poultry kept are :—

White Leghorns, of which there are in all.....	20
Black Minorcas.....	14
Plymouth Rocks.....	9
White Wyandottes.....	2
Pekin Ducks.....	4



View on the Experimental Farm at Nappan, Nova Scotia, showing part of the Experimental Plots.



View on the Experimental Farm at Nappan, Nova Scotia, showing Farm Buildings and Group of Cattle.  
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## Experimental Farms.

No account has been kept of the number of eggs laid by the different breeds; that, however, will be attended to in future.

### HORSES.

There are at present on the farm seven horses. During the past year three horses have been purchased to replace three of the oldest ones which were disposed of.

### BEEES.

Three colonies of bees were received from the Central Experimental Farm on the 1st of May last. These were immediately opened and appeared to be in good condition, but in the course of two weeks one of the hives was deserted, leaving two, which yielded 55 pounds of honey, in one pound sections, and two additional hives. These were put in the cellar of the superintendent's house 1st December, and weighed 58, 52½, 38 and 36½ pounds respectively.

They were placed for winter in a part of the cellar furthest from the door, which now registers a temperature of 40 degrees. This place was partitioned off with matched lumber for the purpose of shutting out the light and also the heat from the furnace. The hives were placed on a shelf, 2 feet from the ground, which was resting on two boxes. The tops of the hives were covered with a cushion 4 inches thick made of chaff, and the sides were unprotected, the openings being left in the front of the hives.

### IMPROVEMENTS.

Three new buildings were erected this fall, namely: Summer kitchen and woodshed on the horticulturist's house, an extension of 34 feet to the pig house, and an ice house with refrigerator room. In the south-east corner of the main barn, directly over the cow-stable, a hen house has been fitted up. This is kept warm by the animal heat from the stable below, which is allowed to come in through openings in the floor. The stable below registers from 50° to 60°, and it is expected that the temperature of this room will not fall below freezing. A small room was also fitted up in one corner of the cellar of the superintendent's house for bees.

### WATER SUPPLY.

The water supply up to this season has been very defective, but during the summer a spring was found in the wood about ¾ of a mile from the buildings, and this water has since been brought in galvanized iron pipes and put in all the buildings of the farm.

The water supply now shows every indication of being ample, and is apparently the finest of water. A sample of it has been sent to the chemist of the Experimental Farms, Ottawa, for analysis who has reported on this water as follows:—

“ On the 24th December, 1898, we received a sample of water taken from the new water supply at the Experimental Farm, Nappan, N.S. It was submitted to a careful examination, with the following result:—

	Parts per million.
Free Ammonia . . . . .	·016
Albuminoid Ammonia . . . . .	·086
Nitrogen as Nitrates and Nitrites . . . . .	·094
Chlorine . . . . .	4·8
Total Solids, at 100° C . . . . .	58·4
Solids, after ignition . . . . .	38·4
Loss on ignition . . . . .	20·0
Phosphates . . . . .	very slight traces.

"The water, as received, was perfectly clear, brilliant and odourless. It possessed a faint yellow tint when viewed in the 2-foot tube, due to slight traces of dissolved peaty matter.

"The analytical data show it to be an exceedingly good water, exceptionally pure, and one eminently suited to drinking and household purposes.

"FRANK T. SHUTT,

"*Chemist, Experimental Farms.*"

#### UNDERDRAINING.

The balance of the wood orchard was tile drained last fall, and since that a few drains were laid where greatly needed. It is hoped that more underdraining will be done next year, as the benefit of the draining done in the past is very apparent.

#### VISITORS.

A great number of people visited the farm during the year, especially in the summer months. There were five picnic parties to the farm during the summer. The largest being from Pictou County, N.S., on 7th July. From conversation with leading farmers in Prince Edward Island and New Brunswick, I have every reason to expect large excursion parties from each province another year.

#### CORRESPONDENCE.

Besides the distribution of reports and circulars, 1,573 letters were received and 1,384 were sent out.

#### DISTRIBUTION OF SEED GRAIN AND POTATOES.

In all 533 applicants have been supplied during the past year with 3 pounds samples of potatoes, oats, wheat, barley, pease, buckwheat and rye.

The number of packages sent out are as follows:

Potatoes . . . . .	385
Oats . . . . .	232
Wheat . . . . .	137
Barley . . . . .	122
Pease . . . . .	93
Buckwheat . . . . .	13
Rye . . . . .	4
Total . . . . .	986

#### EXPERIMENTS WITH MILCH COWS.

With a view to demonstrate whether a fairly good herd of dairy cows, getting credit for their products at current prices, and being charged for their feed at market rates, would leave a balance on the debit or credit side, an experiment was begun with all the cows in the herd at Nappan, on 28th November, 1897, and continued until 27th November, 1898.

## Experimental Farms.

As the prices of product and feed change so much for summer and winter, the experiment was divided into 26 weeks for winter, and the same for summer; and the prices of their product and feed averaged for each period. The cows were charged with all the feed they consumed. The bran, and most of the meal fed was bought and charged at the prices paid. The roots were valued at 5 cents per bushel, corn ensilage at 5 cents per bushel and hay at \$6.00 per ton.

The feed was changed from time to time, the average cost of daily ration during the winter months, while in full milk, was 16 cents per day and \$2.55 per month while dry. One of the different rations, while in full milk, was, corn ensilage 30 pounds at  $2\frac{1}{2}$  cents, roots 30 pounds  $2\frac{1}{2}$  cents, hay 12 pounds,  $3\frac{3}{4}$  cents, chop (mixed grain) 4 pounds 4 cents, bran 3 pounds  $2\frac{1}{4}$  cents, cotton seed meal  $\frac{1}{2}$  pound  $\frac{3}{4}$  cents— $15\frac{3}{4}$  cents. Another was corn ensilage 40 pounds, hay 20 pounds, chop 4 pounds, bran 3 pounds, cotton seed meal 1 pound— $16\frac{3}{4}$  cents.

Different quantities were fed to different cows, according to their ability to consume and produce, which was charged accordingly. Twelve were in full milk when the experiment was begun, the others coming in fresh at various times until spring.

The summer feed consisted of a rather poor pasture field, supplemented with  $\frac{1}{4}$  acre green clover, 3 acres of vetches, oats and pease (grown together), 1 acre clover after grass and  $\frac{1}{4}$  acre green corn, for which the cows were charged \$1.50 per month while milking and \$1 per month while dry. Some meal was fed in November to the cows fresh in milk, which was also charged.

They were kept in the stable from 28th November, 1897 to 1st June, 1898, with only an occasional fine day out in the yard. They were fed twice only, each day, and had water before them all the time, with the stable kept as near 60° Fahrenheit as possible. They were fed, cared for, and milked by the same person as regularly as possible.

From the 1st of June to 1st July, they were out night and day, during July, August and part of September they were out at nights and kept in during the day, the remainder of September and to 1st November they were out during the day and in at nights. After 1st November they were in all the time, except on occasional fine days, and were charged the same as in the winter months, making seven months winter feeding, and five summer feeding during the year. No charge was made for labour, the manure being put against that.

A careful record was kept of each cow's milk by weighing each milking as milked.

A sample of each cow's milk was taken twice each week, and the percentage of butter fat in it determined by the Babcock test, which test was carried on under the supervision of J. E. Hopkins, superintendent of the Nappan Creamery. The weight of butter was determined on the basis of 84 pounds of butter fat making 100 pounds of marketable butter.

The milk was sent to the creamery, and the cows credited with the weight of butter produced, at the price paid to all patrons of the creamery, which averaged for the six winter months  $20\frac{1}{4}$  cents, and 18 cents for the summer, less  $4\frac{1}{2}$  cents per pound charged by the creamery for making butter and hauling milk. The skim milk was fed to pigs and calves, and credited to the cows at the rate of  $12\frac{1}{2}$  cents per hundred pounds of skim milk.

The following table will show the results obtained. The figures are arranged in each case in two groups, one for each half year. Nos. 3, 4 and 27 were sent to the butcher at the end of the first six months.

EXPERIMENT WITH MILCH COWS.

Number.	Breed of Cows.	Days' Milking.	Lbs. Milk.	Per cent R. Fat.	Lbs. Butter.	Value Butter:		Value Skim Milk.	Total Credit.	Cost of Feed.	Cost of making Butter at 4½c. per lb.	Total Cost.	Profit for Year.	Loss for Year.
						20½c. in Winter.	18c. in Summer.							
						\$ cts.	\$ cts.		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
6	Ayrshire Grade	*182	6,356	3 6	272 42	54 87	6 30	61 17	30 94	17 78	57 72	28 64	.....	.....
		+118	2,891	3 6	123 09	22 30	2 89	25 19	9 00					
17	Sh. Ayrshire Grade.	*159	5,187	4 2	259 35	52 24	5 18	57 42	28 98	18 00	46 98	28 53	.....	.....
		+161	2,751	4 3	140 82	25 34	2 75	28 09	10 00					
22	Ayrshire Grade	*182	5,123	3 9	237 85	47 90	5 12	53 02	29 12	16 76	55 42	24 57	.....	.....
		+119	2,696	4 2	134 80	24 28	2 69	26 97	9 54					
25	Jersey, Sh. Grade.	*153	4,513	3 8	208 92	42 08	4 51	46 59	26 94	16 50	53 44	24 37	.....	.....
		+161	2,820	4 7	157 78	28 40	2 82	31 22	10 00					
24	Guernsey	* 59	1,891	3 9	87 79	17 68	1 89	19 57	19 89	11 37	41 26	21 41	.....	.....
		+168	3,224	4 3	165 09	29 86	3 24	33 10	10 00					
19	Jersey Grade.	*182	3,666	5 2	223 22	44 96	3 60	48 56	27 30	15 89	52 73	21 41	.....	.....
		+106	2,189	5 0	130 02	23 40	2 18	25 58	9 54					
1	Holstein	*182	5,761	3 3	226 32	45 58	5 76	51 34	30 94	15 77	56 75	20 02	.....	.....
		+116	3,070	3 4	124 26	22 36	3 07	25 43	10 04					
15	Ayrshire Grade	*127	4,747	3 6	203 44	40 98	4 74	45 72	24 82	14 25	49 07	19 56	.....	.....
		+140	2,507	3 8	113 41	20 41	2 50	22 91	10 00					
7	Sh. Ayrshire Grade.	*107	3,886	3 4	157 29	31 68	3 88	35 56	23 49	13 63	47 12	19 00	.....	.....
		+161	3,312	3 7	145 88	26 25	3 31	29 56	10 00					
18	Ayrshire Grade.	*182	4,643	3 9	215 56	43 42	4 64	48 06	27 30	14 50	51 80	17 76	.....	.....
		+147	2,249	4 0	107 00	19 26	2 24	21 50	10 00					
21	"	* 51	1,853	3 4	75 00	15 10	1 85	16 95	19 80	13 15	42 95	17 18	.....	.....
		+182	4,058	4 5	217 39	39 13	4 05	43 18	10 00					
28	"	*132	3,710	3 9	172 25	34 69	3 71	38 40	24 05	13 70	47 75	17 10	.....	.....
		+168	2,646	4 2	132 30	23 81	2 64	26 45	10 00					
11	Ayrshire	*182	4,271	3 5	177 95	35 84	4 27	40 11	27 30	13 95	50 79	16 03	.....	.....
		+105	2,992	3 7	131 79	23 72	2 99	26 71	9 54					
9	Sh. Ayrshire Grade.	*182	4,991	3 3	196 07	39 49	4 99	44 48	29 12	14 33	53 49	15 92	.....	.....
		+114	2,862	3 6	122 65	22 07	2 86	24 93	10 04					
23	Ayrshire Grade	*182	4,411	4 0	210 00	42 30	4 41	46 71	29 12	14 02	52 18	14 88	.....	.....
		+105	2,220	3 8	100 42	18 07	2 22	20 29	9 04					
14	"	*128	3,518	3 5	146 58	29 52	3 51	33 03	25 07	13 18	48 25	13 56	.....	.....
		+147	2,931	4 2	146 55	26 37	2 39	28 76	10 00					
5	"	*182	4,498	3 6	192 77	38 82	4 49	43 31	29 12	13 76	52 92	13 27	.....	.....
		+119	2,504	3 8	113 27	20 38	2 50	22 88	10 04					
26	Jersey Grade	* 32	1,165	4 0	55 47	11 17	1 16	12 33	17 87	11 42	39 29	12 74	.....	.....
		+182	3,971	4 2	198 55	35 73	3 97	39 70	10 00					
2	Holstein	*144	5,017	3 0	179 17	36 08	5 01	41 09	27 71	12 55	49 26	12 58	.....	.....
		+119	2,794	3 0	99 78	17 96	2 79	20 75	9 00					
29	Guernsey	* 77	2,037	4 2	101 85	20 51	2 03	22 54	20 47	11 87	42 54	11 92	.....	.....
		+168	2,568	5 3	162 02	29 16	2 56	31 74	10 00					
8	Ayrshire Grade	* 54	1,877	3 3	73 73	14 85	1 87	16 72	20 06	11 31	41 37	11 80	.....	.....
		+182	4,529	3 3	177 92	32 02	4 52	36 54	10 00					
12	"	*182	3,388	3 7	149 25	30 06	3 38	33 44	27 30	11 68	47 98	7 73	.....	.....
		+161	2,381	3 9	110 54	19 89	2 38	22 27	9 00					
13	"	*128	3,555	3 6	152 35	30 68	3 55	34 23	25 07	10 93	46 00	6 63	.....	.....
		+119	2,061	3 7	90 78	16 34	2 06	18 40	10 00					
10	Sh. Ayrshire Grade.	*182	4,587	3 3	180 20	36 29	4 58	40 87	29 12	11 45	50 11	6 01	.....	.....
		+ 91	1,841	3 4	74 51	13 41	1 84	15 25	9 54					
20	Ayrshire Grade	*151	3,729	3 8	168 69	33 97	3 72	37 69	26 79	10 41	46 20	4 10	.....	.....
		+ 70	1,319	4 0	62 80	11 30	1 31	12 61	9 00					
16	"	*182	4,200	3 6	180 00	36 25	4 20	40 45	30 94	10 13	50 07	.....	0 48	.....
		+ 63	1,000	3 8	45 23	8 14	1 00	9 14	9 00					
27	Sh. Ayrshire Grade.	*114	2,443	3 8	110 51	22 25	2 44	24 69	18 24	4 97	23 21	1 48	.....	.....
		+ ..	.....	.....	.....	.....	.....	.....	.....					
4	Sh. Grade.	*115	2,605	3 3	102 33	20 61	2 60	23 21	18 40	4 60	23 00	0 21	.....	.....
		+ ..	.....	.....	.....	.....	.....	.....	.....					
3	"	*115	2,647	5 0	95 00	19 13	2 64	21 77	18 40	4 27	22 67	.....	.....	0 90
		+ ..	.....	.....	.....	.....	.....	.....	.....					

\* Winter. † Summer. Number 16 had been milking 210 days before entering test. Numbers 3, 4 and 27 sold to butcher at end of first half of test.

## Experimental Farms.

One striking fact is that cows of equal quality (as near as can be judged) which were fresh in the fall gave more profit than their equals fresh in the spring, besides consuming more of the rough products of the farm. For instance, Nos. 21, 24 and 26 were fresh in the spring, and consumed \$117.62 worth of feed, paid for it and left a balance of \$63.13 to their credit. While Nos. 6, 17, 22 and 25 that were fresh in the fall consumed \$154.51, paid for it and left a balance of \$106.11, being \$10.75 per cow in favour of the fall calved cow.

### EXHIBITIONS ATTENDED.

An exhibit of the farm produce was made at St. John, N.B., from 13th September to 20th, and at Halifax, N.S., from 22nd September to the 29th. I also attended the exhibitions held at New Glasgow, N.S., and Sussex, N.B.

### MEETINGS ATTENDED.

Considerable interest has been shown in farm matters; judging from the requests to address agricultural gatherings at different places. Many of these requests could not be complied with, but I have met with the farmers and addressed meetings at the following places during the past year:—

28th December, Truro, N.S.; 4th January, Scotch Hill, N.S.; 12th January, Kingston, N.B.; 13th January, Buctouche, N.B.; 14th January, Fox Creek, N.B.; 17th January, Great Village, N.S.; 18th January, Bass River, N.S.; 19th Brookfield, N.S.; 21st and 22nd January, Antigonish, N.S.; 25th January, Shubenacadie, N.S.; 27th January, Wolfville, N.S.; 31st January, West Bay Road, N.S.; 1st February, Milford, N.S.; 3rd February, Baddeck, N.S.; 4th February, North East Margaree, N.S.; 5th February, Margaree Forks, N.S.; 7th February, Strathlorne, N.S.; 9th and 10th Truro, N.S.; 11th Mapleton, N.B.; 16th, 17th and 18th, Fredericton, N.B.; 21st February, Pugwash, N.S.; 22nd February, River John, N.S.; 23rd February, Durham, N.S.; 24th February, Westville, N.S.; 26th February, Bridgeville, N.S.; 3rd March, Charlottetown, P.E.I.; 4th March, Montague, P.E.I.; 5th March, Murray Harbour, P.E.I.; 8th March, Kensington, P.E.I.; 9th March, Summerside, P.E.I.; 9th March, Tyne Valley, P.E.I.; 10th March, Alberton, P.E.I.; 1st April, Middle River, N.S.

I have the honour to be, sir,

Your obedient servant,

R. ROBERTSON.



## Experimental Farms.

# REPORT OF THE HORTICULTURIST.

(W. S. BLAIR.)

TO DR WM. SAUNDERS,  
Director Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit herewith a report of some of the work done in the Horticultural Division of the Experimental Farm for the Maritime Provinces for the year 1898.

The apple crop in Nova Scotia during the past year has been an average one; except in the counties of King's and Annapolis, from which only a fair crop is reported. In New Brunswick the summer and fall crop of apples was up to the average with a fair crop of winter fruit. From Prince Edward Island the report is a fair crop of apples. The first New Brunswick grown apples were exported to the British market this fall, showing that sure progress is being made in that province in the fruit growing industry.

Plums were an average crop throughout the province of Nova Scotia, while in New Brunswick the crop was not up to the average. Pears were not an average crop and the quality was not as good as usual. Raspberries were an average crop in the provinces, and strawberries are reported below the average, both as to yield and quality. Gooseberries were only a fair crop.

A few fruit trees were planted in the orchards on the Experimental Farm at Napan, to replace some that had died. All the trees have made fair growth and No. 1. orchard produced some well coloured fruit of fair quality, but small. Those planted in Orchard No. 2, where protection is afforded by the shelter-belt of spruces, have made good growth. This orchard is well underdrained, the tiles having being laid 3 feet deep between each row of trees, making the drains 24 feet apart.

A plot of ground to the south of the horticulturist's house, consisting of about  $1\frac{1}{2}$  acres has been set aside for experimenting with small fruits, vegetables, and other such work coming under the horticultural department. On this new piece of ground new varieties of small fruit have been set out; some experiments have been carried on with different kinds of fertilizers to gain information as to the value of such for forcing vegetables for early market. Experiments have also been conducted with potatoes grown under different modes of treatment. This land is clay loam and had previously been in hay, one-half of this ground was the site of an old orchard which was removed before ploughing in the fall of 1897.

A shelter-belt has been planted along the boundary fence on the south side of the above field. The trees were put in rows 10 feet apart and 20 feet apart in the rows. One row was planted with the heavy-wooded pine *Pinus ponderosa* and one with Norway spruce *Abies excelsa*.

Data on the blossoming period of the different varieties of fruits grown on the farm were again furnished the horticulturist of the Central Experimental Farm.

The ornamental trees, shrubs and hedges have made good growth, and a few new varieties have been added to the list.

The flower garden presented its usual appearance, and the added new varieties of flowers and bulbs helped to make an interesting collection. The Japanese Irises and Pæonies all lived, with the exception of three varieties of each, and although only a few bloomed, they were much admired. Arrangements have been made for an extension in the flower department, which will enable us to show a much larger collection of both annual and perennial flowering plants.

I beg to acknowledge the receipt of a number of seedling apple stocks and scions from Messrs. John Robertson & Sons, Inkerman, New Perth, P.E.I. These were used and the root-grafts have made splendid growth. Three trees of the Banks apple were also kindly donated by A. S. Banks, of Waterville, King's County, N.S., which have been duly planted.

## ORNAMENTAL TREES AND SHRUBS.

Year by year we find a growing desire amongst our people to plant around their dwellings and along the road side ornamental trees and shrubbery. Every farmer thinks more or less of planting some trees to make his home more attractive, but the dairy farmer's time is often too fully occupied to attempt planting and caring for any considerable number of varieties. The first step to be taken, and the one too often neglected when planning for the ornamentation of the home in this way, is the preparation of the soil for a nice lawn.

If only a small place is to be planted, the Norway and Sugar Maple, the American and European Elm, the Austrian and White Pine, and the Norway and Black Spruce make very handsome specimens. For larger lawns the above named varieties with the Colorado Blue Spruce, Pyramidal Arbor-vitæ, Purple Birch, White Birch, European Linden, European Mountain Ash, American Ash, Box Elder, English Oak and Red Maple.

In planting trees about a house they should be arranged so as to preserve an outlook when the trees have grown. Imitate nature as far as possible, so that from the windows of the house the view shall be pleasing. Do not plant too close to the house nor overcrowd the lawn. Always bear in mind that the trees are planted to remain, and the planter should have in mind at the time of planting the size the trees will attain when they are 25 or 30 years old, so that the mistake of close planting may be avoided.

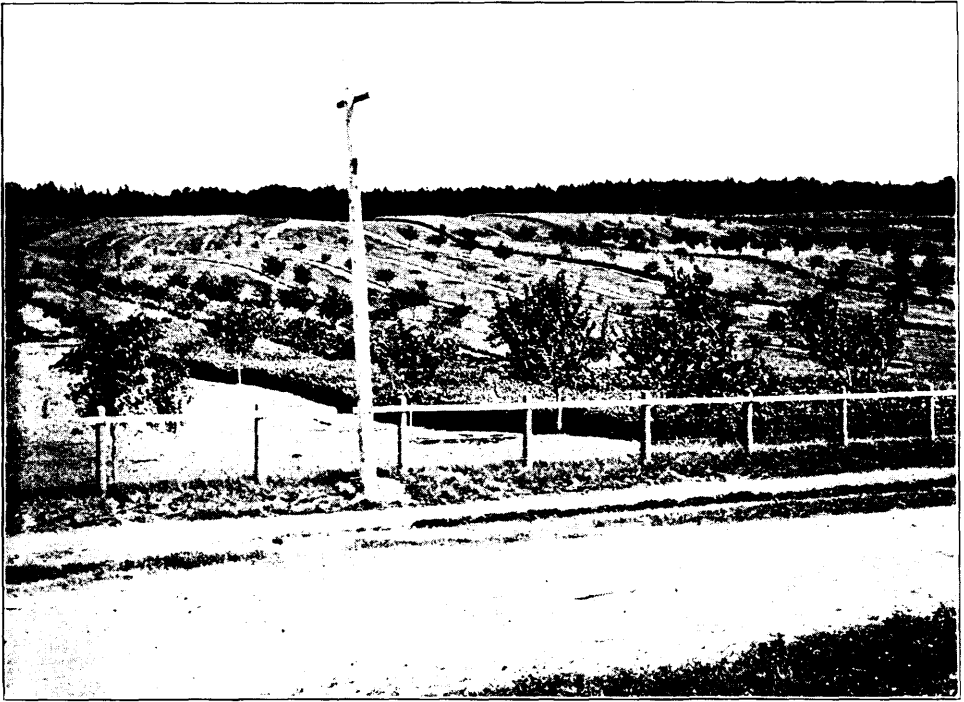
Shrubbery may be planted with advantage in groups or clumps 8 to 10 or 12 feet apart along the driveway at points and turns and also at certain positions to form a background. No ground space around a dwelling is so small that some shrubs cannot be used to advantage, and they are objects of great beauty, especially when in bloom. Such varieties as *Spiræa Van Houtte*, which has drooping limbs covered with white flowers lasting from two to three weeks, *Spiræa Callosa Alba*; different varieties of lilacs, such as *Josika*, *Charles X.*, and the white lilac, *S. vulgaris alba*; mock orange, *Philadelphus coronarius* and *grandiflora*, *weigelia rosea*; *Deutzias*, especially the variety known as *gracilis*, which is of dwarf habit; Golden-leaved Elder, *Sambucus Canadensis Aurea*; purple-leaved plum, *Prunus Pissardi*; the common snowball, *Viburnum opulus sterilis*; shrubby cinquefoil, which gives a yellow bloom almost the entire season; Tartarian Bush Honeysuckles, Japanese and Purple Barberry, Japanese Hydrangea, and *Cytisus Purpurea*. For evergreens the Dwarf Mountain Pine, the *Retinosporas*, such as the *plumosa*, *aurea* and *filifera*; some of the many varieties of arbor-vitæ, such as the *Compact*, *Globose*, *Hoveyi* and *variegated*, and the *Holly Barberry*.

The following table gives the present height of some of the ornamental trees and shrubs planted around the superintendent's house in 1891, showing the vigorous growth they have made since that time:—

## ORNAMENTAL TREES—PLANTED IN 1891.

Name.	Present Height.	Circumference at the Base of Trunk.
	Feet.	Inches.
Norway Spruce— <i>Picea Excelsa</i> .....	13	17
Norway Maple— <i>Acer platanoides</i> .....	17	16
European Mountain Ash— <i>Pyrus aucuparia</i> .....	13	14
Common Arbor-Vitæ— <i>Thuja occidentalis</i> .....	9	12
Colorado Blue Spruce— <i>Picea pungens</i> .....	8	13½
English Oak— <i>Quercus Robur</i> .....	11½	8
American Elm— <i>Ulmus Americana</i> .....	17	13
Siberian Poplar— <i>Populus certincensis</i> .....	25	32
Scotch Pine— <i>Pinus sylvestris</i> .....	16	19
Austrian Pine— <i>Pinus Austriaca</i> .....	13	17
American Ash— <i>Fraxinus Americana</i> .....	15½	14
White Birch— <i>Betula alba</i> .....	18	17
European Larch— <i>Larix Europea</i> .....	19½	18
European Linden— <i>Tilia Europea</i> .....	8	17





View of Orchard on the Experimental Farm at Nappan, Nova Scotia.



View showing residence of Superintendent, and part of planting on the Experimental Farm at Nappan, Nova Scotia.

# Experimental Farms.

## SHRUBS—PLANTED IN 1891.

Name.	Present Height.	Blossoming Period.
	Feet.	
Plumose retinospora.....	4	
Aurea, Golden pl. retinospora.....	3	
Thread-like.....	2½	
Dwarf Mountain Pine.....	2	
Missouri Currant.....	5	May 24 to June 13.
Josika's Lilac.....	6	June 6 to 15.
Thunberg's Barberry.....	2½	
Bush Honeysuckle.....	9	June 5 to 16.
" Red and White.....	7	" 11 to July 1.
Asiatic Maple.....	7	
Siberian Pea Tree.....	5	May 29 to June 15.
High Bush Cranberry.....	5	June 14 to 28.
Common Snowball.....	5	" 10.
Spiræe Callosa.....	6	" 8.
Spiræa Van Houttei.....	4½	" 7 to 26.
Weigelia Rosea.....	4½	" 15.
White Lilac.....	4½	" 7.
Potentilla fruticosa.....	3½	" 6.
Thuja occidentalis—hedge.....	5	

## WINDBREAK OF SPRUCE AND PINE.

In the spring of 1891 two rows of evergreen trees were set 10 feet apart along the boundary fence near the orchard. The trees were planted 20 feet apart in the rows, and one row was set with Norway Spruce (*Picea excelsa*) and one with Scotch Pine (*Pinus sylvestris*). They were planted so that one row would break the openings in the other. Back of those and close to the fence, but 15 feet from the row of spruces; hardwood trees were planted 40 feet apart. These trees have made vigorous growth and the space between the rows is now almost entirely filled up. The pines are from 14 to 16 feet high, measuring in circumference at the base of the trunk from 18 to 25 inches. The spruces are from 13 to 17 feet high and the trunks measure from 15 to 18 inches in circumference at the base. The Norway Maples are from 16 to 18 feet high and measure from 14 to 16 inches at the base.

## LAWN.

There is nothing so attractive around a place as a good lawn. In order to have such a lawn the ground must be thoroughly worked up and enriched. It is impossible to form a good lawn by simply ploughing up a piece of worn out land and seeding it down to grass. Plough deeply and thoroughly work in a good dressing of well rotted stable manure, then harrow and grade off the land so as to make it as even as possible for seeding. A mixture has been tried here of 5 bushels of Kentucky Blue Grass to 1 pound of White Clover, sown at the rate of 5 bushels per acre, which has made a good lawn. Another mixture for lawn seeding that has given good results is 2 pounds of White Clover to a bushel of half and half Red Top and Blue Grass at the rate of 5 bushels per acre. The Red Top stands drought better than the Blue Grass, but if the land is inclined to be wet or shaded, the first named mixture would probably give the best satisfaction. If not sown thickly, the Red Top is liable to grow bunched, and make an uneven lawn. The seed should be sown carefully so that a good even growth will be obtained. The best way to cover the seed is to scatter, with a sieve, fine rich earth over it; should it be raked in the greatest care is necessary to get it covered evenly,

after which roll the lawn thoroughly. The best time to prepare a lawn is in the spring and it will require little attention again that season except to keep down any weeds that may grow.

### SMALL FRUITS.

A considerable number of new varieties of small fruits, such as gooseberries, currants, raspberries, blackberries and strawberries, have been added this year to those previously grown. The old raspberry plots as stated last year are diseased with anthracnose and new plants were obtained for new plots. It is found that to cut out the canes as soon as they have fruited is the best way to keep this disease in check. The yield obtained from each row in the old raspberry plots is given below. Each plot occupies a space 6 by 132 feet, the rows being 132 feet long and 6 feet apart. The plants were set in the spring of 1894, and have had no manure nor other fertilizer since planted.

The strawberry plots were planted in the spring of 1897 in plots of two rows, each 16 feet long and 3 feet apart. A space of 4 feet was allowed between the plots. The plots were allowed to grow in the matted row system and each plot was squared up to occupy a space 16½ by 6 feet or 99 square feet. The land on which these were grown was manured in the fall of 1896 after ploughing and the manure worked in the following spring. 330 pounds nitrate of soda, 330 pounds fine ground bone and 440 pounds hardwood ashes per acre were sown broadcast on the plots on 29th April. The crop harvested from these plots is given in the table which follows.

The English gooseberries have made fair growth. The mildew has not troubled the plants, and an occasional spraying with Bordeaux mixture has kept all fungous diseases in check. In this fruit the weight of crop given is the average yield per bush of the varieties tested.

### RASPBERRIES.

Name.	1897.		1898.	
	Period of Ripening.	Number of Pounds from 1 Row 132 ft. long.	Period of Ripening.	Number of Pounds from 1 Row 132 ft. long.
Hansell .....	July 26 to Aug. 16 ..	12	July 27 to Aug. 10 ..	14
Heebner. ....	" 26 " 16 .....	36	" 27 " 10 .....	29
Niagara .....	" 31 " 16 .....	12	" 27 " 10 .....	19½
Clarke .....	" 26 " 16 .....	20	" 27 " 10 .....	19½
Marlboro .....	" 26 " 7 .....	22	" 27 " 10 .....	19
Cuthbert .....	" 30 " 16 .....	26	" 28 " 10 .....	19½
Caroline .....	" 31 " 9 .....	30	" 28 " 6 .....	18½
Hornet .....	" 31 " 16 .....	16	" 30 " 10 .....	14½
Hudson River Antwerp .....	" 31 " 16 .....	23	" 30 " 6 .....	21

# Experimental Farms.

## STRAWBERRIES.

Number.	Name.	Sex.	WHEN PICKED—JULY.								Total yield of plot, 1898, 16½ by 6 ft. = 99 sq. ft.	Number of runners.		
			9th.	11th.	13th.	16th.	18th.	20th.	23rd.	25th.				
			Oz.	Oz.	Oz.	Oz.	Oz.	Oz.	Oz.	Oz.			Lbs. Oz.	
1	Brandywine	B	7½	22	44	19½	23	18	.....	8	6	Many.		
2	Bisel	P	24	24	83½	42	.....	31	.....	12	12½	"		
3	Beverly	B	51	15½	18	.....	39½	22½	.....	9	2½	"		
4	Beder Wood	B	89	36	20½	.....	69½	14	11	15	5½	"		
5	Burton's	P	17	56	23	22	22	.....	14	5½	9	15½	"	
6	Bubach	B	16	58½	45½	42½	.....	33½	.....	12	13	Few.		
7	Captain Jack	B	13	20½	38	48½	.....	64½	67	7	7	16	2½	Fair.
8	Clark's Early	B	19½	21½	25	.....	47½	9	.....	14	7½	10	7½	"
9	Chairs	B	42½	58	39	.....	50½	25½	16	14	7½	14	7½	"
10	Crescent	P	138½	55	45	.....	75	49	.....	22	10½	22	10½	"
11	Enhance	B	18	25	33	.....	43	49½	22	11	14½	11	14½	Many.
12	Equinox	B	.....	.....	11	23	.....	19½	14	4	5½	14	4	Fair.
13	Greenville	P	42	24	45½	.....	.....	82	7	9	6½	9	6½	Few.
14	H. W. Beecher	B	39	45½	128½	121	95	66	16	31	15	31	15	Many.
15	Haverland	B	24	40½	34	40½	.....	14	.....	9	9	9	9	Few.
16	Jas. Vick	B	11	.....	107½	40½	146½	.....	42	21	11½	21	11½	Many.
17	John Little	B	98	75	19½	.....	42	40	.....	17	2½	17	2½	"
18	Leader	B	17	13½	20	9½	4	6½	.....	4	6½	4	6½	Fair.
19	Otsego	P	.....	20	38	.....	86½	19½	9	10	13	10	13	"
20	Pearl	B	17	70½	22½	38	.....	61½	.....	13	1½	13	1½	"
21	Paris King	B	50½	22½	19	.....	21½	9½	.....	7	11	7	11	Many.
22	Parker Earle	B	18	46½	32½	21½	.....	67	38	13	15½	13	15½	Fair.
23	Robinson	B	16	35½	23	60½	.....	11	.....	9	2	9	2	Many.
24	Shirts	B	21	38	73	36	30½	34½	.....	14	9	14	9	Fair.
25	Sharpless	B	37½	25½	33	55	40½	39½	14	15	5	15	5	"
26	Swindle	B	20½	29½	22	.....	39	43	13	10	7	10	7	"
27	Seneca Queen	B	30½	.....	19½	.....	16	.....	.....	4	2	4	2	"
28	Thompson's Late	P	19½	7½	12½	4½	.....	.....	.....	2	12	2	12	"
29	Tennessee Prolific	B	61	21½	17	.....	42½	7	3½	9	8½	9	8½	"
30	Wm. Belt	B	8½	17½	40	.....	87½	40½	14	13	.....	13	.....	Many.
31	Warfield No. 2	P	70½	20½	.....	.....	27½	.....	.....	7	6½	7	6½	Fair.
32	Wilson	B	17	33½	39½	50½	.....	48	15½	12	12	12	12	Many.
33	Williams	B	34	21	78½	34	29	23½	.....	13	12	13	12	Fair.
34	Woolverton	B	24½	5	9	.....	9	.....	.....	2	15½	2	15½	"
35	1001	P	21½	26	21½	24	11½	8	.....	7	.....	7	.....	"

## ENGLISH GOOSEBERRIES.

Name.	Size of Fruit.	Average Yield per Bush, 1897.		Average Yield per Bush, 1898.	
		Lbs.	Oz.	Lbs.	Oz.
Whenham's Industry	Large	4	4	2	12½
Leveller	"	1	7	2	4
Crown Bob	"	1	12	1	15
White Champagne	Medium	2	4	1	10
Queen Victoria	Large	1	12	1	5
Red Champagne	Medium	1	6	1	4½
Whitesmith	Large	2	.....	4	11
Lancashire Lad	"	4	.....	3	2

## GARDEN PEASE.—TEST OF VARIETIES.

Twenty varieties of garden pease were sown 17th May. The plots were 4 by 66 feet, on which two rows of pease were sown 6 inches apart and 66 feet long. The land was in poor condition, having previously been in hay. Stable manure at the rate of 25

tons per acre was ploughed under in the fall. The pease on one-half of each of these plots were pulled when fit for market, and the yield of green marketable pease in pods on the whole plot calculated. The other half was allowed to ripen from which the pounds of shelled ripe pease on the whole plot was calculated. The yield from the size of plot as given above was as follows:—

## GARDEN PEASE.

Name.	When fit for Market.	Marketable Green Pease in pods. Yield per acre.		Length of Pod.	Number of Shelled Pease in a Pod.	Ounces of Shelled Pease in 1 lb. as pulled.		Quality.
		Lbs.	Inches.			Oz.	Lbs.	
1 Little Gem.....	July 13	22	2—2½	6—7	6	8½	Very good.	
2 Simmer's Earliest of All.....	" 13	24	2½—2¾	7—8	6	9	Good.	
3 Maud S.....	" 13	18	2—2¼	5—7	6½	9	Fair.	
4 Mill's First of All.....	" 13	40	2—2½	6—7	7	10	"	
5 S. B. & M. Co.'s Extra Early.....	" 13	30	2¼—2½	7—8	8	10	"	
6 Sunol.....	" 13	28	2—2¼	6—7	8	6½	"	
7 Ringleader.....	" 16	30	2—2¼	6—7	8	10	Good.	
8 Bliss American Wonder.....	" 20	31	2¼—2½	7—8	7	8	"	
9 Pride of the Market.....	" 20	28	2—2½	6—7	7	8¾	"	
10 Heroine.....	" 26	45	2¾—3¼	7—8	7	8½	"	
11 Stratagem.....	" 26	47	2½—3¼	6—8	7½	12¼	"	
Telegraph.....	" 26	36	3—3¼	6—7	9	8½	Fair.	
Horsford's Market.....	" 26	32	2½—2¾	6—7	7	10½	Good.	
Daisy.....	" 26	37	3¼—3¾	9—10	7	8	Very good.	
Burpee's Profusion.....	" 26	48	2—2½	4—5	7	10¾	Good.	
16 Juno.....	" 26	54	3—3½	6—7	8	10	Fair.	
17 Shropshire Hero.....	" 26	36	3—3½	7—8	8½	7¾	Good.	
18 Hair's Dwarf Mammoth.....	" 26	52	2¼—2¾	5—6	9½	9	Fair.	
19 Pride.....	" 26	38	2—2½	5—6	9	10	"	
20 Schwitzer's Giant.....	Aug. 1	68	3¾—4¼	7—8	6	7¾	"	

## GARDEN PEASE.—TREATED IN DIFFERENT WAYS.

In order to gain information as to the value of nitrate of soda for the production of green marketable pease, eight plots were treated differently. The plots were 4 by 66 feet or  $\frac{1}{85}$  of an acre, on which 2 rows were planted 6 inches apart and 66 feet long. The plots that were manured were alongside those of the variety test plots and received the same kind of treatment. The piece of land on which the balance of these plots were, had no manure, being left for a road alongside the other plots; but was not used for that purpose. All of the land was fall ploughed. The fertilizer sown when the

## Experimental Farms.

seed was planted was raked in by hand, and that sown after the seed was planted was also worked in by hand. The variety Heroine was used. The pease were pulled July 29th, and the yields as given in the following table was obtained:—

### GARDEN PEASE.—TREATED DIFFERENTLY.

—	Kinds of fertilizers used and the quantity applied.	Yield of marketable green pease in pod from plot $\frac{1}{16}$ of an acre.
Plot 1.....	Stable manure and no fertilizers.....	36 pounds.
" 2.....	Stable manure and nitrate of soda 330 lbs. per acre.....	38 "
" 3.....	No manure. Nitrate of soda 330 lbs. per acre, given in two applications after the seed is planted at intervals of one and two weeks.....	32 "
" 4.....	No manure. Nitrate of soda 660 lbs. per acre, given in one application one week after the seed is planted.....	34 "
" 5.....	No manure. Nitrate of soda 330 lbs. per acre applied before planting.....	32 "
" 6.....	No manure and no fertilizers.....	28 "
" 7.....	No manure. Nitrate of soda 495 lbs. per acre applied before planting.....	30 "
" 8.....	No manure. Nitrate of soda 660 lbs. per acre applied before planting.....	30 "

### TOMATOES.—TEST OF VARIETIES.

The first tomato seed was sown in the hot-bed 29th March. The plants were transplanted to the cold frame 23rd April, after which it came in cold and the plants all damped off. New plants were started in the hot-bed and these were transplanted when large enough to 4 inches apart in the hot-bed, which by this time contained little heat in itself. The plants remained there until 11th June, when they were set out in the open ground.

Five varieties were planted, one row of each kind 66 feet long and the plants were set 4 feet apart each way. The yield in pounds given is from a plot  $4$  by  $66$  feet or  $\frac{1}{16}$  of an acre. Stable manure at the rate of 20 tons per acre was ploughed under the previous fall. The crop previously grown on this land was Timothy hay:—

### TOMATOES.—TEST OF VARIETIES.

Name of Variety.	Fruit picked 5th September.	
	Ripe.	Green.
	Lbs.	Lbs.
Atlantic Prize.....	19 $\frac{1}{2}$	252
Conqueror.....	6	120
Livingston's Beauty.....	4	88
New Imperial.....	2 $\frac{1}{2}$	81
Early Ruby—not cut back.....	7 $\frac{1}{2}$	156
" cut back 22nd August.....	7 $\frac{1}{2}$	120

### EXPERIMENT WITH CUTTING BACK TOMATO VINES TO PROMOTE MATURING.

In order to test the value of cutting away some of the non-fruit producing branches, so as to hasten the ripening period of the fruit, three hills of the following varieties were

cut back and the same number of hills were left untouched. The hills were treated alike. On 12th September the fruit was picked and the amount of ripe fruit obtained was as follows :—

Variety and how Treated.	Ripe.
	Lbs.
Imperial—cut back 29th August .....	4½
" not cut back .....	3¼
Early Ruby—cut back 22nd August .....	6¼
" " 29th " .....	8¾
" not cut back .....	6½

**CORN.—TEST OF VARIETIES.**

Three varieties of garden corn were planted 23rd May in hills 3 feet apart each way, and 5 plants were left to the hill. The first corn was pulled on 30th August. The following number of ears of each variety were taken from a row 66 feet long on the dates given :—

Name of Variety.	30th August.		10th September.	
	Number of Ears.	Weight of Ears.	Number of Ears.	Weight of Ears.
Early Marblehead.....	66	Lbs. 32	44	Lbs. 22
Extra Early Cory .....	66	38	38	17½
Mitchell's Extra Early .....	70	34	50	27

**AGRICULTURAL MEETINGS.**

I attended the Nova Scotia Farmers' Association at Truro, N.S., the Nova Scotia Fruit Growers' Association at Wolfville, N.S., the New Brunswick Farmers' Association at Fredericton, N.B. I also addressed agricultural meetings at the following places :—

January 4th, Scotch Hill, N.S.,	March 9th, Summerside, P.E.I.,
“ 7th, Bathurst, N.B.,	“ 9th, Tyne Valley, P.E.I.,
“ 8th, Dalhousie, N.B.,	“ 10th, Alberton, P.E.I.,
“ 10th, Chatham, N.B.,	“ 14th, Souris, P.E.I.,
“ 12th, Kingston, N.B.,	June 21st, Narrows, N.B.,
“ 13th, Buctouche, N.B.,	“ 22nd, McDonald's Point, N.B.,
“ 14th, Fox Creek, N.B.,	“ 23rd, Waterborough, “
“ 15th, Hillsboro, N.B.,	“ 24th, Douglas Harbour, “
“ 17th, Port Elgin, N.B.,	“ 25th, Chipman, “
“ 22nd, Antigonish, N.S.,	“ 27th, Newcastle Bridge, “
“ 25th, Shubenacadie, N.S.,	“ 28th, Lakeville “
February 11th, Mapleton, N.B.,	“ 29th, Sheffield Academy, “
“ 13th, Sussex, N.B.,	“ 30th, Manguerville, “
“ 14th, Armstrong's Cor., N.B.,	July 2nd, Gagetown, “
March 3rd, Charlottetown, P.E.I.,	“ 12th, Bristol, “
“ 4th, Montague, P.E.I.,	“ 13th, Glassville, “
“ 5th, Murray Harbour, P.E.I.,	“ 14th, Bath, “
“ 8th, Kensington, P.E.I.,	“ 15th, Florenceville, “

I have the honour to be, sir,

Your obedient servant,

W. S. BLAIR,

*Horticulturist.*

## Experimental Farms.

# EXPERIMENTAL FARM FOR MANITOBA.

REPORT OF S. A. BEDFORD, SUPERINTENDENT.

BRANDON, MAN., 30th November, 1898.

To Dr. Wm. SAUNDERS,  
Director, Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit herewith my eleventh annual report, with details of the experiments undertaken and work accomplished on the Brandon Experimental Farm, during the past year.

Although the prospect was gloomy at times, the past season on the whole was a favourable one for the Agriculturist. Spring opened up about the average date and seeding commenced here on the 15th of April and was continued without hindrance until the close of the season. Wind storms were not as troublesome as usual, and no serious injury resulted from spring frosts which were so troublesome in 1897. The months of April and May proved very dry, not a shower falling until 25th of May. For a week or ten days previous to that date, there was very little growth and all grain wilted badly, but from that date onward showers were frequent and growth rapid.

Favourable weather continued through remainder of the growing season with the result that nearly all cereal, fodder and root crops averaged the largest ever grown on this farm. Wheat was, however, not as large a crop comparatively speaking as oats and barley, owing no doubt to the rains coming rather late for this grain.

The weather during cutting and stacking was unusually wet; greatly retarding harvest operations, and where stacks were badly built more or less of the grain was injured, fortunately the injury on the Experimental Farm from this cause was very slight.

The kernel of all kinds of grain is this year unusually large, but the colour is not equal to the usual standard. A feature of the year was the excellent quality of the straw, comparatively little of it either rusted or lodged, although the growth was very rank.

Attention is called to the large returns of wheat obtained after a crop of pease and to the fact that formalin has proved successful as a preventive of smut in oats, thus confirming the results obtained at the Central Experimental Farm at Ottawa, last year.

Clover sown without a nurse crop has again successfully wintered and the yield of wheat on clover land promises to be a profitable one. Japanese Millet has given a remarkable yield of fodder, and if its feeding properties are found to be good, it is of promise for this country. Awnless Brome Grass continues to give good results on this farm and reports from parties supplied with seed are generally satisfactory. Fodder Corn gave an abundant yield and reached an advanced stage of maturity. Trees and shrubs of all kinds have made good progress this year. The vegetable garden has given good returns, and a number of varieties of vegetables tested appear to be well suited to this country. Work in all lines on the Experimental Farm is expanding, the number of experiments undertaken being larger than heretofore; new land is being brought under cultivation and larger quantities of grain grown, all of which is in demand by resident farmers for seed purposes. The amount of correspondence is larger and the number of visitors is increasing each year.

### EXPERIMENTS WITH WHEAT.

#### TEST OF VARIETIES.

The soil selected for these tests was not the most suitable for the purpose, being somewhat sticky and lacking in humus. The returns were, however, fair, and the quality of the grain excellent in nearly every instance.



*Goose Wheat*, the most productive variety this year, also headed the list in 1896. This is a hard flinty wheat evidently very productive here, but is inferior as a milling wheat. It is also later to mature than Red Fife.

*Monarch*, a beardless wheat, has been among the five most productive varieties for three years. It is a good, bright, heavy sample and would pass readily for Red Fife.

*White Fife* has now for three years in succession given a larger return here than the Red Fife, the average being about four bushels per acre in favour of White Fife.

*Crown*, a cross-bred wheat originated on the Experimental Farms, is one of the best bearded varieties grown here, it is productive and of good quality.

*Wellman's Fife* is very similar to Red Fife, but the head is longer and the kernels not so compactly placed in the ear. Although the head is longer it does not always produce as large a yield as the Red Fife.

A large proportion of those varieties, which gave the smaller crops, were badly affected with rust. The fife wheats are noticeable for their freedom from rust, the White Fife being particularly so.

The land for this test was summer-fallowed the previous year; the size of the plots was  $\frac{1}{20}$  acre. The soil was a clay loam and all the plots were sown on 20th April.

## WHEAT.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.		Yield per Acre.	Weight per Bushel.	Rusted.
							Lbs.	Bush.			
			In.		In.		Lbs.	Lbs.			
Goose	Aug. 26.	128	40	Stiff	4	Bearded	6,400	45 20	63	Slightly.	
Monarch	" 24.	126	39	"	4	Beardless	4,200	42 40	61	"	
White Fife	" 24.	126	38	"	4	"	6,100	40	61	None.	
Crown	" 23.	125	40	"	4	Bearded	5,400	38 20	61½	Slightly.	
White Connell	" 24.	126	39	"	3½	Beardless	5,400	37 20	61	"	
Wellman's Fife	" 23.	125	42	"	4½	"	6,000	37	60	"	
Red Fife	" 25.	127	36	"	3½	"	6,800	36 20	61½	"	
Hungarian	" 23.	125	43	Very weak	3½	Bearded	4,800	35	60	"	
Dufferin	" 20.	122	41	Stiff	4	Beardless	5,400	34	61	Badly.	
Percy	" 18.	120	46	"	3½	"	4,800	33 40	60	None.	
White Russian	" 23.	125	39	"	4	"	5,200	33 40	61	Slightly.	
Stanley	" 24.	126	40	"	4	"	6,200	33 40	60	"	
Huron	" 23.	125	36	Fair	3½	Bearded	5,000	33 40	60	"	
Old Red River	" 24.	126	40	Stiff	4	Beardless	5,900	33	61	"	
Preston	" 23.	125	41	Fair	4	Bearded	4,600	32 20	60	"	
Progress	" 18.	120	38	Stiff	3½	Beardless	5,500	32	61	None.	
Pringle's Champlain	" 24.	126	34	Weak	4	Bearded	4,600	32	61	Slightly.	
Campbell's White Chaff	" 23.	125	39	Stiff	3	Beardless	5,000	31 20	60	Considerably.	
Red Fern	" 22.	124	40	Weak	3½	Bearded	5,200	31	59	"	
Admiral	" 24.	126	35	Fair	3½	Beardless	4,600	31	58	Slightly.	
Vernon	" 23.	125	40	Weak	3½	Bearded	4,600	31	59	"	
Beauty	" 23.	125	37	Stiff	4	Beardless	4,800	30 20	60½	"	
Blenheim	" 24.	126	41	Fair	3	Bearded	4,000	30	60	"	
Rio Grande	" 25.	127	33	Stiff	4	Bearded	5,100	30	60	"	
Golden Drop	" 23.	125	35	"	3	Beardless	4,900	29 20	59½	"	
Alpha	" 24.	126	34	Fair	3	"	4,200	27 20	61	"	
Dion's	" 22.	124	40	Stiff	4½	Bearded	4,800	27 20	60	"	
Herisson Bearded	" 24.	126	34	Weak	1½	"	4,400	27	59	"	
Colorado	" 23.	125	43	"	3	"	4,600	26 40	61½	"	
Emporium	" 25.	127	31	Stiff	4	"	4,600	26 20	59	None.	
Dawn	" 18.	120	52	"	3½	Beardless	3,900	25 40	62	Slightly.	
Countess	" 22.	124	35	Weak	3	"	4,200	25 40	60	Badly.	
Beaudry	" 20.	122	42	"	3	Bearded	4,300	25	60	"	
Rideau White Chaff	" 22.	124	35	Stiff	3½	Beardless	4,400	24 40	59	Slightly.	
Blair	" 29.	131	37	Very weak	2½	Beardless	4,200	24 40	59	None.	
Advance	" 24.	126	33	Fair	3	Bearded	2,600	23 40	61	Slightly.	
Captor	" 28.	130	44	Stiff	3½	Beardless	4,400	22 20	60	"	
Black Sea	" 23.	125	39	Fair	3½	Bearded	3,300	21	58	Badly.	
Ladoga	" 22.	124	34	Weak	3½	"	2,800	20 20	59	"	
Mason	" 23.	125	30	"	2	Beardless	3,200	20	60	Considerably.	
Plumper	" 15.	117	33	Stiff	3	Bearded	3,200	20	59	"	
Harold	" 18.	120	28	"	2½	"	3,800	18 40	58	Slightly.	

## Experimental Farms.

### AVERAGE RESULTS FROM A FIVE YEARS' TEST OF WHEAT.

Only by repeated tests continued through varying seasons can we expect to reach correct conclusions.

For this reason a summary is given of the test of varieties of wheat for four and five years.

Name of Variety.	Years Included.	Average Yield per Acre.		Average Days Maturing.
		Bush.	Lbs.	
White Fife.....	1894-95-96-97-98.....	37	28	120
Red Fife.....	1894-95-96-97-98.....	35	28	120
Preston.....	1894-95-96-97-98.....	34	22	119
Rio Grande.....	1894-95-96-97-98.....	33	50	117
Monarch.....	1894-95-96-97-98.....	33	30	120
Crown.....	1894-95-96-97-98.....	33	18	115
Pringle's Champlain.....	1894-95-96-97-98.....	33	2	117
White Connell.....	1894-95-96-97-98.....	33	..	119
Wellman's Fife.....	1894-95-96-97-98.....	31	46	120
White Russian.....	1894-95-96-97-98.....	31	40	118
Old Red River.....	1894-95-96-97-98.....	31	24	119
Percy.....	1894-95-96-97-98.....	31	6	115
Red Fern.....	1894-95-96-97-98.....	31	4	119
Advance.....	1894-95-96-97-98.....	30	44	116
Stanley.....	1894-95-96-97-98.....	30	26	116
Campbell's White Chaff.....	1894-95-96-97-98.....	30	6	117
Harrison Bearded.....	1894-95-96-97-98.....	29	56	117
Blenheim.....	1894-95-96-97-98.....	29	28	116
Dion's.....	1894-95-96-97-98.....	29	18	120
Emporium.....	1894-95-96-97-98.....	28	38	118
Huron.....	1894-95-96-97-98.....	26	2	112
Captor.....	1894-95-96-97-98.....	25	44	119
Ladoga.....	1894-95-96-97-98.....	25	38	114
Black Sea.....	1894-95-96-97-98.....	24	38	113
Colorado.....	1894-95-96-97-98.....	23	18	114

### FIELD PLOTS OF WHEAT.

These were all sown on summer-fallowed land excepting the two acres of Red Fife which was sown on backsetting.

Name of Variety.	Character of Soil.	Size of Plot.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.		Yield per Acre.	
						Inches.	Bush.	Lbs	
		Acres.							
Wellman's Fife.....	Sandy loam.	1½	April 14..	Aug. 12..	120	40	40	..	
Red Fife.....	Clay "	2	" 27..	" 26..	121	42	39	30	
Preston.....	Sandy loam.	3	" 14..	" 10..	118	40	36	..	
Percy.....	" "	2	" 15..	" 15..	122	42	31	30	
Red Fife.....	" "	3½	" 18..	" 26..	130	35	30	40	
White Connell.....	" "	3½	" 13..	" 10..	117	39	30	8	
Monarch.....	" "	1½	" 15..	" 15..	122	40	27	..	
White Fife.....	" "	3½	" 13..	" 11..	118	37	20	34	
Crown.....	Clay loam..	1	" 22..	" 19..	119	45	38	18	
White Russian.....	" "	1	" 22..	" 21..	121	43	37	43	
Dufferin.....	" "	1	" 22..	" 21..	121	44	34	28	
Vernon.....	" "	1	" 22..	" 18..	118	41	33	30	
Blenheim.....	" "	1	" 22..	" 18..	118	43	32	54	
Alpha.....	" "	1	" 22..	" 19..	119	43	31	35	
Admiral.....	" "	1	" 22..	" 21..	121	41	30	54	
Hungarian.....	" "	1	" 22..	" 20..	120	37	29	8	
Rio Grande.....	" "	1	" 22..	" 19..	119	43	26	19	
Ladoga.....	" "	1	" 22..	" 19..	119	36	24	58	

WHEAT AFTER A CLOVER CROP.

In the eastern provinces clover has become an important factor in crop rotations, but very little is known regarding its effects in this country.

A plot of land which had been in Sweet Clover for two years, was ploughed last spring and sown with Red Fife. For comparison two adjoining plots one which had been summer-fallowed the previous year and another of wheat stubble, were sown about the same time.

The yield on the land on which the sweet clover was grown, exceeded that from wheat stubble, but was not equal to the summer-fallowed land. The plots were  $\frac{1}{20}$  acre each and the soil a rich sandy loam.

How Treated.	Sown.	Ripe.	Character of Straw.	Weight of Straw per Acre.		Yield per Acre.		Weight per Bush.
				Lbs.	Bush.	Lbs.	Lbs.	
Summer-fallowed.....	May 5.....	Aug. 25.....	Weak.....	7,600	44	..	61	
Sweet clover land.....	" 5.....	" 24.....	Stiff.....	6,200	38	..	62	
Wheat stubble.....	April 19.....	" 15.....	".....	4,100	27	50	60	

THE ROLLING OF LAND FOR A WHEAT CROP.

One of the objections to the rolling of land in this country after sowing grain is the tendency that finely pulverized soil has to drift with severe wind storms during the spring months, some think that the injury is lessened when the rolling is done before sowing. Owing to an absence of severe storms this year, this point could not be fairly tested.

It will be noticed, however, that rolling in each instance gave enough increase in yield to pay for the extra work, this agrees with the results obtained here from a similar experiment during 1894.

The tests were made on plots of  $\frac{1}{20}$  acre, soil sandy loam, and the sowing done with a shoe drill.

The field had been summer-fallowed the previous year. There was no rust on these plots.

Name of Variety.	How treated.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.		Yield per Acre.	Weight per Bushel.
								Lbs.	Bush. Lbs.		
Red Fife.....	Not rolled.....	May 5..	Aug. 28..	115	In. 40	Stiff..	3	5,700	32	61	
".....	Rolled before sowing	" ..	" ..	115	41	" ..	3½	6,000	33 20	60½	
".....	" after "	" ..	" ..	115	42	" ..	3½	5,600	33 40	62	

TEST OF DRILLS FOR SOWING WHEAT.

Each year as the soil on the older fields becomes more finely pulverized, the advantage of drill sowing over broadcast is more apparent.

This year the germination of the broadcast sown grain was delayed so much that the crop was badly frozen by fall frosts, injuring the sample and reducing both the yield and weight per bushel.

The use of drills is now more general throughout the province, but there are a few farmers who still adhere to broadcast sowing, which results in a loss of a considerable percentage of their crop.

## Experimental Farms.

The size of the plots was  $\frac{1}{20}$  acre each, the soil a sandy loam, which had been summer-fallowed. There was no rust on these plots.

Name of Variety.	Drill used.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per Bushel.	
								Weight of Straw.	Yield per Acre.		
					In.		In.	Lbs.	Bush.	Lbs.	
Red Fife .....	Hoe drill .....	April 30..	Aug. 28..	120	40	Stiff .....	3½	4,200	24	40	62
" .....	Shoe " .....	" 30..	" 26..	118	40	" .....	3	4,000	21	40	61½
" .....	Broadcast .....	" 30..	Sept. 10..	133	40	" .....	3	3,300	14	40	59

### VARYING QUANTITIES OF SEED FOR WHEAT.

In these experiments five pecks of seed gave the best return during the past season, this is from one to two pecks less than is generally used here.

The size of plots in this test was one-twentieth acre. The soil was a rich, sandy loam, and a hoe drill was used for sowing. The field was summer-fallowed. There was no rust on any of these plots.

Name of Variety.	Seed per Acre.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per Bushel.	
								Weight of Straw.	Yield per Acre.		
					In.		In.	Lbs.	Bush.	Lbs.	
Red Fife .....	4 pecks .....	April 30..	Aug. 28..	120	46	Stiff .....	3½	5,000	25	40	59½
" .....	5 " .....	" 30..	" 28..	120	42	" .....	3	3,900	26	40	60
" .....	6 " .....	" 30..	" 28..	120	42	" .....	3	4,300	23	40	60½

### PREVENTIVES OF SMUT IN WHEAT.

Two different classes of wheat were treated with bluestone this year.

The one called "clean" seed had no appearance of smut, but evidently there was sufficient spores to affect the produce.

The other sample was so badly affected with smut that only a very careless person would think of using it for seed. Red Fife was the variety used in each case.

Although bluestone has in most seasons effectively prevented smut, even where the seed was badly affected, the experience of this year would indicate that smutty seed should not be sown, and that apparently clean seed should be treated to secure freedom from smut. The seed in this test was treated with bluestone prepared by dissolving 1 lb of the bluestone in 3 gallons of water and sprinkling this on the wheat before sowing.

The land was summer-fallowed for this test. The size of the plots was  $\frac{1}{20}$  acre each, and the soil was a sandy loam. The plots were all sown on the 30th of April.

	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.		Length of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.	Good Heads.	Smutty Heads.
				In.	In.			Lbs.	Bush.			
				In.	In.		Lbs.	Bush.	Lbs.	Lbs.		
Clean seed treated .....	April 30..	Aug. 27..	119	43	4		5,800	32	40	61	468	.....
" not treated .....	" 30..	" 27..	119	44	4		5,800	32	40	60	312	9
Smutty seed treated .....	" 30..	" 27..	119	45	4		6,200	33	20	61	325	40
" not treated .....	" 30..	" 27..	119	44	4		5,400	27	40	51	190	151

## DIFFERENT WAYS OF PREPARING LAND FOR WHEAT.

The best returns were obtained after pease. This is in accordance with the experience of former years, and is a strong argument in favour of the more extensive cultivation of this crop.

The comparative small yield after flax agrees with the general experience of farmers in this province.

The results from spring and fall ploughing also agrees with the experience gained in former seasons. Spring ploughing appears to be the most advantageous, but unfortunately there does not appear to be sufficient time for the farmer to prepare all his wheat land in the spring, and a portion has necessarily to be ploughed in the fall.

All the plots in this test were sown on 19th April, the size of the plots was  $\frac{1}{20}$  acre each and the soil a clay loam.

## WHEAT.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.	Weight per Bushel.
<i>How Prepared.</i>			In.		In.		Lbs.	Bush. Lbs.	Lbs.
After pease . . . . .	Aug. 24. . . . .	127	44	Stiff . .	4	Beardless .	7,200	43 20	62½
Summer-fallow . . . . .	" 24. . . . .	127	41	"	4	"	7,000	40 5	61
After flax . . . . .	" 26. . . . .	129	33	"	3½	"	5,000	32 40	60
Unburnt wheat stubble. . . . .	" 18. . . . .	121	44	"	4	"	6,400	36 20	62
Burnt wheat stubble . . . . .	" 18. . . . .	121	45	"	4	"	6,350	35 ..	62½
Disc-harrowed burnt stubble. . . . .	" 24. . . . .	127	44	"	4	"	6,700	33 10	62
" unburnt stubble. . . . .	" 24. . . . .	127	43	"	4	"	6,400	31 20	61
Spring ploughed . . . . .	" 18. . . . .	121	41	"	4	"	5,300	35 ..	61½
Fall ploughed . . . . .	" 13. . . . .	116	37	"	3½	"	4,600	31 10	62

## RESULTS OF EARLY, MEDIUM, AND LATE SOWINGS.

This series of experiments has been continued this year with results more than usually instructive.

The returns of wheat were remarkably uniform. In every instance the earliest sown wheat gave the largest crop, the yield gradually growing less from week to week until the small returns of  $14\frac{1}{2}$  and  $16\frac{3}{4}$  bushels were reached. The difference between the earliest and latest sown Red Fife was  $28\frac{3}{4}$  bushels per acre, and with the Stanley wheat  $20\frac{1}{2}$  bushels.

In nearly every instance the weight per bushel also diminished each week, the difference in Red Fife being  $11\frac{1}{2}$  pounds per bushel and in Stanley 13 pounds.

The two first sowings of each variety were only slightly injured by rust, while the later sown plots were seriously affected.

The last sown plot of each variety was injured by fall frost.

The land for this test was summer-fallowed, the size of the plots was  $\frac{1}{20}$  acre each, the soil a rich black sandy loam.

## Experimental Farms.

### WHEAT—Early, medium and late sowings.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing		Character of Straw.	Length of Head.	Weight of Straw.		Yield per Acre.		Weight per Bushel.	Rusted.
			In.	In.			Lbs.	Bush. Lbs.	Lbs.			
Red Fife.....	Apl. 23..	Aug. 24..	123	44	Stiff..	4	5,200	45	20	61½	Slightly.	
" .....	" 30..	" 27..	119	41	" ..	4	7,800	34	20	62½	"	
" .....	May 7..	Sept. 2..	118	47	" ..	4	6,500	30	40	60	Considerably.	
" .....	" 14..	" 7..	116	46	" ..	4	6,700	31	..	59	"	
" .....	" 21..	" 8..	110	49	" ..	4	7,400	29	..	58	Badly.	
" .....	" 28..	" 9..	104	45	" ..	3	5,800	16	40	51	"	
Stanley .....	Apl. 23..	Aug. 22..	121	49	" ..	4	6,200	34	40	62	Slightly.	
" .....	" 30..	" 25..	117	44	" ..	3½	7,000	32	40	62	"	
" .....	May 7..	" 28..	113	46	" ..	4	6,200	31	40	60	Considerably.	
" .....	" 14	Sept. 1..	110	47	" ..	4	6,400	30	20	59	Badly.	
" .....	" 21..	" 2..	104	49	" ..	3	5,200	20	20	59	"	
" .....	" 28..	" 9..	104	47	" ..	4	3,100	14	20	49	"	

### OATS: EARLY, MEDIUM AND LATE SOWINGS.

The results with oats were also fairly uniform, but the second sown plot gave the largest return with both varieties, this agrees with the experience had in former years.

The difference in yield between the second and the last sown plots of Abundance oats was 50 bushels per acre, and with Banner 58 bushels, a very strong argument in favour of early sowing. The quality of the grain from the last sown plot was very inferior and light in weight.

The size of the plots was  $\frac{1}{20}$  acre each, and the soil a rich black loam, which had been summer-fallowed.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing		Character of Straw.	Length of Head.	Weight of Straw.		Yield per Acre.		Weight per Bushel.	Rusted.
			In.	In.			Lbs.	Bush. Lbs.	Lbs.			
Abundance.....	Apl. 23..	Aug. 22..	121	50	Medium	8	8,500	101	6	37	Badly.	
" .....	" 30..	" 24..	116	46	" ..	8	7,900	107	2	36	"	
" .....	May 7..	" 27..	112	47	" ..	9	7,900	90	20	35	"	
" .....	" 14	Sept. 1..	110	49	" ..	7	6,100	73	18	34	Very badly.	
" .....	" 21..	" 4..	106	50	" ..	8	7,000	69	14	33	"	
" .....	" 28..	" 8..	103	51	" ..	8	5,000	57	2	28	"	
Banner.....	Apl. 23..	Aug. 15..	114	49	Stiff....	7	7,400	98	28	37½	No rust.	
" .....	" 30..	" 24..	116	49	" ..	7	8,500	119	14	40	Slightly.	
" .....	May 7..	" 26..	111	52	" ..	8	8,400	117	22	37	Badly.	
" .....	" 14..	Sept. 1..	110	56	" ..	10	7,000	84	24	37	"	
" .....	" 21..	" 6..	108	56	" ..	10	7,500	75	10	34	Very badly.	
" .....	" 28..	" 9..	104	56	" ..	10	6,200	61	26	32	"	

### BARLEY: EARLY, MEDIUM AND LATE SOWINGS.

With barley the advantage of early sowing was not so apparent as with the other grains noted, and it would appear that this cereal can be sown in this climate later than either wheat or oats, without much loss.

The size of the plots was  $\frac{1}{20}$  acre each, and the soil a rich black loam, which had been summer-fallowed.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.		Kind of Head.	Weight of Straw.		Yield per Acre.	Weight per Bushel.	Rusted.
				In.	In.		Lbs.	Bush. Lbs.			
Odessa	April 23	Aug. 10	109	37	3	6-rowed.	6,400	67 4	49	Slightly.	
"	" 30	" 13	105	37	3	"	5,700	64 8	48	"	
"	May 7	" 15	100	29	3	"	6,000	63 36	48	"	
"	" 14	" 20	98	37	2 $\frac{1}{2}$	"	6,100	64 28	49	"	
"	" 21	" 24	95	39	2 $\frac{1}{2}$	"	6,400	64 28	48	Badly.	
"	" 28	" 27	91	35	2 $\frac{1}{2}$	"	5,700	60	47	Very badly.	
Canadian Thorpe	April 23	" 10	109	42	4	2-rowed.	5,800	63 36	51	None.	
"	" 30	" 11	103	43	4 $\frac{1}{2}$	"	7,100	66 12	52	"	
"	May 7	" 14	99	43	3	"	6,900	57 4	50	"	
"	" 14	" 24	102	44	3	"	7,000	58 36	50	Slightly.	
"	" 21	" 26	97	42	3	"	6,700	56 32	49	Badly.	
"	" 28	Sept. 2	97	36	3 $\frac{1}{2}$	"	6,300	47 24	49	Very badly.	

#### PEASE : EARLY, MEDIUM AND LATE SOWINGS.

Usually early sown pease give the best returns, but this year the third and fourth sowings have produced the largest yields. This result can be attributed to the fact that the spring rains came much later than usual.

The size of the plots for this test was  $\frac{1}{20}$  acre, the soil a rich black loam which had been summer-fallowed.

Name of Variety.	Date of Sowing.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.	Weight per Bushel.
				Inches.	Inches.		Bush. Lbs.	Lbs.
Golden Vine	April 23	Aug. 25	124	43	2	Small....	46 40	65
"	" 30	Sept. 2	125	60	2	"	46	65
"	May 7	" 7	123	50	2	"	51 20	65
"	" 14	" 10	119	48	2	"	50 20	65
"	" 21	" 16	118	50	2 $\frac{1}{2}$	"	52 20	65
"	" 28	" 20	115	52	2 $\frac{1}{2}$	"	40	64
Mummy	April 23	Aug. 23	122	44	3	Medium..	49 20	64
"	" 30	" 26	118	39	2	"	49	63 $\frac{1}{2}$
"	May 7	Sept. 2	118	44	2	"	49 20	64
"	" 14	" 8	117	47	2 $\frac{1}{2}$	"	53	64
"	" 21	" 13	115	48	2 $\frac{1}{2}$	"	52	65
"	" 28	" 16	111	51	2	"	37 40	60

#### EXPERIMENTS WITH OATS.

The importance of this cereal for feed to the farmers of Manitoba should result in greater care in the preparation of land for this crop.

The very general plan of sowing a field with wheat as long as it will bear a crop and following this with oats may prove fairly successful in a year of heavy rainfall, but will surely lead to disappointment in a dry season.

As a rule in Western Manitoba no more than two crops of wheat in succession should be grown after a fallow, and on some soils one crop of wheat followed by oats or barley will be found the most profitable.

## Experimental Farms.

The past season has been a very favourable one for oats and the yield on all parts of the experimental farm has been unusually large and the quality excellent.

American Beauty is an excellent variety of white oats which has been very productive on this farm.

California Prolific Black was among the ten most productive sorts in 1897, and has again given good returns in 1898.

Bavarian has also proved very productive on large fields as well as in plots, this year.

Mennonite is maintaining its reputation as one of the best yielding varieties here, but its yellow colour is often objected to. This variety was imported by the Mennonites from Russia some years ago and received from them the name of Russian oat.

Oxford and Pense are both cross-bred white varieties with half-sided heads and bright stiff straw.

The large yield of 106 bushels of Banner Oats show that this is still one of the best sorts for general cultivation in this province.

To prevent smut the seed of all the varieties was immersed for five minutes in a liquid composed of one pound of bluestone dissolved in three pails of water.

Seven of those so treated were considerably affected with smut and four slightly so, the remainder were quite free from this disease.

These tests were made on plots of  $\frac{1}{2}$  acre, the soil was sandy loam summer-fallowed, two bushels of seed was used per acre sown with a shoe drill and all the plots were sown on the 30th of April.

OATS.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw		Yield per Acre.	Weight per Bushel.	Rusted.
							Lbs.	Bush.			
White Giant	Aug. 26.	118	78	Stiff	9	Branching	7,900	114 4	40	None.	
American Beauty	" 24.	116	51	Fair	8	"	"	113 18	39 $\frac{3}{4}$	"	
California Prolific Black	" 25.	117	55	Stiff	9	Sided	8,300	110	36	Slightly.	
Bavarian	" 26.	118	57	"	10	Branching	8,000	109 14	39 $\frac{3}{4}$	"	
Mennonite	" 25.	117	48	Fair	9	"	7,800	108 23	40	"	
Oxford	" 26.	118	54	Stiff	10	Half-sided	8,800	106 16	39 $\frac{3}{4}$	"	
Pense	" 25.	117	56	"	10	"	8,700	106 16	38 $\frac{3}{4}$	"	
Banner	" 25.	117	47	Fair	10	Branching	8,240	106 6	39	"	
American Triumph	" 25.	117	48	"	9	"	6,800	105 30	40	None.	
Thousand Dollar	" 19.	111	51	Very stiff.	9	"	8,400	104 4	43	"	
White Schonen	" 27.	119	47	Stiff	7	"	8,000	104 4	38	Slightly.	
New Electric	" 19.	111	48	"	7	"	7,200	103 18	40 $\frac{3}{4}$	None.	
Newmarket	" 26.	118	45	Fair	7	"	7,500	99 14	40	Considerably.	
Danish Island	" 25.	117	54	Stiff	8	"	"	99 14	38	None.	
Golden Tartarian	" 25.	117	43	"	9	Sided	7,600	98 28	33	Slightly.	
Olive	" 25.	117	50	"	10	Half-sided	8,800	98 28	38	"	
Improved American	" 26.	118	41	"	11	Branching	8,500	98 28	38 $\frac{3}{4}$	"	
Early Golden Prolific	" 24.	116	49	Weak	9	"	7,800	97 22	37	"	
Oderbruch	" 25.	117	46	Fair	9	Half-sided	8,000	97 2	36 $\frac{1}{2}$	Badly.	
Buckbee's Illinois	" 26.	118	44	Stiff	8	Branching	7,300	97 2	38	Slightly.	
Holland	" 29.	121	44	"	7	Sided	7,300	94 24	32 $\frac{1}{2}$	Very badly.	
Prolific Black Tartarian	" 25.	117	49	"	9	"	7,300	94 24	36 $\frac{1}{2}$	Slightly.	
Wallis	" 26.	118	48	"	7	Branching	7,900	94 4	39	"	
Abundance	" 19.	111	37	"	8	"	8,000	94 4	37	"	
Great White Maine	" 25.	117	39	Weak	10	Sided	7,300	94 4	37	Very badly.	
Lincoln	" 24.	116	50	Fair	7	Branching	6,700	94 4	38 $\frac{3}{4}$	Considerably.	
Cromwell	" 26.	118	54	Stiff	11	"	7,900	93 18	38 $\frac{3}{4}$	Slightly.	
Holstein Prolific	" 28.	120	50	Fair	10	"	7,500	93 18	38	"	
Hazlett's Seizure	" 26.	118	50	Weak	8	"	7,800	93 18	41 $\frac{1}{2}$	Badly.	
Potato Oats	" 24.	116	47	Fair	9	"	7,800	93 18	42	None.	
Golden Beauty	" 19.	111	47	Stiff	8	"	6,500	93 18	39	Slightly.	
Abyssinia	" 26.	118	50	"	9	Half-sided	8,200	92 32	37 $\frac{1}{2}$	Badly.	



OATS—TEST OF VARIETIES—*Concluded.*

Name of Variety.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw		Yield per Acre.	Weight per Bushel.	Rusted.
							Lbs.	Bush.			
Welcome.	Aug. 19.	111	56	Fair	11	Branching	7,800	92 32	43	Slightly.	
Early Archangel.	" 19.	111	45	Stiff	9	"	7,100	92 32	40½	"	
Pearce's Black Beauty.	" 25.	117	42	Weak	9	"	7,000	91 26	37	"	
Columbus.	" 24.	116	44	Fair	8	"	8,400	91 6	3½	Badly.	
Excelsior.	" 15.	107	41	Stiff	6	"	5,500	90	38	Slightly.	
Victoria Prize	" 19.	111	51	Weak	10	"	6,700	89 14	44½	Considerably.	
Dawson	" 19.	111	54	Fair	8	"	5,800	88 8	43	Slightly.	
Siberian O. A. C	" 28.	120	49	Weak	10	"	6,700	88 8	37	Considerably.	
White Russian	" 25.	117	50	Fair	9	"	7,500	87 22	39	"	
Joanette	" 25.	117	41	Weak	9	"	"	87 22	37	Slightly.	
Improved Ligowo.	" 24.	116	45	Stiff	6	"	6,100	87 2	38	"	
Master.	" 24.	116	53	"	12	Half-sided	7,200	87 2	36	"	
Golden Giant.	" 28.	120	51	"	10	Sided.	7,700	87 2	32	Very badly.	
Russell	" 24.	116	50	Weak	8	Half-branching	7,300	86 16	38½	"	
Early Blossom.	" 27.	119	47	Stiff	8	Half-sided	7,900	85 30	33	"	
Flying Scotchman	" 12.	104	48	"	12	Branching	6,200	85 10	41	None.	
Early Maine.	" 28.	120	56	Fair	10	"	6,500	84 24	38	Considerably.	
Cream Egyptian	" 19.	111	64	Stiff	8	Half-sided	6,800	84 24	40½	Slightly.	
Miller	" 28.	120	56	Fair	11	Branching	7,900	84 4	38	"	
Imported Irish	" 15.	107	49	"	9	"	6,600	83 18	43½	Badly.	
Rosedale	" 19.	111	50	"	9	Half-sided	6,900	82 32	40½	Very badly.	
Wide Awake	" 19.	111	46	"	7	Branching	6,100	82 32	40	Slightly.	
King.	" 19.	111	40	"	7	"	6,800	79 14	40	None.	
Prize Cluster	" 19.	111	44	Weak	10	"	5,600	78 28	42	Badly.	
Improved American	" 25.	117	46	"	10	"	7,500	78 28	38	"	
Bonanza	" 12.	104	40	Stiff	8	"	6,900	78 28	44	None.	
Brandon	" 27.	119	56	"	9	Half-sided	7,900	78 8	36½	Slightly.	
Mortgage Lifter	" 25.	117	44	Very weak	8	Branching	5,400	77 22	42	Badly.	
Scottish Chief.	" 12.	104	41	Weak	9	"	6,900	77 22	43	Slightly.	
Medal.	" 28.	120	57	"	11	Half-sided	5,800	77 2	38	Considerably.	
Winter Grey.	" 19.	111	47	Stiff	9	Branching	6,100	75 30	39	"	
Coulommiers.	Sept. 1.	124	46	Fair	9	"	8,300	75 10	35½	Slightly.	
Poland.	Aug. 19.	111	44	Stiff	8	"	6,300	74 4	41½	Badly.	
Early Gothland.	" 26.	118	50	Weak	10	Half-sided	5,800	74 4	37½	"	
Doncaster Prize.	" 24.	116	47	Stiff	7	Branching	8,000	72 12	39	Slightly.	
Dunn	" 26.	118	57	Fair	10	"	7,700	67 2	37	"	
Black Mesdag	" 22.	114	42	Fair	8	"	5,800	65 10	38	Considerably.	
Rennie's Prize White.	" 24.	116	45	Stiff	7	"	5,800	65 10	40	Slightly.	
White Wonder.	" 12.	104	42	"	9	"	5,000	61 26	43½	None.	
Scotch Hopetoun.	Sept. 2.	125	48	"	9	"	6,700	54 24	35	Very badly.	

AVERAGE RESULTS OF FOUR AND FIVE YEARS' TESTS OF OATS.

The accompanying table shows that the Banner Oat still takes the lead, and the difference in average productiveness of the several varieties is very marked.

## Experimental Farms.

The report for 1896 showed that the average return from Black Tartarian up to that date was 26 bushels per acre less than the Banner, and this year the difference is still over 20 bushels in favour of the Banner, and the Tartarian is seven days later in ripening.

Name of Variety.	Years Included.	Average Yield per Acre.		Average Days Maturing.
		Bush.	Lbs.	
Banner .....	1893-94-95-96-98.....	93	12	107
American Beauty .....	1893- 95-96-98.....	92	19	112
Abundance .....	1893-94-95-96-98.....	82	26	106
Holstein Prolific .....	1893-94-95-96-98.....	80	..	107
Victoria Prize .....	1893- 95-96-98.....	78	3	105
White Russian.....	1893-94-95-96-98.....	75	28	109
Rosedale .....	1893-94-95-96-98.....	75	24	106
Golden Beauty.....	1893-94-95-96-98.....	75	4	110
Wide Awake .....	1893- 95-96-98.....	74	24	113
Abyssinia .....	1893-94-95-96-98.....	74	2	110
Early Archangel.....	1893-94-95-96-98.....	74	2	105
Improved Ligowo .....	1893-94-95-96-98.....	73	6	108
Black Tartarian.....	1893-94-95-96-98.....	70	32	114
Early Gothland.....	1893-94-95-96-98.....	69	11	109
Siberian .....	1893-94-95-96-98.....	67	30	115
Columbus.....	1893-94-95-96-98.....	65	30	108
Imported Irish.....	1893-94-95-96-98.....	65	4	101
American Triumph.....	1893-94-95-96-98.....	63	26	113
Welcome.....	1893-94-95-96-98.....	63	14	101

### OATS.—TEST OF VARIETIES SOWN ON SPRING PLOUGHED STUBBLE.

Many farmers contend that Banner Oats may possibly excel Black Tartarian on summer fallow ; but on spring ploughed stubble the Tartarian is the most productive. Last year these two varieties gave exactly the same yield on stubble land, but this year the Banner gave over 16 bushels per acre more than the Tartarian.

The Banner is not only a better milling oat but is more productive than the Tartarian.

The size of the plots used for this test was  $\frac{1}{10}$  acre, the soil a clay loam and all were sown May 21st.

Name of Variety.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
			Inches.	Lbs.	Bush.	Lbs.	Lbs.
Banner .....	Sept. 4..	106	55	5250	68	8	38
Black Tartarian .....	" 7..	109	47	5950	52	2	36
White Russian.....	" 3..	105	49	4450	42	2	39

## FIELD PLOTS OF OATS.

These were all sown on summer-fallowed land, excepting the 10 acres of Banner which was sown on backsetting.

Name of Variety.	Date of Ripening.	Length of Straw.		Yield per Acre.	
		Inches.	Bush.	Lbs.	
Banner.....	August 26..	50	75		
New Electric.....	" 21..	50	106	23	
Columbus.....	" 21..	41	84	26	
Prolific Black Tartarian.....	" 24..	40	70	17	
Pearce's Black Beauty.....	" 21..	47	64	9	
American Beauty.....	" 28..	46	110	2	
Golden Giant.....	" 26..	47	96	16	
Prize Cluster.....	" 19..	43	91	12	
Wallis.....	" 30..	50	78	4	
Siberian.....	" 21..	47	76	6	
Russell.....	" 21..	42	74		

## OATS AND PEASE MIXED FOR GRAIN.

For several years oats and pease mixed have been grown on this farm for fodder, but this year they were sown with the object of ripening the seed. With one exception the plots having the larger proportion of oats, gave the largest crop of grain.

The yields have been estimated on a basis of 40 lbs. per bushel.

The size of the plots in this test was  $\frac{1}{20}$  acre and the land was summer-fallowed:—

Quantity of Seed per Acre.	Character of Soil.	Size of Plot.	Date of Sowing.	Date of Ripening.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
					Lbs.	Bush.	Lbs.	Lbs.
Oats, $2\frac{1}{2}$ bush.....	Rich sandy loam.	$\frac{1}{20}$ acre....	May 10...	Sept. 1....	6,500	68	20	38
Pease, $\frac{1}{2}$ ".....					7,300	70	00	40
Oats, 2 ".....	"	"	"	"	6,500	67	20	37
Pease, $\frac{1}{2}$ ".....					7,000	65	00	38
Oats, $1\frac{3}{4}$ ".....	"	"	"	"	5,400	54	00	40
Pease, $\frac{1}{2}$ ".....								
Oats, 1 ".....	"	"	"	"				
Pease, 1 ".....								

## FORMALIN AND BORDEAUX MIXTURE AS PREVENTIVES OF SMUT IN OATS.

While immersion in a weak solution of bluestone is useful in checking the spread of this disease, this treatment does not destroy all the spores in a badly affected sample, and some more efficacious remedy is desired.

For this experiment three varieties of very smutty oats were selected.

Two samples of each sort were treated with formalin; one sample being steeped for two hours in a mixture composed of 3 oz of formalin to 10 Imperial gallons of water, equal to 2 to 1,000, and the other consisting  $4\frac{1}{2}$  of formalin in 10 Imperial gallons of water or 3 to 1,000.

Bordeaux mixture (4 lb. lime, 4 lb. bluestone, in a barrel of water) was also used for this purpose, the seed being soaked for four hours in this preparation.

## Experimental Farms.

Check plots were sown with each variety of oat, untreated.

Each plot, was examined carefully and not a smutty head could be found on any part of the plots sown with seed soaked in the formalin solution for two hours.

### FORMALIN and Bordeaux Mixture as Smut Preventives.

Name of Variety.	How Treated.	Good Heads.	Smutty Heads.
Mortgage Lifter .....	Not treated .....	249	29
Doncaster Prize .....	" .....	365	49
Flying Scotchman .....	" .....	392	52
Mortgage Lifter .....	Bordeaux mixture .....	298	8
Doncaster Prize .....	" .....	322	32
Flying Scotchman .....	" .....	295	9
Mortgage Lifter .....	3 ozs. formalin to 10 galls. water .....	386	0
Doncaster Prize .....	" .....	265	0
Flying Scotchman .....	" .....	298	0
Mortgage Lifter .....	4½ ozs. formalin to 10 galls. water .....	182	0
Doncaster Prize .....	" .....	255	0
Flying Scotchman .....	" .....	262	0

From the foregoing it would appear that the steeping of badly affected oats for two hours in a solution of formalin is a complete preventive of smut. But there are objections here to steeping grain for that length of time.

The quantity of seed used by each farmer is large, and the expense of providing vessels for this purpose is an important item. Further there are few facilities here for drying large quantities of grain and the time required is quite a consideration in the rush of spring work.

For these reasons it was thought advisable to try steeping in the Bordeaux mixture and formalin for shorter periods. The variety of oat used for this test was Doncaster Prize, a very smutty sample, grown on this farm in 1897. The sample used in the former trial was sent from Ottawa by the Director with the formalin and the instructions for using.

From the annexed table it will be noticed that the untreated sample gave about one half smutty heads, that the seed treated with Bordeaux mixture was very little better, but that the plots treated with formalin even for 5 minutes were quite free from smut; it seems probable that a steeping for five or ten minutes may prove sufficient.

Should this prove sufficient, the time and expense required for the treatment of a large quantity will be much reduced, as the seed can be bagged at once and sown in a few hours without drying.

### FORMALIN AND BORDEAUX MIXTURE as smut preventives,—grain steeped for short periods.

Variety of oats.	How Treated.	Time Steeped.	Good Heads.	Bad Heads.
Doncaster Prize .....	Untreated .....		163	142
" .....	Bordeaux Mixture .....	5 minutes	236	98
" .....	" .....	10 "	175	100
" .....	Formalin .....	5 "	291	0
" .....	" .....	10 "	386	0
" .....	" .....	30 "	325	0

The solution of formalin used in each of the above tests was made by mixing 4½ ounces of the formalin with 10 Imperial gallons of water.

## BARLEY—TEST OF VARIETIES.

The season has been a favourable one for barley, and the yield averages higher than usual. The weight per bushel is in nearly every instance above the standard. The colour was, however, badly injured from excessive rains when in the sheaf.

The six-rowed varieties were stiffer in the straw than the two-rowed, about 66 per cent of the two-rowed being more or less lodged, while only 25 per cent of the six-rowed proved weak in the straw.

The size of the plots used for this test, was  $\frac{1}{20}$  acre, the soil a sandy loam which had been summer-fallowed, and the plots were all sown on the 13th of May.

## BARLEY, SIX-ROWED.—TEST OF VARIETIES.

Name of Variety.	Date of ripening.	Number of Days maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.		Yield per Acre.	Weight per Bushel.
						Lbs.	Bush. Lbs.		
			In.		In.				Lbs.
Stella.....	Aug. 24..	103	37	Fair.....	3	7,800	68 16		53
Baxter.....	" 16..	95	38	Weak.....	2½	6,200	63 36		53
Pioneer.....	" 19..	98	41	Stiff.....	3	5,400	63 16		53½
Common.....	" 16..	95	34	Weak.....	3	6,000	62 44		52
Trooper.....	" 23..	102	34	Fair.....	3	6,400	62 44		52
Argyle.....	" 19..	98	44	".....	2	6,100	62 24		51
Oderbruch.....	" 15..	94	41	Weak.....	2½	6,500	62 4		51½
Mansfield.....	" 16..	95	41	Stiff.....	3	6,200	60 40		48
Rennie's Improved.....	" 15..	94	41	Fair.....	2½	6,100	59 8		52
Surprise.....	" 24..	103	36	Stiff.....	3	6,800	58 16		52½
Summit.....	" 19..	98	40	".....	4	6,900	57 24		52½
Mensury.....	" 15..	94	38	".....	3	5,300	55 40		48
Royal.....	" 15..	94	36	Very weak.....	2½	5,900	55 20		51
Phoenix.....	" 15..	94	37	Stiff.....	2½	5,900	55 20		52½
Empire.....	" 19..	98	41	".....	3	6,100	55 20		51½
Petschora.....	" 15..	94	32	Weak.....	3	5,400	54 8		50
Odessa.....	" 17..	96	35	".....	3	6,100	53 36		52
Nugent.....	" 19..	98	45	Fair.....	2½	5,400	51 32		51
Vanguard.....	" 15..	94	37	".....	2	5,000	46 32		50
Excelsior.....	" 14..	93	43	Stiff.....	3½	5,200	46 12		44½
Success.....	" 16..	95	37	Fair.....	3	4,700	44 8		46
Champion.....	" 13..	92	39	Stiff.....	3	4,200	37 24		45
Blue Barley.....	" 15..	97	32	".....	3	4,000	35 20		43½

## BARLEY, TWO-ROWED.—TEST OF VARIETIES.

Kirby.....	Aug. 24..	103	38	Stiff.....	3	6,800	65 20		51½
Dunham.....	" 26..	105	44	".....	3	7,900	62 24		51½
French Chevalier.....	" 28..	107	38	Very weak.....	4	6,600	57 44		51
Beaver.....	" 23..	102	35	Weak.....	3	6,500	57 44		53
Leslie.....	" 25..	104	30	Fair.....	3½	7,500	57 4		52
Thanet.....	" 28..	107	38	Very weak.....	5	6,600	56 32		51½
Nepean.....	" 22..	101	41	Stiff.....	3½	6,600	55 20		52
Logan.....	" 25..	104	48	Very weak.....	3½	7,100	54 8		51
Newton.....	" 28..	107	41	Fair.....	3	8,100	53 36		51
Kinver Chevalier.....	Sept. 3..	113	39	Stiff.....	4	6,900	49 28		51
Sidney.....	Aug. 20..	99	39	Very weak.....	3½	5,600	47 24		52½
Victor.....	" 20..	99	35	Weak.....	3	5,900	46 32		52
Prize Prolific.....	" 26..	105	41	Very weak.....	4	6,900	46 12		50½
Bolton.....	" 20..	99	38	Weak.....	4	5,400	45 40		54
Pacer.....	" 22..	101	39	".....	3½	5,900	45 40		51½
Monck.....	" 24..	103	43	Very weak.....	3	7,000	45 20		53
Canadian Thorpe.....	" 28..	107	33	".....	3	5,800	45 20		51½
Danish Chevalier.....	" 28..	107	33	".....	4	4,800	37 4		51

## Experimental Farms.

### RESULTS OF TESTS WITH BARLEY FROM 1894 TO 1898.

Name of Variety.	Years included.	Average Yield per Acre.		Average Days Maturing.
		Bush.	lbs.	
Common .....	1894-95-96-97-98 .....	51	26	89
Mensury .....	1894-95-96-97-98 .....	50	22	92
Trooper .....	1894-95-96-97-98 .....	49	18	94
French Chevalier .....	1894-95-96-97-98 .....	47	12	98
Rennie's Improved .....	1894-95-96-97-98 .....	44	46	90
Baxter .....	1894-95-96-97-98 .....	44	19	91
Odessa .....	1894-95-96-97-98 .....	44	2	92
Summit .....	1894-95-96-97-98 .....	43	36	94
Surprise .....	1894-95-96-97-98 .....	43	34	95
Phoenix .....	1894-95-96-97-98 .....	43	20	90
Royal .....	1894-95-96-97-98 .....	41	44	91
Petschora .....	1894-95-96-97-98 .....	41	34	91
Oderbruch .....	1894-95-96-97-98 .....	41	26	90
Thanet .....	1894-95-96-97-98 .....	41	24	101
Beaver .....	1894-95-96-97-98 .....	40	38	97
Newton .....	1894-95-96-97-98 .....	39	38	100
Prize Prolific .....	1894-95-96-97-98 .....	37	19	101
Canadian Thorpe .....	1894-95-96-97-98 .....	36	44	102
Danish Chevalier .....	1894-95-96-97-98 .....	34	32	101
Kinver Chevalier .....	1894-95-96-97-98 .....	33	32	102

### FIELD PLOTS OF BARLEY.

Name of Variety.	Character of Soil.	Size of Plot.	Date of Ripening.	Length of Straw.	Preparation.	Yield per Acre.		Weight per Bushel.
				Inches.		Bush.	Lbs.	Lbs.
Mensury .....	Clay loam ..	2 acres..	Aug. 25..	40	Summer-fallow..	67	24	48
Odessa .....	Sandy loam.	8 " ..	" 15..	38	Backsetting.....	63	..	52

### PEASE—TEST OF VARIETIES.

The season has been a favourable one for this crop, and both yield and quality was good. Owing to the rain coming late in the season, many plants made a second growth, resulting in a large proportion of green pease in the sample. As better results seem to be obtained with pease on the Experimental Farm, than on the average farm of the province, a short description of the plan of growing pease here may prove instructive.

The strongest soil is selected for this crop, usually stiff clay loam. The field is well summer-fallowed the previous year, and is not harrowed in the spring before sowing. The grain is always sown as early as wheat, and with a drill, as deeply as possible, from  $2\frac{1}{2}$  to  $3\frac{1}{2}$  bushels of seed per acre is used, the larger the pea the more seed is required.

If the crop is to be cut with a binder, two pecks per acre of oats are sown with the pease.

The size of the plots for this test was  $\frac{1}{10}$  acre, the soil a stiff clay loam, summer-fallowed, all the plots were sown either on the 24th or 29th of April.

## PEASE.—Test of Varieties.

Name of Variety.	Date of Sowing.	Date of Ripening.	Number of Days Maturing.	Character of Growth.	Length of Straw.		Size of Pea.	Yield. Per Acre.	Weight per Bushel.
					Inch's	Inch's			
Harrison's Glory.....	Apl. 24.	Aug. 13.	111	Weak...	32	3	Medium..	59	62½
Perth.....	" 24.	" 29.	127	Rank...	37	3	" ..	55 40	63
Early Britain.....	" 29.	" 26.	119	Fair....	49	3	" ..	54 40	63
Pride.....	" 24.	" 22.	120	" ..	39	3	" ..	54 40	64
French Canner.....	" 29.	" 25.	118	" ..	60	3	" ..	52 20	65
White Wonder.....	" 29.	" 25.	118	" ..	35	3	" ..	51 ..	64½
Vincent.....	" 29.	" 30.	123	Rank...	63	3	" ..	49 ..	63½
New Potter.....	" 29.	" 31.	124	" ..	54	3	" ..	48 ..	65
Black-Eyed Marrowfat.	" 24.	" 30.	128	" ..	60	3½	Large ..	48 ..	64
Mummy.....	" 24.	" 25.	123	Fair....	49	2½	Medium..	47 40	65
German White.....	" 29.	" 30.	123	Rank...	60	3	" ..	47 20	64
Ruby.....	" 29.	" 30.	123	" ..	60	3	" ..	46 40	63
Arthur.....	" 24.	" 29.	127	Fair....	42	3	" ..	46 ..	65
Bruce.....	" 24.	Sept. 1.	130	" ..	44	2¾	Large ..	45 40	64
Fenton.....	" 29.	" 1.	125	Rank...	90	3	" ..	45 20	62½
Lanark.....	" 29.	" 1.	125	Fair....	47	3	Medium..	45 ..	63½
Alma.....	" 24.	" 1.	130	Rank...	53	2½	Large ..	44 40	65
Nelson.....	" 24.	Aug. 17.	115	" ..	46	2	Medium..	44 20	64
Picton.....	" 29.	" 30.	123	" ..	70	3	Small... 43	40	65
King.....	" 24.	" 23.	121	" ..	49	2½	Large ..	42 20	65½
Prussian Blue.....	" 29.	" 31.	124	" ..	62	2½	Medium..	42 ..	65½
Kent.....	" 29.	Sept. 1.	125	Fair....	69	3	Large ..	41 20	63½
Carleton.....	" 29.	" 1.	125	Rank...	72	2½	Medium..	41 ..	65
Chancellor.....	" 24.	Aug. 13.	111	Weak...	47	2½	Small... 40	20	63½
Large White Marrowfat.	" 24.	Sept. 4.	133	Rank...	62	3	Large ..	39 20	64
Mackay.....	" 24.	" 3.	132	Fair....	50	3	" ..	39 ..	62
Elephant Blue.....	" 24.	Aug. 22.	120	" ..	25	3	Medium..	39 ..	64
Archer.....	" 24.	Sept. 1.	130	" ..	60	2	Small... 39	..	64
Victoria.....	" 24.	" 1.	130	Rank...	58	2½	Large ..	39 ..	63½
Canadian Beauty.....	" 24.	Aug. 30.	128	" ..	70	3½	Medium..	39 ..	64
Macoun.....	" 24.	Sept. 2.	131	" ..	56	3	" ..	39 ..	64
Multiplier.....	" 24.	" 1.	130	" ..	59	2	Small... 39	..	65
Yellow Pot Pease.....	" 29.	" 1.	125	Fair....	32	2	" ..	39 ..	67
Daniel O'Rourke.....	" 29.	Aug. 24.	117	" ..	80	3½	Medium..	39 ..	63
Cooper.....	" 29.	" 30.	123	" ..	60	3	Small... 39	..	65½
Gregory.....	" 29.	Sept. 6.	130	Rank...	70	2	Medium..	38 ..	64
Trilby.....	" 24.	" 1.	130	Fair....	54	3	Large ..	37 20	64
Bright.....	" 24.	" 5.	134	" ..	55	3	Medium..	36 20	65
Prince Albert.....	" 24.	" 6.	135	" ..	60	2	Small... 36	..	62
Fergus.....	" 29.	" 10.	134	Rank...	67	2	" ..	35 ..	63½
Paragon.....	" 24.	" 5.	134	Fair....	47	2½	Medium..	34 20	61½
Duke.....	" 24.	" 2.	131	Rank...	60	3	Large ..	34 ..	62½
Bedford.....	" 24.	" 3.	132	Fair....	62	2	Medium..	33 20	63
Prince.....	" 24.	" 1.	130	" ..	42	3	Large ..	31 20	63½
Centennial.....	" 24.	Aug. 26.	124	" ..	60	3	" ..	31 20	62½
Agnes.....	" 24.	" 30.	128	" ..	43	3½	Medium..	31 ..	63
Crown.....	" 24.	" 13.	111	" ..	49	2	Small... 28	40	65½
Oddfellow.....	" 24.	" 20.	118	" ..	57	2	Medium..	24 ..	67
Creepers.....	" 24.	" 24.	122	Weak...	41	2	Small... 23	20	62½

## AVERAGE RESULTS FROM A FIVE YEARS TEST OF PEASE.

The variation in yield is not so great with different sorts of pease as with some other crops, still the difference of eight bushels per acre in the average yield of varieties for this period shown in the accompanying tables is worth considering. None of the new cross-bred sorts, some of which are very productive, have been long enough in cultivation here to be included in this list.

## Experimental Farms.

### AVERAGE RESULTS FROM A FIVE YEARS TEST OF PEASE.

Name of Variety.	Years included.	Average Yield per Acre.		Average Days Maturing.
		Bush.	Lbs.	
Pride .....	1893-94-96-97-98.....	40	30	106
Mummy .....	1893-94-96-97-98.....	39	10	114
Potter .....	1893-94-96-97-98.....	38	54	117
Prince Albert .....	1893-94-96-97-98.....	36	38	120
Black-Eyed Marrowfat .....	1893-94-96-97-98.....	35	56	118
Crown .....	1893-94-96-97-98.....	35	33	105
Canadian Beauty .....	1893-94-96-97-98.....	34	2	119
Centennial .....	1893-94-96-97-98.....	33	42	118
Multiplier .....	1893-94-96-97-98.....	31	46	124

### EXPERIMENTS WITH FLAX.

The yield of both flax seed and straw was abundant this year, but it was found difficult to secure the crop, especially where the sowing was late, and large quantities were still lying in the fields throughout the province when the first snow fell. On this farm the usual tests of thick and thin, and early and late sowings have been repeated.

The largest average yield of seed was obtained from the last sown plot, and the best return of pulled straw from the sowing of 21st May.

The thick sowings have given the largest average return of pulled straw and the smallest amount of seed.

All these plots were sown on rich black loam, which had been summer-fallowed, the size of the plots was  $\frac{1}{20}$  of an acre.

Variety.	Amount of Seed Sown per Acre.	Date of Sowing.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Date when pulled for Fibre.	Weight of Straw when pulled for Fibre, per Acre.	Yield of Seed per Acre.		Weight per Bushel.	Weight of Straw when Cut, per Acre.
	Lbs.				In.		Lbs.	Bush.	Lbs.	Lbs.	Lbs.
Flax .....	40	April 23	Aug. 20	119	29	Aug. 10	5,800	20	40	52	3,600
" .....	80	" 23	" 20	119	28	" 10	5,700	20	40	55	3,800
" .....	40	" 30	" 19	111	30	" 11	6,800	21	24	56	4,400
" .....	80	" 30	" 19	111	26	" 11	7,400	21	24	54	4,400
" .....	40	May 7	" 20	105	30	" 13	6,400	22	8	56	8,800
" .....	80	" 7	" 20	105	29	" 13	7,600	17	48	54	4,600
" .....	40	" 14	" 20	98	33	" 15	7,840	18	32	54	4,200
" .....	80	" 14	" 20	98	34	" 15	8,400	20	40	54	4,800
" .....	40	" 21	" 21	92	33	" 17	8,000	22	8	56	4,500
" .....	80	" 21	" 21	92	34	" 17	9,200	11	24	52	2,800
" .....	40	" 28	" 22	86	25	" 20	8,200	28	32	56	4,400
" .....	80	" 28	" 22	86	23	" 20	8,200	25	..	56	4,400

### ROTATION PLOTS.

As yet very few farmers have any regular rotation in sowing their crops, but sooner or later some regular system suited to the requirements of the several districts, will need to be adopted. With a view of throwing some light on this subject, a number of plots on the Experimental Farm have for some years been devoted to this test. The accompanying table gives the results of four years work on this line, from which it will be seen that wheat alternated with roots or corn has given the largest money returns, but in this case the outlay was proportionately large.



The second plot in the list which was sown to wheat and oats on alternate years, shows a good return but the land has now become very weedy and the sample is badly mixed each year ; from volunteer grain.

The plot sown with wheat continuously still gives a very fair yield, but the land is becoming more and more weedy each year. In every instance the summer-fallowed plots show the least number of weeds and should we have a succession of seasons with light rainfall, the yields on the fallowed land would be proportionately larger.

For comparison the price of wheat has been placed at 50 cents per bushel, oats 25 cents and barley 25 cents, turnips 5 cents per bushel and fodder corn at two dollars per ton.

All but the summer-fallowed land was ploughed in the spring.

The size of the plots in this test was  $\frac{1}{10}$  acre, the soil an average sandy loam.

1895.			1896.			1897.			1898.			Total Value.
Crop.	Bush.	Value.	Crop.	Bush.	Value.	Crop.	Bush.	Value.	Crop.	Tons.	Value.	\$ cts.
\$ cts.			\$ cts.			\$ cts.			\$ cts.			
Wheat	45 00	22 50	Turnips	453 00	22 65	Wheat	23 30	11 75	Corn	22	44 00	100 90
"	22 30	11 25	Oats	83 28	20 95	"	13 10	6 58	Bush.	60 20	15 14	53 92
"	16 30	8 25	Wheat	33 40	16 83	"	22 40	11 33	Wheat	27 50	13 91	50 32
Barley	38 26	9 63	"	28 30	14 25	Oats	35 00	8 75	Barley	40 20	10 10	42 73
Fallow			"	34 10	17 08	Barley	22 04	5 52	Oats	64 24	16 17	38 77
"			"	28 50	14 41	Oats	36 06	9 04	"	56 26	14 19	37 64
Wheat	45 50	22 91	Fallow			Wheat	27 50	13 91	Fallow			36 82
Fallow			Wheat	36 40	18 33	Oats	37 22	9 41	"			27 74

EXPERIMENTS WITH INDIAN CORN.

Although the early part of the season was unfavourable for the rapid growth of corn ; the weather during July and August was all that could be desired for this crop, and the yield of nearly all varieties is above the average, frost also kept off sufficiently late to allow many of them to reach an advanced stage of maturity. Such rank growing sorts as Red Cob Ensilage and Cloud's Early Yellow reached the early milk stage, and many ears of North Dakota Flint were fully matured.

With but two exceptions the yield from rows exceeded that from hills, this agrees with the experience here in former years.

In addition to the varietal test of fodder Corn experiments were made in sowing at different distances apart. In two of the three varieties tried the largest yield was obtained from rows two feet apart ; this is one-third closer than is generally recommended, such experiments need to be repeated for several years before any safe conclusion can be drawn from them. The corn also would probably be more mature in the wider rows.

Seven acres of North Dakota Flint corn was grown for ensilage, this field was spring ploughed wheat stubble. A considerable quantity of volunteer grain and weeds came up among the crop, but these were readily kept in check by harrowing every few days until the plants were three inches high. The one horse cultivator was then twice run lengthwise of the rows, followed each time by a clean hoeing between the plants, and the field by this means was kept quite free of weeds. The yield was 11 tons per acre of corn, which was cut on an average four days before weighing ; this partial drying before putting it into the silo ensures an excellent quality of ensilage. If not partially wilted the ensilage is nearly always sour in this climate.

The soil was a rich black loam ; all the varieties were sown on 23rd of May, and the yield per acre has been calculated from the weight of crop cut from two rows each 66 feet long.

The previous crop was potatoes.

# Experimental Farms.

## CORN—TEST OF VARIETIES.

Name of Variety.	Height.	Leafiness.	When Tasselled.	In Silk.	Early Milk.	Late Milk.	Condition when Cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
								Tons.	Lbs.	Tons.	Lbs.
Thoroughbred White Flint	103	Very leafy.	Aug. 22.	Aug. 28.			Silk	29	1,840	29	1,400
White Cap Yellow Dent	96	Few leaves.	" 15.	Sept. 1.			"	28	1,200	23	1,520
Red Cob Ensilage	102	Fairly leafy.	" 20.	Aug. 23.	Aug. 31.		Early milk.	27	1,440	27	1,000
Cloud's Early Yellow	100	Few leaves.	" 20.	" 22.	Sept. 1.		"	27	1,000	23	200
Early Mastodon	105	"	" 20.	Sept. 1.			Silk	27	120	24	1,500
Compton's Early	85	Fairly leafy.	" 6.	Aug. 20.	Aug. 22.	Sept. 1.	Late milk	25	1,700	22	1,980
Pearce's Prolific	73	Leafy	" 6.	" 19.	" 28.		Early "	25	600	24	180
Giant Prolific Ensilage	108	Fairly leafy.	" 50.				In tassel	25	380	5	600
Early Butler	103	Few leaves.	" 12.	Aug. 22.	Aug. 29.		Early milk.	24	1,940	18	740
Angel of Midnight	81	Very leafy	" 8.	" 18.	" 29.		"	24	1,720	24	1,500
Pride of the North	90	"	" 15.	" 22.	" 30.		"	24	1,500	19	1,600
Mammoth 8-rowed Flint	96	Leafy	" 7.	" 20.	" 31.		"	24	840	21	680
Mitchell's Extra Early	74	Very leafy	July 25.	" 1.	" 15.	Aug. 22.	Late milk	23	1,300	21	240
Longfellow	89	Leafy	Aug. 8.	" 18.	" 28.		Early "	23	1,080	23	420
Extra Early Huron Dent	88	Fairly leafy.	" 6.	" 15.	" 22.	Sept. 1.	Late "	23	200	22	....
Sanford	80	Very "	" 14.	" 22.	" 30.		Early "	23	200	22	....
North Dakota White Champion White Pearl	76	Leafy	" 6.	" 19.	" 24.	Aug. 31.	Late "	22	1,100	22	....
Canade White Flint	100	Few leaves.	" 20.	" 30.			Silk	21	1,560	22	....
Cuban Mammoth	80	Very leafy	" 5.	" 15.	Aug. 29.		Early milk.	21	1,200	20	1,800
Selected Leaming	110	Few leaves.	" 13.	" 22.	" 30.		"	20	1,800	20	1,360
King of the Earliest	115	"	" 15.	Sept. 1.			Silk	19	1,160	17	1,640
Ruby Mexican	93	"	" 8.	Aug. 16.	Aug. 30.		Early milk.	19	940	16	120
Evergreen Sugar	82	Very leafy	" 15.	" 28.			Silk	19	720	19	280
	77	Fairly "	" 12.	" 22.	Aug. 31.		Early milk.	14	160	13	1,060

### INDIAN CORN SOWN AT DIFFERENT DISTANCES APART.

Name of Variety.	Distance between Rows.	Size of Plot.	Date of Sowing.	Height.	Leafiness.	When cut.	Condition when cut.	Weight per acre grown in rows.	
								Tons.	Lbs.
Selected Leaming	2 ft. apart.	2 rows	May 23.	Inches. 75	Fairly leafy.	Sept. 2.	Silk	27	450
"	2½ "	"	"	70	"	"	"	22	880
"	3 "	"	"	79	"	"	"	23	640
"	3½ "	"	"	108	"	"	"	23	436
"	4 "	"	"	84	"	"	"	22	55
Champion White Pearl	2 "	"	"	73	"	"	"	29	80
"	2½ "	"	"	74	"	"	"	22	352
"	3 "	"	"	73	"	"	"	24	1,500
"	3½ "	"	"	72	"	"	"	23	624
"	4 "	"	"	78	"	"	"	21	1,065
Longfellow	2 "	"	"	62	"	"	"	22	550
"	2½ "	"	"	60	"	"	"	25	952
"	3 "	"	"	61	"	"	"	24	1,280
"	3½ "	"	"	65	"	"	"	22	180
"	4 "	"	"	68	"	"	Early milk	24	840

## AVERAGE YIELD OF THE THREE VARIETIES TESTED.

			Tons.	Lbs.
Average weight from rows 2 feet apart.....			26	360
“ “ 2½ .....			23	728
“ “ 3 .....			24	473
“ “ 3½ .....			22	1,746
“ “ 4 .....			22	1,320

## EXPERIMENTS WITH FIELD ROOTS.

The abundant rain-fall during the late summer and fall, was very beneficial to the field roots and produced a rapid growth of the plants.

The yield has been a phenomenal one, far exceeding any previous crop on this farm, and the quality excellent.

In addition to the usual test of varieties on fall ploughed land, duplicate plots were sown on summer-fallow, and in nearly every instance the returns from summer-fallow exceeded those from fall ploughing.

## TURNIPS.

As usual here the Purple Top Swede has proved the most productive both on summer-fallow and fall ploughing; this is also an excellent Swede for table use.

Hartley's Bronze is another variety which has grown a large crop, and both of these can be recommended for this province.

The soil was a rich sandy loam; the estimate of yield has been made from the product of two rows each 66 feet long; all were free of rot.

The first plots were sown on 17th May and the 2nd on 1st June in drills 30 inches apart; all were pulled on 7th October.

The previous crop on the fall ploughed land was mangels.

## Experimental Farms.

### TURNIPS—Test of Varieties on summer-fallow.

Name of Variety.	Character of Growth.	Yield per Acre.		Yield per Acre.		Yield per Acre.		Yield per Acre.	
		1st Plot.	1st Plot.	2nd Plot.	2nd Plot.	1st Plot.	1st Plot.	2nd Plot.	2nd Plot.
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Purple Top Swede..	Fair	45	288	1,504	48	57	1,104	1,918	24
Jumbo or Monarch..	"	39	1,728	1,328	48	44	1,760	1,496	48
Shamrock Purple Top..	"	39	672	1,311	12	35	1,808	1,196	48
Hartley's Bronze..	"	38	1,616	1,293	36	42	480	1,408	..
Prize Purple Top..	Rank	38	32	1,267	12	39	1,022	1,320	..
Pearce's Prize Winner..	Fair	36	1,920	1,232	..	43	1,120	1,452	..
Giant King..	"	34	1,696	1,161	36	40	256	1,337	36
Selected Champion..	"	34	1,168	1,152	48	48	1,680	1,628	..
Perfection Swede..	Rank	34	112	1,135	12	50	320	1,672	..
Carter's Elephant..	Weak	33	528	1,108	48	31	1,360	1,056	..
Mammoth Clyde..	Rank	33	528	1,108	48	34	640	1,144	..
Sutton's Champion..	"	32	944	1,082	24	30	1,376	1,689	36
East Lothian..	Fair	32	944	1,082	24	44	704	1,478	24
Hall's Westbury..	Rank	31	1,888	1,064	48	40	1,840	1,364	..
Skirving's..	Fair	31	1,888	1,064	48	44	1,760	1,496	..
Halewood's Bronze Top..	Weak	31	304	1,038	24	39	1,200	1,320	..
Bangholm Selected..	Fair	29	1,664	994	24	38	32	1,267	12
Drummond Purple Top..	Rank	28	1,024	950	24	33	1,584	1,126	24
Marquis of Lorne..	Fair	28	496	941	36	35	1,280	1,188	..

### TURNIPS—Test of Varieties on fall ploughed land.

Purple Top Swede	Fair	31	304	1,038	24	19	1,864	664	24
Drummond Purple Top..	Rank	29	872	981	12	34	904	1,148	24
Pearce's Prize Winner..	Fair	24	840	814	..	18	960	616	..
Selected Champion..	"	24	576	809	36	21	240	704	..
Prize Purple Top..	Rank	23	1,256	787	36	20	1,712	695	12
Perfection Swede..	"	23	992	783	12	20	1,184	686	24
Halewood's Bronze Top..	Weak	22	1,408	756	48	20	1,184	686	24
Skirving's..	Fair	21	1,032	717	12	17	1,904	598	24
East Lothian..	"	21	1,032	717	12	24	1,104	818	24
Sutton's Champion	Rank	20	1,976	699	36	23	992	783	12
Hartley's Bronze..	Fair	20	1,448	690	48	19	16	633	36
Mammoth Clyde..	Rank	20	1,448	690	48	24	1,632	827	12
Bangholm Selected	Fair	20	1,448	690	48	24	1,896	831	36
Shamrock Purple Top..	"	20	1,184	686	24	20	1,712	695	12
Marquis of Lorne..	"	20	920	682	..	20	1,712	695	12
Giant King..	"	19	16	633	36	18	696	611	36
Hall's Westbury	Rank	19	16	633	36	24	1,386	822	48
Jumbo or Monarch..	Fair	18	168	602	48	17	1,904	598	24
Carter's Elephant..	Weak	16	736	545	36	19	1,072	651	12

### EXPERIMENTS WITH MANGELS.

This excellent field root can generally be depended upon to produce a paying crop here, it is less liable to injury from insect enemies than any of the other root crops, gives a larger yield per acre, and is preferred by milch cows, young cattle and swine.

The soil on which these roots were sown was a rich clay loam, and the estimate of yield has been made from the product of two rows each 66 feet long.

The first plot was sown on the 17th May, the second on the 1st June, in drills 30 inches apart; all were pulled on 4th October.

## MANGELS—Test of Varieties on summer-fallow.

Name of Variety.	Character of Growth.	Yield per Acre.		Yield per Acre.		Yield per Acre.		Yield per Acre.	
		1st Plot.	1st Plot.	2nd Plot.	2nd Plot.	2nd Plot.	2nd Plot.		
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Giant Yellow Globe.....	Fair.....	57	1,104	1,918	24	53	392	1,773	12
Yellow Intermediate.....	Rank.....	55	880	1,848	..	65	416	2,173	36
Canadian Giant.....	".....	53	656	1,777	36	60	1,440	2,024	..
New Giant Yellow Half Long.....	".....	51	960	1,716	..	43	328	1,438	48
Gate Post.....	".....	50	584	1,676	24	69	1,392	2,323	12
Mammoth Long Red.....	Fair.....	50	320	1,672	..	45	1,080	1,518	..
Norbiton Giant.....	Rank.....	48	1,416	1,623	36	41	1,952	1,399	12
Red Fleshed Tankard.....	Weak.....	46	400	1,540	..	Did not germinate.			
Giant Yellow Intermediate.....	Rank.....	45	1,608	1,526	48	56	992	1,883	12
Golden Fleshed Tankard.....	Weak.....	45	288	1,504	48	34	640	1,144	..
Giant Yellow Intermediate.....	Fair.....	44	1,710	1,496	..	Did not germinate.			
Prize Mammoth Long Red.....	Rank.....	44	176	1,469	36	49	1,792	1,663	12
Ward's Long Oval Shaped.....	Fair.....	42	1,536	1,425	36	44	707	1,478	24
Selected Mammoth Long Red.....	Rank.....	41	368	1,372	48	64	1,888	2,164	48
Oval Shaped Giant.....	Fair.....	40	256	1,337	36	Did not germinate.			
Gate Post, Yellow.....	".....	38	1,880	1,298	..	55	880	1,848	..
Warden Orange Globe.....	Weak.....	30	1,512	1,025	12	45	1,872	1,531	12
Champion Yellow Globe.....	".....	23	1,784	796	24	38	1,880	1,296	20

## MANGELS—Test of Varieties on Fall Ploughing.

Gate Post.....	Rank.....	64	568	2,142	48	43	1,912	1,465	12
Yellow Intermediate.....	".....	52	808	1,746	48	49	208	1,636	48
Norbiton Giant.....	".....	52	808	1,746	48	34	1,432	1,157	12
New Giant Yellow Half Long.....	".....	51	1,752	1,729	12	40	1,312	1,355	12
Giant Yellow Intermediate.....	".....	48	1,152	1,619	12	43	1,120	1,452	..
Selected Mammoth Long Red.....	".....	47	1,568	1,592	48	31	832	1,047	12
Canadian Giant.....	".....	42	1,272	1,421	12	42	744	1,412	24
Giant Yellow Globe.....	Fair.....	42	1,008	1,416	48	53	1,184	1,786	24
Ward's Large Oval Shaped.....	".....	40	1,048	1,350	48	22	1,408	756	48
Gate Post, Yellow.....	".....	40	1,048	1,350	48	39	1,464	1,324	24
Mammoth Long Red.....	".....	39	1,464	1,324	24	42	1,008	1,416	48
Golden Fleshed Tankard.....	Weak.....	38	32	1,267	12	38	560	1,276	..
Giant Yellow Intermediate.....	Fair.....	36	1,128	1,218	48	47	512	1,575	12
Oval Shaped Giant.....	".....	29	872	981	12	Did not germinate.			
Prize Mammoth Long Red.....	Rank.....	29	344	972	24	51	960	1,716	..
Red Fleshed Tankard.....	Weak.....	28	1,288	954	48	27	912	915	12
Warden Orange Globe.....	".....	21	1,296	721	36	34	904	1,148	24
Champion Yellow Globe.....	".....	20	392	673	12	33	264	1,104	24

## EXPERIMENTS WITH CARROTS.

Although duplicate plots of carrots were sown, as of the other field roots both on summer-fallow and fall ploughing the former suffered so badly through imperfect germination of the seed, that the returns would be quite misleading and hence are not given.

The soil of the fall ploughed field was a rich clay loam, the previous crop was mangels, and the estimate of yield has been made from the product of two rows each 66 feet long. The first plots were sown on 17th May, the second on 1st June, in drills 18 inches apart, and all were pulled on 11th October.

# Experimental Farms.

## CARROTS.

Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
White Belgian.....	12	1,080	418	..	8	1,160	286	..
Iverson's Champion.....	12	200	403	20	9	1,360	322	40
Early Gem.....	12	200	403	20	11	1,760	396	..
Mammoth White Intermediate.....	12	200	403	20	12	640	410	40
Green-top White Orthe.....	11	1,320	388	40	9	40	300	40
Half-long White.....	11	880	381	20	11	1,760	396	..
Giant White Vosges.....	10	1,560	359	20	10	240	337	20
Half-long Chantenay.....	10	1,560	359	20	10	680	344	40
Ontario Champion.....	9	480	308	..	12	200	463	20
Scarlet Intermediate.....	9	40	300	40	8	720	273	40
Improved Short White.....	7	1,400	256	40	12	1,080	418	..
Guerrande or Oxheart.....	7	960	249	20	8	1,600	293	20
Yellow Intermediate.....	6	1,640	227	20	8	1,600	293	20
Carter's Orange Giant.....	6	320	205	20	7	80	234	40
Long Orange or Surrey.....	Did not germinate.				6	1,640	227	20
Long Scarlet Altringham.....	"				Did not germinate.			

## EXPERIMENTS WITH SUGAR BEETS.

The following are the yields obtained from six varieties of sugar beets sown at two different dates on rich clay loam both on summer-fallow and fall ploughed land.

The first plots were sown on the 17th May, the second on 1st June. All were pulled on 4th October, and the yield per acre has been calculated from the produce of one row 66 feet long.

### SUGAR BEETS.—Test of Varieties on Summer-fallow.

Name of Variety.	Character of Growth.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Danish Red Top.....	Fair....	41	104	1,368	24	51	960	1,716	..
Wanzleben.....	Rank....	38	560	1,276	..	25	1,480	858	..
Danish Improved.....	".....	34	1,696	1,161	36	39	144	1,302	24
Improved Imperial.....	Fair....	30	1,776	1,029	36	34	1,168	1,152	48
Red Top Sugar.....	".....	30	1,776	1,029	36	36	1,920	1,232	..
Vilmorin's Improved.....	Rank....	26	1,328	888	48	31	1,361	1,056	..

### SUGAR BEETS.—Test of Varieties on Fall Ploughing.

Danish Red Top.....	Fair....	49	736	1,645	36	Blown out; did not			
Danish Improved.....	Rank....	42	1,008	1,416	48	germinate.			
Red Top Sugar.....	Fair....	31	568	1,042	48	34	112	1,135	12
Wanzleben.....	Rank....	30	1,248	1,020	48	45	816	1,513	36
Improved Imperial.....	Fair....	29	608	976	48	37	976	1,249	36
Vilmorin's Improved.....	Rank....	26	272	871	12	24	840	814	..

## EXPERIMENTS WITH POTATOES.

The season has been a favourable one for a large yield of potatoes and the size of the tubers was uniformly large, but the quality is below the average, and many varieties usually of good quality are this year wet and poor in flavour; there were no rotten potatoes and very few scabby ones.

The land selected was in corn last year, and was ploughed deeply in the spring and well harrowed. It was again ploughed shallow on 16th May, and the tubers cut in pieces with 2 or 3 eyes each; were planted a foot apart in every third furrow.

Very little hoeing was required, as weeds were kept down, principally with the harrow and cultivator.

The following varieties have proved among the most productive during the past two seasons; Seedling No. 7, Late Puritan, Brown's Rot Proof, Dreer's Standard, and Chicago Market.

The following kinds germinated unevenly, and hence the returns given from them are not a fair test of their productiveness; Early Rose, New Queen, Everett, Ohio Junior, Early Harvest, Lightning Express, Early Sunrise, Beauty of Hebron, Early Ohio, Burpee's Extra Early, Pearce's Extra Early and Honeoye Rose. Three of these same varieties germinated badly last year, nearly all of them are early maturing kinds. They may have been injured through excessive sprouting before the planting.

The yield per acre has been estimated in each case from the product of one row 66 feet long.

Practically all were marketable.

All the varieties were planted on 16th May in rich sandy loam soil, without manure, and were dug on 4th October.

#### POTATOES—Test of Varieties.

Name of Variety.	Character of Growth.	When Matured.	Average Size.	Quality.	Total Yield per Acre.	Form and Colour.
					Bush. Lbs	
Seedling No. 7.....	Strong.....	Sept. 2.	Large.....	Fair.....	682 ..	Long flat, deep red.
Dreer's Standard.....	".....	" 2.	".....	Wet.....	623 20	" " round white.
I X. L.....	Fair.....	" 1.	".....	Fair.....	612 20	" " red.
Rural No. 2.....	".....	" 1.	".....	Wet.....	608 40	Round flat, white.
State of Maine.....	Strong.....	" 4.	".....	Fair.....	601 20	Flat, white.
Brown's Rot Proof.....	".....	" 6.	".....	Dry.....	590 20	Round oval, red.
Chicago Market.....	Fair.....	" 8.	".....	Fair.....	586 40	Flat oval, red.
Green Mountain.....	Strong.....	" 2.	".....	".....	586 40	Long, white.
Quaker City.....	Very strong.....	" 4.	".....	Dry.....	586 40	Flat oval, white.
Late Puritan.....	Strong.....	" 2.	".....	Fair.....	579 20	Long, red.
Clay Rose.....	".....	" 3.	".....	Wet.....	572 ..	" flat, red.
Delaware.....	".....	" 1.	".....	".....	572 ..	" " white.
Queen of the Valley.....	".....	" 3.	".....	".....	553 40	" " pink.
Great Divide.....	Fair.....	Aug. 24.	".....	".....	550 ..	" " white.
American Wonder.....	Strong.....	Sept. 6.	".....	Fair.....	550 ..	Oval, white.
Columbus.....	".....	" 1.	".....	Dry.....	539 ..	Long round, red.
Carman No. 1.....	".....	" 3.	".....	Fair.....	531 40	" " white.
Vanier.....	".....	" 2.	".....	Wet.....	528 ..	" pink.
Burnaby Seedling.....	".....	" 2.	".....	Fair.....	520 40	" round, red.
Monroe County.....	Fair.....	" 1.	".....	Dry.....	513 20	" red.
American Giant.....	".....	" 4.	".....	Fair.....	506 ..	" white.
Money Maker.....	".....	" 6.	".....	".....	506 ..	Round "
Hopeful.....	Strong.....	" 5.	".....	Wet.....	498 40	Long flat, white.
Clarke's No. 1.....	Fair.....	" 1.	".....	Fair.....	498 40	" pink.
Irish Daisy.....	".....	" 2.	".....	".....	498 40	Round, white.
Empire State.....	Strong.....	" 5.	".....	Wet.....	487 40	" "
Carman No. 3.....	Fair.....	" 1.	".....	".....	484 ..	Long flat, light yellow.
Maule's Thoroughbred.....	Strong.....	" 1.	".....	".....	480 20	" pink.
Sir Walter Raleigh.....	Fair.....	" 6.	".....	Fair.....	476 40	Flat, white.
World's Fair.....	".....	" 2.	".....	".....	476 40	" "
Pride of the Market.....	Strong.....	Aug. 30.	".....	Dry.....	476 40	Kidney long, white.
Rural Blush.....	".....	Sept. 3.	".....	Fair.....	476 40	Oval, red.
Polaris.....	Weak.....	" 1.	".....	Dry.....	476 40	Round, pink.
Freeman.....	Fair.....	" 1.	".....	Fair.....	465 40	Flat oval, white.
Rochester Rose.....	".....	" 5.	".....	Wet.....	462 ..	Long, pink.
Rose No. 9.....	Strong.....	" 6.	".....	".....	458 20	Flat oval, red.
Wonder of the World.....	Fair.....	Aug. 23.	".....	Fair.....	447 20	Oval, red.
Gold News.....	".....	Sept. 6.	".....	Dry.....	448 40	Long round, pink.
Early Norther.....	".....	" 3.	".....	Fair.....	440 ..	Long, pink.

# Experimental Farms.

## POTATOES—Test of Varieties.—Continued.

Name of Variety.	Character of Growth.	When Matured.	Average Size.	Quality.	Total Yield per Acre.	Form and Colour.
					Bush. Lbs.	
Charles Downing.	Fair	Sept. 6	Large	Wet	440	Flat oval, white.
General Gordon	"	" 3	"	Fair	440	Long, red.
New Variety No. 1	Strong	" 1	"	Wet	440	Flat, white.
Early Punitan	Fair	" 5	"	"	436	Long, white.
Peerless, junior	Strong	" 5	"	"	432	Round "
Dakota Red	"	" 6	"	"	425	Long, red.
Irish Cobbler	Fair	Aug. 12	"	Fair	418	Flat round, white.
Record	Strong	Sept. 1	"	"	414	Long, white.
Uncle Sam	Fair	" 1	"	"	414	"
Reeve's Rose	Strong	" 1	"	"	410	Round, red.
Lizzie's Pride	Fair	" 3	"	Wet	410	Flat oval, light red.
McKeuzie	Strong	" 1	"	Fair	407	Long round, white.
Thorburn	Fair	Sept. 8	Medium	Wet	407	Oval, pink.
Maggie Murphy	Strong	" 1	Large	Dry	403	Long flat, light red.
Troy Seedling	Fair	" 1	"	Wet	403	Long, white.
Flemish Beauty	Strong	" 8	"	Dry	403	" red and white.
Reading Giant	Fair	" 1	"	Wet	396	Round oval, pink.
White Beauty	"	" 13	"	Dry	392	Long, white.
Stourbridge Glory	Strong	" 4	"	Fair	388	"
Early White Prize	Weak	Aug. 20	"	"	385	Oval, light yellow.
Brownell's Winner	Strong	Sept. 1	"	Wet	385	Flat oval, red.
Table King	Fair	" 6	"	"	381	Round, white.
Vick's Extra Early	"	" 5	"	Fair	381	" light yellow.
Seattle	Strong	" 1	"	"	381	Long round, white.
Ideal	"	" 3	"	Wet	381	" red.
Seedling No. 230	Fair	" 8	"	"	381	Round, white.
Pride of the Tab'e	"	" 1	"	Fair	377	Flat oval, pink.
Pearce's Prize Winner	"	" 1	"	Dry	374	" white.
Satisfaction	Strong	" 2	"	Fair	370	Long, white.
Northern Spy	Fair	" 6	"	Wet	366	" deep red.
Harbinger	"	" 2	"	Dry	344	Flat, pink.
Russell's Seedling	Strong	" 2	Medium	Wet	337	Round oval, white.
Algoma No. 1	Weak	Aug. 10	Large	Dry	330	Oval, pink.
Bovee	"	" 24	"	"	330	" light red.
Earliest of All	"	" 22	"	Fair	315	20
Early Rose	Fair	" 22	"	"	315	20
Holborn Abundance	"	Sept. 6	Medium	Wet	308	Round, white.
Victor Rose	"	Aug. 22	Large	"	308	Long flat, red.
Cambridge Russet	"	Sept. 2	Medium	"	300	40
Bill Nye	"	" 1	Large	"	297	" round, white.
Houlton Rose	"	" 6	"	"	297	" light pink.
Early Six Weeks	Weak	Aug. 10	"	"	293	20
Sharpe's Seedling	Fair	" 22	"	Fair	278	40
Orphans	"	Sept. 3	"	Wet	278	40
New Queen	Weak	Aug. 24	"	Fair	256	40
King of the Roses	Fair	Sept. 1	"	Wet	253	40
Everett	"	" 1	"	Dry	249	20
Ohio Junior	Weak	Aug. 15	"	Fair	242	40
Early Gem	"	" 14	Medium	"	242	40
Early Harvest	"	" 23	Large	Dry	220	40
Lee's Favourite	"	" 22	"	Fair	220	40
Seedling No. 214	Fair	" 20	"	Wet	216	20
Hale's Champion	"	Sept. 3	"	Dry	212	40
Prize Taker	"	" 2	Medium	"	212	40
Lightning Express	"	" 6	Large	Very wet.	205	20
Early Sunrise	Weak	Aug. 22	"	Wet	205	20
London	Fair	" 24	"	Dry	198	40
Fill Basket	"	Sept. 1	"	Wet	190	40
Crown Jewel	Weak	" 2	Medium	Fair	190	40
Daisy	"	" 1	Large	Dry	168	40
Beauty of Hebron	"	" 1	"	Fair	168	40
Early Andes	"	Aug. 15	"	"	154	40
Early Ohio	"	" 15	"	"	154	40
Burpee's Extra Early	"	" 26	"	"	124	40
Pearce's Extra Early	"	Sept. 1	"	Dry	91	40
Honeoye Rose	"	" 1	"	"	55	40



GRASSES AND CLOVERS.

The past season has confirmed previous results, with regard to the growing of grasses and clovers and added some fresh information on a few lines.

Many inquiries have been received in regard to the possibility of growing Brome grass on lands which are flooded for part of the year, and an experiment was tried to gain information on this subject.

A small area on the uplands on the experimental farm, about an acre is flooded from two to four feet deep each year, the water remaining on it until June. This was broken up during the summer of 1896, and sown to Brome grass without grain, a good stand was obtained and a magnificent crop of grass gathered this season, about 3 tons per acre, with a heavy aftermath. This experiment should be tried by farmers who have depressions on their land known here as pot holes, which are numerous in some parts of the province.

A three acre field of Brome grass broken up in August of 1896, and backset in October gave a fine crop of hay this year; the summer breaking apparently proving a benefit instead of killing the plants.

The five acre field of Brome grass ploughed thinly with a breaking plough, early in May, 1897, and backset before harvest, gave a good crop of wheat this year, and there are no signs of living grass plants, but the soil is full of dead roots for ten inches below the surface, and there will be no danger of this land drifting for some years.

Although the dry spring prevented a large return of hay this year, the series of plots sown with grasses were very uniform in character, and show that a fair yield can be obtained even in an unfavourable season. The plots were from  $\frac{1}{10}$  to  $\frac{1}{20}$  acre in size, and were divided into three series.

*First*,—A test of varieties sown in June on spring ploughed stubble.

*Second*,—The same varieties sown on summer-fallowed land in August.

*Third*,—A series of plots sown with varying amounts of seed.

All the plots were sown during 1896, and without a nurse crop of grain, all weeds and volunteer grain were mown twice during the first summer, and the ground in most cases was well covered with stout healthy plants by fall.

It will be noticed that grasses sown on summer-fallow which were so badly injured by winds last year, gave the best returns this year.

Last season the thick sowing of grass seed gave the largest average yield, while this year the best average is from thin sowing.

The Clovers have again wintered well, and have all given better returns than last year. Alfalfa takes the lead, as before, but Red Clover has improved wonderfully.

It would appear that past failures in growing clovers here may be largely attributed to sowing them with grain crops. The few surviving clover plants among a grain crop have usually very short roots, while this years Common Red Clover plants sown without a nurse crop, had roots eight inches long by fall, and the Alfalfa 16 inches.

Much larger areas were sown with clover last spring, and the ground is now covered with a healthy growth of plants.

EXPERIMENTS WITH GRASSES ON SUMMER-FALLOW.

Test of varieties sown in August, 1896. That year's crop was badly injured by drifting soil.

Variety.	Seed	Weight	
	per Acre.	per Acre, 1898.	
	Lbs.	Tons.	Lbs.
American Lyme Grass.....	20	3	1,000
Awnless Brome Grass.....	20	2	500
Timothy.....	15	2	500
Western Rye Grass.....	20	2	300
Timothy and Clover.....	10 + 10	2	300
Kentucky Blue.....	20	1	1,500
Meadow Fescue.....	30	1	1,100

## Experimental Farms.

### EXPERIMENTS WITH GRASSES ON SPRING PLOUGHED STUBBLE.

TEST OF VARIETIES, SOWN IN JUNE, 1896.

Variety.	Seed per acre.	Thickness of Aftermath.	Weight per acre, 1897.		Weight per acre. 1898.	
	Lbs.		Tons.	Lbs.	Tons.	Lbs.
Western Rye Grass . . . . .	20	Thin . . . . .	3	750	1	1,100
Awnless Brome Grass . . . . .	20	Very thick . . . . .	3	400	1	1,300
American Lyme Grass . . . . .	20	Thin . . . . .	2	510	1	1,700
Bald Rye or Wheat Grass . . . . .	20	Poor . . . . .	2	200	1	1,600
Tall Meadow Oat Grass . . . . .	30	Fair . . . . .	1	400	1	300
Meadow Foxtail . . . . .	20	Germinated badly . . . . .	1	200	1	900
Hard Fescue . . . . .	20	" " " " . . . . .	1	200	1	1,300
Timothy . . . . .	15	Thin . . . . .	1	200	1	000
Orchard Grass . . . . .	25	Very thick . . . . .	1	50	1	1,900
Red Top . . . . .	20	Fat . . . . .	1	000	1	1,300
Timothy } mixed { . . . . .	10	" " " " . . . . .	1	750	1	500
Common Clover } . . . . .	10	" " " " . . . . .	1	750	1	500
Meadow Fescue . . . . .	30	" " " " . . . . .	1	750	1	1,800
Canadian Blue Grass . . . . .	20	" " " " . . . . .	1	750	1	900
Drop seed . . . . .	20	" " " " . . . . .	1	750	2	800

### EXPERIMENTS WITH GRASSES.—Test of thick and thin seeding.

Variety.	Seed per Acre.	Weight per Acre, 1897.		Weight per Acre, 1898.	
	Lbs.	Tons.	Lbs.	Tons.	Lbs.
Timothy ( <i>Phleum pratense</i> ) . . . . .	5	1	...	1	500
" " . . . . .	10	1	670	1	200
" " . . . . .	15	1	750	1	1,700
" " . . . . .	20	1	700	1	1,800
Awnless Brome Grass ( <i>Bromus inermis</i> ) . . . . .	10	2	350	1	1,100
" " " " . . . . .	15	2	...	1	900
" " " " . . . . .	20	2	400	1	700
Western Rye Grass ( <i>Agropyrum tenerum</i> ) . . . . .	10	3	400	1	1,400
" " " " . . . . .	15	3	200	1	1,300
" " " " . . . . .	20	3	300	1	1,200
Bald Rye or Wheat Grass ( <i>Elymus Virginicus</i> ) . . . . .	10	2	700	2	100
" " " " . . . . .	15	2	700	2	800
" " " " . . . . .	20	2	750	2	1,800
American Lyme Grass ( <i>Elymus americanus</i> ) . . . . .	10	3	...	2	1,000
" " " " . . . . .	15	3	555	2	900
" " " " . . . . .	20	3	500	2	300
Drop Seed ( <i>Muhlenbergia glomerata</i> ) . . . . .	10	...	...	3	1,800
" " " " . . . . .	15	...	...	3	800
" " " " . . . . .	20	...	...	2	1,600

## EXPERIMENTS WITH CLOVERS.

TEST of varieties, sown in June, 1896, on spring ploughed stubble.

Variety.	Seed per Acre.	Aftermath thickness.	Yield per Acre, 1897.		Yield per Acre, 1898.	
	Lbs.		Tons.	Lbs.	Tons.	Lbs.
Alfalfa .....	60 lbs.	Thick .....	2	100	2	1,800
Red Clover .....	20 .....	" .....	..	900	2	1,300
Alsike .....	10 .....	Fair .....	1	100	1	1,200
Mammoth Red .....	25 .....	" .....	1	500	1	1,200
White Dutch .....	12 .....	" .....	Not cut.....	..	..	1,200

## GRASS SEED DISTRIBUTION.

The demand for grass seed during the past season greatly exceeded the supply. Two hundred and twenty-six one-pound packages were sent out in the free distribution, and forty-seven lots of about fifteen pounds each were sold.

## EXPERIMENTS WITH FODDER CROPS.

Early in the season, seed of Japanese Millet, Early Soja Beans and Horse Beans were received from the Director with instructions for sowing. The chief object in view in these tests was to gain information as to the relative usefulness of these plants for fodder purposes in this climate, and to ascertain the weight of crop obtainable from each when sown in different ways.

## JAPANESE MILLET.

This variety of Millet gave large crops and is quite promising.

The season was very favourable for millets, and the yield unusually large. Some of the plants were, however, quite coarse and woody in texture.

The size of each plot was  $\frac{1}{2}$  acre; the soil a rich clay loam, and the land had been summer-fallowed the previous year. The seed did not ripen, although many heads were formed.

## YIELD OF JAPANESE MILLET SOWN AT DIFFERENT DISTANCES.

Variety.	Width of Drill.	Sown.	Length of Head.	Cut.	Height,	Yield per Acre, Dry Hay.	
						Tons.	Lbs.
Japanese Millet .....	9 inches....	May 27 ..	4 inches .....	Sept. 5 .....	4 ft. 9 inches	5	1,400
" .....	12 " .....	" 27 .....	4 " .....	" 5 .....	4 " 9 "	6	400
" .....	Broadcast...	" 27 .....	4 " .....	" 5 .....	4 " 9 "	5	1,200

## EARLY SOJA BEANS.

This plant can probably be utilized as a soiling crop also for hay and ensilage. During the past season the Early Soja Beans have not proved as productive as horse beans here.

## Experimental Farms.

The land was summer-fallowed and harrowed in the spring before planting. The seed was sown with a garden drill and kept clean by the occasional use of a cultivator. The soil was clay loam.

The size of each plot was  $\frac{1}{20}$  acre. There were only a very few plants with pods on, and the pods were only partly grown.

### YIELD OF EARLY SOJA BEANS SOWN AT DIFFERENT DISTANCES.

Variety.	Rows.	Height.	Cut.	Yield per Acre, Green.	
				Tons.	Lbs.
Soja Beans .....	2 ft. apart ..	3 ft. 3 inches	Sept. 5.....	8	560
" .....	2½ " ..	3 " 3 "	" 5.....	8	320
" .....	3 " ..	3 " 3 "	" 5.....	7	1,400

### HORSE BEANS.

The seed of this useful leguminous plant is utilized largely for horse feed in Europe. The plant can also be used for ensilage or for soiling purposes.

The land for this crop was summer-fallowed and harrowed in spring just before planting.

The seed was sown with a garden drill and kept clean by means of a cultivator; the soil was a rich clay loam. The beans were planted two inches apart in the row, on May 23rd.

The size of each plot was  $\frac{1}{20}$  acre. The plants were well covered with pods, nearly all of which were filled with matured beans.

### YIELD OF HORSE BEANS SOWN AT DIFFERENT DISTANCES.

Variety.	Rows.	Height.	Cut.	Yield per Acre, Green.	
				Tons.	Lbs.
Horse Beans .....	2 ft. apart ..	3 ft. 9 inches	Sept. 5.....	14	1,400
" .....	2½ " ..	3 " 9 "	" 5.....	15	760
" .....	3 " ..	3 " 9 "	" 5.....	15	1,400

### SUMMARY OF CROPS GROWN ON THE BRANDON EXPERIMENTAL FARM DURING THE YEAR 1898.

—	Tons.	Lbs.	—	Bushels.	Lbs.
Fodder corn .....	163		Wheat .....	1,283	41
Oat sheaves .....	18		Oats .....	4,616	29
Hay .....	60		Barley .....	1,298	41
Field roots .....	25	699	Pease .....	93	59
Brome grass seed .....		1,590	Potatoes .....	250	
Total .....	207	289	Total .....	7,543	26

CATTLE.

The cattle on the Brandon farm have kept in good health during the year ; and the herd now consists of 21 head.

The following is a list of the names, breed, age and weight of the animals :—

Name of Animal.	Breed.	Age.	Weight.
			Lbs.
Qu'Appelle Red Knight, bull	Shorthorn	5 years	2,210
Brandon Fashion, cow	"	5 "	1,180
Earl, bull calf	"	6 months	395
Duke, bull	Ayr-hire	16 "	795
Dandy, cow	"	9 years	1,205
Primrose, heifer calf	"	6 months	590
Lida of Brandon, cow	Holstein	4 years	1,370
Lida's Princess of Brandon, cow	"	2 "	1,300
Manitoba Prince, bull	"	2 "	2,240
Siepkje, cow	"	10 "	1,210
Queen of Brandon, heifer calf	"	9 months	610
Siepkje of Brandon	"	7 "	465
Richard Lyons, bull	Guernsey	22 "	1,065
Lady Jane Grey, cow	Grade	10 years	1,170
Pansy, cow	"	4 "	1,330
Violet, heifer	"	2 "	1,175
Jennie "	"	2 "	1,170
Fanny Fern, cow	"	3 "	1,330
Spotty, steer	"	14 months	620
Jack, steer calf	"	6 "	420
Jill, heifer calf	"	6 "	375

EXPERIMENTS IN FEEDING STEERS.

In 1895, a test was made on this farm of the feeding value of marsh hay, as compared with oat sheaves ; this year marsh hay was fed in comparison with mixed straw.

For this purposes, eight Shorthorn grade steers three years old were purchased, in December, 1897, at 3 cents per pound live weight, and sold in April at 4 cents.

The steers were divided into two evenly matched groups of four each, and fed all they would eat clean of the following rations.

FIRST LOT OF STEERS.

	Lbs.
Native marsh hay cut	20
Swedish turnips	30
Barley chopped	3 to 7

SECOND LOT OF STEERS.

	Lbs.
Mixed straw cut	20
Swedish turnips	30
Barley chopped	5 to 9

The first lot of steers were fed three pound of grain per day for the first four weeks, and the second lot five pounds per day, thus compensating for the difference in quality of fodder, this amount was in each case increased by two pounds each month, until the maximum of 7 and 9 pounds respectively was reached.

The actual amount and estimated value of the feed consumed per head during the feeding period of 112 days, was as follows.

## Experimental Farms.

### FIRST LOT OF STEERS.

2,166 lbs. native hay, at \$5 per ton.....	\$ 5 41
44 bushels turnips, at 5c. per bush.....	2 20
622 lbs. chopped barley at $\frac{1}{2}$ cent per lb .....	3 11
	\$10 72

### SECOND LOT OF STEERS.

2,160 lbs. mixed straw.....	
45 bushels turnips at 5c. per bush.....	\$ 2 25
860 lbs. chopped barley at $\frac{1}{2}$ ct. per lb.....	4 30
	\$ 6 55

### SUMMARY OF RESULTS.

	First cost of Steers per head.	Value of feed con- sumed per head.	Average price sold for per head.	Profit per head.	Average daily gain per head.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	Lbs. oz.
First lot of steers fed with hay.....	36 10	10 72	54 36	7 54	1 6
Second lot of steers fed with straw.....	35 62	6 55	53 08	10 91	1 4

The margin between the fall and spring prices of cattle last season was much less than usual, and for that reason the profits of stall feeding was greatly lessened.

From the foregoing tables it would appear that hay is not essential to the successful fattening of steers, and our numerous wheat farmers can utilize to good advantage a portion of their straw for that purpose.

### SWINE.

The herd of swine on the farm still continues in good health, and consists now of the following animals:—

Name.	Breed.	Age.
Sir Richard, boar.....	Berkshire.....	2 years.
Lady of Brandon, sow.....	".....	6 months.
Crocus of " ".....	".....	6 "
Boar (not named).....	".....	".....
Amber Belle, sow.....	Tamworth.....	3 years.
Dunrobin, boar.....	".....	18 months.
Amy's Choice 2nd, sow.....	".....	7 "
Brandon Belle.....	".....	2 "
Squire, boar.....	Chester White.....	18 "
Nelly, sow.....	".....	9 "

## POULTRY.

Only two breeds of poultry are now kept on the Brandon Experimental Farm—Plymouth Rocks and Black Minorcas.

By limiting the number of breeds to two, more room is left for experiments each year. Both breeds have been perfectly healthy, none having died during the year.

## PULLETS COMPARED WITH OLD HENS AS LAYERS.

It is generally thought that too many old hens are kept on the average farm, thus reducing the number of eggs, especially during the winter months.

With the object of testing this matter two pens each containing 11 birds were made up.

HENS.—7 Black Minorcas, 2½ years old.

4 White Plymouth Rocks, 2½ to 4 years old.

PULLETS.—7 Black Minorcas, 6 months old.

4 White Plymouth Rocks, 6 months old.

*How they were Fed.*

Morning meal: equal parts of mixed crushed grain, and 1 oz. of cut bone per fowl; mixed and fed moistened.

Evening meal: ½ wheat screenings, ¼ oats, ¼ barley, all fed whole.

*Results.*

Number of eggs laid from 4th January to 4th March:

	Eggs.
Pullets .....	144
Hens .....	105
Pullets over hens .....	<u>39</u>

## BONE AS AN EGG PRODUCER.

It is very generally conceded that the feeding of green cut bone materially increases the number of eggs laid, especially during the winter months.

To test this two pens were made up, each consisting of 3 Plymouth Rock pullets and 3 Black Minorcas, all six months old.

*How they were Fed.*

Pen 1.—Morning meal: equal parts of bran and mixed crushed grain, and one ounce of green cut bone per fowl; the above was mixed together and fed moistened. The evening meal consisted of ½ wheat screenings, ¼ oats, and ¼ barley, all fed whole.

Pen 2.—Received the same food, except that the bone was omitted.

*Result.*

Number of eggs laid from 4th January to 4th March:

	Eggs.
Pen 1.—Fed green crushed bone .....	83
Pen 2.—Without bone in their food .....	52
Gain from using bone .....	<u>31</u>

## Experimental Farms.

### FATTENING POULTRY.

The experiment given on page 333 of last year's Annual Report was repeated in some of its details this year, an effort being made to ascertain the cost per pound of gain in one month when chickens are fattened in pens.

	Lb. Oz.
Oct. 25th—Weight of 4 Plymouth Rock chickens penned . . .	16 14
Nov. 25th— “ “ “ “ . . .	22 04
Gain . . . . .	5 06

*Feed consumed.*—7½ lbs. wheat, 3¾ lbs. oats, 3¾ lbs. barley.

	Cents.
Value of grain at 1c. per lb. . . . .	15
Cost of feed per pound of gain in one month . . . . .	3

The grain was crushed and moistened for the morning meal, and fed whole for the evening meal.

### BEES.

The four hives of Italian bees remaining on hand last fall, were placed in the cellar of one of the farm dwellings on the 4th of October, the usual time in this latitude. But the fall being an open one the bees were quite restless until about the 4th of November, when the temperature in the cellar fell to about 55° F., and after that they were quiet. The evil effects of the high temperature in October was quite noticeable, particularly in the stronger colonies where they were somewhat crowded, and a much larger number than usual died during the winter.

They were placed on the summer stands on the 14th of April, two weeks earlier than in 1897. Native willow again furnished the first honey and pollen.

The spring and early summer were favourable for honey gathering, but the late summer and fall months were both cloudy and wet, and very little honey was gathered in these months.

An average of 53 pounds of extracted honey was taken from each of the four hives, which was sold for 10 cents per pound wholesale.

Three new swarms were hived, one of which was sold leaving six on hand at this date.

The bees were kept on the summer stands until November 11th this year, by which time the cellar temperature had fallen to 47. So far they have remained perfectly quiet.

### LARGE AND SMALL FRUITS.

#### WILD CRABS OF SIBERIA.

The orchard devoted to these trees has received additions from time to time, since 1890.

*Pyrus baccata aurantiaca* again gave a crop of small fruit. Other and more recently planted varieties, viz. :—*P. B. cerasiformis*, *P. B. macrocarpa* and *P. B. edulis* for the first time flowered this season, but the blossoms proved abortive. The season being propitious, the trees are in a fine condition for the production of fruit next year.

#### CRAB APPLES.

The crab apples now undergoing test are *Quaker Beauty*, *Melonen*, *Gideon*, *Jumbo*, *Martha*, *Snyder*, *Yellow Siberian* and *Transcendant*. The last mentioned has been grown here nine years but has been more or less injured by frost each winter.



## STANDARD APPLES.

The two *Tonka* and two *Wealthy* trees mentioned on page 336 of last year's report, came through last winter successfully, and this season they have made a strong and healthy growth.

## CROSS-BRED APPLES.

The want of success in finding apples sufficiently hardy to endure the climate of the higher altitudes of this province has led to the breeding of varieties by cross fertilization at the Central Experimental Farm at Ottawa. The first consignment of these cross-bred varieties was received on 4th April, 1898, in good condition, and planted in an orchard prepared for that purpose. Some of these were one year old seedlings and some newly grafted stocks.

It was thought advisable to plant them all in permanent position, so that no check would result from further transplanting.

The situation was rather open, and very dry weather setting in coupled with high winds caused the soil to drift, this cut off some of the young and tender shoots as they appeared. From the following record it will be seen that this experiment has thus far been attended with fair success.

Number received.	Record Number.	Female Parent.	Male Parent.	Seedlings or Grafted Stocks	Number		Remarks.
					Alive.	Dead.	
9		<i>Pyrus baccata</i> ..	Talman's Sweet.....	Seedlings.....	9	0	Healthy growth.
9		"	Wealthy.....	".....	8	1	"
4		"	Red Astrachan.....	".....	3	3	"
12		"	Tetofsky.....	".....	12	0	"
6		"	Pewaukee.....	".....	5	1	One not healthy.
2		"	Excelsior.....	".....	2	0	Strong growth.
1		"	Duchess.....	".....	0	1	Did not start.
7		"	Swayzie Pom. Grise.....	".....	6	1	Fair growth.
2		"	Yellow Transparent.....	".....	1	1	Healthy growth.
3		"	Martha Crab.....	".....	3	0	Healthy ripe growth.
1		"	McMahan White.....	".....	1	0	Very healthy.
3		<i>Pyrus prunifolia</i>	Pewaukee.....	".....	3	0	Fairly healthy.
2		<i>Pyrus baccata</i> ..	Wealthy.....	Grafted on <i>Pyrus baccata</i> ..	0	2	Did not start.
3	118	"	".....	".....	0	3	Killed by sand storm.
5	117	"	".....	".....	2	3	Healthy growth.
2	165	"	Red Anis.....	".....	2	0	Very healthy.
1	30	"	Hyslop Crab.....	".....	1	0	Fairly healthy.
2	46	"	Tetofsky.....	".....	0	2	Killed by sand storm.
4	125	"	Wealthy.....	".....	0	4	Did not start.
3	142	"	Duchess.....	<i>Pyrus prunifolia</i>	0	3	"
1	45	"	Tetofsky.....	<i>Pyrus baccata</i> ..	0	1	"
3	116	"	".....	<i>Pyrus prunifolia</i>	2	1	Healthy growth.
3	16	"	Orange Crab.....	".....	1	2	Fairly healthy.
3	164	"	Red Anis.....	<i>Pyrus baccata</i> ..	2	1	Healthy growth.
3	112	"	Hyslop Crab.....	".....	2	1	Very healthy.
3	1	"	Orange Crab.....	<i>Pyrus prunifolia</i>	0	3	Killed by sand storm.
5	127	"	Wealthy.....	<i>Pyrus baccata</i> ..	1	4	One healthy.
2	53	"	Tetofsky.....	".....	0	2	Did not start.
2	107	"	Hyslop.....	<i>Pyrus prunifolia</i>	0	2	"
4	161	"	Red Anis.....	".....	2	2	Healthy growth.
3	19	"	Transcendant.....	".....	2	1	One fairly healthy.
4	29	"	".....	".....	2	2	Strong growth.
4	162	"	Red Anis.....	<i>Pyrus baccata</i> ..	0	4	Killed by sand storm.
1	64	"	Tetofsky.....	".....	0	1	"
3	122	"	Wealthy.....	".....	2	1	Very strong growth.
2	141	"	Duchess.....	".....	1	1	Healthy growth.
2	79	"	Tetofsky.....	".....	0	2	Killed by sand storm.
2	132	"	Wealthy.....	".....	1	1	Fairly healthy.



White Willow (*Salix alba*) height 17 feet, circumference near base 26 inches, growing on Experimental Farm at Brandon, Manitoba, nine years planted. [305]

## Experimental Farms.

### PEARS.

One Longworth pear was planted in 1897. It became well established, but like all other trees of this fruit, it succumbed to the first winter's frost.

*Pyrus betulæfolia*. This was received from the Central Experimental farm last spring; it is said to produce a very small fruit, but if hardy it may be useful for future selection and crossing.

### PLUMS.

Last winter was very disastrous to the varieties of improved American plums received from Charles Luedloff, of Carver, Minnesota, in the spring of 1896; these have had a very fair test, specimens of all becoming established the first summer. They were more or less injured by frost the first winter, but the trees being then very small and the snow fall of that winter unusually heavy, they were completely covered and many survived the first year. In the spring of 1897 it was found that, of 72 trees including 36 varieties planted in the spring of 1897, 4 varieties were dead, 18 killed to the ground; 7 were slightly killed back and 7 were apparently hardy; of these 3 had some bloom but no fruit. On the count being taken last spring, 1898, only 9 trees of 7 varieties were found living, leaving 63 trees of 29 varieties that have succumbed to the severe frost and slight snow covering of last winter.

The seven surviving varieties are:—

Variety.	Number planted.	Number alive.	Remarks.
Richland.....	2	2	Weak growth; killed back.
City.....	2	2	Fair growth; killed back.
Dunlop Nut.....	2	1	Weak growth; slightly killed back.
Speer.....	2	1	Strong growth; not killed back.
Van Deman.....	2	1	Fair growth; slightly killed back.
Gaylord.....	2	1	Weak growth; badly winter killed.
New Ulm.....	2	1	" "

The orchard of plum seedlings received from the Central Farm at Ottawa in 1893, have made a good growth, they have now an average height of six feet, and seem very healthy and vigorous.

This orchard contains 127 seedlings of Weaver, 12 seedlings of Cheney and 34 American seedlings. Many of these fruited for the first time this year. Those that fruited are:—11 trees of Weaver, 1 of Cheney, 2 of DeSoto and 1 of American seedling. This fruit was fair in size, but, although the frost came later than the average season, none of it matured, and when picked on 1st October the specimens were found to be pithy, and devoid of flavour; evidently having been frozen by the severe fall frosts before being fully ripe.

Two of the consignment of unnamed plums received from Mr. Thos. Frankland, of Stonewall, Manitoba, also fruited this year. One of these had fruit of a fine egg shape, but like the others they did not mature before they were injured by frost.

### NATIVE PLUMS.

The trees of the native seedling plums that were old enough have again given a large crop of very fair fruit, averaging 10 quarts from each tree. These were ripe on 1st September, and were not injured in the least by the slight frost previous to that date.

The work of propagation is still going on with this plum, and some good results have already been attained.

One Aiken and three Hoskin plums were received from the Central Farm in the spring of 1897. The Aiken succumbed the first winter; one Hoskin survived but was killed to the ground and is by no means promising.

The additions to the list of plums this season are—

Seedlings of Wyant.	
do	Forest Garden.
do	Rollingston.
do	Hawkeye.

#### CERRIES.

In the spring of 1895 there were sent from Ottawa 5 each of 6 varieties of cherry seedlings; these have survived two winters, but none of them have as yet fruited.

They are herewith listed with notes:—

Name of Variety.	Number received.		Number alive.		Remarks.
	1895.	1896.	1897.		
Seedlings of—					
Bessarabian.	5	4	4		Alive to tips; small growth.
Montmorency.	5	5	5		" " "
Red Morello	5	5	4		Killed to near ground; large growth.
Wragg	5	4	3		" " fair growth.
Olivet	5	5	5		Alive to tips; small growth.
Carnation	5	5	5		Slightly killed back; small growth.

#### ROCKY MOUNTAIN CHERRY.

Fifteen bushes of this cherry were received and planted in 1895. They are all alive at this date, and have borne a small amount of fruit. They are evidently a variety of the sand cherry *Prunus punila*.

*Prunus Mackii* and *Prunus Padus* were two cherries received from Prof. Budd in 1894. Specimens of each of these fruited this season; the fruit is small and astringent, and is of no value as an edible fruit. The trees are useful, however, for ornamental purposes.

#### WILD CHERRY FROM NEBRASKA.

Three of these were received from Ottawa in the spring of 1896. They are quite hardy and have made a strong growth, but have not yet fruited.

*Compass Cherry*.—Two trees were received this spring and have become well established. This is said to be a cross between the Sand Cherry and the American Plum, having some characteristics of each, and is spoken of highly. It is hoped it will prove hardy here.

*Sand Cherry*.—In the spring of 1894, 200 seedlings of the eastern form of this cherry were received from Ottawa. These have not been hardy with us as yet, and have been killed to the snow line each winter, but having a recumbent habit many of the branches lay below the snow; on these branches fruit was set on nearly all the trees for the first time this season.

They were inspected individually, and out of the 200 trees only two yielded fruit that was up to the standard of fruit obtained from the selected forms of our native Sand Cherry, and many were too late to be of value here.

## Experimental Farms.

### MANITOBA SAND CHERRY.

On the Director's annual visit of inspection last August, another one, out of many seedlings of this native cherry was pointed out as worthy of a name and of propagation. It was named and described by him as follows:—

*Champion*.—Large, very dark red, nearly black when ripe; flesh sweet and nearly free from astringency,  $1\frac{1}{8}$  inches in circumference; quality good, quite ripe 25th August.

The *Minnie*, *Brandon*, *Othello*, *Standard*, *Progress* and *Challenge*, named varieties of this cherry, are being propagated by layering, and are being gradually disseminated throughout the province.

### GRAPES.

Three varieties of grapes were planted in the spring of 1895, and have survived three winters. Two of these were received from Ottawa, viz.: *Gibb* and *Bacchus*; they have made only a small growth, and have as yet given no signs of fruit. The third variety is the native wild grape, which has made a very strong growth, it flowered this season, but the flowers proved to be imperfect, all being staminate, and hence this variety is of no value.

Wild grape cuttings and roots have been procured from many different sources, in Manitoba, with the hope of finding some with perfect flowers.

### CURRENTS.

The currant crop this year was an average one, all the old varieties fruiting fairly well. At this time there are 40 kinds undergoing test, and valuable facts in reference to their hardiness and quality are being compiled.

*Fertile d'Angers*.—a red currant, which is well worthy of special notice. The berries are as large as Fay's Prolific (one of the largest of red currants) but the bunches are larger and better filled than that variety.

If this variety continues to do as it has done the past season it will be a great acquisition to this province.

The *White Dutch* was the only new white currant tested. This is not by any means superior to the White Grape, but being much later than that variety it will be useful for a succession of fruit.

The *Climax* spoken of in previous reports still holds a prominent place among the black varieties.

The *Eclipse*, a black currant seedling from the Central Farm, has fruited this year for the first time, and gives great promise of future usefulness.

*Missouri Tree Currant*—black. More fruit was picked from this than from any other variety during the past season, and in size, colour and habit it is unique among currants; it has a peculiar flavour, and cannot be recommended for extensive planting, but a few bushes would be an acquisition to every garden. The bushes are hardy and seem to be well adapted to this climate.

The following varieties fruited here for the first time this season.

Variety.	Flavour.	Colour.	Size.	Earliness.	Productive-ness.	Remarks.
Fertile d'Angers.....	Very good..	Red .....	Very large..	Late .....	Good .....	Vigorous growth.
North Star.....	Fair.....	" .....	Medium.....	Early .....	Poor .....	Very vigorous.
White Dutch.....	Good.....	White .....	Large .....	Late .....	Fair.....	Slightly tender.
Sterling.....	Fair.....	Black .....	" .....	Medium.....	Good.....	Very vigorous.
Perry.....	Poor .....	" .....	Small .....	Early .....	Poor .....	Generally poor.
Madoc.....	" .....	" .....	Fair.....	Medium.....	" .....	Healthy.
Eclipse.....	Very good..	" .....	Large .....	Early .....	Good.....	Vigorous.
Lewis.....	Poor.....	" .....	Medium.....	Very early.	Fair.....	" .....
Stewart.....	Good.....	" .....	Fair.....	" .....	Good.....	Very healthy.
Star.....	" .....	" .....	Large .....	" .....	" .....	" .....

## GOOSEBERRIES.

The native sand hill gooseberries fruited well this year, and have been increased largely by cuttings. Seed of the very finest fruit was selected and sown, and it is hoped by this means to improve this desirable native fruit.

Six each of 10 new varieties of gooseberries were received from the Central Experimental Farm and planted in the spring of 1897; they made a fine healthy growth that season.

No winter protection was given them and this spring most of the bushes were found to be more or less injured and many were killed outright.

The survivors are being treated this year in the same way as the raspberries:—namely by laying them down and covering them with earth, and it is hoped by this means to bring them safely through the coming winter.

LIST of Gooseberries tested one winter.

Name of Variety.	No. planted.	No. alive.	Remarks.
Industry . . . . .	6	2	Good summer growth.
Keepsake . . . . .	6	0	Killed by winter.
Chautauqua . . . . .	6	3	Good summer growth.
Red Jacket . . . . .	6	1	Weak growth.
Smith's Improved . . . . .	6	6	Vigorous growth.
Houghton . . . . .	6	1	Healthy summer growth.
Downing . . . . .	6	2	Weak growth.
Golden Prolific . . . . .	6	0	Killed by winter.
Columbus . . . . .	6	2	Fair growth.
Whitesmith . . . . .	6	4	Very vigorous growth.

## RASPBERRIES.

The raspberry canes, although laid down and covered with earth, suffered more from the frost of last winter than any one other season since they were planted.

There is one variety, however, known as Reeder, which was exposed to exactly the same conditions as the other sorts, but has shown greater hardiness and passed through the winter almost uninjured. Out of 21 varieties tested this yielded the most fruit.

The Sarah, Turner and Philadelphia were, next to the Reeder, the least injured by the winter.

Snyder Blackberry fruited this year for the first time. It bore large bunches of fine fruit which ripened very late. This blackberry has wintered here three seasons, but requires some protection.

No new raspberries were planted this season, but many incomplete rows were filled. This work can be done any time through the early part of the summer after the suckers have started to grow by transplanting the young green shoots.

A dull rainy time is generally chosen for this work. Holes are dug where the plants are required; good thrifty suckers are selected and dug with a sharp clean spade, care being taken that a lump of earth adheres to the roots in each case, and this, without being disturbed, is placed carefully in the holes prepared and firmly pressed.

Prune back slightly, and if the sun becomes very hot, shade for a few days with a shingle.

By this method, the raspberry plantation can be rapidly increased, as most varieties produce suckers freely, and the work can be done at a less busy time than during the spring.

# Experimental Farms.

## FOREST TREES.

The trees in the shelter belts and plantations continue to thrive, many of the varieties having made very fine specimens. A list of those believed to be suitable for general planting is here continued, which it is hoped will be found useful to intending planters.

*Populus Petrowskiana*—Russian Poplar.—This is one of the fastest growing varieties of the poplars imported from Northern Europe. It has luxuriant foliage, which hangs late on the tree. A nine year old tree was recently measured here, and found to be twenty feet high, with twelve feet spread of branches. The trunk one foot from the ground was five inches in diameter. This is propagated by cuttings.

*Betula alba laciniata*—The Cut-leaved Birch.—This is a variety of the White Birch of Europe; and is fairly hardy here. Its symmetrical habit, coupled with its graceful pendulous branches and finely cut leaves, makes it a desirable acquisition. A tree five years planted is ten feet high. This can be propagated only by grafting or budding. As it is somewhat difficult to transplant, much care should be exercised in this operation.

*Betula pumila*—Dwarf Birch.—This is a dwarf variety indigenous to this country. Its maximum height is about ten feet; its form is attractive and its dwarf habit makes it useful for hedge purposes. The seed is ripe in August, but only a small percentage of it is usually found to germinate. Seedlings may be procured from the woods, where it grows in some localities in great profusion.

*Alnus viridis*—American Alder.—This is also a native tree, with a dwarf habit. The present height of a tree on this farm, eight years old, is nine feet, with a spread of branches of three and a half feet.

*Picea pungens*—Rocky Mountain Spruce.—Specimens of this tree have now stood six successive winters. To secure the best results this tree should be planted in the shelter of other trees and shrubs, as it is often hurt by the hot dry winds that prevail on the open plains. It is a native of the Rocky Mountains in Colorado.

*Larix Europæa*—English Larch.—One specimen, the only survivor of a large con- signment received in 1890, is doing wonderfully well; it is ten feet high and seems quite hardy. Our native larch (*Larix Americana*), however, is much more successfully grown.

*Thuja occidentalis Elwangeriana*.—This is a beautiful variety of the western Arbor Vitæ, and has a more finely cut foliage and a very symmetrical form. Specimens have proven hardy here when grown in protected situations.

### COST OF PLANTING AND MAINTAINING FOREST TREES.

In the spring of 1895, a plantation of one acre in extent was planted near the main road with two-year-old seedlings of the native Ash-leaved Maple and White Elm. The object in planting this plot was to ascertain the cost of planting and maintaining an acre of trees until they were large enough to shade the ground and prevent the further growth of weeds. After four years this plot has reached that stage, and in future will be kept clean with a few hours' work around the edges. The average height of the trees is eight feet.

Particulars of the cost of planting and taking care of these trees for 4 years are herewith submitted.

Approximate cost of growing and digging trees.....	\$ 5 00
Cost of planting, 20 hrs. work.....	3 00
Filling vacancies, 5 hrs. work.....	0 75
1st year, cost of cultivation, hoeing, etc, 20 hrs. work.....	3 00
2nd " " " 15 ".....	2 25
3rd " " " 10 ".....	1 50
4th " " " 5 ".....	0 75
	<hr/>
	\$16 25

Another experiment of this sort was begun last season by the planting of an acre plot with elm, maple and ash with alternate rows of Sand Cherry. The object of this experiment is to ascertain how quickly the Sand Cherry will shade the ground and save the labour of further cultivation.

This plot has become well established, and the trees are growing rapidly.

#### AVENUES.

Three kinds of trees have been used for avenue planting, and up to the present time about three miles of roads have been improved by planting there double rows of trees.

The native Ash-leaved Maple (*Negundo Aceroides*) has been chiefly used. This well known and deservedly popular tree seems especially adapted for this purpose here, it thrives luxuriantly and is kept in order with a small amount of work.

Avenues have been successfully planted here by selecting trees about four or five years old of good shape; nursery grown specimens on account of their superior root development are preferred. When the row is planted the trees are pruned to a uniform height and, as far as is practicable, the same uniformity is observed in the height of their lowest branches, as this adds much to the beauty of the avenue. Twenty feet apart is about the right distance to plant this tree. Cultivation is carried on as follows:

When the first crop of weeds have come nicely through the ground, which is about the 1st of June, a space of at least four feet on each side of the row is ploughed with a one horse plough, the ploughing near the tree being very shallow to avoid injuring the roots. This is followed by a good harrowing with one large section of a harrow. Later in the season the ground should be kept clean with a one horse cultivator. Pruning is done each year in July, as at this season wounds in the tree heal rapidly. Any pendulous branches are shortened, and any dead wood found is cut out.

When examining the avenues here this season twenty of the trees were found to be unhealthy. This was attributed to two causes. Six of them were found to be in low undrained locations, and on digging three of these their fibrous roots were found to have rotted, which was probably the cause of death. The soil in these low places was a stiff clay locally known as gumbo. In replanting trees in such places, holes should be made much larger than required for the roots and soil added from the higher land on the farm; if slightly gravelly, so much the better. This method is also followed when planting trees in alkaline spots.

The remaining trees were found to be badly affected by sun-scald and in some cases the wood had split the whole length of the stem and much of the bark was dead. This may be treated by carefully paring off the dead bark until the hard wood is reached, when the edges of the wound will callous and the wound will often heal.

Native Spruce *Picea alba* is another tree which has been used here to advantage for avenue planting and has made fine growth, in some cases outstripping the maples in height.

Its evergreen foliage makes it a very desirable tree for this purpose.

Another tree which has been used here for avenues is the Russian poplar (*Populus Bereolensis*). This is a fast growing species and is much admired for its symmetrical form. It also has the advantage of retaining its leaves until quite late in the season.

#### NOTES ON THE ARBORETUM.

In the spring of 1893, on a rough looking hillside surrounding the then newly built Superintendent's house, the nucleus of an arboretum was started; a terraced lawn was graded and laid down to sod, and about one hundred trees, of forty varieties planted; since that time each year new varieties have been added, until at present 1,023 trees of 226 varieties and species are growing. This has changed the aspect of the landscape and given beauty to the surroundings.

In the summer this plot claims much attention from the visiting public, and from the many inquires made and the growing interest manifested in tree growing throughout the province, it is evident that this department of the farm is doing good work.



## Experimental Farms.

A catalogue of this plantation has been made, each tree has been numbered and a record made of time of planting, hardiness, etc

A very substantial enlargement was made this year by the addition of many varieties received from the Central Farm two years ago and placed in a nursery then. They have thus been tested here for two winters; they are not all entirely hardy, but all stand the winter sufficiently well to make good specimens.

### ADDITIONS TO ARBORETUM.

Name of Variety.	Remarks on hardiness, growth, &c.
<i>Alnus incana</i> .....	Hardy, fair growth.
" <i>viridis</i> .....	" strong "
<i>Acer monspessulanum</i> .....	Half hardy, weak growth.
<i>Alnus imperialis laciniata</i> .....	Hardy, fair growth.
<i>Amorpha fruticosa</i> .....	" large growth, flowered.
<i>Ampelopsis variegata</i> .....	" fair growth.
<i>Berberis ilicifolia</i> .....	Half hardy, small growth.
" <i>vulgaris purpurea</i> .....	Hardy, small growth, flowered.
" <i>Thunbergii</i> .....	" fair "
<i>Betula pendula Youngii</i> .....	" fair "
<i>Cornus sanguinea</i> .....	Half hardy, strong growth.
" <i>sericea</i> .....	" " "
<i>Cytisus purpureus</i> .....	Hardy where protected, flowered.
" <i>trifolius</i> .....	" " "
" <i>hirsutus</i> .....	" " "
<i>Clematis ligusticifolia</i> .....	" very strong growth, flowered.
" <i>vitalba</i> .....	Roots hardy.
" <i>recta</i> .....	Herbaceous, roots hardy.
<i>Deutzia Wellsii</i> .....	Tender, weak growth.
<i>Diervilla lutea</i> .....	Hardy, fair growth, flowered.
<i>Hydrangea paniculata grandiflora</i> .....	Half hardy, flowered.
<i>Juniperus Sabina</i> .....	Hardy, strong dwarf growth.
<i>Lonicera Alberti</i> .....	" strong growth, flowered.
<i>Populus fastigiata</i> .....	Half hardy, very strong growth.
" <i>Bolleana</i> .....	" strong growth.
<i>Philadelphus deutziflorus</i> .....	" weak "
" <i>inodorus</i> .....	" " "
" <i>grandiflorus</i> .....	" " "
" <i>coronarius</i> .....	" fair "
<i>Ptelea trifoliata aurea</i> .....	Hardy, fair growth.
<i>Picea pungens</i> .....	" small healthy growth.
<i>Pinus ponderosa</i> .....	" where protected from winds.
<i>Abies nigra</i> .....	" strong growth.
<i>Rhamnus catharticus</i> .....	" " "
<i>Ribes Gordonianum</i> .....	" fair growth.
<i>Syringa purpurea</i> .....	" strong growth, flowered.
" <i>villosa</i> .....	" " "
" <i>Chas. Xth</i> .....	" " "
<i>Sambucus pulverulenta alba</i> .....	Roots hardy, weak growth.
" <i>variegata argentea</i> .....	" strong "
" <i>Canadensis</i> .....	Kills back slightly, strong growth.
" <i>nigra</i> .....	Roots hardy, strong growth.
" <i>laciniata</i> .....	" " "
" <i>aurea nova</i> .....	" " "
" <i>heterophyllus</i> .....	" " "
<i>Sorbus domestica</i> .....	Hardy, fair growth.
<i>Spiraea callosa rosea</i> .....	" " flowered.
" <i>alba</i> .....	" " "
" <i>billardi alba</i> .....	" " "
" <i>rosea</i> .....	" " "
" <i>ariefolia</i> .....	" strong growth.
" <i>ulmifolia</i> .....	" " "
" <i>multiflora</i> .....	Half hardy, strong growth, flowered.
" <i>Douglasii</i> .....	Hardy " "
" <i>Van Houttei</i> .....	Half hardy, weak growth.
<i>Thuja occidentalis Hoveyi</i> .....	Hardy, fair growth.
" <i>Wareana (Sibirica)</i> .....	" strong "
" <i>occidentalis lutea</i> .....	" weak "
" " <i>Elwangeriana</i> .....	" strong "
<i>Viburnum opulus sterilis</i> .....	" strong growth, flowered.

## HARDY ORNAMENTAL SHRUBS.

The following are some of the more promising of the ornamental shrubs which have been tested here :

*Amorpha fruticosa*—Lead tree.—An indigenous species found growing in this vicinity. Its pretty racemes of flowers make it quite ornamental ; the yellow anthers against the back ground of its violet petals, gives the whole a pleasing effect. This comes into flower about 20th June, and is followed by small pods, enclosing seeds from which it is readily increased.

*Lonicera tatarica elegans*—Elegant Bush Honey-suckle.—This is less vigorous in its growth than the common Bush Honey-suckle, but it blooms more freely and is thickly covered with light rose-coloured blossoms during the first week in June ; these are followed by bright red berries. It is quite hardy and desirable, and may be propagated by layers or cuttings.

*Lonicera gracilis*—Graceful Honey-suckle.—In this species the flowers are almost white, followed by yellow fruit. It blooms early in June, and may be propagated from cuttings or by layers.

*Sambucus Canadensis*—Canadian Elder.—Of the many varieties of elder tested here this is the most vigorous and hardy. A three-year old bush is now four feet high with three feet of spread of branches. This is propagated by root division or from cuttings.

*Spiraea Douglasi*—Douglass Spiraea.—Height two to four feet. In bloom from 15th July to late in the autumn. This makes a pretty ornamental hedge, suitable for a flower garden, and is very pretty when covered by its dense clusters of pink flowers. This may be propagated by division of the root.

*Viburnum Lantana*—Way-faring Tree.—This is a handsome ornamental shrub with strongly veined lantana-like leaves. Its flowers are white and are succeeded about the third week in July by pretty clusters of purple fruit, which eventually become black.

*Viburnum Lentago*—Sheep-berry.—This is a native shrub of much merit. Its large shiny leaves and compact habit of growth combined with the abundance of its flowers and fruit gives it a pleasing appearance. This can be obtained by transplanting naturally grown seedlings or can be raised from seed. This, however, rarely germinates the first season.

*Clematis ligusticifolia*—This species of clematis is found growing wild in some parts of the North-west Territories and is common also in British Columbia. It is very hardy, grows rapidly and forms a useful climber for a verandah. It is a free bloomer and can be grown from cuttings, layers or seed.

*Ligustrum Amurense*—Amur Privet.—This is a pretty, almost evergreen shrub, which has so far proven hardy here, and will be found useful for borders or low hedges.

*Cytisus hirsutus*—Hairy Cytisus.—This little shrub is well worthy of a place in every collection ; it flowers freely through July, and will grow readily from seeds, which are freely produced in small hairy pods. It is not entirely hardy and succeeds best when protected in winter by a covering of earth.

*Syringa villosa*—Rough-leaved Lilac.—This species of lilac is from Northern Asia and like *Syringa Josikea* will be found very useful in this province ; flowering late it thereby escapes the spring frosts, which so often kill the flower buds of the common lilac. It comes into bloom the second week in July ; the flowers are light purple, and the foliage is very much admired.

## HEDGES.

The sample hedges grown here for comparative test purposes are steadily increasing in number. This feature in our work claims much attention from the general public, especially as the utility of hedges as wind-breaks and snow collectors becomes more apparent. Of the hedges planted in the spring of 1897, all survived the winter, with



Seedling Lilac, eight years planted, growing on Experimental Farm at Brandon, Manitoba.  
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## Experimental Farms.

the exception of the Rosemary-leaved Willow (*Salix rosmarinifolia*), this was killed root and branch. This left 34 hedges living last spring; and to these have been added 11 other species and varieties, making a total of 44 different kinds of hedges now living.

Additions to sample hedges in 1898 :—

Lonicera Alberti,	Albert Honey-suckle,
Syringa Josikea,	Hungarian Lilac,
Spiræa Douglasii,	Douglas' Spiræa,
Ligustrum Amurense,	Amur Privet,
Celtis occidentalis,	Nettle Tree,
Rosa rugosa,	Japan Rose,
Shepherdia argentea,	Buffalo Berry,
Artemisia Abrotanum,	English Old Man,
Caragana grandiflora,	Large-flowered Pea Tree,
Lonicera tatarica splendens,	Splendid Honey-suckle.

### DISTRIBUTION OF TREE CUTTINGS.

In accordance with instructions received from the Director last spring, twenty-five thousand cuttings of Cottonwood, Russian Poplar and Willows were prepared and mailed to applicants. Although instructions for this work were received rather late in the season for the best results, we were able to supply all applicants with a package containing 100 cuttings, which was generally made up as follows: 25 Cottonwood, 25 Russian Poplar, 25 Sharp-leaved Willow and 25 Voronesh Willow.

From reports received we learn that very few of the Willows failed, a number of the Russian Poplars struck, but poor success was had with the Cottonwoods, the spring evidently being too dry to permit of the rooting of the wood of this moisture-loving tree.

On this farm Cottonwood cuttings made and planted deeply in fallowed land as soon as the ground is thawed out in the spring, have generally rooted well, but when cut late in the spring, or planted on spring ploughed stubble, they have nearly always failed.

The total number of applicants supplied with tree seedlings and cuttings during the year was 1,237, which is 331 more than last year.

### THE VEGETABLE GARDEN.

The season of 1898 was, in many respects a peculiar one for vegetables. Spring was ushered in by a long continued spell of dry weather, and, beyond a slight shower or two, no rain whatever fell until the 25th of May. To aggravate the conditions caused by the drought, high winds were experienced, and the combination of the two evils, caused us at one time to contemplate the entire re-sowing of the vegetable garden. The merits of fairly deep and thick sowing was admirably illustrated in this connection; for, although some of the seed was certainly blown out, the rows were all well filled on the approach of more favourable weather. On the 5th and 6th of June, we received a good soaking, and the balance of the season was all that could be desired, as regards rainfall. The cool weather in the fall interfered considerably with the maturing of some of the late vegetables, and for the first time for some years past, we failed to harvest a crop of ripe tomatoes. This may be accounted for by the fact, that, about the time the first blossoms were setting fruit, we had, a very heavy rain, which appeared to greatly interfere with fertilization, and, as we generally depend on the first flowers for ripe fruit, the failure may be fairly attributed to the above cause. Onions were also thrown back by the very dry condition of the soil in early spring, and did not germinate until quite late, causing the late maturing of this useful crop. With the above exceptions, the yield and quality of vegetables was all that could be desired. All root crops, with the exception of carrots, gave unusually heavy returns, and cucumbers, squashes and pumpkins were far above the average. Taken on the whole, the season may safely be termed a favourable one for vegetables. In the experiments with vegetables here the effort has been made to thoroughly test two or three different kinds, procuring as many varieties of each as possible. Those to which special attention was given during the past season, were

beets, cabbage, and cucumbers, and following will be found the results of these tests, together with other portions of the work done in this department.

## CABBAGE.

The method adopted this season for raising cabbage plants, was one which we have found by experiment to give the best results with a minimum of labour. The seed was sown thinly in a spent hotbed on 19th April, in rows six inches apart, and as soon as the plants were large enough to handle, they were thinned, this operation taking place on 30th April. It is of the utmost importance that thinning should be performed before the seedlings are too tall, a day or two's delay at this time making the difference between dwarf, strong plants and thin straggling ones. From this time air was given whenever the weather permitted, and on 30th May a frame of sturdy and healthy plants were transferred to the open, in rows three feet apart, and two and one-half feet apart in the row. By adopting this plan, all the labour of transplanting from seed boxes was rendered unnecessary, and the result was fully equal to that previously attained by the mode of twice transplanting. Forty-one varieties were sown, four of which did not germinate, viz.: Quintal Drumhead, Stonemason, Extra Early Etampes and Early Oxheart. The wet fall season proved exceptionally favourable for this crop, and the average was above the ordinary, with the exception of the red varieties, which, for some reason, have not proven satisfactory for some years past. Following will be found the result of this test, together with a list of the most suitable varieties:—

Name of Variety.	Average Weight.	Firmness.	Percentage Headed out.	Early or Late.	Shape.
Savoy Drumhead.	7 pounds.	Fairly firm..	70 per cent.	Late.	Flat.
Hollander.	14½ "	Very "	100 "	"	Rounded.
Autumn Giant.	14½ "	Firm.	73 "	"	"
Early Brunswick.	11½ "	Very firm..	100 "	2nd early..	Flat.
Large Late Drumhead.	12 "	Firm.	85 "	Late.	Rounded.
Early Large York.	8½ "	Fair..	94 "	Early.	Pointed.
Tottler's Brunswick.	10 "	Very firm..	90 "	2nd early..	Flat.
Early Favorite.	4½ "	Soft.	85 "	Early.	Rounded.
Quintal Drumhead. .... (did not germinate)					
Early Dwarf York.	7 "	Fairly firm..	75 "	"	"
Vandergaw.	13 "	Very "	100 "	Late.	Flat.
Stonemason. .... (did not germinate)					
Victoria Savoy.	8 "	Fairly firm..	98 "	"	Rounded.
Early Sugar Loaf.	8 "	"	100 "	Early.	Conical.
Early Wittingstadt.	7½ "	Very firm..	100 "	2nd early..	Pointed.
Red Drumhead.	8 "	"	58 "	Late.	Rounded.
Extra Early Etampes. .... (did not germinate)					
Chester King.	7½ "	Fairly firm..	100 "	Very late.	Flat.
Succession.	13 "	Very firm..	100 "	2nd early..	Rounded.
Pearce's 2nd Crop.	14½ "	"	100 "	"	Flat.
American Savoy.	8 "	"	97 "	Late.	"
Premium Flat Dutch.	13 "	"	93 "	"	"
Early Oxheart. .... (did not germinate)					
The Lupton.	19½ "	"	100 "	"	"
All Season.	14½ "	"	100 "	2nd early..	Rounded.
Early Summer.	12½ "	"	100 "	Early.	Flat.
Early Jersey Wakefield.	9 "	Firm.	92 "	"	Conical.
Surehead.	17 "	"	97 "	Late.	Rounded.
New Extra Early Express.	6 "	"	96 "	Early.	"
Filderkraut.	8 "	Very firm.	100 "	2nd early..	Pointed.
Deep Head.	13½ "	"	78 "	Late.	Rounded.
Danish Ball Head.	16 "	"	100 "	"	"
Globe Savoy.	8½ "	Soft.	83 "	"	"
St. Denis.	10 "	Very firm..	100 "	2nd early..	Flat.
Chester Savoy.	12½ "	Firm.	97 "	Late.	"
Luxembourg.	8 "	"	96 "	Very late..	Rounded
Matchless Flat Dutch.	15 "	"	83 "	Late.	Flat.
Burpee's All Head.	16½ "	Very firm..	100 "	2nd early..	"
Marble Head Mammoth.	20 "	"	100 "	Late.	"
Dark Red Early Dutch.	6 "	Firm.	64 "	"	Rounded.
Dwarf Ulm Savoy.	3 "	Very soft..	46 "	2nd early..	"

## Experimental Farms.

*Desirable Early Sorts.*—1. Early Jersey Wakefield ; 2. Early Sugar Loaf.

*Second Early or Summer.*—1. Early Brunswick ; 2. Filderkraut.

*Late or Winter.*—1. The Lupton ; 2. Marblehead Mammoth.

The following varieties have not succeeded well and are not recommended for cultivation in this province :

1. Autumn Giant ; 2. Globe Savoy ; 3. Luxembourg ; Dwarf Ulm Savoy.

### BEETS.

Sixteen varieties of beets were sown outside, with hand drill, on 14th May, in rows two feet apart, and all germinated well. In previous years the chief difficulty to be contended with, in connection with this crop was the tendency of the roots to grow too large for table use. This season, by leaving the plants somewhat thicker in the row and sowing the rows closer together, this difficulty was overcome, and the roots were all that could be desired for table purposes. A point deserving special mention, was the superiority of the long varieties over the round or turnip shaped, both in colour and texture. Although at present there seems to be some prejudice against the long beets, it is believed that, if they were more generally cultivated better appreciation would soon follow. On account of the earliness of the turnip-rooted varieties, a few of these should always be grown for early use. Another point observed in connection with this test, was the extremely poor quality of some of the varieties tried, a few being totally devoid of colour, and conspicuous among the latter class were those named The Lentz, Bassano Flat Red, and Eclipse. In the following table the varieties tested are arranged in the order of their productiveness.

Name of Variety.	Colour.	Shape.	Yield per Acre.
			Bush.
The Lentz.....	Poor, contains white rings.....	Turnip.....	1,358
Simmer's Extra Early.....	Very dark.....	Flat.....	847
Early Blood Turnip.....	Fair, contains white.....	Turnip.....	847
Eclipse.....	Very white.....	".....	847
Whyte's Very Long Blood Red.....	Very dark.....	Long.....	836
Early Flat Red Bassano.....	White.....	Flat.....	814
Early Dark Red Egyptian.....	Very dark.....	".....	792
Arlington Favourite Blood.....	".....	".....	715
Columbia.....	Fair, contains white.....	Turnip.....	715
Edmond's Blood Turnip.....	Dark.....	".....	704
Dewar's Half-long Blood.....	Bright red.....	Half-long.....	660
Long Smooth Deep Blood.....	Very dark.....	Long.....	660
Extra Long Smooth Blood Red.....	".....	".....	616
Black Prince.....	".....	Turnip.....	605
Olive Shaped Black Red.....	".....	Olive shaped.....	440
Black Queen.....	".....	".....	383

The following are specially recommended as among the best :

1. *Simmer's Extra Early* (Turnip-shaped) ;
2. *Early Dark Red Egyptian* (Turnip-shaped) ;
3. *Dewar's Half Long Blood* (Half long) ;
4. *Long Smooth Deep Blood Red* (Long).

## CUCUMBERS.

Cucumbers were an unqualified success this season, the yield and quality being fully up to if not above the average.

Twenty-five varieties were sown on 23rd May in hills 6 feet apart each way, and as soon as practicable the plants were thinned and reduced to three per hill. Until the vines commenced to spread, the soil was occasionally stirred with the horse cultivator, this being all the labour necessary. The method of sowing was as follows: One man with a hoe taking the lead made the holes at regular intervals; another followed dropping a small quantity of seed into the excavation, and with his foot drawing the soil together and pressing it firmly upon the seed. In this manner the work is performed rapidly, and has always been attended with excellent results. A feature to be regretted in connection with this crop was the astonishing mixture of varieties, some of them, especially the Japanese Climbing, producing three or four distinct types of fruit, making it difficult to select the typical variety. One of the earliest and most prolific varieties was Early Russian, a cucumber which should prove exceptionally valuable to market gardeners, on account of its ability to withstand constant pulling, the fruit forming very rapidly.

Giant Pera was the largest variety tested, and produced some magnificent fruit, perfectly straight, smooth and uniform of a beautiful light green colour, and possessing a fine flavour. The variety listed as Serpent proved to be merely a curiosity, and was entirely worthless for the table, although showing some most fantastic forms. The results of this test are below arranged according to earliness.

Name of Variety.	Ready.	Average Length.	Diameter.	Shape.	Flavour.	Average Weight.	Productiveness.
		in.	in.			oz.	
Russian Gherkin.....	Aug. 15	.....	.....	Similar to Early Russian.			
Early Russian.....	" 15	4½	2½	Small and sparsely spined.	Fair.....	8	Very productive.
White Spine.....	" 17	7½	3	Straight, sparsely spined.	Very good.....	8	"
White Wonder.....	" 17	6	2½	"	Excellent.....	10	"
Evergreen White Spine.....	" 17	.....	.....	Similar to White Spine.			
Early Cluster.....	" 19	6½	2½	Crooked, sparsely spined.	Fair.....	10	Fairly productive.
Short Green Gherkin.....	" 20	5½	2	Straight, densely spined.	Good.....	8	Very "
Early Frame.....	" 20	6½	2	Not uniform prominent spined.	Fair.....	8	Fairly "
Green Prolific.....	" 20	6	2½	Straight, sparsely spines.	Good.....	8	" "
Arlington White Spine.....	" 20	6	2½	Straight, prominent spines.	".....	8	Very "
Boston Pickling.....	" 21	5	1½	Straight, densely spined.	".....	6	Fairly "
Long Green.....	" 21	7½	2	Straight, sparsely spined.	".....	12	" "
Cool and Crisp.....	" 21	8	2½	Tapering at neck, heavily spined.	".....	10	" "
Extra Early Long Green.....	" 21	8	2½	Straight, prominent spines.	Very good.....	10	Very "
Albino.....	" 22	6	2½	Straight, sparsely spined.	Good.....	10	Fairly "
Livingstone's Emerald.....	" 22	8	2	Straight, densely spined.	".....	11	" "
Nichol's Medium Green.....	" 23	5	2½	Straight, sparsely spined.	".....	8	Very "

# Experimental Farms.

## TEST OF VARIETIES OF CUCUMBERS—*Concluded.*

Name of Variety.	Ready.	Average Length.	Diameter.	Shape.	Flavour.	Average Weight.	Productiveness.
		in.	in.			oz.	
Paris Pickling . . . . .	Aug. 23	9	2	Heavily spined, twisted and corrugated.	Good . . . . .	7	Very productive.
Giant Pera . . . . .	" 24	14	2½	Straight, smooth.	Excellent . . . . .	18	" "
Japanese Climbing . . . . .	" 25			This was unfortunately so mixed in type that no conclusions could be drawn.			
Giant White . . . . .	" 25	11	2½	Twisted at neck, densely spined.	Very good . . . . .	12	Not productive.
New Model . . . . .	" 27	12	2	Straight, black spines.	" . . . . .	14	" "
Serpent . . . . .	" 30	24	1	Crooked and pubescent.	Not palatable.	18	" "
Pride of Canada . . . . .				} Did not germinate.			
Short Prickly . . . . .							

List of varieties specially suitable for :—

SLICING.	PICKLING.	VARIETIES NOT RECOMMENDED.
White Wonder.	Early Cluster.	Giant White.
White Spine.	Short Green Gherkin.	New Model.
Cool and Crisp.	Early Russian.	Japanese Climbing.
Extra Early Long Green.	Paris Pickling.	
Giant Pera.		
Long Green.		

## POTATOES—Test of Various Divisions of.

Size of Division.	Percentage of Germination.	Weight Planted.	Weight of Large Harvested.	Weight of Small Harvested.	Total Weight.	Form of Tubers.
	p. c.	Ozs.	Lbs.	Lbs.	Lbs.	
Large, whole . . . . .	100	26½	9	3½	12½	Irregular.
Whole, minus ends . . . . .	100	16	8	3½	11½	Fairly regular.
Whole, small . . . . .	100	7½	10	1½	11½	Very good sample.
Seed ends only . . . . .	96½	1½	6	½	6½	Fairly regular.
Two eyes together . . . . .	73½	3½	6	½	6½	Regular.
Three " . . . . .	89½	4½	7	½	7½	Good sample.
Four " . . . . .	86½	6½	7	½	7½	Irregular.
One eye separate . . . . .	36	1½	16½	1	17½	" "
Two eyes " . . . . .	10	4	9	1	10	Fairly regular.
Three " . . . . .	23½	5½	7½	½	8½	" "
Four " . . . . .	23½	6½	13½	1	14½	Irregular.



In the foregoing table the low percentage of germination in the small divisions show that these would not be as reliable during a dry season, the greater portion of them dying from dry rot, a fact proven by examination. On the other hand, the small sets which came to maturity, show by their comparatively heavy returns, that, in a moist season, they would probably have headed the list.

The Large whole potatoes, did not give a corresponding yield to the weight of tubers planted, and the result points to the inadvisability of planting very large sets. Small whole potatoes were more satisfactory, and give promise of furnishing in a favourable season means of disposing of some unmarketable potatoes. The result from seed ends only shows the error of a prevalent theory held in this vicinity, as to their worthlessness for seed purposes. Though the returns from these are not high, the fairly regular appearance of the product clearly shows that this portion may be used to advantage.

ONIONS.

The most important point brought out in the onion tests, was the superiority of the transplanted product over that from outside sowing. The manner in which this work was done here was as follows : The seed was sown in boxes in a hot-bed on 7th April, and on 20th April, was transplanted into boxes, setting the plants about one inch apart each way. After a gradual hardening off, they were transferred to the open ground on 13th May, a small dibler being used for this purpose. A thorough watering at this time completed the operation, although the yield is increased by this method, it is doubtful if it would pay growers to adopt this plan generally, on account of the somewhat low prices obtained for the crop. The yield of onions on the whole, was below the average, and they were later in maturing on account of the exceptionally dry spring.

Extra Early Red was the earliest variety, and Adriatic White Barletta proved to be a first class pickler, producing about 60 per cent of small uniform bulbs. The following results were obtained.

ONIONS sown outside in rows 14 inches apart on 11th April.

Name of Variety.	Pulled.		Ripened.		Colour.	Shape.	Yield per Acre.
	1898.	1898.	1898.	1898.			
Extra Early Red.....	Sept. 20.....	Sept. 26.....	Red.....	Flat.....			339 $\frac{3}{4}$
Yellow Danvers.....	" 20.....	Oct. 5.....	Yellow.....	Globular.....			320 $\frac{1}{2}$
Adriatic White Barletta.....	" 20.....	Sept. 20.....	White.....	Pickling.....			153 $\frac{1}{4}$

ONIONS sown in hot-bed 7th April, transplanted into boxes 20th April, and planted outside 13th May.

Name of Variety.	Pulled.		Ripened.		Colour.	Shape.	Yield per Acre.
	1898.	1898.	1898.	1898.			
Extra Early Red.....	Sept. 15.....	Sept. 20.....	Red.....	Flat.....			390
Yellow Danvers.....	" 15.....	" 20.....	Yellow.....	Globular.....			365 $\frac{3}{4}$

PEASE.

The first five varieties in the following list, form a suitable succession of varieties for this province. Gradus and Prosperity are peas which are said to be earlier and better in quality than American Wonder. As tested here these two sorts seem to be identical.

## Experimental Farms.

The quality is certainly ahead of the American Wonder, but this advantage is offset by their lack of productiveness, and the fact of their being much later than American Wonder. All were sown in double rows, with hand-drill on 2nd May.

Name of Variety.	Ready.	Length of Pod.	Length of Vine.	No. of Peas in Pod.	Ratio of Productiveness.	Seed.
Alaska	July 10.	2 inches.	14 inches.	4-5	5	Ripened.
Nott's Excelsior	" 8.	2½ "	8 "	5-6	10	"
Horsford's Market Garden	" 18.	4 "	24 "	8-9	10	"
*American Wonder						
Shropshire Hero	July 30.	4 inches.	18 inches.	7-8	10	Ripened.
Gradus	" 18.	4 "	18 "	5-6	5	"
Prosperity	" 18.	4 "	18 "	5-6	5	"

\* Similar to Nott's Excelsior.

### BEANS.

Four varieties were sown on 21st May, in rows 2½ feet apart, and the result of the test is given below.

Name of Variety.	Ready.	Length of Pod.	No. of Beans.	Productiveness.	Seed.
Giant Dwarf Wax	August 15.	6½ inches.	4 inches.	Very	Ripened.
Wardwell's Kidney Wax	" 20	7 "	5 "	Fairly	"
Golden Wax	" 15.	6 "	4 "	Very	"
Flageolet Scarlet Wax	" 23.	7 "	5 "	"	"

### CORN.

As will be seen from the following tabulated result, Cory corn from seed ripened here last season, was ready for use a few days earlier than from the imported seed. Attention is also called to the Improved Squaw Corn, as being a valuable variety for Manitoba. Sown on 21st May in rows 3 feet apart.

Name of Variety.	Ready.	Variety.	Length of Ear.	Flavour.	Seed.
Cory (Own Seed, 1897)	Aug. 23.	Dent	6½	Good	Partially ripened.
" imported	" 27.	"	6½	"	"
Improved Squaw	" 18.	Flint	7½	Fair	Ripened.

### RADISH.

Two varieties of radish were sown on 25th April, viz. : Scarlet Olive Shaped and Brightest Long Scarlet, and were ready for use respectively on 3rd and 5th June. The unusual long period intervening between these dates, was occasioned by the very dry spring, which prevented prompt germination. Both were excellent varieties.

## PARSNIPS.

The yield of parsnips was considerably above the average this season. The only variety tested was the Hollow Crown.

## TOMATOES.

Three varieties of tomatoes were tested, and, none produced ripe fruit. The reasons assigned for this were, the imperfect fertilization of the early blossoms, coupled with the cool fall weather.

## SQUASH.

We were favoured with an abundant crop of this vegetable, the yield and quality being exceptionally high. The variety known as Extra Early Orange Marrow deserves special mention as useful for Manitoba. It is very prolific, ripens early, and can be used either as a vegetable or for pies, making a pie quite equal to the pumpkin. This makes it very desirable, as the average season will not produce ripe pumpkins here except in very limited quantity. The outer color of this squash is a deep orange, and the flesh a clear lemon yellow. The bush varieties of squash have again shown their value in this province, and their superiority over most of the running forms.

## LETTUCE.

Two varieties of lettuce were sown. Toronto Gem and Self Folding Cos on 11th April. On account of the dry spring, they were very late in arriving at maturity. A test has been made of fall sowing this season, and in this way we hope to have early lettuce next spring.

## CAULIFLOWER.

Early Snowball, Large Erfurt and Autumn Giant, were the three varieties tested this season, and as in previous years, the first named was by far the best variety. Autumn Giant is too late for this vicinity, the heads not forming before frost.

## CARROTS.

Carrots were only a fair crop this season, occasioned, principally, by delayed germination caused by the dry spring weather. Chantenay, Peer of All and Coreless, were the varieties tested. Chantenay headed the list, in shape flavour and yield.

## TURNIPS

Two varieties of garden turnips were sown, viz. : Extra Early Milan and Hazard's Swede. There was evidently an error in the name of the latter, as there was no similitude between Hazard's Swede as previously grown here, and that grown this season. Both were early garden strap-leaved turnips, and did not remain palatable for any length of time.

## TOBACCO.

The variety grown this year was Connecticut Seed Leaf, and being a fairly early kind, it was hoped that ripened leaves would be harvested. The coolness of the season, however, prevented this, and the plants were frozen whilst in a green stage.

## Experimental Farms.

### ASPARAGUS.

Asparagus continues to give satisfaction. All varieties under cultivation, are in good condition, and improving yearly. This vegetable requires very little attention, and is a strong and free grower and one of the most acceptable delicacies of its season for the table.

### MUSK MELON.

Three varieties of melons were tested: Yellow Cantaloupe, Banquet and McCotter's Pride. None produced ripe fruit, Yellow Cantaloupe approaching nearest to ripeness.

### CELERY.

Four varieties of celery were tested this season, viz.: White Plume, Imperial, Giant Pascal and London Prize Red, and all grew well. Hilling was accomplished by using drain tiles, no soil being thrown up whatever. The product was well blanched, and of excellent flavour and more crisp than any previously grown here by the soil-hilling process. Celery growers would do well to give this method a trial.

### THE FLOWER GARDEN.

The flower garden during the past season was an unqualified success, and the profusion of bloom during the summer months, attracted much attention from visitors. The mixed border was especially admired, the combination of the various colours of annuals and perennials forming a very pleasing picture. One of the most noticeable of the new varieties of annuals tested was *Chrysanthemum inodorum plenissimum*, a very free blooming double white variety, and hardy enough to continue in bloom for a considerable time after frost. It possesses a special value as a cut flower, on account of its long slender stems, and keeping qualities.

Asters, we regret to say, were again a decided failure, and produced about 90 per cent of deformed blossoms. Unless a remedy for this disease is found it may be better to discontinue the cultivation of this hitherto most valuable annual. The herbaceous perennials made a good showing, and attention is called to some of the more recent introductions at this farm on a later page.

Following is a list of the annuals tested. They were sown in boxes in hot-bed 11th April, transplanted 18th to 25th April, and planted outside 7th to 14th June.

Name of Variety.	Flowering Period.
Asters (7 types).....	July 15 to frost.
<i>Phlox Drummondii</i> .....	June 15 "
<i>Verbena auriculiflora</i> .....	" 18 "
<i>Salpiglossis variabilis</i> .....	" 30 "
<i>Zinnia elegans</i> .....	" 15 "
<i>Antirrhinum</i> Queen of North.....	" 25 "
" Half High.....	" 25 "
" Tom Thumb.....	" 25 "
Stocks (3 types).....	" 14 "
<i>Petunia</i> , Double.....	" 25 "
" Single.....	" 15 "
<i>Gaillardia grandiflora</i> <i>Hybrida</i> .....	Aug. 12 "
" <i>picta</i> .....	June 25 "
" <i>Lorenziana</i> .....	" 25 "
<i>Chrysanthemum inodorum plenissimum</i> .....	" 20 "
<i>Nigella damascena alba</i> .....	" 20 "
<i>Acrotinium roseum</i> .....	" 7 "
<i>Datura Henherriana</i> .....	July 20 "
<i>Brachycome iberidifolia</i> .....	June 15 "

The following annuals were sown outside on 26th May, 1898, and not transplanted.

Name of Variety.	Flowering Period.
<i>Poppies Peony</i> flowered.....	June 20 to frost.
" The Shirley .....	" 20 "
<i>Mignonette</i> mixed .....	" 25 "
<i>Nasturtium Dwarf</i> .....	July 5 "
<i>Portulaca</i> mixed .....	" 20 "
<i>Linum roseum</i> .....	June 30 "
<i>Godetia</i> mixed .....	July 5 "
<i>Calliopsis</i> mixed .....	June 30 "
Sunflower Dwarf .....	" 25 "
Sweet Peas mixed .....	July 15 "

#### HERBACEOUS PERENNIALS.

On page 352 of last year's report, a list of perennials was given, which had withstood one winter only, and whose hardiness could not be positively stated. Following is a list of those varieties which have withstood the winter of 1896-97, and may perhaps be accounted hardy for this province.

- |                                     |  |
|-------------------------------------|--|
| 1. <i>Lychnis Haageana</i> Hybrids. | 7. <i>Gypsophila paniculata</i> .      |
| 2. <i>Hemerocallis flava</i> .      | 8. <i>Asclepias tuberosa</i> .         |
| 3. <i>Hesperis matronalis</i> .     | 9. <i>Stenactis speciosa</i> .         |
| 4. <i>Polemonium reptans</i> .      | 10. <i>Alyssum argenteum</i> .         |
| 5. <i>Baptisia australis</i> .      | 11. <i>Lychnis Chalcedonica alba</i> . |
| 6. <i>Orobus lathyroides</i> .      |  |

The varieties mentioned on page 352 of last year's report, some of which date back from 1893, are alive with one exception, viz.: *Anthemis coronaria*, which died during the past winter.

Of the roses mentioned on page 353 of last year's report, the following are alive at this date (November, 1898):

1. Baron Prevost, flowered 1898.
2. Mad. Plantier, did not flower.
3. Gem of Prairies, do
4. From A. P. Stevenson, Nelson, flowered 1898.

All of the above have made excellent growth during the past season, and are in good condition for winter.

#### HYACINTHS.

The hyacinths mentioned in last year's report as having survived the winter of 1896 by heavy covering, came through last winter with the aid of an ordinary manure mulch.

#### COLLECTION OF HERBACEOUS PERENNIALS.

This collection has been added to considerably, and now comprises a large number of species and varieties. A number of native perennials, which were located during the summer, have been lifted this fall, and will be planted in the spring.

#### *Iris Hispanica.*

This beautiful iris has, in all previous tests, succumbed to the severity of our winters. Last fall, one bulb each of 10 varieties, was planted, and protected in a simi-

## Experimental Farms.

lar manner to the Hyacinths, tar-paper, and a very heavy covering of manure being given. All came up in the spring and flowered well thus showing that by heavy covering, these bulbs may be successfully cultivated in Manitoba.

Twenty-five varieties of *Japanese Iris* (*Iris Kœmperi*), and 14 varieties of *Japanese Peonies*, were received from the Central Farm in the fall of 1897, and planted in the collection of Perennials. All came through alive last spring, and some of the Irises flowered, making a valuable acquisition to the stock of Perennials.

The following plants were received from the Central Farm on July 25th, 1898. As fall planting has proven unsatisfactory, these were put into a cold frame on arrival, and will be transferred to permanent location in the spring.

<i>Iris amoena</i> Verschur. " <i>plicata</i> Gisele. " <i>squalens</i> Tristesse. " <i>neglecta</i> Salvatori. " <i>squalens</i> Tarquin. " <i>variegata</i> Coquette. " <i>plicata</i> Lord Seymour. " <i>Florentina</i> . " <i>variegata</i> Henry Havard. " " Souvenir. <i>Polemonium reptans</i> . <i>Doronicum plantagineum excelsum</i> . <i>Achillea millefolium rubrum</i> . <i>Phlox subulata</i> Newry Seedling. " <i>decussata</i> Dwarf white.	<i>Campanula Carpatica</i> . <i>Ajuga genevensis</i> . <i>Achillea ptarmica</i> fl. Pl. <i>Lysymachia Clethrifolia</i> . <i>Epimedium rubrum</i> . <i>Spiraea venusta</i> . " <i>ulmaria</i> . <i>Rudbeckia laciniata</i> . <i>Hemerocallis graminæifolia</i> . " <i>Kwanso</i> fl. Pl. " <i>disticha</i> . " <i>Dumortieri</i> . " <i>fulva</i> . " <i>Thunbergii</i> .
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### LILIES.

The following lilies were received from the Central Farm in 1897, and planted in the collection of Herbaceous Perennials. All came through the winter, and two flowered. This is a valuable addition to the list of perennials here, no special covering was used for protection.

<i>Lilium davuricum</i> Sappho. " <i>elegans transiens</i> . " <i>callosum</i> . " <i>Leichtlinii</i> " <i>Hansonii</i> .	<i>Lilium Kamschatkensis</i> . " <i>elegans fulgens</i> Batemani. " <i>Concolor</i> . " <i>Krameri</i> .
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Ninety-three varieties of Perennial Flower seeds were received from the Central Farm at Ottawa during the winter of 1897. These were sown in seed beds in the spring of 1898, and 38 varieties germinated. As these seeds were gathered from plants growing at the Central Farm, it may be presumed that the low germinating power was caused by their not being fully ripened.

### DISTRIBUTION OF SEED GRAIN, POTATOES, &c.

The distribution of both three-pound samples and larger lots of grain has increased this year, and many favourable reports have been received from parties supplied.

The following quantities were sent out to applicants:—

Wheat, two bushels or more . . . . .	16
Oats " " . . . . .	7
Barley " " . . . . .	37
Grain of all kinds in three-pound bags . . . . .	361

## DISTRIBUTION OF POTATOES, &amp;c.

Potatoes in three-pound bags.....	129
Maple seed, one pound “.....	165
Flower seed, packages.....	121
Rhubarb roots, “.....	71
Vegetable seed, “.....	46
Perennial flowering plants, packages.....	79
Trees and cuttings, packages.....	1,237

## NEW BREAKING.

The thirty-seven acres of new breaking mentioned on page 354 of last year's report gave a very satisfactory crop, a portion of it yielding sixty-three bushels of barley per acre; evidently disc-harrowing of tough sod after backsetting is a benefit.

During the past summer thirty-five additional acres have been broken and backset; thirteen acres of this was an old pasture field of native sod where the grass was nearly run out. It is proposed to use this field for grain for two or three years, and then seed it down again to grass.

## BUILDINGS.

No new buildings have been erected during the past year, but the barn and driving shed have been repainted, and transom windows placed over the doors of the cattle and horse barn. This latter improvement provides for much better ventilation.

## BARN-YARD MANURE.

Many farmers complain of inability to properly rot barn-yard manure in this country. Several hundred loads of excellent manure is made on this farm each year, and successfully rotted by the following method:—

The long, strawy manure, fresh from the stable, is drawn into a depression situated a short distance from the barn, and spread in layers about a foot thick, care being taken that the pile is commenced early in the fall, so as to start fermentation before very cold weather sets in. As the snow drifts on manure it is melted by the heat produced from the fermentation, and this aided by the rains of summer thoroughly saturate the pile, and in the following fall the manure is so well rotted that it can be cut with a spade; whereas if left in a conical pile above the surface of the ground in the dry seasons, which prevail here, it will often dry out and fail to ferment.

Experiments have been tried here with fresh manure, drawing it directly from the barns to the field, but so far this plan has proved a failure, the manure dries up and fails to rot, and is in that shape difficult to plough under.

Better success has been had with such manure when cut straw has been used for bedding, but it was found that more straw was required when this plan was adopted, and that it entailed a great deal of extra labour.

## FARMERS' MEETINGS.

Work in this connection has increased very much of late years, and as many meetings are attended as is practicable with the limited time at my disposal. It is not possible to accept nearly all the invitations received to speak at farmers' gatherings.

## Experimental Farms.

Since my last report twenty-five meetings have been attended, many of the places mentioned in the following list were visited in succession during the one trip, thus saving both time and money. The average attendance was larger than usual this year.

Jan. 31, Bird's Hill, Feb. 1, Kildonan, " 2, Morris, " 3, St. Jean Baptiste, " 4, Manitou, " 5, Nelson, " 12, Wawanesa, " 18-19, Winnipeg, " 22, Oak Lake, " 24, Virden, " 25, Elkhorn, March 1, Oak River,	March 1, Arrow River, " 2, Birtle, " 4, Neepawa, " 9, Oak Lake, " 10, Elkhorn, " 16, Portage la Prairie, June 28, Souris, " 28, Pipestone, " 29, Hartney, " 30, Melita, July 1, Deloraine, " 7, Brandon, June 28, Reston.
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## METEOROLOGICAL RECORD.

Month.	Highest Temperature.	Lowest Temperature.	Total Rainfall.	Depth of Snowfall.	Total Amount of Sunshine.
			Inches.	Inches.	Hours.
1897.					
November .....	57° above zero on 2nd.....	26° below zero on 27th.....		20½	107 <sup>4</sup> / <sub>10</sub>
December .....	36° " 28th.....	30° " 18th.....		6½	90 <sup>0</sup> / <sub>10</sub>
1898.					
January.. .....	30° " 5th.....	26° " 31st.....		11½	120 <sup>4</sup> / <sub>10</sub>
February.. .....	38° " 12th.....	32° " 18th.....		12½	127 <sup>0</sup> / <sub>10</sub>
March.....	36° " 12th.....	19° " 22nd.....		2½	130 <sup>0</sup> / <sub>10</sub>
April.....	81° " 26th.....	2° above zero on 2nd.....			217 <sup>0</sup> / <sub>10</sub>
May.....	87° " 24th.....	21° " 11th.....	¼	½	264 <sup>0</sup> / <sub>10</sub>
June.....	95° " 18th.....	29° " 14th.....	3½		190 <sup>0</sup> / <sub>10</sub>
July.....	93° " 13th.....	39° " 31st.....	5½		253 <sup>0</sup> / <sub>10</sub>
August.....	88° " 19th.....	33° " 12th.....	2½		249 <sup>0</sup> / <sub>10</sub>
September.....	89° " 27th.....	25° " 9th.....	2½		186 <sup>0</sup> / <sub>10</sub>
October.....	55° " 11th.....	9° " 30th.....	2½	2½	90 <sup>0</sup> / <sub>10</sub>
	Total, 1898.....		16½	56½	2,029 <sup>4</sup> / <sub>10</sub>
	" 1897.....		6½	75½	1,968 <sup>0</sup> / <sub>10</sub>

## CORRESPONDENCE.

The correspondence of this office again shows an increase. This year 4,670 letters were received, and 3,584 dispatched, irrespective of 1,804 circulars sent out.

I have the honour to remain, sir,  
Your obedient servant,

S. A. BEDFORD,  
*Superintendent.*





## Experimental Farms.

# EXPERIMENTAL FARM

FOR THE

## NORTH-WEST TERRITORIES

REPORT OF A. MACKAY, SUPERINTENDENT.

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EXPERIMENTAL FARM, INDIAN HEAD, N.W.T.,  
30th November, 1898.

To WM. SAUNDERS, Esq.,  
Director Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit herewith to you the eleventh annual report of the operations on the Experimental Farm for the North-west Territories at Indian Head, Assiniboia, during the year 1898.

The past season has been one of bright promises and fair fulfilment. Last winter, like that of 1896-7, was fine; snow was abundant and cold not excessive. The spring, however, was backward and a cold snap following a heavy fall of snow in the latter part of March and first week of April was the cause of considerable loss to stockmen throughout the Territories.

Spring opened about the middle of April and the weather continued fine until seeding was completed.

Some districts had sufficient moisture to cause early and even germination of the seed: others, however, were lacking in this respect but rains later on made up the deficiency in time to ensure a fair and in many cases a good crop.

Winds, though by no means entirely absent, were not very troublesome during the growing season and the loss from this source was small in comparison with that of previous years.

Rains, during the months of May and June, were sufficient to cause satisfactory growth, except in a few districts where the rainfall was below the average, but the heavy downpour necessary to rush the growth was absent until about the middle of July. The grain received a set-back during this month by a week of excessively hot weather but was saved from serious injury by subsequent heavy rains. In addition to the excessive heat and heavy rains in the month of July, there were several drops in the temperature which came dangerously near the freezing point and in some instances caused the grain to be blighted.

Harvest, however, came early with a promise of exceptionally good yields in nearly every district throughout the Territories. The harvest was a tedious one on account of the heavy and continuous rainfall, and it is safe to say that in no previous year in the grain growing history of the country has there been witnessed such a long period of rain and unfavourable weather during the usually fine months of September and October.

Never before has the land been so wet in the fall and in no previous year have the farmers been at so much trouble and expense in securing their crops. While all found it a tedious and expensive undertaking, many rushed the stacking and where this part of the work was well done were safe; others, however, risked threshing from the stook and have paid the penalty in delayed threshing and lower grades, if not seriously damaged grain.

Weeds, especially lamb's quarters (*Chenopodium album*) were more numerous than ever and in many cases were the cause of considerable loss to grain-growers. The more dangerous varieties such as Stink Weed (*Thlaspi arvense*), Tumbling Mustard (*Sisymbrium altissimum*) and Hare's Ear Mustard (*Conringia orientalis*) are extending in all directions. It is, however, gratifying to note the increased amount of attention they are receiving at the hands of individual farmers, Municipal Councils and the North-west Government.

The crops on the Experimental Farm have, with the exception of the hay crop, been very satisfactory. Wheat, oats, barley and pease gave excellent yields. The samples of some varieties of wheat and oats are not equal to those of last year while others are better. Roots and vegetables, especially potatoes, gave good yields and were of excellent quality.

The exceedingly dry fall of 1897 and an insufficiency of moisture early this spring combined to cause a light crop of hay. This fall, however, a good crop of pasture has been produced by the heavy rains, and with the present wet condition of the ground a good crop of hay is looked for next year.

Fruits of both wild and cultivated varieties were a poor crop. Frost in May ruined the blossoms of everything except red and white currants, raspberries and gooseberries. Native fruits were very scarce in many localities, while in others raspberries were an abundant crop.

Needless to say, with the overabundance of rain, trees made a most vigorous growth. Whether the growth has been too vigorous or has extended too late in the season, cannot be determined till next spring. It is probable, however, that such has been the case and that many varieties of trees will suffer greatly through the action of frost on the imperfectly matured wood.

Cattle throughout the Territories have done exceedingly well the past season. While many came through last winter very thin, the abundance of pasture during the grazing season has put all in good condition. Flies were less troublesome than usual. Good prices have been obtained for export beef and on local markets.

#### EXPERIMENTS WITH SPRING WHEAT.

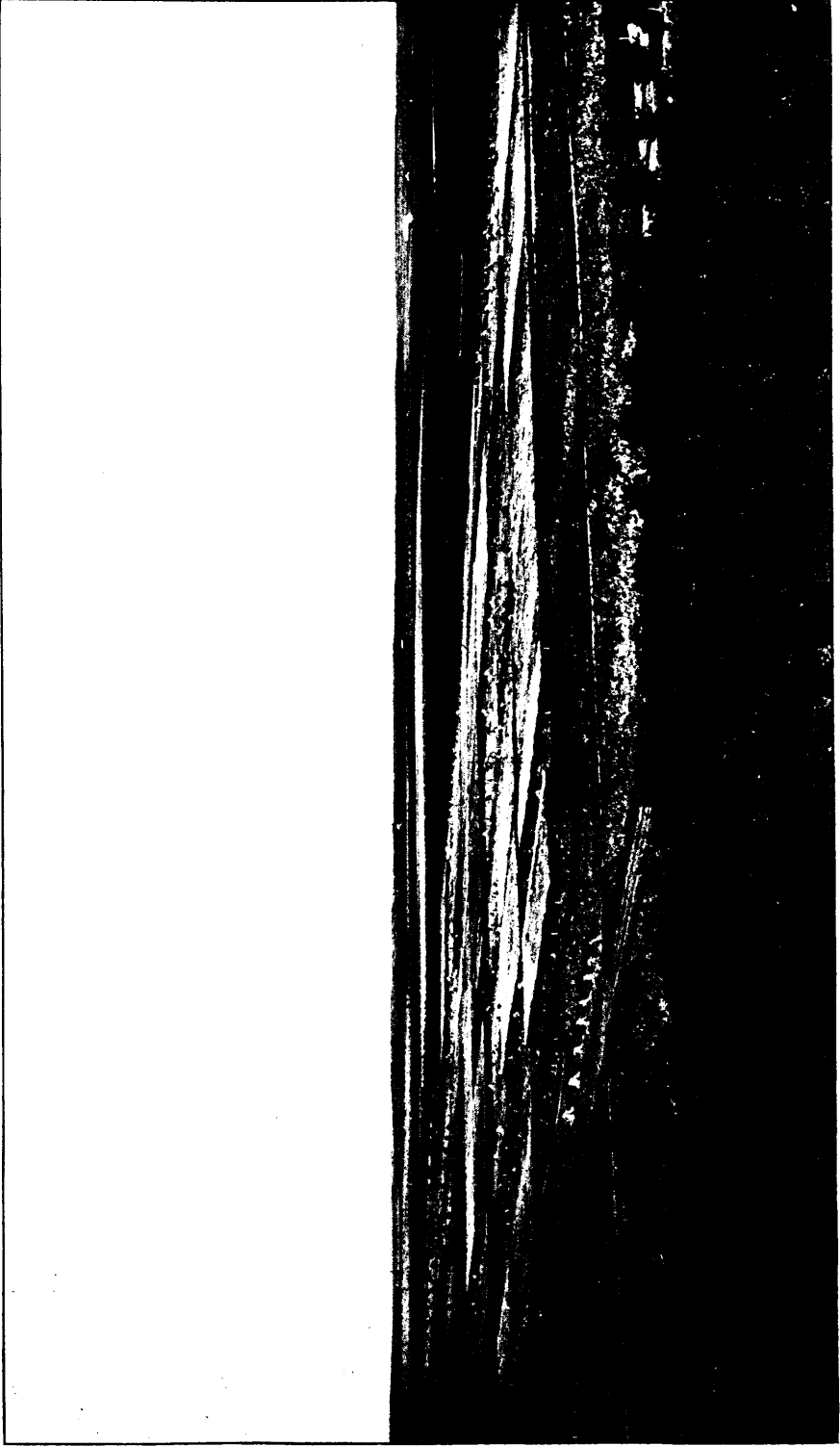
Forty-two varieties of wheat were tested in  $\frac{1}{10}$ th acre plots, eight of the same varieties again on plots of one acre each, and six varieties on fields of from two to six acres.

#### RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

Red Fife and Stanley were used in this test. The soil was clay loam. The land had been fallowed in 1897 and was in good condition when sown. The seed was sown by hoe-drill, at rate of one and one-half bushels per acre. The first plots were sown on 16th April and six successive sowings were made one week apart, the last plots being sown on 21st May. All seedings came up evenly and ripened and were harvested in the order sown.

The first three seedings of both varieties gave the highest yield and were much superior in quality to the later plots. The result of the test is practically the same as in 1896 and 1897.

The crops from the last two seedings of Red Fife and the last seeding of Stanley were quite green when frost came on 8th September, and although the yield was not effected, the sample was more or less damaged. There was no rust on any of these plots.



General view of Experimental Farm at Indian Head, N. W. T., showing Experimental Plots and Fields of grain.

# Experimental Farms.

## WHEAT—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre	Yield per Acre.	Weight per Bushel.
				Inches.		Inches.		Lbs.		
Red Fife . . . . .	Apl. 16.	Aug. 22.	129	34	Strong .	3	Bald . . .	3,300	45	64
" . . . . .	" 23.	" 28.	126	36	" . . . .	3	" . . . .	3,850	42 30	63½
" . . . . .	" 30.	Sept. 2.	126	41	" . . . .	3	" . . . .	4,110	43 10	64
" . . . . .	May 7.	" 5.	122	42	" . . . .	3	" . . . .	3,270	40 30	63¾
" . . . . .	" 14.	" 5.	115	44	" . . . .	3	" . . . .	3,500	40 50	60½
" . . . . .	" 21.	" 9.	112	43	" . . . .	3	" . . . .	5,180	44 30	59
Stanley . . . . .	Apl. 16.	Aug. 19.	126	39	" . . . .	3½	" . . . .	4,090	41 50	63
" . . . . .	" 23.	" 23.	123	38	" . . . .	3½	" . . . .	3,400	35	62½
" . . . . .	" 30.	" 26	119	38	" . . . .	3½	" . . . .	3,790	36 50	62
" . . . . .	May 7.	Sept. 3.	120	43	" . . . .	3½	" . . . .	4,120	33 50	63¼
" . . . . .	" 14.	" 5.	115	44	" . . . .	3½	" . . . .	4,180	32	63
" . . . . .	" 21.	" 9.	112	43	" . . . .	3½	" . . . .	4,060	30 40	59½

## WHEAT—TEST OF VARIETIES ON FIELDS OF ONE TO SIX ACRES.

As heretofore, in these tests the more promising varieties of wheat grown in previous years were sown in field lots, not only to test the grain on larger areas, but for the purpose of obtaining seed in quantities for distribution of samples and for sale for seed.

The plot of Hungarian wheat was in a low portion of the field, and suffered in yield and sample from a cold wave in August.

The soil was clay loam; the seeding was done by hoe-drill at the rate of one and one-half bushels per acre in all cases. The 8 acres of Red Fife was on summer-fallowed land; the 4 acres was sown after roots, and the 1½ acres on Brome grass sod broken and back-set.

## WHEAT—FIELD LOTS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.	Yield per Acre.	Weight per Bushel.
				Ins.	Ins.				
8 acres Red Fife . . . . .	April 16.	Aug. 26.	133	34	3	Bald . . . .	4,000	32 7	62½
4 " " . . . . .	" 15.	" 20.	128	30	3	" . . . .	3,820	24	62½
1½ " " . . . . .	" 16.	" 19.	126	28	3	" . . . .	3,300	20	62½
1½ " Hungarian . . . . .	" 19.	" 29.	133	34	3	Bearded . .	4,110	34 50	61
4 " Preston . . . . .	" 19.	" 24.	128	36	3½	" . . . .	4,630	32 30	63
4 " Wellman's Fife . . . . .	" 18.	" 31.	136	39	3½	Bald . . . .	4,800	29 45	62½
2 " Stanley . . . . .	" 19.	" 29.	133	36	3½	" . . . .	4,720	28	62½
2 " Percy . . . . .	" 19.	" 29.	133	36	3½	" . . . .	4,300	25	62½

## WHEAT—ACRE PLOTS.

Red Fern . . . . .	April 19.	Aug. 29.	133	42	3½	Bearded . .	4,950	39 15	62
White Connell . . . . .	" 19.	" 31.	135	40	3	Bald . . . .	4,200	34 23	62½
White Russian . . . . .	" 19.	" 31.	135	40	3½	" . . . .	4,330	30 43	62½
Herisson Bearded . . . . .	" 19.	" 31.	135	38	2	Bearded . .	3,750	29	62
Beauty . . . . .	" 19.	" 29.	133	40	3½	Bald . . . .	3,570	28 40	61
White Fife . . . . .	" 19.	" 31.	135	40	3½	" . . . .	4,200	28 30	63
Dawn . . . . .	" 19.	" 29.	133	34	2½	" . . . .	3,110	26 5	61

SPRING WHEAT—TEST OF VARIETIES IN UNIFORM PLOTS.

Forty-two varieties were sown on April 21 on  $\frac{1}{10}$ th acre plots of summer-fallowed land, by hoe-drill, 3 inches deep, and at the rate of one and one-half bushels of seed per acre. The soil was clay loam. The crop of straw was not excessive on any of the plots, and the yield of grain was rather better than last year. Some of the samples, however, were not so good, caused, no doubt, by the hot weather in July. There was no rust on any of these varieties.

SPRING WHEAT.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre	Yield per Acre.		Weight per Bushel.
								Bush	Lbs.	
			Ins.		Ins.		Lbs.	Bush	Lbs.	Lbs.
White Fife.....	Sept. 3..	136	36	Strong...	3	Bald.....	4,020	45	30	62
Percy.....	Aug. 23..	125	34	Medium...	2 $\frac{1}{2}$	".....	3,930	45	20	63
Red Fife.....	Sept. 3..	136	37	Strong...	3 $\frac{3}{4}$	".....	4,490	44	20	63
Monarch.....	Aug. 26..	128	34	Medium...	2 $\frac{3}{4}$	".....	4,200	43	20	63 $\frac{1}{4}$
Stanley.....	" 23..	125	34	Strong...	3 $\frac{3}{4}$	".....	3,410	43	10	63
Wellman's Fife.....	Sept. 3..	136	36	".....	3	".....	3,510	43	10	62
White Connell.....	" 2..	135	37	".....	3	".....	4,840	42	30	63
Captor.....	Aug. 26..	128	36	".....	3	".....	4,090	42	30	63 $\frac{1}{4}$
White Russian.....	Sept. 3..	136	41	".....	3 $\frac{1}{2}$	".....	4,650	42	20	61
Preston.....	Aug. 26..	128	34	".....	3	Bearded..	4,360	42	10	63
Crown.....	" 25..	127	36	".....	3	Bald.....	4,670	41	20	63 $\frac{1}{2}$
Progress.....	" 23..	125	34	Medium...	3	".....	4,680	40	20	62 $\frac{1}{2}$
Campbell's White Chaff.....	" 25..	127	36	Strong...	2 $\frac{3}{4}$	".....	5,270	39	40	63
Dion's.....	Sept. 5..	138	41	".....	3 $\frac{1}{2}$	Bearded..	4,920	39	40	62
Emporium.....	Aug. 26..	128	40	".....	3 $\frac{3}{4}$	".....	4,070	38	50	62
Beauty.....	" 25..	127	36	Weak.....	3 $\frac{1}{2}$	Bald.....	4,330	38	40	62
Advance.....	" 26..	128	38	Strong...	3 $\frac{1}{2}$	Bearded..	4,830	38	40	61
Blenheim.....	" 26..	128	38	".....	3	".....	3,510	37	20	61 $\frac{1}{2}$
Black Sea.....	" 23..	125	36	".....	2 $\frac{3}{4}$	".....	3,550	36	40	62
Rio Grande.....	" 27..	129	38	".....	2 $\frac{3}{4}$	".....	3,920	36	20	60 $\frac{1}{4}$
Red Fern.....	Sept. 5..	138	40	".....	3 $\frac{1}{2}$	".....	4,520	36	20	60
Old Red River.....	Aug. 25..	127	36	".....	3	Bald.....	3,680	36	10	63
Beaudry.....	" 26..	128	39	Weak.....	2 $\frac{3}{4}$	Bearded..	3,950	35	50	61
Dawn.....	" 23..	125	32	".....	2 $\frac{1}{2}$	Bald.....	3,020	35	30	63
Dufferin.....	" 26..	128	32	".....	2 $\frac{1}{2}$	Bearded..	3,200	35	..	62 $\frac{1}{2}$
Hungarian.....	" 23..	125	35	Strong...	2 $\frac{3}{4}$	".....	2,420	34	40	61
Vernon.....	Sept. 5..	128	36	".....	2 $\frac{1}{2}$	".....	4,000	34	30	58 $\frac{1}{2}$
Admiral.....	Aug. 25..	127	38	".....	3 $\frac{1}{4}$	".....	4,140	34	20	63
Goose.....	" 26..	128	36	Medium...	2 $\frac{3}{4}$	".....	3,360	34	20	63
Rideau.....	" 26..	128	34	".....	3	Bald.....	2,160	34	..	60 $\frac{1}{2}$
Golden Drop.....	" 25..	127	36	Strong...	2 $\frac{1}{2}$	".....	3,950	33	30	62 $\frac{1}{2}$
Countess.....	" 23..	125	33	Weak.....	2 $\frac{1}{2}$	".....	3,190	32	40	62
Huron.....	" 25..	127	38	Strong...	3 $\frac{1}{4}$	Bearded..	2,600	32	30	63 $\frac{1}{2}$
Pringle's Champlain.....	" 23..	125	33	".....	3 $\frac{1}{4}$	".....	2,590	31	50	64
Alpha.....	" 23..	125	36	".....	3	".....	2,740	31	..	63 $\frac{1}{2}$
Blair.....	" 24..	126	31	Medium...	2 $\frac{1}{2}$	Bald.....	3,300	30	..	61
Herisson Bearded.....	" 26..	128	36	Strong...	1 $\frac{1}{2}$	Bearded..	3,170	28	50	63 $\frac{1}{4}$
Mason.....	" 19..	121	33	".....	2 $\frac{3}{4}$	Bald.....	3,460	27	20	63
Colorado.....	" 26..	128	36	".....	3	Bearded..	3,280	27	..	61
Harold.....	" 16..	118	32	Weak.....	2 $\frac{1}{2}$	".....	3,600	26	40	62
Ladoga.....	" 24..	126	36	Strong...	2 $\frac{1}{2}$	".....	3,380	23	40	60 $\frac{3}{4}$
Plumper.....	" 24..	126	32	".....	2 $\frac{1}{2}$	".....	3,500	21	40	61

## Experimental Farms.

**WHEAT.**—Test of sowing seed at different depths, sown by hoe-drill on fallow, April 22; soil, clay loam; plots,  $\frac{1}{10}$ th acre each; sown at rate of  $1\frac{1}{2}$  bushels per acre.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per Bush.	Proportion Rusted.
							Weight of Straw per Acre.	Weight per Bush.		
			In.		In.		Lbs.	Bush. Lbs.	Lbs.	
Red Fife, 1 inch deep . . .	Aug. 27	128	38	Strong.	3	Bald	4,440	35 10	61	No rust.
" 2 " " . . . . .	" 27	128	38	" "	3	" "	3,780	32 ..	61	"
" 3 " " . . . . .	" 27	128	38	" "	3	" "	4,060	34 ..	62	"

### AVERAGE crop for seven years.

Name of Variety.	1892.		1893.		1894.		1895.		1896.		1897.		1898.		Average.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Red Fife, 1 inch deep . . . . .									38	30	40		35	10	37	53
" 2 " " . . . . .	27	..	41	20	15	20	45	..	39	15	40	40	32	..	34	22
" 3 " " . . . . .	22	30	37	10	18	..	37	30	38	50	33	50	34	..	31	41

NOTE.—It will be noticed in the above that only three trials have been made of seeding one inch deep, and as the years in which the tests have been made were particularly favourable, on account of the large amount of rainfall, for this depth of seeding the average cannot be fairly compared with those of the deeper seedings.

**WHEAT.**—Test of sowing different quantities of seed per acre, sown April 22, on clay loam, summer-fallowed, by hoe-drill, 3 inches deep; plots,  $\frac{1}{10}$ th acre each.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per Bush.	Proportion Rusted.
							Weight of Straw per Acre.	Weight per Bush.		
			In.		In.		Lbs.	Bush. Lbs.	Lbs.	
Red Fife, 1 bush. per acre	Aug. 27	128	40	Strong.	3	Bald	5,000	34 50	62 $\frac{3}{4}$	No rust.
" $1\frac{1}{2}$ " " . . . . .	" 27	128	40	" "	3 $\frac{1}{2}$	" "	3,450	39 10	62	"
" $1\frac{3}{4}$ " " . . . . .	" 27	128	38	" "	3 $\frac{3}{4}$	" "	4,310	42 10	62	"

### AVERAGE crop for seven years.

Name of Variety.	1892.		1893.		1894.		1895.		1896.		1897.		1898.		Average.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Red Fife, 1 bush. per acre . . . . .	35	50	28	20	14	30	35	50	38	30	38	30	34	50	32	20
" $1\frac{1}{2}$ " " . . . . .	40	..	28	..	11	40	44	..	40	10	38	50	39	10	34	33
" $1\frac{3}{4}$ " " . . . . .	39	40	26	30	13	20	42	20	38	20	38	40	42	10	34	26

WHEAT.—Test of Press vs. Hoe-drill, sown April 22, on clay loam, summer-fallowed, at rate of 1½ bushels per acre; plots, 1<sup>10</sup>/<sub>10</sub>th acre each.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.	Yield per Acre.		Weight per Bush.	Proportion Rusted.
			In.		In.		Lbs.	Bush. Lbs.	Lbs.		
Red Fife, sown by press-drill.....	Aug. 24	125	37	Strong..	3	Bald..	3,440	42 40	63½	No rust.	
Red Fife, sown by hoe-drill.....	" 27	128	38	" ..	3	" ..	5,010	45 40	62¾	"	

AVERAGE crop for seven years.

Name of Variety.	1892.		1893.		1894.		1895.		1896.		1897.		1898.		Average.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Red Fife, press-drill.....	30	20	38	20	18	40	45	..	41	30	41	..	42	40	36	47
" hoe-drill.....	24	..	36	18	17	50	44	..	40	40	39	..	45	40	35	21

BLUESTONE AS A REMEDY FOR SMUT IN SPRING WHEAT.

In this test ordinary clean Red Fife seed and very smutty seed were used. The smutty seed was the product of very smutty seed sown without treatment the year previous, and was unfit for any purpose whatever.

Variety of Seed.	Condition of Seed.	Treatment.	Yield per Acre.	ON 25 SQ. FEET.	
				Good Heads.	Smutty Heads.
Red Fife .....	Clean seed....	Bluestoned, 1 lb. to 10 lbs .....	35 40	1,123	0
" .....	" .....	Untreated.....	35 ..	1,126	12
" .....	Smutty seed..	Bluestoned, 1 lb. to 10 lbs .....	31 10	1,137	34
" .....	" .....	Untreated.....	15 20	388	687

For the above test bluestone was dissolved and mixed with water at the rate of one pound to 2 pails of water. In this solution the seed was dipped. For smutty seed one pound of bluestone was used for six bushels: for clean seed one pound to ten bushels.

FALL WHEATS.

Nine varieties of fall wheat were sown in one of the hedged enclosures on the 21st of September, 1897. All the varieties were above ground when winter set in and came through the winter and spring safely. All made a rank growth and from the large heads formed gave promise of a very heavy yield. Rust, however, struck the straw when the heads were partially filled, causing a very light yield of very poor grain. The soil was clay loam, and the size of the plots 1<sup>10</sup>/<sub>10</sub>th acre each. A large snow bank cov-



## Experimental Farms.

ering the grain during the winter and the absence of severe spring frosts until the roots had become thoroughly established, accounts for this crop coming through the winter safely.

Name of Variety.	Date of Ripening.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.	Weight per Bushel.	Proportion Rusted.
		Inches.		Inches		Bush. Lbs.	Lbs.	
Diamond Grit .....	Aug. 19	44	Strong	3	Bearded..	9	57½	Badly rusted.
Dawson's Golden Chaff.	" 19	45	" ..	4	Bald .....	10 30	50	"
Early Arcadian .....	" 19	42	" ..	3	" .....	10 10	55½	"
Cony Amber .....	" 19	46	" ..	4½	" .....	9 30	54	"
Red Genessee Giant....	" 19	40	" ..	3	Bearded..	12	53	"
Bearded Winter .....	" 19	42	" ..	3½	" .....	12 10	54	"
Red Clawson .....	" 19	44	Medium	3½	Bald .....	15	58	"
Pride of Genessee....	" 19	45	" ..	3½	Bearded..	10	55½	"
New Longberry.....	" 19	45	" ..	3½	" .....	10 30	55½	"

### EXPERIMENTS WITH OATS.

The oat crop this year was not as heavy as that of 1897, caused by spring frosts which twice cut back the various plots, killing a very considerable number of the young plants of the more tender varieties. In several plots from one-third to one-half of the plants were destroyed. All the varieties were thus kept back and ripened much later than usual. In addition to this pigweed obtained a good start, and in several of the acre plots helped to decrease the yield.

The land sown to oats had all been summer-fallowed in 1897, which work consisted of one deep ploughing in May or early in June, and several surface cultivations during the growing season by means of which all weeds were kept in check.

#### TEST OF EARLY MEDIUM AND LATE SOWINGS.

Banner and Abundance oats were used in this test. The sowings were one week apart and continued from 23rd April to 28th of May. The soil was clay loam, and the size of the plots 1/10th acre each. The last sowing of Banner and the two last of Abundance were overtaken by frost before maturity, but as the grain was almost ripe very little shrinkage took place. There was no rust on any of these plots.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.	Yield per Acre.	Weight per Bushel.
				In.		In.		Lbs.	Bus Lbs	Lbs.
Banner .....	April 23	Aug. 22	122	48	Strong..	8	Branching	4,440	81 6	42
" .....	" 30	" 26	119	48	" ..	8	"	3,510	81 16	40½
" .....	May 7	Sept. 3	120	45	" ..	8	"	4,080	88 28	40
" .....	" 14	" 5	115	45	" ..	8	"	3,970	83 8	38
" .....	" 21	" 6	109	45	" ..	8	"	2,910	83 18	39
" .....	" 28	" 12	108	48	" ..	8	"	3,600	79 14	36
Abundance .....	April 23	Aug. 27	127	40	" ..	8	"	2,490	69 14	39
" .....	" 30	Sept. 3	127	42	" ..	8	"	3,390	64 14	41½
" .....	May 7	" 6	123	42	Medium	8	"	3,010	65 10	39
" .....	" 14	" 12	122	45	Weak..	8	"	3,280	88 8	38
" .....	" 21	" 12	115	46	" ..	8	"	3,950	85 10	38
" .....	" 28	" 12	108	45	" ..	8	"	3,900	79 14	37

## OATS—FIELD LOTS.

Twelve varieties were sown on fields of one-half to fifteen acres each.

Banner, Abundance, Improved Ligowo and Holstein Prolific gave very heavy crops of straw and with the exception of Improved Ligowo which was badly eaten by black-birds, yielded well.

The oat plots, large and small, were continually covered with the birds from the time the first heads became ripe until the grain was drawn in and threshed. The plot of Improved Ligowo being near a large dam, suffered more than the other varieties.

All plots were sown on clay loam by hoe-drill at the rate of  $2\frac{1}{2}$  bushels per acre. There was no rust on any of these varieties.

## OATS—FIELD-LOTS.

Name of Variety.	Size of Plot.	Date of Sowing.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.		Yield per Acre.		Weight per Bushel.
	Acres.								Lbs.	Bush	Lbs	Lbs	
Banner .....	15	April 26	Aug. 27	124	46	Strong..	8	Branching	4,310	85	..	38	
Abundance .....	10	" 28	" 30	125	46	" ..	8	"	4,150	82	..	40	
Holstein Prolific .....	$1\frac{1}{2}$	" 30	" 30	123	42	" ..	$8\frac{1}{2}$	"	3,810	80	..	40	
Bavarian .....	2	May 4	Sept. 11	131	48	Medium	8	"	5,000	77	17	39	
Columbus .....	2	April 29	Aug. 30	124	42	Strong..	7	"	3,650	69	..	37	
Improved Ligowo .....	$1\frac{1}{2}$	May 4	Sept. 6	128	54	Medium	9	"	4,100	50	..	$40\frac{1}{2}$	
American Beauty .....	$1\frac{1}{2}$	April 29	Aug. 30	124	44	Strong..	8	"	3,840	70	..	38	
Siberian .....	$1\frac{1}{2}$	" 29	" 30	124	44	" ..	9	"	3,610	68	..	37	
Bonanza .....	$1\frac{1}{2}$	" 29	" 30	124	46	" ..	8	"	3,350	67	24	41	
White Schonen .....	$1\frac{1}{2}$	" 29	" 30	124	40	" ..	8	"	3,110	67	4	$40\frac{1}{4}$	
Wide Awake .....	$1\frac{1}{2}$	" 29	" 27	121	44	" ..	8	"	4,000	66	30	40	
Welcome .....	$1\frac{1}{2}$	" 29	" 30	124	46	" ..	8	"	4,100	53	4	43	

## OATS.—TEST OF VARIETIES.

Sixty-four varieties were tested on plots of  $\frac{1}{10}$  acre each. A number of the plots were injured by spring-frosts and were consequently late in maturing and had not fully ripened when frost came on September 8.

The plots were sown on May 2, on clay loam soil, summer-fallowed land, by hoe-drill at the rate of  $2\frac{1}{2}$  bushels of seed per acre. There was no rust on any of these plots.

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## OATS—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per Bushel.	
							Weight of Straw per Acre.	Yield per Acre.	Weight per Bushel.	Weight per Bushel.
			In.		In.		Lbs.	Bush.	Lbs.	Lbs.
Buckbee's Illinois	Sept. 6.	128	44	Strong	8	Branching	3,600	79	14	38
Rosedale	" 3.	125	47	Medium	8	Sided	4,540	76	26	40 $\frac{1}{2}$
Columbus	" 6.	128	45	"	9	Branching	3,900	76	16	37 $\frac{1}{2}$
Abyssinia	" 6.	128	46	"	8	Sided	4,040	75	30	39
Early Maine	" 5.	127	42	Strong	8	Branching	3,740	75	10	38
American Beauty	Aug. 27.	118	42	Medium	8	"	3,950	75	"	39
Oderbruch	Sept. 12.	134	44	"	8	Sided	3,750	75	"	40
Improved American	" 6.	128	46	Strong	8	Branching	3,300	72	20	36
Banner	Aug. 27.	118	48	"	8 $\frac{1}{2}$	"	3,900	72	2	38
Early Blossom	Sept. 6.	128	44	"	9	Sided	4,640	71	26	38
Bavarian	Aug. 27.	118	44	Medium	9	Branching	3,360	71	26	40
California Prolific Black	Sept. 5.	127	40	Strong	8	Sided	3,980	71	6	34 $\frac{1}{2}$
Great White Maine	" 2.	124	42	"	9	Branching	2,560	71	6	39
Early Golden Prolific	Aug. 27.	118	44	Medium	9	"	2,400	70	20	40 $\frac{1}{2}$
Early Gothland	Sept. 12.	134	44	Strong	8	Sided	3,560	70	10	41 $\frac{1}{2}$
Siberian O. A. C.	" 12.	134	43	Weak	8	Branching	3,630	69	24	38
Lincoln	Aug. 27.	118	43	Strong	8	"	4,050	69	4	40
American Triumph	Sept. 5.	127	42	Medium	8 $\frac{1}{2}$	"	3,000	68	18	41
Miller	" 12.	134	42	"	8	"	2,910	68	8	39
Golden Tartarian	" 12.	134	39	Strong	8	Sided	3,040	67	32	34 $\frac{1}{2}$
Abundance	Aug. 27.	118	46	"	9	Branching	4,500	67	22	41
Early Archangel	Sept. 6.	128	45	"	9 $\frac{1}{2}$	"	3,800	67	22	37
Wallis	Aug. 27.	118	44	Weak	8 $\frac{1}{2}$	"	3,100	67	22	40 $\frac{1}{2}$
Poland	" 25.	116	42	Strong	8	"	3,610	67	12	42
King	Sept. 12.	134	44	Medium	8	"	2,710	67	2	39 $\frac{1}{2}$
Pense	" 12.	134	44	"	9	Sided	2,750	66	26	38 $\frac{1}{2}$
Coulommiers	" 6.	128	43	"	8	Branching	4,210	66	16	38 $\frac{1}{2}$
Wide Awake	Aug. 27.	118	44	"	8	"	3,450	66	6	41
Olive	Sept. 12.	134	48	Weak	9	Sided	3,860	65	30	38 $\frac{1}{2}$
Holland	" 3.	125	42	Strong	10	"	3,160	65	30	36 $\frac{1}{2}$
Newmarket	" 6.	128	40	Medium	7	Branching	2,270	65	20	42
Holstein Prolific	Aug. 27.	118	45	"	8	"	4,370	65	20	40 $\frac{1}{2}$
Golden Beauty	" 27.	118	43	"	8	"	2,870	65	20	42
Prolific Black Tartarian	" 27.	118	44	Strong	8	Sided	3,730	63	28	37 $\frac{1}{2}$
White Schonen	" 27.	118	45	"	8	Branching	3,880	63	28	41 $\frac{1}{2}$
Brandon	Sept. 12.	134	45	"	9	"	4,510	61	16	38 $\frac{1}{2}$
Russell	" 12.	134	46	Medium	10	"	4,110	61	16	38
White Giant	Aug. 27.	118	44	Strong	9	"	2,940	60	20	40 $\frac{1}{2}$
Flying Scotchman	" 27.	118	42	"	8	"	2,650	60	10	40 $\frac{1}{2}$
Golden Giant	Sept. 12.	134	43	"	10	"	3,480	59	14	35 $\frac{1}{2}$
Medal	" 12.	134	48	Medium	9	Sided	3,150	58	28	39 $\frac{1}{2}$
Mortgage Lifter	Aug. 27.	118	44	"	8	Branching	2,750	57	12	42 $\frac{1}{2}$
Danish Island	Sept. 2.	124	40	"	7	"	2,260	57	2	40
Master	" 12.	134	43	Strong	8	"	3,460	57	2	38
Imported Irish	Aug. 25.	116	44	"	9	"	3,020	56	26	43
Mennonite	" 27.	118	38	"	8	"	3,140	56	6	39
Victoria Prize	" 26.	117	39	"	10	"	2,620	55	10	44
Joanette	" 26.	117	32	"	6	"	2,140	54	24	38
Doncaster Prize	Sept. 6.	128	38	"	7	"	3,550	54	14	38
Prize Cluster	Aug. 25.	116	43	"	9	"	3,180	53	18	43 $\frac{1}{2}$
Hazlett's Seizure	" 27.	118	42	Medium	9	"	2,450	53	18	43 $\frac{1}{2}$
Bonanza	" 25.	116	39	Strong	8	"	2,210	52	22	43
Rennie's Prize	" 25.	116	42	"	8	"	3,020	52	12	44
Welcome	" 25.	116	44	"	10	"	2,640	52	2	45
Improved Ligowo	" 25.	116	39	"	8	"	1,640	51	26	41
White Russian	" 27.	118	42	"	8	"	2,340	51	26	40
White Wonder	" 25.	116	42	"	9	"	3,560	51	6	44
Oxford	Sept. 12.	134	44	"	9	"	2,260	51	6	39
Winter Grey	Aug. 25.	116	40	"	8	"	4,320	49	14	43
Thousand Dollar	" 26.	117	40	"	7	"	1,320	49	14	43
Cromwell	Sept. 12.	134	42	"	8	"	3,140	48	28	38 $\frac{1}{2}$
Scottish Chief	Aug. 27.	118	44	Weak	9	"	2,120	45	10	37 $\frac{1}{2}$
Cream Egyptian	" 25.	116	44	Strong	10	"	1,770	45	"	43
Dawson	" 27.	118	42	Medium	8	"	2,600	44	4	42 $\frac{1}{2}$
Finland Black	Sept. 3.	125	46	Strong	10	"	2,630	41	6	36
Black Mesdag	Aug. 24.	115	38	"	8	"	2,190	29	24	38

## TEST OF FORMALIN, BORDEAUX MIXTURE AND BLUESTONE AS PREVENTIVES OF SMUT IN OATS.

Three very smutty samples, each of seed of Doncaster Prize, Flying Scotchman and Mortgage Lifter oats, were treated as follows:—

One sample of each was steeped for four hours in Bordeaux Mixture made with one pound of sulphate of copper and one pound of lime in ten gallons water.

Another sample of each was soaked for two hours in a mixture of 3 oz. Formalin in ten gallons water.

The third of each was soaked for two hours in a mixture of 4½ oz. Formalin in ten gallons of water, and for comparison a sample of each of the three varieties was sown without treatment.

Another test of Bordeaux Mixture and Bluestone was made with clean seed of Banner oats.

All these plots were sown side by side, on the same day, on summer-fallow, by hoe drill at the rate of 2½ bushels per acre.

Variety.	Condition of Seed.	Treatment.	ON 25 Sq. FEET.	
			Heads, Good.	Heads, Smutty.
Doncaster Prize	Smutty	Bordeaux Mixture	684	20
"	"	3 oz. Formalin	634	0
"	"	4½ oz. "	674	0
"	"	Untreated	734	34
Flying Scotchman	Smutty	Bordeaux Mixture	703	18
"	"	3 oz. Formalin	723	0
"	"	4½ oz. "	823	0
"	"	Untreated	723	25
Mortgage Lifter	Smutty	Bordeaux Mixture	768	11
"	"	3 oz. Formalin	743	0
"	"	4½ oz. "	783	0
"	"	Untreated	692	22
Banner	Clean seed	Bordeaux Mixture	719	0
"	"	Bluestone	693	1
"	"	Untreated	746	7

From the above table it will be seen that Bordeaux Mixture and Bluestone were effective in the treatment of clean seed; while Formalin proved a complete remedy with seed which was badly affected by smut.

## EXPERIMENTS WITH BARLEY.

Frosts in May made the crop of barley smaller than it would otherwise have been. The test-plots and larger field-lots were several times cut back and a considerable number of the young plants never recovered. Pigweed, in the field-lots also helped to decrease the yield.

Late rains gave large and plump grain in all the varieties, but at the same time caused the grain to be much discolored.

The larger lots of barley were sown on fallow, on a field exposed to winds which, though not so severe as in former seasons, were bad enough, in conjunction with spring frosts, to retard growth and cause the crop to mature unevenly and late.

## RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

The two varieties used in this test were Odessa, six-rowed, and Canadian Thorpe, two-rowed. The plots were one-tenth acre each, the soil clay loam, sown on summer-

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fallow. The seed was sown by hoe-drill, at the rate of two bushels of seed per acre. The first plots were sown on 23rd April, and the sowings were continued on the same day each week after until 28th May.

The six plots of each variety ripened in the order sown and in time to escape the frost on 8th September. All gave satisfactory yields, with the exception of the first two sowings of Canadian Thorpe which were blighted by hot weather in July. It will be noticed that these two plots were ripe and cut on 11th and 13th August, two days earlier than the first two sowings of Odessa, whereas Odessa usually ripens from four to seven days earlier than the Canadian Thorpe. There was no rust on any of these plots.

### BARLEY.—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per acre.	Yield per Acre.		Weight per Bushel.
				In.		In.		Lbs.	Bush. Lbs.	
Odessa	April 23	Aug. 13	113	30	Strong	3	3,120	55	40	51
"	" 30	" 15	108	30	Medium	3	3,070	56	42	51
"	May 7	" 19	105	34	"	3	3,790	54	18	50 $\frac{1}{2}$
"	" 14	" 24	103	30	"	2 $\frac{1}{2}$	5,610	48	36	50 $\frac{1}{4}$
"	" 21	" 26	98	33	"	2 $\frac{3}{4}$	3,910	47	34	51
"	" 28	Sept. 5	101	34	Weak	2 $\frac{3}{4}$	3,100	47	44	52
Canadian Thorpe	April 23	Aug. 11	111	30	Strong	3	3,170	36	2	51
"	" 30	" 13	106	30	"	3	3,230	36	42	52 $\frac{1}{2}$
"	May 7	" 19	105	32	"	3	2,850	44	38	53
"	" 14	" 24	103	38	"	3	5,630	56	32	52 $\frac{1}{4}$
"	" 21	" 27	99	38	"	3	3,730	57	34	53 $\frac{1}{2}$
"	" 28	Sept. 6	102	36	Medium	3	5,020	57	44	49

### BARLEY—FIELD LOTS.

Thirteen varieties were sown in fields of one-half to five acres each. In addition to the injury sustained by frosts in May, winds, which had a clear sweep over these fields, left more or less of the roots exposed, causing the crop to mature unevenly and late. The sample is plump and large but dark in colour.

The seed was sown on clay loam summer-fallowed, by hoe drill, at the rate of 1 $\frac{3}{4}$  bushels per acre. There was no rust on any of these fields.

### BARLEY.—FIELD LOTS.

Name of Variety.	Size of Plot.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per acre.	Yield per Acre.		Weight per Bushel.
					Inch's		Inches.		Lbs.	Bush. Lbs.	
Canadian Thorpe	5 acres	May 2	Aug. 19	110	36	Strong	3	4,730	48	18	53
Odessa	5 "	" 3	" 15	105	32	Medium	2 $\frac{1}{2}$	3,450	46	..	50 $\frac{1}{2}$
Sidney	5 "	" 2	" 29	120	34	Strong	3 $\frac{1}{4}$	3,800	44	..	54
Trooper	4 "	" 3	" 26	116	32	"	2 $\frac{3}{4}$	3,400	36	38	53
Beaver	1 $\frac{1}{2}$ "	Apl. 30	" 24	117	34	"	3	3,610	34	36	52 $\frac{1}{2}$
Common	1 $\frac{1}{2}$ "	May 2	" 20	111	34	Medium	2 $\frac{1}{2}$	4,210	47	17	50 $\frac{1}{2}$
Oderbruch	1 $\frac{1}{2}$ "	" 2	" 24	115	32	"	2 $\frac{3}{4}$	3,760	44	36	49
Baxter	1 "	" 2	" 20	111	34	"	2 $\frac{1}{2}$	3,980	42	..	50 $\frac{1}{2}$
French Chevalier	1 "	" 2	" 29	120	32	Strong	3 $\frac{1}{4}$	3,750	42	..	54
Mensury	1 "	" 2	" 20	111	40	Medium	2 $\frac{3}{4}$	4,200	41	17	46 $\frac{1}{4}$
Rennie's Improved	1 "	" 2	" 24	115	34	Strong	2 $\frac{1}{2}$	3,130	40	30	52 $\frac{1}{2}$
Royal	1 "	" 2	" 19	110	32	"	2 $\frac{1}{2}$	3,040	40	..	53
Bolton	1 "	" 2	" 25	116	34	"	3	3,310	36	..	53

## SIX-ROWED BARLEY.—TEST OF VARIETIES.

Twenty-three varieties have been included in this test, sown on plots of one-tenth acre each. The soil was clay loam which had been summer-fallowed, and the seed was sown by hoe-drill on the 4th of May, at the rate of two bushels per acre. There was no rust on any of the varieties, but three of them were somewhat injured by smut, namely Common Six-rowed, Stella and Summit.

## SIX-ROWED BARLEY.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per acre.		Yield per Acre.		Weight per Bushel.
						Lbs.	Bush.	Lbs.	Lbs.	
			In.		In.					
Rennie's Improved	Aug. 19.	108	30	Strong	2 $\frac{1}{2}$	4,380	56	32		52
Petschora	" 19.	108	31	Medium	2 $\frac{3}{4}$	3,070	54	38		48 $\frac{1}{2}$
Odessa	" 16.	105	27	Strong	2 $\frac{1}{2}$	3,050	53	6		51
Baxter	" 19.	108	33	Medium	2 $\frac{1}{2}$	2,890	52	14		50
Trooper	" 27.	116	29	Strong	2 $\frac{1}{2}$	4,830	51	22		52 $\frac{1}{2}$
Phoenix	" 19.	108	32	"	2 $\frac{1}{2}$	3,830	50	20		51 $\frac{1}{2}$
Common	" 23.	112	29	"	2 $\frac{3}{4}$	2,850	48	46		50 $\frac{1}{2}$
Argyle	" 27.	116	31	"	2 $\frac{3}{4}$	2,900	47	44		52
Nugent	" 24.	113	28	"	2 $\frac{1}{2}$	2,730	47	24		49
Pioneer	" 27.	116	36	"	3 $\frac{1}{4}$	4,820	47	24		51
Mensury	" 19.	108	36	"	3	3,220	47	14		46
Stella	" 26.	115	29	"	2 $\frac{3}{4}$	3,130	47	14		51
Champion	" 15.	104	37	Medium	3 $\frac{1}{2}$	3,830	46	12		47
Excelsior	" 13.	102	36	Weak	3	4,080	46	12		47
Summit	" 26.	115	32	Strong	3	3,090	46	2		51
Royal	" 19.	108	32	"	3	2,810	45	30		50
Oderbruch	" 19.	108	32	"	2 $\frac{1}{2}$	3,350	44	38		49 $\frac{1}{2}$
Mansfield	" 27.	116	31	"	2 $\frac{1}{2}$	2,820	43	16		51 $\frac{1}{2}$
Blue	" 13.	102	30	Medium	2 $\frac{1}{2}$	4,010	42	24		45 $\frac{1}{2}$
Success	" 8.	97	30	Weak	2 $\frac{3}{4}$	3,920	42	4		47
Surprise	" 26.	115	28	Strong	2 $\frac{1}{2}$	3,650	37	24		49
Empire	" 27.	116	32	"	2 $\frac{3}{4}$	3,300	37	24		53
Vanguard	" 16.	105	27	"	2 $\frac{1}{4}$	2,840	30	20		49 $\frac{1}{2}$

## TWO-ROWED BARLEY.—TEST OF VARIETIES.

Eighteen different sorts of two-rowed barley were tested this year on clay loam summer-fallowed, all were sown on 4th May in plots of one tenth acre each. No rust was found on any one of them, and the following yields were obtained.

## Experimental Farms.

### TWO-ROWED BARLEY—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per Acre.	Yield per Acre.		Weight per Bushel.
			Ins.		Ins.		Lbs.	Bush. Lbs.	
Danish Chevalier.....	Sept. 2..	122	30	Weak .....	3½	4,070	57	44	54
Thanet.....	" 5..	125	37	" .....	4	4,090	54	18	47
Prize Prolific.....	" 5..	125	32	" .....	3½	4,320	53	36	49
Newton.....	Aug. 31..	120	32	Strong.....	3	4,090	53	16	53
Kinver Chevalier.....	Sept. 5..	125	34	Weak .....	3½	5,000	53	6	46
French Chevalier.....	" 2..	122	32	" .....	3½	4,150	53	6	54
Canadian Thorpe.....	" 6..	126	36	Medium.....	3	4,090	50	10	53½
Sidney.....	" 2..	122	36	" .....	3¼	4,250	50	..	54
Kirby.....	Aug. 27..	116	35	Strong.....	3	2,560	44	28	52
Dunham.....	Sept. 1..	121	38	" .....	2¾	3,700	43	36	53½
Nepean.....	" 2..	122	32	" .....	3½	3,200	41	32	52
Bolton.....	" 1..	121	36	Medium.....	3½	4,420	41	12	53
Leslie.....	Aug. 27..	116	37	Strong.....	3	3,280	40	..	52
Logan.....	" 27..	116	28	" .....	3¼	3,400	39	28	53
Victor.....	Sept. 1..	121	32	" .....	3	5,900	37	24	54½
Beaver.....	" 2..	122	32	" .....	3½	3,720	37	4	52½
Monck.....	" 2..	122	36	" .....	3¼	4,240	36	22	54
Pacer.....	" 2..	122	32	" .....	3	3,090	35	30	54

### TEST OF PREVENTIVES OF SMUT IN BARLEY.

Bordeaux Mixture and a solution of bluestone were used in this test and for comparison a plot was sown with untreated seed. The seed used was ordinary, clean Canadian Thorpe, the product of treated seed sown in 1897.

Variety.	Treatment.	Sown.	On 25 Square Feet.	
			Good Heads.	Smutted Heads.
Canadian Thorpe.....	Bluestoned .....	May 6..	921	1
" .....	Bordeaux Mixture .....	" 6..	823	2
" .....	Untreated.....	" 6..	912	17

The bluestone solution was the one ordinarily used for wheat, one pound of bluestone dissolved in two pails of water for each ten bushels of seed.

Bordeaux Mixture was made in the proportion of 1 pound sulphate of copper, 1 pound lime to 10 gallons water and in this solution the seed was allowed to soak for four hours.

### EXPERIMENTS WITH PEASE.

The yield from all the varieties of pease tested was good but the sample was not quite equal to that of former years. Varieties that ripened early were better in this respect than the later sorts.

Heavy rains in July and up to the time of cutting gave the late varieties a most vigorous growth, in consequence of which 13 of them were on the green side when frost occurred on September 8th.

On account of rains great difficulty was experienced in harvesting and threshing the various plots. Frosts in May cut back the vines, retarding the growth until rains came in July,

RESULTS OF EARLY MEDIUM AND LATE SOWINGS.

The two varieties sown in this test were Golden Vine, a small pea and Mummy a medium sized variety. The soil was clay loam ; seed sown on summerfallow by hoe-drill on the 5th of May, at the rate of 2 bushels of small pease and 3 bushels of medium per acre. The size of the plots was one-tenth acre each. The first plot of Golden Vine and the two first of Mummy were injured by frosts in May.

PEASE.—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Character of Growth.	Length of Straw.		Length of Pod.	Size of Pea.	Yield per Acre.		Weight per Bushel.
					In.	Lbs.			Bush.	Lbs.	
Golden Vine.....	April 23..	Aug. 30..	130	Medium..	36	2,390	2	Small....	28	30	65½
" .....	" 30..	Sept. 1..	125	" ..	36	..	2	" .....	41	20	66
" .....	May 7..	" 1..	118	Strong ..	42	2,840	2	" .....	41	..	65½
" .....	" 14..	" 3..	113	" ..	48	3,160	2	" .....	37	20	65½
" .....	" 21..	" 5..	108	" ..	45	2,310	2	" .....	39	50	65
" .....	" 28..	" 10..	106	" ..	48	2,530	2	" .....	39	30	63
Mummy.....	April 23..	" 1..	132	Weak ....	36	1,690	2½	Medium..	26	50	64½
" .....	" 30..	" 2..	126	" ..	36	2,070	2½	" ..	23	..	64
" .....	May 7..	" 3..	120	Medium..	36	2,200	2½	" ..	35	..	64½
" .....	" 14..	" 5..	115	" ..	48	2,010	2¼	" ..	31	30	64½
" .....	" 21..	" 12..	115	Strong ..	48	2,110	2¼	" ..	36	30	65
" .....	" 28..	" 12..	108	" ..	48	2,440	2¼	" ..	34	20	63

PEASE.—TEST OF VARIETIES.

The trial plots of pease sown to gain information as to their relative yield and earliness included forty-eight varieties. These were all sown on one-tenth acre plots. The soil was a clay loam which had been summer-fallowed, and the seed was sown on the 5th of May at the rate of two bushels of the small pease and three bushels of large pease per acre.



# Experimental Farms.

## PEASE.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Character of Growth.	Length of Straw.		Weight of Straw per Acre.	Length of Pod.	Size of Pea.	Yield per Acre.		Weight per Bushel.
				In.	Lbs.				Bush. Lbs.	Lbs.	
Paragon	Sept. 6	125	Strong	45	4,460	3	Medium	57	50	64	
Trilby	" 8	127	"	42	4,940	3	"	55	10	62½	
Perth	" 3	122	"	45	3,110	3	Large	49	30	63	
Bruce	" 2	121	"	42	3,940	3	"	49	30	65	
Golden Vine	" 1	120	Medium	39	3,340	2	Small	49	..	64	
Crown	" 3	122	"	39	2,800	2	"	45	30	65	
Pride	" 8	127	"	36	2,860	2½	Large	44	50	65½	
Duke	" 5	124	Strong	45	3,130	3	"	44	30	61½	
Early Britain	Aug. 29	117	Medium	28	3,000	2½	"	44	..	63	
New Potter	Sept. 5	124	"	36	2,300	3	"	43	20	63	
Elephant Blue	" 6	125	"	36	3,210	3	Medium	43	10	64	
Creep	" 12	131	Strong	42	2,770	2	Small	43	..	65	
Victoria	" 7	126	"	45	2,520	3	"	41	20	62	
White Wonder	Aug. 27	115	Weak	18	2,000	2	Medium	40	20	65	
Daniel O'Rourke	Sept. 5	124	Medium	36	3,530	2½	Small	40	20	65	
King	" 6	125	Strong	42	2,400	2½	Large	40	10	62¾	
Vincent	" 3	122	Medium	45	2,400	3	"	40	..	63½	
Bright	" 6	125	Strong	42	3,000	2½	Medium	40	..	64	
Prince Albert	" 10	129	"	48	2,930	2½	Small	39	30	62	
Archer	" 8	127	"	42	3,270	3	Medium	38	50	63½	
Harrison's Glory	Aug. 29	117	Weak	24	2,540	3	Large	38	30	63	
Chancellor	" 27	115	Medium	32	2,990	2	Small	38	30	65½	
Mackay	Sept. 4	123	Strong	45	3,000	3	"	38	20	63	
Kent	" 5	124	"	42	3,010	3	Large	38	10	63	
German White	Aug. 29	117	"	32	2,400	2½	Medium	37	40	64½	
Oddfellow	Sept. 6	125	"	42	3,300	3	"	37	30	67½	
Picton	" 12	131	"	36	5,400	2½	"	36	40	63½	
Centennial	" 10	129	"	48	2,520	2½	"	36	20	61	
French Canner	Aug. 29	117	Medium	32	2,200	2½	"	36	..	64½	
Cooper	Sept. 12	131	"	36	1,600	2½	Large	25	40	65	
Nelson	" 1	120	Strong	42	2,420	3	Medium	35	30	64½	
Prussian Blue	" 6	125	"	42	2,720	2	"	35	20	63½	
White Marrowfat	" 10	129	"	48	2,650	3	Large	35	..	61	
Carleton	" 7	126	"	48	5,150	3	Medium	34	10	62	
Black Eyed Marrowfat	" 12	131	Medium	42	4,260	3	Large	33	10	62	
Alma	" 5	124	"	42	2,000	2½	Small	32	40	63	
Gregory	" 1	120	Strong	45	2,660	3	Medium	32	40	63	
Agnes	" 4	123	Medium	36	2,070	2	Large	32	10	64	
Bedford	" 7	126	Strong	54	6,600	2	Medium	31	40	62½	
Lanark	" 4	123	"	45	3,100	3	Large	31	40	63	
Mummy	" 5	124	Medium	36	3,150	3	Medium	30	50	63½	
Canadian Beauty	" 6	125	"	39	2,460	2	Large	30	40	61	
Fergus	" 8	127	Strong	48	2,700	2	Small	30	..	62	
Multiplier	" 10	129	"	51	2,720	3	"	29	40	62½	
Fenton	" 1	120	"	39	1,720	3	Large	29	40	61½	
Prince	" 4	123	"	42	4,100	3	"	29	10	63	
Arthur	" 1	120	Medium	36	1,370	3	Medium	28	50	64½	
Macoun	" 9	128	Strong	51	6,000	3	Large	28	20	62½	

### EXPERIMENTS WITH INDIAN CORN.

Twenty-five varieties of Indian corn were grown the past year in uniform test plots. The seed was sown by grain drill in rows three feet apart and planted by hand in hills three feet apart each way. The land was a clay loam, fallowed the year previous and manured, in the fall, with 15 loads well rotted barn-yard manure per acre. The work on fallow consisted of one deep ploughing early in June and three surface cultivations with spring-tooth cultivator during the growing season. Early in October the manure was applied and the land again ploughed to a depth of 7 to 8 inches, then harrowed well

and rolled. Before sowing the seed two inches of the surface was stirred by cultivator and harrowed. The corn was sown and planted on May 16th and the plants were two to four inches high when cut back by frost on the 27th of same month. Where the corn was just above ground when cut down the recovery was much more rapid than where the plants had attained a height of several inches.

The difference in results between sowing in rows and planting in hills was not so marked as in former years.

On the whole, the crop was larger than last year but was not so far advanced when it had to be cut for fear of frost. Only one variety had reached the early milk stage when the crop was cut.

All plots were cut on September 7th and 8th and allowed to remain on the ground for two days to wilt before being drawn into the barn when it was cut by ensilage-cutter and put in the silo.

One hundred tons were put in silo, and at present time the ensilage is being mixed with cut straw and fed to stock. The yield per acre, in each case, has been calculated from the weight obtained from two rows each 66 feet long.

INDIAN CORN.—TEST OF VARIETIES.

Name of Variety.	Character of Growth.	Height.	When Tasselled.	In Silk.	Condition when Cut.	Weight per Acre, Grown in Rows.		Weight per Acre, Grown in Hills.	
						Tons.	Lbs.	Tons.	Lbs.
		Inches.			Sept. 7.				
Thoroughbred White Flint...	Medium...	72	Aug. 25.		Tassel....	18	620	14	1,568
Champion White Pearl.....	Strong....	81	" 24.		" .....	16	1,264	14	1,700
Giant Prolific Ensilage.....	" .....	78	" 24.		" .....	15	492	17	452
Red Cob Ensilage.....	Medium...	72	" 24.		" .....	14	1,964	13	1,720
Compton's Early.....	" .....	72	" 23.		" .....	14	1,568	12	740
Sanford.....	" .....	72	" 23.		" .....	13	1,720	17	980
Selected Leaming.....	" .....	72	" 24.		" .....	13	796	9	1,930
White Cap Yellow Dent.....	Strong....	78	" 25.		" .....	12	1,740	14	1,172
Canada White Flint.....	Weak.....	66	" 20.	Sept. 1.	Silk.....	12	816	14	1,040
Early Butler.....	" .....	66	" 23.	" 1.	" .....	12	552	9	1,930
Cloud's Early Yellow.....	" .....	66	" 20.	" .....	Tassel....	12	420	10	1,120
Angel of Midnight.....	Medium...	72	" 20.	Sept. 1.	Silk.....	11	1,232	13	1,852
Mammoth 8-Rowed Flint.....	" .....	72	" 26.	" .....	Tassel....	11	968	12	740
Extra Early Huron Dent.....	Strong....	78	" 23.	" .....	" .....	11	572	8	760
King of the Earliest.....	Weak.....	60	" 26.	" .....	" .....	10	1,780	8	500
Longfellow.....	Medium...	72	" 21.	Sept. 1.	Silk.....	10	1,384	14	1,040
Pearce's Prolific.....	Weak.....	66	" 23.	" 1.	" .....	9	1,800	12	550
Mitchell's Extra Early.....	" .....	48	" 8	Aug. 16.	Early milk	9	876	8	1,820
Pride of the North.....	Strong....	78	" 26.	" .....	Tassel....	9	742	9	612
Cuban Giant.....	Weak.....	60	" 25.	" .....	" .....	9	216	7	1,312
Early Mastodon.....	" .....	60	" 20.	" .....	" .....	8	764	10	1,912
Ruby Mexican.....	" .....	48	" 25.	" .....	" .....	8	632	9	1,140
North Dakota White.....	" .....	54	" 23.	" .....	" .....	8	236	10	460
Kendall's Giant.....	" .....	42	" 25.	" .....	" .....	8	236	4	52
Evergreen Sugar.....	" .....	48	" 28.	" .....	" .....	6	540	8	630

TEST OF SOWING AND PLANTING CORN AT DIFFERENT DISTANCES APART.

This test was made on land worked and manured the same as for uniform test of varieties. Three varieties of corn were sown in rows and planted in hills at different distances apart, and from the accompanying table it will be seen that in hills the closer the planting the better the crop, while in rows the reverse was the case.

## Experimental Farms.

### TEST OF SOWING AND PLANTING CORN.

Variety.	Distance Sown or Planted.	Growth.	Condition when Cut.	Height.	WEIGHT PER ACRE.			
					Rows.		Hills.	
					Feet.	Inches.	Tons.	Lbs.
Selected Leaming .....	4	Strong....	Tassel....	72	18	1,620	9	744
" .....	3½	" .....	" .....	72	18	564	12	156
" .....	3	" .....	" .....	72	15	1,680	13	1,324
" .....	2½	" .....	" .....	80	14	1,964	13	664
" .....	2	" .....	" .....	80	13	1,984	14	248
Longfellow.. .....	4	" .....	" .....	60	16	1,792	11	1,232
" .....	3½	" .....	" .....	60	16	1,792	12	816
" .....	3	" .....	" .....	60	16	1,924	12	1,608
" .....	2½	" .....	" .....	72	14	1,172	12	948
" .....	2	" .....	" .....	72	16	340	13	1,720
Champion White Pearl .....	4	" .....	" .....	72	21	164	14	1,040
" .....	3½	" .....	" .....	72	16	1,528	17	320
" .....	3	" .....	" .....	72	21	108	19	1,336
" .....	2½	" .....	" .....	66	22	1,540	16	1,528
" .....	2	" .....	" .....	66	9	1,140	15	1,680

### EXPERIMENTS WITH FLAX.

The experiments with flax were not very satisfactory, the early sown plots being badly injured by frosts in May.

The tests were made on fallow land, clay loam, not manured, and the size of the plots was one-tenth acre each.

Seed Sown at Rate of	Date of Seeding.	Date of Cutting.	Days to Mature.	Length of Straw.	Weight of Straw per Acre.	Yield per Acre.
				Inches.	Lbs.	Bush. Lbs.
40 lbs. per acre.....	May 14..	Sept. 7..	117	24	450	8 ..
80 " .....	" 14..	" 7..	117	24	670	13 30
40 " .....	" 21..	" 7..	110	24	1,340	11 10
80 " .....	" 21..	" 7..	110	26	1,450	16 ..
40 " .....	" 28..	" 7..	103	26	1,350	15 ..
80 " .....	" 28..	" 7..	103	24	1,650	22 ..
An extra plot sown 60 lbs. per acre.....	" 19..	" 6..	111	24	1,690	19 10
Field lot (1 acre) .....	" 19..	" 6..	111	24	1,260	16 20

### EXPERIMENTS WITH GRASSES.

Following are the yields per acre of grasses sown in the spring of 1896 :—

Agropyrum tenerum .. . . . .	2 tons 250 pounds.
" caninum .. . . . .	1 " 860 "
Meadow Fescue .. . . . .	1 " 360 "
Timothy and Alsike Clover .. . . . .	1 " 370 "

## AGROPYRUM TENERUM.

On account of this grass having produced good crops in trial plots for the past two years, a field of three acres was seeded down to it early in July. A good catch was obtained and the grass made good progress before winter set in. The seed, like Brome seed, germinates easily, and if not sown too thick will in ordinary seasons produce satisfactory crops of hay for horses. It should, however, be cut before the stem hardens and becomes woody. Cattle do not seem to relish it much, and for fall pasture it is useless.

AWNLESS BROME GRASS (*Bromus Inermis*).

The crop of hay obtained from the fields of Brome grass was the lightest that has been cut on the farm since the introduction of this grass. With the exception of  $1\frac{1}{4}$  acres of first crop, the greater part of the land under Brome grass had produced a crop of seed last year, and the balance had been cut for hay and seed for three and four years. Eight acres of the latter produced only 1,000 pounds cured hay per acre, fields from which one crop had been taken 1,700 pounds per acre, and the  $1\frac{1}{4}$  acres sown last year 2 tons 500 pounds per acre.

The light crop was, no doubt, caused by the dry condition of the land in the fall of 1897 and insufficient rainfall, in April or May of this year, to give the grass a start.

The crop of Brome grass throughout the country was much the same as on the experimental farm. Where the grass was being cut for the first time either for hay or seed, a fair, and in some cases a good crop was secured, whereas fields producing the second, third or fourth crop were very light.

Mr. F. W. Godsal, in the Pincher Creek district, of Alberta, obtained nearly 8,000 pounds of seed. Mr. W. R. Motherwell of Abernethy, Assiniboia, a successful grower of this grass, had between 500 and 600 pounds of seed per acre. To produce these quantities of seed, the crops of hay must necessarily have been very heavy.

For information regarding the seeding of Brome grass the following is quoted from the report for 1896 :

"This grass is better sown alone ; at least it should not be sown with a grain crop. The grain takes too much moisture from the young grass-plants, only the most vigorous of which will survive the dry weather in September ; whereas, if sown alone all the plants have an equal chance.

"It is also advisable to sow the seed on soil that does not blow. Summer-fallow would be the best preparation, but on account of its liability to drift it is not safe in many parts of the Territories to use this kind of land. Stubble land ploughed three or four inches deep in April or May, and well harrowed after the seed is sown, is found to be quite safe from winds as the stubble harrowed on top prevents all drifting."

Ten to twelve pounds of seed is required per acre. "More seed will give a better crop the first year, but less afterwards as the roots thicken up each year and in three or four years makes better pasture than hay.

"The seed being light, long and thin, seeding by hand is the only practicable method. To seed properly a calm day should be chosen, so that all parts of the land may be evenly sown.

"While the plants are young, weeds are sure to make great headway and it is necessary to keep them, at least from going to seed. The quickest way to accomplish this is to go over the field with a mower, cutting just above the grass-plants. If this operation has to be repeated it will be necessary to cut the tops of the grass, but this will not injure the plants, in fact it is an advantage in the way of giving the roots a better hold.

"The first crop of hay can be cut the next year after seeding, and will, in ordinary years be ready early in July. Eight or ten days after being ready to cut for hay it will be fit to cut for seed if so desired.

"On this farm it has always been cut in first blossom for hay and ten days from this time it is considered in proper state to cut for seed.

## Experimental Farms.

"In cutting for seed a binder is used and the grass is cut, tied and stooked the same as wheat or other grain. In a week or ten days after cutting it is ready to thresh or store away as deemed best.

"For threshing small quantities the old-fashioned flail is suitable, but for large lots a threshing machine should be used on which the wind has been closed off as much as practicable. From three to six hundred pounds of seed may be expected from an acre."

### RENEWAL AND ERADICATION OF BROME-GRASS.

Last fall, just before winter set in, one half acre of Brome sod was ploughed four inches deep in as narrow furrows as possible. Four crops of hay had been cut from the plot and the roots had become very thick.

On the 6th May, 1898, Prince Albert pease were sown, harrowed in and rolled. Shortly after the pease were sown the grass commenced to grow very thick, and from that time it was a race between Brome grass and pease, with the result that pease were one-third crop and Brome grass a good catch. The pease and grass were cut by mower and the land left to see what results can be obtained in renewing Brome sod without reseeding. Three-quarters of a ton of pease and Brome hay was cut from the one-half acre.

On 14th, 15th, 16th and 19th April last, 7 acres of Brome sod was ploughed two inches deep. By the time the sod was rotted sufficiently to backset, quite a heavy growth of grass was covering the land. On 16th, 17th, 18th and 20th June, all but one-half acre of this land was backset 4 inches deep. Brome roots continued to grow after the backsetting, and the land was again ploughed before winter set in. The one-half acre not backset had, when the remainder of the plot was ploughed the second time, a good catch of grass which promises a crop of hay next year.

Last spring, after seeding was finished, an old piece of Brome sod was gone over four times with iron harrows to determine whether or not it could be renewed without ploughing. The result clearly demonstrated the impracticability of this method.

As stated in the report of last year, several acres of Brome sod was ploughed on 18th, 19th and 20th May, 1897, and sown to pease at the time or backset later on. That portion sown with pease was ploughed last fall and together with part of the backsetting was sown with Red Fife wheat this spring. The balance of the backsetting was used for potatoes, corn, pease and roots. The wheat averaged 20 bushels per acre and the potatoes, pease, corn and roots yielded one-third less than the same varieties sown on fallowed and manured land.

### EXPERIMENTS WITH CLOVERS, ETC., FOR GREEN MANURING.

Recognizing the necessity of making some preparations for manuring the land in the future, when exhaustion of the soil will have taken place through continual cropping, a series of tests was commenced last spring, with a view of finding some plant suitable for soiling purposes.

The land chosen for the test was a five-acre field of clay loam over which winds have a great sweep, and in the past ten years have blown several inches of the top-soil to adjoining farms. The field produced a crop of barley in 1897, and before sowing, this spring, the plots were ploughed six inches deep and well harrowed.

On the 12th May, nine one-half acre plots were sown one each with Red Clover, Alsike Clover, Pease, Tares, Bromus Inermis, Mammoth Clover, Lucerne, Rape and Buckwheat; the remaining one-half acre being left unsown and fallowed later in the season. The seeds in all the plots germinated soon after being sown and made good growth during the months of June, July and August. Weeds were numerous and the mower had to be run over the clover and grass plots several times to keep them in check. This, however, was done without cutting any of the grass or clover plants.

When the pease, tares, rape and buckwheat had attained their maximum growth they were ploughed under and the plots harrowed; later on, when the clovers and grasses had ceased growing they were treated in the same way.

The half-acre plot not seeded was summer-fallowed by one deep ploughing and several surface cultivations during the growing season.

Next spring it is intended to sow the entire field with Red Fife wheat, when some information regarding the value of the various plants for green manuring will be gained by the yield of the plots, which will be cut and threshed separately.

#### TEST OF CLOVER TREATED WITH NITRAGIN.

Two uniform plots of one-tenth acre each were chosen. The land was a clay loam in one of the garden inclosures which had been prepared for corn and roots.

Clover seed treated with nitragin and similar seed untreated was received from Ottawa early in the season with instructions for carrying on this test. The seed was sown at the rate of 10 lbs. per acre—on one of the plots the seed which had been impregnated with nitragin germs, and on the other the untreated seed. These were both sown 16th June, when the soil was moist and warm, and the seed germinated quickly. By 1st July the "treated seed" plants were 2½ inches high, while the "untreated" were not over 1½ inches. Both plots grew fast and headed out on 1st October. The "treated" plot was much more matted and grew 12 to 15 inches high, whereas the "untreated" did not exceed 12 inches in height.

#### EXPERIMENT WITH SPRING RYE.

Spring rye was sown on two acres of fallowed land on April 19th, and cut on August 13th. The straw was 40 inches high; its weight was 3,000 lbs. per acre; and the yield of grain was 29 bushels per acre.

#### EXPERIMENT WITH BUCKWHEAT.

One-tenth of one acre was sown on June 2nd; which produced a heavy crop of straw, but the heads were blighted and did not fill.

#### EXPERIMENT WITH RAPE.

This was sown May 20th, on a one-tenth acre plot at the rate of 2 lbs of seed per acre, on fallow land manured. Later it was cut and fed to stock. The yield was 1½ tons 600 lbs. of green fodder per acre.

#### EXPERIMENT WITH TARES.

These were sown on fallow on May 19th; and cut on August 31st. Height 55 in; weight of straw, (dry) 2,740 lbs; seed, 11·40 bushels per acre.

#### CANARY-GRASS.

This was sown May 19th, on a one-tenth acre plot and cut September 6th. Height 30 inches, yield of hay, 2,900 lbs per acre; seed, 18½ measured bushels per acre.

#### EXPERIMENTS WITH JAPANESE MILLET, EARLY SOJA BEANS AND HORSE BEANS.

##### JAPANESE MILLET.

The seed of this millet, also the seed used in the two following tests of Soja Beans and Horse Beans was received early in the season from the Director with instructions for sowing. The chief object in view in these experiments was to gain information as to the relative usefulness of these plants and horse beans as forage crops in this climate, and the weight of crop obtainable from each when sown in different ways.

## Experimental Farms.

Three plots of Japanese millet were sown on May 28. In the first the drills were 9 inches apart; in the second 12 inches apart and in the third the seed was sown broadcast. The plots were cut on September 7 and the millet fed to stock. About half of each variety had headed out at this date and the straw was from 39 to 42 inches high. The following yields were obtained :

		Per acre	
		Tons.	Lbs.
1st Plot.	Drills 9 inches apart yielded.....	16	800
2nd Plot.	Drills 12 inches apart yielded.....	14	
3rd Plot.	Broadcast.....	14	800

### EARLY SOJA BEANS.

Three plots were first sown May 15 and cut by frost May 27. They were sown again on May 28th. The first plot was sown in drills 2 feet apart, the second 2½ feet apart and in the third the drills were 3 feet apart. All the plots made a fair growth and were just forming pods when destroyed by frost on September 8th.

The frosted beans were weighed after cutting with the following results :

		Lbs.
		Per acre.
Drills 2 ft. apart yield.	.....	1,650
Drills 2½ ft. apart yield	.....	1,325
Drills 3 ft. apart yield.....		1,275

The weights of these frosted vines gives scarcely a fair idea of what the weights would have been had frost come later.

### HORSE BEANS.

These were sown on three plots on May 28, in drills 2 feet, 2½ feet and 3 feet apart, the same as the Soja Beans. The crops were cut September 7th and put into the silo with corn.

The yields from the plots were as follows:—

		Per acre.	
		Tons.	Lbs.
Drills 2 feet apart.....	.....	3	600
Drills 2½ feet apart.....	.....	2	1,600
Drills 3 feet apart.....	.....	2	1,200

### POTATOES.

One hundred varieties were tested on land summer-fallowed in 1897. The work on this land consisted of one ploughing 7 inches deep, in the latter part of May, and three surface cultivations 2 to 3 inches deep with spring-toothed harrow during the growing season. From 4th to 8th September, 15 loads (per acre) of well rotted manure was put on, and the land again ploughed 7 to 8 inches deep, well harrowed and rolled.

On May 13 drills were made 4 inches deep and 30 inches apart by plough. In these the cut potatoes were planted 14 inches apart. The pieces had 2 to 3 eyes each, and were from good sized potatoes. The drills were filled in by plough as soon as possible after planting, and the plot was harrowed to level the ground. The land was harrowed when potatoes were appearing, and again a week afterwards. After this the scruffler was run through the rows once a week until the plants became too large to permit of cultivation. The soil was a clay loam. The potatoes were planted on the 13th of May, and dug the 11th of October. The yield per acre has been calculated from the weight of tubers dug from two rows, each 66 feet long; there was no rot in any of the varieties.

## POTATOES.—TEST OF VARIETIES.

Name of Variety.	Character of Growth.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Un-marketable.		Form and Colour.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
Polaris	Strong	706	12	690	48	15	24	Oval white.
Early Sunrise	Medium	677	36	657	48	19	48	Long red.
Bovee	Strong	673	12	653	24	19	48	Long pink.
New Variety No. 1	"	660	..	649	..	11	..	Round white.
Late Puritan	"	655	36	644	36	11	..	Long white.
Everett	Medium	651	..	635	48	15	24	Long red.
American Giant	Strong	646	4	631	24	15	24	Oval white.
Daisy	"	633	36	578	36	55	..	Oval pink and white.
Brownell's Winner	"	631	24	591	48	39	36	Flat long red.
Clarke's No. 1	Medium	631	24	594	..	37	24	Oval pink.
Reeve's Rose	"	629	36	601	12	28	36	Long red.
Empire State	Strong	622	36	600	36	22	..	Long white.
Lizzie's Pride	"	622	36	585	12	37	24	"
Beauty of Hebron	Medium	618	12	567	36	50	36	Oval pink.
Charles Downing	Strong	618	12	591	48	26	24	Flat white.
Early White Prize	"	618	12	589	36	28	36	Oval white.
Houlton Rose	Medium	613	48	596	12	17	36	Oval red.
Rochester Rose	"	611	36	569	48	41	48	"
American Wonder	Strong	611	36	591	48	19	48	Oval white.
Northern Spy	"	605	..	596	12	8	48	Flat oval red.
Wonder of the World	"	605	..	561	..	44	..	Long red.
Great Divide	"	594	..	576	24	17	36	Oval white.
Vick's Extra Early	Medium	594	..	578	36	15	24	Oval pink and white.
Burnaby Seedling	Strong	591	48	585	12	6	36	Oval pink.
Carman No. 3	Medium	591	48	572	..	19	48	Long flat white.
Carman No. 1	"	589	36	578	36	11	..	Oval white.
Prize-taker	Strong	589	36	567	36	22	..	Round red.
Early Ohio	Medium	587	24	572	..	15	24	Oval red.
King of the Roses	Strong	580	48	561	..	19	48	"
Irish Daisy	"	580	48	543	24	37	24	Oval white.
Monroe Co	"	574	12	550	..	24	12	"
Early Puritan	"	565	24	554	24	11	..	"
Harbinger	"	565	24	492	48	72	36	Oval pink.
Uncle Sam	"	563	12	543	24	19	48	Oval white.
Green Mountain	"	561	..	547	48	13	12	"
Reading Giant	"	558	48	519	12	39	36	Round red.
Lightning Express	"	558	48	539	..	19	48	Oval red.
New Queen	"	558	48	536	48	22	..	Oval pink.
Victor Rose	Medium	556	36	539	..	17	36	Oval red.
Seedling No. 230	Strong	554	24	545	36	8	48	Round white.
World's Fair	"	554	24	528	..	26	14	Oval white.
McKenzie	"	554	24	539	..	15	24	Long white.
Dakota Red	"	552	12	514	48	37	24	Round red.
Queen of the Valley	"	547	48	547	48	..	..	Flat pink.
Freeman	"	545	36	517	..	28	36	Oval white.
Clay Rose	Medium	541	12	532	24	8	48	Oval pink.
State of Maine	Strong	539	..	530	12	8	48	Oval white.
Sharpe's Seedling	"	536	48	510	24	26	24	Oval pink and white.
Pride of the Market	"	528	..	517	..	11	..	Long white.
Quaker City	"	528	..	501	36	26	24	"
Delaware	"	525	48	517	..	8	48	Oval red.
Peerless Junior	"	523	36	512	36	11	..	Oval white.
Stourbridge Glory	"	517	..	510	24	6	36	Long pink.
Irish Cobbler	"	517	..	486	12	30	48	Round white.
Seattle	Medium	517	..	488	24	28	36	Long white.
Pride of the Table	Strong	517	..	497	12	19	48	Oval pink and white.
Seedling No. 214	"	514	48	479	36	35	12	Round "
Dreer's Standard	"	514	48	506	..	8	48	Oval white.
General Gordon	"	512	36	506	..	6	36	" pink and white.
I. X. L.	"	512	36	486	12	26	24	Long pink.
Honeoye Rose	Medium	512	36	479	36	33	..	Oval pink.
Lee's Favourite	"	508	12	481	48	26	24	" pink and white.
Seedling No. 7	Strong	506	..	492	48	13	12	Round red.
Columbus	"	503	48	486	12	17	36	Oval pink and white.
Troy Seedling	"	499	24	468	36	30	48	Round white.



## Experimental Farms.

### POTATOES.—TEST OF VARIETIES—*Concluded.*

Name of Variety.	Character of Growth.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Un-marketable.		Form and Colour.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
Good News.....	Strong.....	499	24	481	48	17	36	Long red.
Vanier.....	Medium.....	497	12	486	12	11	..	" "
Russell Seedling.....	Strong.....	497	12	470	48	26	24	Round white.
London.....	".....	497	12	457	36	39	36	Oval red.
Early Rose.....	Medium.....	495	..	457	36	37	24	" "
Rose No. 9.....	".....	492	48	475	12	17	36	" "
Early Harvest.....	Weak.....	490	36	457	36	33	..	Oval white.
Algoma No. 1.....	Strong.....	488	24	475	12	13	12	" pink.
White Beauty.....	".....	488	24	462	..	26	24	" white.
Crown Jewel.....	".....	486	12	473	..	13	12	Long pink.
Holborn Abundance.....	".....	479	36	473	..	6	36	Oval pink.
Satisfaction.....	".....	477	24	453	12	24	12	Long white.
Cambridge Russet.....	".....	473	..	444	24	28	36	Oval white.
Early Norther.....	Medium.....	470	48	457	36	13	12	Round red.
Money Maker.....	Strong.....	468	36	462	..	6	36	Oval pink.
Maule's Thoroughbred.....	Weak.....	468	36	442	12	26	24	" red.
Bill Nye.....	Strong.....	466	24	455	24	11	..	" white.
Earliest of All.....	Medium.....	466	24	451	..	15	24	" pink.
Hale's Champion.....	Strong.....	466	24	433	24	33	..	Round white.
Early Gem.....	".....	466	24	451	..	15	24	Oval pink and white.
Maggie Murphy.....	".....	453	12	437	48	15	24	" red.
Flemish Beauty.....	".....	442	12	415	48	26	24	" pink.
Rural Blush.....	".....	433	24	415	48	17	36	Short flat red.
Table King.....	".....	415	48	398	12	17	36	Oval white.
Hopeful.....	".....	398	12	380	36	17	36	" "
Burpee's Extra Early.....	Medium.....	398	12	365	..	33	12	Oval pink and white.
Rural No. 2.....	Strong.....	396	..	385	..	11	..	Round white.
Sir Walter Raleigh.....	Medium.....	396	..	382	48	13	12	Flat white.
Thorburn.....	Strong.....	389	24	376	12	13	12	Oval pink and white.
Ohio Junior.....	".....	385	..	367	24	17	36	" "
Ideal.....	".....	382	48	374	..	8	48	" " "
Fillbasket.....	Medium.....	354	12	347	36	6	36	" red.
Orphans.....	".....	354	12	345	24	8	48	" white.
Early Six Weeks.....	Weak.....	325	36	275	..	50	36	Round red.
Record.....	".....	259	36	220	..	39	36	Oval white.

### EXPERIMENTS WITH ROOTS.

#### TURNIPS.

Nineteen varieties of turnips were tested. Each variety was sown twice: the first sowing was on May 14, and the second on May 25.

The land for roots was clay loam which had been prepared in the same manner as that for the potatoes, and with the exception of stirring two inches of the surface no work was done on the field in the spring before seeding.

A grain seed drill was used to mark the rows, all teeth being removed except three, which made marks thirty inches apart, in which the seed was sown by a Planet Jr. seed drill at the rate of 2 pounds of seed per acre.

As will be seen, all the varieties gave a satisfactory yield, and with the exception of three, the early seeding gave the best returns. On account of the heavy rainfall, the tops on all the varieties were very rank. The yield per acre was calculated from the weight of roots obtained from two rows, each 66 feet long.

## TURNIPS.—TEST OF VARIETIES.

Name of Variety.	1st Plot	2nd Plot	1st Plot	2nd Plot	Yield		Yield		Yield	
	Sown.	Sown.	Pulled.	Pulled.	per Acre.	per Acre.	per Acre.	per Acre.	per Acre.	per Acre.
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.		
					Tons. Lbs.	Bush. Lbs.	Tons. Lbs.	Bush. Lbs.	Tons. Lbs.	Bush. Lbs.
Hall's Westbury.....	May 14	May 25	Oct. 11	Oct. 11	28 892	948 12	22 880	748 ..		
East Lothian.....	" 14	" 25	" 11	" 11	27 384	906 24	21 765	712 48		
Giant King.....	" 14	" 25	" 11	" 11	27 120	902 ..	19 808	646 48		
Selected Champion... .	" 14	" 25	" 11	" 11	26 800	880 ..	19 1,468	657 48		
Drummond Purple-Top..	" 14	" 25	" 11	" 11	26 272	871 12	19 1,600	660 ..		
Hartley's Bronze.....	" 14	" 25	" 11	" 11	25 1,480	858 ..	21 768	712 48		
Halewood's Bronze Top..	" 14	" 25	" 11	" 11	25 688	844 48	22 1,012	750 12		
Shamrock Purple Top....	" 14	" 25	" 11	" 11	25 494	840 24	21 1,824	730 24		
Sutton's Champion.....	" 14	" 25	" 11	" 11	24 1,764	829 24	22 616	743 36		
Mammoth Clyde.....	" 14	" 25	" 11	" 11	24 840	814 ..	24 1,500	825 ..		
Skirving's.....	" 14	" 25	" 11	" 11	22 1,540	759 ..	22 880	748 ..		
Prize Purple-Top.....	" 14	" 25	" 11	" 11	21 1,956	732 36	15 756	512 36		
Perfection Swede.....	" 14	" 25	" 11	" 11	21 1,032	717 12	17 848	580 48		
Purple-Top Swede.....	" 14	" 25	" 11	" 11	21 636	710 36	19 1,864	664 24		
Jumbo or Monarch.....	" 14	" 25	" 11	" 11	20 788	679 48	23 728	778 48		
Carter's Elephant.....	" 14	" 25	" 11	" 11	20 524	675 24	16 736	545 36		
Marquis of Lorne.....	" 14	" 25	" 11	" 11	20 128	668 48	21 108	701 48		
Pearce's Prize Winner... .	" 14	" 25	" 11	" 11	19 1,996	666 36	18 1,356	622 36		
Bangholm Selected.....	" 14	" 25	" 11	" 11	19 940	649 ..	21 1,560	726 ..		

## EXPERIMENTS WITH MANGELS.

Eighteen varieties were tested and two sowings were made of each. The soil was clay loam and the preparation of the land was the same as that for the turnips, and the seed was sown in the same way at the rate of four pounds per acre.

The first seeding was well up when frost occurred on 27th May, causing considerable injury to the plants.

Like the turnips, the mangels produced a strong growth of tops and gave satisfactory returns of roots. The yield per acre was estimated from the weight of crop obtained from two rows, each 66 feet long.

## MANGELS—TEST OF VARIETIES.

Name of Variety.	Yield		Yield		Yield		Yield	
	per Acre.		per Acre.		per Acre.		per Acre.	
	1st Plot.	2nd Plot.	1st Plot.	2nd Plot.	1st Plot.	2nd Plot.	1st Plot.	2nd Plot.
	Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
Canadian Giant.....	30	1,908	1,031	48	25	988	849	48
Gatepost.....	29	1,476	974	36	27	120	902	
Yellow Intermediate.....	29	212	970	12	22	1,672	761	12
Giant Yellow Globe.....	28	1,552	959	12	28	64	934	24
Giant Yellow Intermediate (Pearce).....	27	1,364	922	44	22	880	748	
Champion Yellow Globe.....	25	688	844	48	24	492	808	12
Giant Yellow Intermediate (Steele).....	24	1,896	831	36	26	4	866	44
Norbital Giant.....	24	1,764	829	24	26	1,064	884	24
Mammoth Long Red.....	24	1,500	825		22	768	746	8
Gatepost Yellow.....	24	180	803		27	1,704	928	24
New Giant Yellow Half-long.....	23	1,916	798	36	26	8	866	48
Red Fleshed Tankard.....	23	1,784	796	24	25	448	840	48
Golden Fleshed Tankard.....	23	1,520	792		25	1,648	860	48
Ward's Long Oval-shaped.....	23	1,184	786	24	22	88	734	48
Orange Globe.....	23	596	776	36	24	1,688	828	8
Selected Mammoth Long Red.....	22	1,504	758	24	25	28	833	48
Red Fleshed Globe.....	21	1,560	726		21	88	734	48
Prize Mammoth Long Red.....	21	1,248	720	48	23	68	767	48

## Experimental Farms.

### EXPERIMENTS WITH CARROTS.

Sixteen varieties were tested in one seeding on uniform plots. The soil was clay loam, prepared the same as for other roots.

While the returns were not large the crop was the best ever grown on the farm. The yield per acre was estimated, as in the case of the other roots, from the weight of crop gathered from two rows, each 66 feet long.

#### CARROTS—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	1st Plot Pulled.	Yield per Acre.		Yield per Acre.	
			— 1st Plot.		— 1st Plot.	
			Tons.	Lbs.	Bush.	Lbs.
Half-long White .....	May 13..	Oct. 13..	9	1,404	323	24
Green-top White Orthe .....	" 13..	" 13..	9	1,272	321	12
Half-long Chantenay .....	" 13..	" 13..	9	600	310	..
Ontario Champion .....	" 13..	" 13..	9	480	308	..
Improved Short White .....	" 13..	" 13..	9	216	303	36
Mammoth White Intermediate .....	" 13..	" 13..	8	1,688	294	48
White Belgian .....	" 13..	" 13..	8	236	270	36
Early Gem .....	" 13..	" 13..	7	1,840	264	..
Yellow Intermediate .....	" 13..	" 13..	7	1,180	258	..
Iverson's Champion .....	" 13..	" 13..	7	520	242	..
Guerande or Oxheart .....	" 13..	" 13..	7	520	242	..
Giant White Vosges .....	" 13..	" 13..	7	256	237	36
Carter's Orange Giant .....	" 13..	" 13..	6	1,200	220	..
Scarlet Intermediate .....	" 13..	" 13..	6	276	204	36
Long Scarlet Altringham .....	" 13..	" 13..	4	1,504	188	24
Long Orange or Surrey .....	" 13..	" 13..	4	976	149	36

### EXPERIMENTS WITH SUGAR BEETS.

Six varieties were sown twice on clay loam prepared as for the other root crops, and the seed was sown at the rate of four pounds per acre.

Danish Improved and Danish Red Top were clean and well shaped roots, the others were rough and rooty.

As will be seen, the late seeding in this instance gave much the best returns.

#### SUGAR BEETS.—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	YIELD PER ACRE.							
					1st Plot.		1st Plot.		2nd Plot.		2nd Plot.	
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
					Danish Red Top .....	May 14	May 25	Oct. 12	Oct. 12	23	332	772
Danish Improved .....	" 14	" 25	" 12	" 12	21	372	706	12	23	1,124	785	24
Wanzleben .....	" 14	" 25	" 12	" 12	17	56	667	36	15	1,944	532	24
Improved Imperial .....	" 14	" 25	" 12	" 12	16	736	545	36	16	340	539	..
Red Top Sugar .....	" 14	" 25	" 12	" 12	16	472	541	12	18	828	613	48
Vilmorin's Improved .....	" 14	" 25	" 12	" 12	11	836	380	36	14	1,568	492	48

## VEGETABLE GARDEN.

Frosts in the latter part of May did considerable damage to all early vegetables, but the abundant rainfall in June and July ensured a large crop of everything. Cabbage, cauliflowers, onions, celery, lettuce, beets and radishes far surpassed the production of any previous season. Tomatoes were also a good crop but did not mature as early as usual.

## ASPARAGUS.

Three varieties, Conover's Colossal, Barr's Mammoth and Donald's Elmira were grown in beds planted in 1891 and 1893. The crop was somewhat below the average on account of dry weather early in the season, but some good cuttings were obtained from all the varieties. First cut 2nd May, continued in use till 25th June.

## BEANS.

Eleven varieties were tested.

Sown 6th May and well up 27th May, frozen 27th May. Resown 29th May.

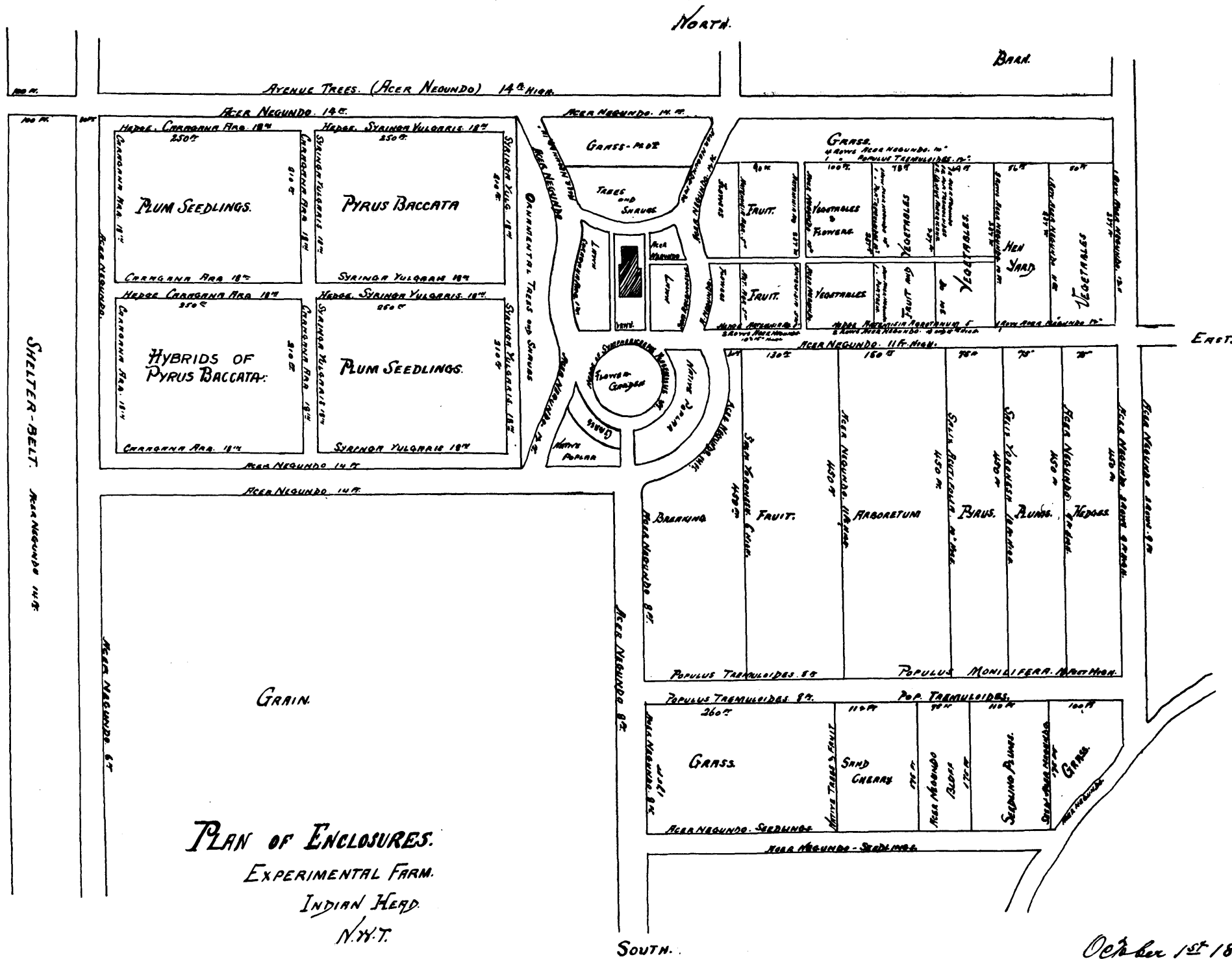
Dwarf White Butter, in use August	2.	
Improved Rust-proof, " "	4.	
Golden-wax (Simmers), " "	3.	
Valentine Wax, " July 30.	Good.	
Golden Wax (Steele), " August	4.	
Wardwell's Kidney Wax, " "	6.	The best.
Taber's I.X.L. Green pod. " "	4.	
Roger's Lima Wax, " July 30.	Good.	
Golden Wax (Ferry), " August	6.	
Challenge Dwarf Black Wax, " "	8.	
English Broad Windsor, " "	Did not pod.	

To save the first seeding from frost, earth was heaped over the vines. Where the covering was less than one inch thick the vines were destroyed: otherwise the plants came through alive but took a long time to recover.

## BEETS.

Twelve varieties were sown on May 6th, in drills 18 inches apart. The crop was a large one, but some of the varieties grew thick-skinned and coarse. Lifted Sept. 28th.

Variety.	Fit for Use.	Bush. per Acre.	Remarks.
Detroit Dark Red	July 12..	1,620	Good.
Bonsecours Market	" 15..	1,458	Small, good.
Fine Long Dark	" 15..	1,350	
Brigg's New Extra Early	" 1..	1,026	Good.
Improved Arlington	" 12..	1,026	
Eclipse Early Turnip	" 1..	972	Good.
Long Red	" 20..	972	
Edmand's Blood Turnip	" 12..	864	
Half-long Blood	" 15..	810	
Gardener's Favourite	" 12..	810	Good.
Dewing's Blood Turnip	" 12..	756	
Nonesuch	" 12..	756	



Plan showing ornamental planting about residence of Superintendent, also hedge enclosures and fruit orchards on Experimental Farm at Indian Head, N.W.T.

## Experimental Farms.

### CARROTS.

Seven varieties sown April 21. Lifted September 27.

Variety.	Bush. per Acre.	Remarks.
Vaughan's Selected Danvers.....	405	Rough.
Long Red Stump Rooted.....	378	Smooth, good.
Large Scarlet Nantes.....	325	Excellent quality.
Early Scarlet Horn.....	280	" "
Danvers' Half-long.....	269	Fair quality. "
New York Market.....	216	" "
Scarlet Chantenay.....	216	Excellent quality.

### CABBAGE.

Sown in hotbed April 5th. Transplanted into frames April 26th. Transplanted into garden May 23rd.

Variety.	Fit for Use.	Remarks.
Red Dutch Pickling.....	Sept. 2.	Good size. Solid heads.
Red Drumhead Pickling.....	" 2.	Solid heads. All headed.
Lightning Express.....	" 2.	Solid large heads. "
Burpee's World-beater.....	" 14.	Very fine large heads.
Early Jersey Wakefield.....	July 15.	Early, solid. All headed.
Early Paris.....	Aug. 3.	Early, a few soft heads.
Early Standard.....	" 12.	Early, solid.
Very Early Etampes.....	July 27.	Early, solid. Even. All headed.
Fottler's Early Drumhead.....	Aug. 3.	" " " "
Vandergaw.....	July 27.	Early, solid. One of the best.
Surehead.....	Aug. 2.	" " " "
Nonesuch.....	Sept. 12.	Late, large fine heads.
Late Drumhead.....	" 12.	" " " "
Drumhead Savoy.....	Aug. 2.	All solid heads. "

### SOWN IN COLD-FRAME.

Early Standard, Very Early Etampes, Fottler's Early Drumhead, Surehead, Nonesuch, Burpee's All-head, Early Summer, The Lupton, Large Aubervillier's Savoy, Premium Flat Dutch and Red Dutch were all sown in cold-frame on 26th April, and transplanted to garden 15th June. The crop was just as good as from the plants sown in hotbed and was a great deal less trouble.

### CELERY.

Sown in hotbed 6th April. Set out in trenches 20th June.

Pink Plume,	in use 10th September.
White Plume	" 24th August.
Paris Golden Yellow	" 12th September.
Dobbie's Invincible	" "
Evan's Triumph	" "
Golden-hearted Dwarf	" "
White Pascal	" "
Giant White Solid	
Rose-ribbed Paris	

All varieties produced the largest and best crop of celery ever grown on this farm. White Plume was the earliest and best variety, though the heads were not so large as those of other varieties. All were solid and crisp.

## CITRONS.

Two varieties, Red Seed and Colorado Preserving, were sown in hotbed on the 19th April. Potted on 9th May and set out on 22nd May. The Red Seed produced a fair crop of well formed fruit, averaging 8 pounds each. Colorado Preserving was more prolific, the fruit averaged 10 pounds each, but was uneven.

## CAULIFLOWER.

The following ten varieties were sown in hotbed on 5th April, transplanted to cold frame 25th April, and set out in garden on 25th May. The same varieties were also sown in cold-frame on 26th April, and set out in garden on 13th June. The crop from plants started in hotbed came into use about ten days earlier than that from the cold-frame plants, but no difference could be noticed in the productiveness or quality.

Variety.	Fit for use.	Remarks.
X. X. X	Aug. 6.	Fine solid heads.
High Grade Erfurt	" 8.	Extra fine quality, but small.
Danish Snowball	" 8.	Very white, close heads.
Earliest Dwarf Erfurt	" 3.	Some fine heads; a few imperfect.
The World's Best Snowball	" 6.	Very close heads; all headed.
Early Snowball	" 4.	Very close heads; a few did not head.
Early Favorite	" 8.	Large fine; a few imperfect.
Extra Early Whitehead	" 3.	Very large heads; all perfect.
Gilt Edge	" 10.	" " "
Selected Early Erfurt	" 5.	One of the best; all perfect.

## CUCUMBERS.

Sown in boxes in hotbed on 19th April, potted on 9th May, and set out in frames in garden on 19th May. None of the varieties were very prolific, but the fruit was large.

Variety.	Fit for use.	Remarks.
Chicago Giant Goliath	July 14.	Large fruit; few on vines.
Chicago Pickling	" 16.	Very few set.
New Siberian	" 3.	Extra good.
Arlington White Spine	" 10.	"
Giant Pera	" 14.	Good crop; even and large.
White Wonder	" 10.	Good fruit; very few set.
Albino	" 10.	" " "
Giant White	" 16.	Largest grown.
Livingston's Emerald	" 11.	One of the best.
Evergreen White Spine	" 10.	Good fruit.
White German	" 9.	Very few set.
No. 23	" 10.	Fair crop.

## CORN.

Early Giant Kendall, First of All, The Cory, Early Market, Mitchell's Early, Ford's Early Sugar, Early Cory, Squaw Corn, were planted on 16th May. Fit for use 27th August to 7th September. Cut down by frost on 8th September. No corn ripened. First of All, Squaw Corn and Mitchell's Extra Early were fair crops; the others poor.

## Experimental Farms.

### LETTUCE.

First seeding May 2. Fit to use June 26.

Second seeding May 13. Fit to use August 5 to 10.

Gardner's Favorite.—Fine large heads.	Early Tennis-ball.—Very good.
Big Boston.—The best.	Blonde Beauty.—“
Prize head.—Fine heads.	Mammoth Cabbagehead.—Fine large heads.
Toronto Market.—Fine heads.	The Deacon.—“
Large Passion.—Very good.	Black Seeded Butter.—“

Both seedings gave exceptionally good crops.

### MELONS.

*Musk Melons* :—Early Hackensack, Grand Rapids, Emerald Gem and Earliest of All, sown in boxes in hotbed April 19. Transplanted to frames in garden May 19th. Crop good but fruit small.

*Water Melons* :—Glory of Asia and Phinney's Early, sown in boxes April 19th. Transplanted to frames in garden May 9th. Small crop of good sized fruit. Frames were put over vines on Sept. 1st and the fruit ripened under glass.

### MARROWS AND SQUASH.

Mammoth White, Summer Crookneck, Mammoth Chili Squash, and Long White and Early Yellow Bush Marrows were sown in frames in garden on May 13. All produced a fair crop of good sized fruit.

### PUMPKINS.

Mammoth King and Connecticut Field pumpkins were sown in frames in garden on May 13. A fair crop of large sized, imperfectly matured pumpkins was the result.

### BRUSSELS SPROUTS.

New Giant sown in hotbed April 5. Transplanted to garden May 23. Good crop.

### PEPPER.

Cardinal and Long Red sown in hotbed April 5. Potted May 11 and set out May 26th. Neither variety ripened although a large crop of fruit set.

### HERBS.

Summer Savory, Mint, Sweet Marjoram and Cress sown on April 21. All did well.

### ONIONS.

Sown in hotbed April 4th. Transplanted May 26th. Lifted September 23rd.

Variety.	Bush. per Acre.	Remarks.
New White Victoria.....	756	Very large. Fair quality.
Prize-taker.....	756	“ Good shape.
White Globe.....	680	“ Good quality.
Large Red Wethersfield.....	621	Large and even. “
Yellow Globe Danvers.....	594	“
Cracker Jack.....	594	Fair size. Good quality.
Sutton's White Leviathan.....	594	Large size. Fair quality.
Dobbie's Golden Globe.....	511	Fair size. Good quality.
King of the Earliest.....	485	Early and good quality.
Giant Rocco.....		Did not grow.



Sown in the open. Sown April 23rd.

Variety.	Bush. per Acre.	Remarks.
Prizetaker . . . . .	537	Very large but soft.
White Globe . . . . .	511	Very large. Solid.
Large Red Globe. . . . .	459	Good crop. Solid.
Yellow Globe Danvers . . . . .	432	" " "
King of the Earliest. . . . .	432	Fair size. Good crop.
Dwarf Golden Globe . . . . .	432	Very large.
Oxonion . . . . .	405	Very fine onions.
Cracker Jack . . . . .	378	Fair size. Medium quality.
Large Red Wethersfield . . . . .	378	Good crop.
Large Yellow Flat Danvers . . . . .	351	Extra fine.
Early Red Wethersfield . . . . .	270	Firm. All good.
The Queen . . . . .	162	Good crop. Picklers.

ONION SETTS.

White Multiplier, White Dutch, Red Setts, Bruce's Yellow, Vaughan's Yellow and Simmers' Yellow were set out on 20th April and produced a good crop. White Multipliers were extra fine.

PEASE.

Eleven varieties were sown on 29th April and again on 6th May.

Variety.	1st Seeding fit for use.	Ripe.	Remarks.
Daisy . . . . .	July 18.	Sept. 6	Best variety.
C. P. R . . . . .	" 26.	" "	Good green pea. Too late to ripen.
American Wonder . . . . .	" 9.	Sept. 1.	Good early pea.
Anticipation . . . . .	" 26.	" "	Good green pea. Too late to ripen.
Horsford's Market Garden . . . . .	" 16.	Sept. 7.	Good crop, but late.
Alaska . . . . .	" 9.	" 1.	Good variety, small.
Nott's Excelsior . . . . .	" 16.	" 7.	Good late variety, large and sweet.
Imp. Stratagem . . . . .	" 25.	" 7.	Good late variety.
Wm. Hurst . . . . .	" 9.	Aug 31.	Best early variety.
Laxton's Charmer . . . . .	" 25.	Sept. 8.	Fair late variety.
Heroine . . . . .	" 25.	" 9.	Good variety, but too late.

TOBACCO.

Connecticut Seed Leaf sown in hotbed 8th April. Cut 27th August. Good leaf. Will be useful for spraying maple trees for aphids.

PARSNIPS.

Sown 21st April. Lifted 28th October. Dobbie's Selected, 756 bushels per acre, best, even, thick roots; Hollow Crown, 680 bushels per acre, second best, long, thick roots; Maltese, 432 bushels per acre, good quality.

RADISHES.

Ten varieties were sown on 2nd May and again on 13th May, but were cut down by frost on 27th May. The same varieties were resown on 29th May and the crop produced surpassed all previous crops of radishes grown here.

All varieties were fit to use six weeks after seeding.

- |                                  |   |
|----------------------------------|---|
| Rosy Gem; extra good.            | In and Out; extra good.                   |
| Golden Turnip; good.             | Extra Early White Olive; one of the best. |
| Early White Lipped; good.        | Long White Vienna; good.                  |
| New Pearl Forcing; fair.         | Rosy Gem (Simmers); extra good.           |
| Early Scarlet Globe; extra good. |   |

## Experimental Farms.

### RHUBARB.

The old bed of Linnæus and the beds of Large Green and Victoria set out last year did well considering the season. A number of the roots of all the varieties died during the summer. Large Green is a large, coarse variety; the other two are very fine.

### TOMATOES.

Sown in hotbed 8th April. Repotted 11th May. Set out 30th May, Yellow Plum. Fair crop. Did not ripen.

Earliest of all.	Ripe August 17.	Fair crop.	Imperial.	Ripe August 24.	Fair crop.
Atlantic Prize.	" 29.	"	Dominion Day.	" 24.	"
Early Michigan.	" 25.	"	New Sensation.	" 24.	"
Early Ruby.	" 29.	"			

A few tomatoes of the above varieties were ripe on the dates mentioned, but the greater part of the crop was ripened under glass which was put over vines on 1st September.

### FLOWER GARDEN.

In no previous year have we had such a profusion of flowers as during the past season. Commencing in May with a large bed of Tulips there was continuous bloom till snow fell and covered the Pansies. The Tulips were followed by Sweet Williams, Pansies, Dianthus, Phlox, Sweet Peas, Stocks, Verbenas, Petunias and other flowers of equal beauty. Asters alone, among all the varieties tested, did not do well and very few were in bloom when the plants were cut down by frost on September 7th.

The Tulips planted last year were a great success and the variety of colours and size of flowers were a source of pleasure to every one.

Eschscholtzia was also very fine and used as a border produced a very pretty combination of bright yellow, white and purple flowers.

### ANNUALS.

Sown in hotbed and transplanted. Sown April 9, transplanted June 25.

Variety.	In Bloom.		Remarks.
	From	To	
Asters .....	Aug. 23.	Sept. 7.	Very few flowered.
Carnation Marguerite .....	" 28.	" 7.	Flowers small.
Dianthus .....	" 5.	" 7.	Very fine.
Stocks .....	July 19.	" 7.	"
Pansies .....	May 15.	Nov .....	"
Antirrhinum. ....	Aug. 15.	Sept. 7.	Fair show.
Petunia .....	" 15.	" 7.	Fine. Not many double.
Verbena .....	" 10.	" 7.	Much finer than previously grown.
Linum, Scarlet. ....	" 10.	" 7.	Good.
Calliopsis .....			Very fine.
Zinnia .....			Not as good as usual.
Phlox Drummondii .....			Extra fine.

### *Sown in Open*

The following were sown in open ground May 20 to 25th. All flowered well and made a good show until frozen:—Sweet Peas, Nasturtium, Sweet Alyssum, Phlox Drummondii, Candytuft, Mignonette, Poppy, Godetia, Salpiglossis and Larkspur.

For gardens in the North-west Territories the following are recommended:—

For sowing in hotbed and transplanting: Stocks, Pansies, Dianthus, Petunias, Verbenas, Calliopsis, Linum Scarlet, Phlox Drummondii, Dahlia, Antirrhinum and Asters.

*For Sowing in the Open.*

Sweet Peas, Dwarf Nasturtium, Sweet Alyssum, Eschscholtzia, Candytuft, Mignonne, Poppies, Pansies, Godetia, Salpiglossis, Convolvulus Minor, and Larkspur.

## PERENNIALS.

Pæony, Scarlet Lychnis, Yellow Flax, Rudbeckia Golden Glow, Sweet William, Columbine, Iceland Poppy, Everlasting Pea, Perennial Flax, Delphinium Grandiflorum, Platycodon Grandiflora and Larkspur.

## BULBS.

Tulips, Scilla Sibirica, Irises, and Crocuses.

## PERENNIALS.

(From Experimental Farm, Brandon.)

In May last the following perennials were received from Experimental Farm, Brandon, Manitoba, and set out in permanent bed:—

10 <i>Hemerocallis fulva</i> —3 grew well.	4 <i>Eryngium macrocarpa</i> —3 grew. No flower.
2 <i>Veronica salurgoides</i> —Flowered freely.	20 <i>Coreopsis lanceolata</i> —3 grew. Very fine.
10 <i>Grass Pinks</i> —Flowered freely.	3 <i>Hesperis matronalis</i> —2 grew. “
1 <i>Dictamnus fraxinella</i> —Died.	25 <i>Polemonium reptans</i> —Flowered. “
1 <i>Dielytra spectabilis</i> —Died.	3 <i>Lychnis Haageana</i> H.— “ “
1 <i>Allium stellarianum</i> —Grew.	6 <i>Perennial Larkspur</i> — “ freely.
3 <i>Aconitum napellus</i> —1 flowered late.	6 <i>Viola pedata</i> —3 “ “
8 <i>Papaver orientale</i> —2 grew.. No flowers	6 <i>Campanula Grosseckii</i> —3 “ “
7 <i>Lychnis Chalcedonica</i> —1 grew.	Fine.

This fall a large collection of perennials was received from the Central Experimental Farm, Ottawa and planted on 10th October.

## BULBS.

A collection of Lilies consisting of sixteen varieties, was received from the Central Farm at Ottawa in October, 1897. They were, however, frozen in transit and having arrived too late to be set out were buried in sand in the root cellar. When opened this spring all the bulbs were found to be completely destroyed.

## FOREST TREES.

All varieties of trees and shrubs made a most vigorous growth during the past season. Starting early and growing late without a setback and with an abundance of rain, the largest growth of any one year since the farm started has been attained.

In all probability the late growth will be found, next spring, to have been injurious if not fatal, to many of the trees as the wood did not ripen so thoroughly as in shorter and drier seasons.

The American Cottonwood (*Populus Deltoidea*) rushed ahead as soon as spring opened and the growth during the season was in excess of any previous year.

Russian Poplar (*Populus Bereolensis*), which heretofore had given such good satisfaction and promised to be one of the best varieties of trees for the North-west Territories, did not hold its own and the specimens planted in the open failed altogether.

Among the avenues no losses took place except in the avenue of Russian Poplar and one fine native maple tree (*Acer Negundo*) which had been girdled by boys.

The avenue hedges, especially those set out in 1896 and 1897 made very gratifying progress. Ten miles of roads on the farm are now lined by avenues of single trees or hedges.

In the spring of 1895 five  $\frac{1}{2}$  acre plots were planted with trees at different distances apart, for the purpose of ascertaining the cost of planting and caring for the

## Experimental Farms.

trees until the ground is sufficiently shaded to prevent the growth of weeds, and hence need no further cultivation.

The trees were planted as follows :—

Plot No. 1,	Box Elder,	set out	2½	feet	apart	each	way.
“	2	“	3	“	“	“	“
“	3	“	3½	“	“	“	“
“	4	“	4	“	“	“	“
“	5	Green Ash,	set out	2½	“	“	“

In addition to these were plot No. 6, ½ acre Box Elder seed, sown in rows 2½ feet apart, and plot No. 7, ½ acre Green Ash seed, sown in rows 2½ feet apart.

Following will be found the cost of planting and taking care of trees for the first, second, third and fourth years.

### PLOT No. 1—½ ACRE.

Cost of taking up trees		\$0 76
1st year, cost of planting, 15 hours		2 25
“ scruffing, &c. 12 “		1 80
2nd year “ 10 “		1 50
3rd “ “ 6 “		0 90
4th “ “ around plot 1 “		0 15
		\$7 36

### PLOT No. 2—½ ACRE.

Cost of taking up trees		\$0 70
1st year, cost of planting, 12 hours		1 80
“ scruffing, &c. 15 “		2 25
2nd “ “ 13 “		1 95
3rd “ “ 5 “		0 75
4th “ “ around plot 1 “		0 15
		\$7 60

### PLOT No. 3—½ ACRE.

Cost of taking up trees		\$0 61
1st year, cost of planting, 9 hours		1 35
“ scruffing, &c. 11 “		1 65
2nd “ “ 12 “		1 80
3rd “ “ 4 “		0 60
4th “ “ 1 “		0 15
“ “ hoeing 3 “		0 45
		\$6 61

### PLOT No. 4—½ ACRE.

Cost of taking up trees		\$0 55
1st year, cost of planting, 9 hours		1 35
“ scruffing, &c. 10 “		1 50
2nd “ “ 14 “		2 10
3rd “ “ 3 “		0 45
4th “ “ 1 “		0 15
“ “ hoeing 3 “		0 45
		\$6 55

PLOT No. 5— $\frac{1}{2}$  ACRE.

Cost of taking up trees . . . . .		\$0 76
1st year, cost of planting, 18 hours . . . . .		2 50
“ “ scruffing, &c. 11 “ . . . . .		1 65
2nd “ “ 9 “ . . . . .		1 35
3rd “ “ 5 “ . . . . .		0 75
4th “ “ 1 “ . . . . .		0 15
“ “ hoeing 3 “ . . . . .		0 45
		\$7 61

PLOT No. 6— $\frac{1}{2}$  ACRE SEED.

1st year, cost of making drills, 2 hours . . . . .		0 30
“ “ sowing seed 4 “ . . . . .		0 60
“ “ covering seed 6 “ . . . . .		0 90
“ “ scruffing, &c. 11 $\frac{1}{2}$ “ . . . . .		1 72
2nd “ “ 10 “ . . . . .		1 50
3rd “ “ 5 “ . . . . .		0 75
4th “ “ 1 “ . . . . .		0 15
		\$5 92

PLOT No. 7— $\frac{1}{2}$  ACRE SEED.

1st year, cost of making drills, 2 hours . . . . .		\$0 30
“ “ cost of sowing seed, 4 “ . . . . .		0 60
“ “ cost of covering seed 6 “ . . . . .		0 90
“ “ cost of scruffing, &c. 10 $\frac{1}{2}$ “ . . . . .		1 57
2nd “ “ 9 $\frac{1}{2}$ “ . . . . .		1 42
3rd “ “ 12 “ . . . . .		1 80
4th “ “ 11 $\frac{1}{2}$ “ . . . . .		0 22
“ “ hoeing 15 “ . . . . .		2 25
		\$9 06

The trees did remarkably well, and these plantations will, in a short time, be among the best on the farm.

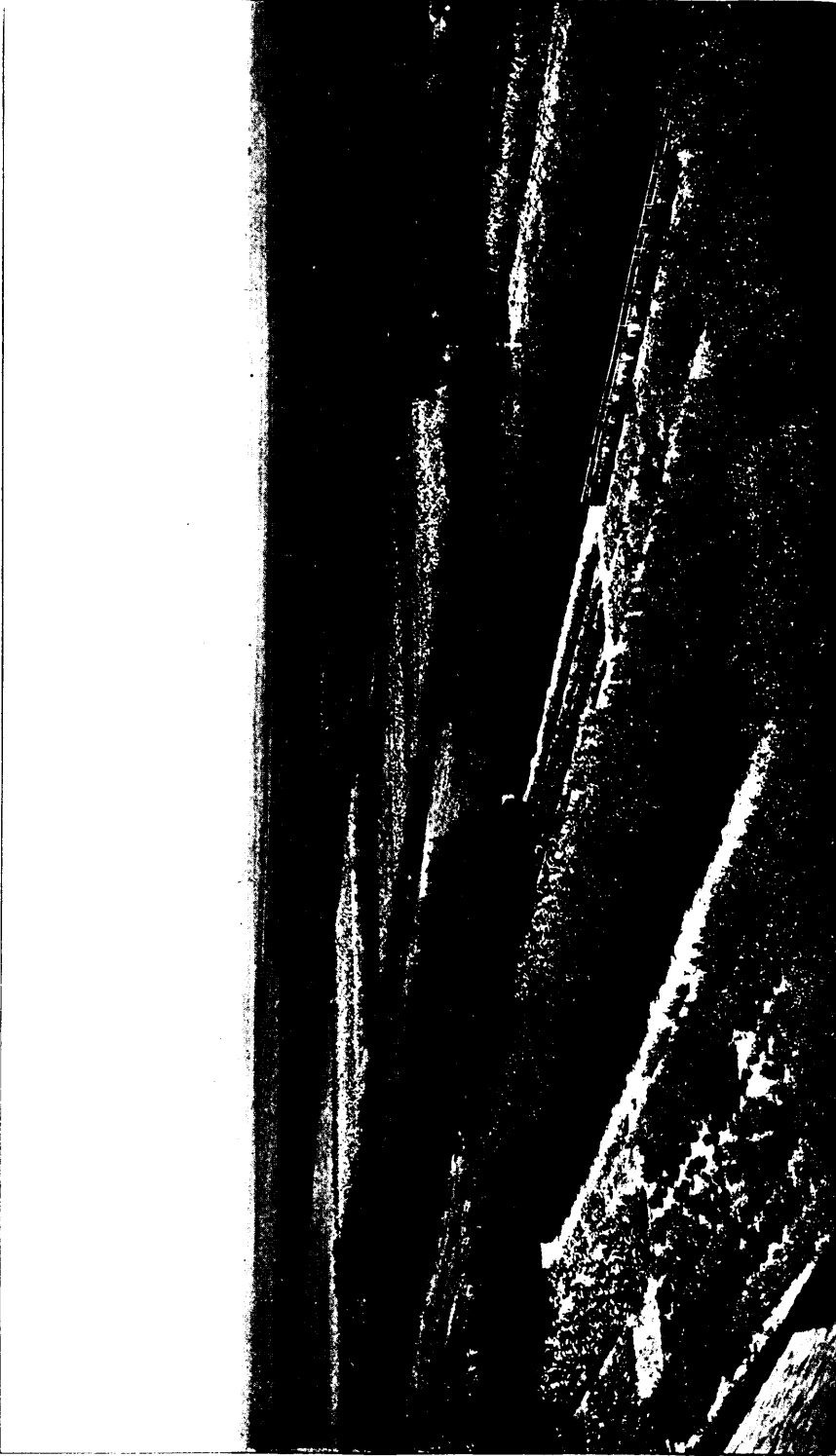
Plots No. 1 and 2 required no work this year, with the exception of one scruffing around the plots to kill weeds.

Plots No. 3, 4 and 5 were scruffed and hoed. The latter being planted with green ash suffered from frost in May, which retarded growth, but eventually the plot made excellent progress.

Plot No. 6 (maple seedlings) required only one scruffing, while plot No. 7 (green ash seedlings) was scruffed twice and hoed three times.

NEW PLANTATION.

A new plantation, three-quarters of an acre in extent, was set out last spring with maple, ash and elm, and sand-cherry, which is intended to shade the grounds. Sand-cherry was planted in each alternate row with maple, ash and elm, in the proportion of two maples to one of ash or elm in the other rows. A few elms died shortly after being set out, but the blanks will be filled in spring of 1899.



View on Experimental Farm, Indian Head, N.W.T., showing Hedge Enclosures for protecting vegetables and small fruits.

# Experimental Farms.

## ARBORETUM.

The arboretum now contains 230 species and varieties of trees and shrubs, which have been planted as follows:—

In 1895, 41 varieties; in 1896, 65 varieties, 6 of which replaced deaths of 1895; in 1897, 75 varieties, 2 of which replaced deaths of 1896, and in 1898, 62 varieties, 5 of which replaced deaths of 1897.

The varieties and species added in 1898 are:—

<i>Abies subalpina</i> (from Laggan, B.C.)	<i>Pinus cembra</i> .
<i>Acer spicatum</i> .	" <i>Murrayana</i> (from Banff).
<i>Betula</i> (from Niemetz)	<i>Ribes Siberica</i> .
" <i>populifolia</i> .	" <i>alpinum</i> .
" <i>rubra</i> .	" <i>Gordonianum</i> .
<i>Berberis Cretica</i> .	<i>Rhamnus</i> No. 13 (from Niemetz).
" <i>Amurensis</i> .	<i>Rosa blanda</i> .
" <i>Sieboldii</i> .	" <i>villosa pomifera</i> .
<i>Caragana frutescens</i> .	<i>Shepherdia argentea</i> (Red Fruit).
<i>Celastrus articulata</i> .	" " (Yellow Fruit).
" <i>scandens</i> .	<i>Spiraea tomentosa</i> .
<i>Crataegus</i> No. 9 (from Niemetz).	" <i>sorbifolia</i> .
<i>Cephalanthus occidentalis</i> .	" <i>ulmifolia</i> .
<i>Cytisus nigricans longispicata</i> .	" <i>ariaefolia</i> .
" <i>trifolius</i> .	<i>Syringa pekinensis</i> .
<i>Cotoneaster</i> No. 10 (Niemetz).	<i>Sambucus laciniata</i> .
<i>Celtis Audiberti</i> .	" No. 45 (from Niemetz).
<i>Cornus Baileyi</i> .	<i>Salix longifolia argyrophylla</i> .
<i>Gymnocladus Canadensis</i> .	" <i>Sieboldiana</i> .
<i>Juglans nigra</i> .	" <i>nigricans</i> .
<i>Lycium Chinensis</i> .	" <i>capraea</i> .
<i>Ligustrum Amurensis</i> .	" <i>batavaea</i> .
<i>Lonicera gracilis</i> .	" <i>Salanoni</i> .
<i>Magnus</i> (Black Currant.)	" <i>Nicholsoni purpurescens</i> .
<i>Ptelea trifoliata</i> (Russian Form)	" <i>alba</i> .
<i>Picea Alcockiana</i> .	" <i>villarsiana</i> .
<i>Pyrus rivularis</i> (B.C.)	" <i>repens argentea</i> .
" <i>betulaefolia</i> .	" <i>Forbyana</i> .
<i>Populus balsamifera Suaveolens</i> .	<i>Tamarix Amurensis</i> .
" <i>nigra</i> .	<i>Viburnum opulus sterilis</i> .
<i>Prunus tomentosa</i> .	

## HEDGES.

One species, *Ligustrum Amurense*, was this year added to the list of sample-hedges.

## ROSES.

Of the twelve varieties of Roses planted in 1897, only four survived the winter. In the fall of 1897 the plants were surrounded by frames into which leaves were packed to a depth of 10 to 12 inches. A snow bank four feet deep also covered the plants.

Following are the surviving varieties with notes on their progress during the past season:—

Lady Helen Stewart, made fair growth but did not bloom.
François Levêt, " "
Madame Victor Verdier, " "
Madame Plantier, made very strong growth, but did not bloom.

## FRUIT TREES AND BUSHES.

The season has been very unfavourable for fruiting, but exceptionally good for growth, and all varieties of fruit trees and bushes have made rapid progress. There was a large show of blossoms in May, but the frosts on 27th, 28th and 29th of that month killed all except native raspberries which bloom late, and cultivated varieties of red and white currants, gooseberries and raspberries, which produced one-third of an average crop. Black currants were completely destroyed.

FRUIT TREES—CRAB APPLES (*Pyrus baccata*).

The first crab apples ever produced on the farm were grown this year. Needless to say, they were not large, but nevertheless, were perfect apples. Ten trees of *Pyrus baccata* were fairly well covered with blossoms, but frosts late in May killed all except a few blossoms on one tree from which six crab apples were secured.

## PYRUS TREES PLANTED IN 1896.

The following notes show the condition and growth of the *Pyrus* trees planted in 1896. Received from C. E. F., Ottawa.

Name of Variety.	No. Planted. — Spring, 1896.	No. Living. — Fall, 1898.	Notes on Growth.
<i>Pyrus prunifolia</i> . . . . .	4	4	Strong growth from tips.
<i>Pyrus baccata edulis</i> . . . . .	4	4	3 strong growth, 1 winter killed.
" " <i>flava</i> . . . . .	1	1	Strong growth healthy.
" " <i>sanguinea</i> . . . . .	8	7	" " "
" " <i>lutea</i> Regel . . . . .	2	1	Fair growth, kills back $\frac{1}{2}$ .
" " <i>genuina</i> . . . . .	5	5	Strong growth.
" " <i>cerasiformis</i> . . . . .	7	6	" " does not kill back.
" <i>prunifolia intermedia</i> . . . . .	4	4	2 " 2 fair growth.
" " <i>xanthocarpa</i> . . . . .	4	4	Strong growth.
" <i>baccata macrocarpa</i> . . . . .	3	2	" " healthy.
" " <i>aurantiaca</i> . . . . .	2	2	" " "
" " <i>conocarpa</i> . . . . .	1	1	" " "

## SEEDLINGS RAISED AT INDIAN HEAD.

<i>Pyrus prunifolia</i> . . . . .	19	19	Very strong growth.
" <i>baccata macrocarpa</i> . . . . .	8	8	" "
" " <i>genuina</i> . . . . .	8	8	" "
" " <i>cerasiformis</i> . . . . .	13	13	" "
" " <i>sanguinea</i> . . . . .	5	5	" "

## SEEDLING PLUM AND PYRUS ORCHARDS. COMMENCED IN 1897.

The following will be found a list of the trees added to this orchard in the spring of 1898, with notes on the progress of all varieties of trees in the plots.

## Planted 1898.—Cross-bred varieties.

	Number Planted.	Female.	Male.	Progress.
Row 9 . . . . .	1	<i>Pyrus baccata</i> . . . . .	Duchess . . . . .	Fair growth.
	6	" . . . . .	Wealthy . . . . .	Strong "
	4	" . . . . .	Red Astrachan . . . . .	" "
	2	" . . . . .	Martha Crab . . . . .	Fair "
	2	" . . . . .	Excelsior . . . . .	" "
	4	<i>Pyrus prunifolia</i> . . . . .	Pewaukee . . . . .	Strong "
Row 10 . . . . .	1	<i>Pyrus baccata</i> . . . . .	McMahon's White . . . . .	Weak "
	11	<i>Pyrus baccata</i> . . . . .	Tetofsky . . . . .	6 strong, 5 fair growth.
	9	" . . . . .	Talman Sweet . . . . .	7 " 2 "
Row 11 . . . . .	1	<i>Pyrus baccata</i> . . . . .	Yellow Transparent . . . . .	Strong growth.
	6	" . . . . .	Swayzie Pomme Gris . . . . .	4 strong, 2 fair growth.
	5	" . . . . .	Pewaukee . . . . .	All strong growth.



# Experimental Farms.

## ROOT GRAFTS.

(Made by grafting scions of some of the more promising of the new cross-bred varieties, on *Pyrus baccata* or *Pyrus prunifolia* roots.)

No. planted.	SCION OF		Grafted on Root of	Registered No.	Remarks.
	Female.	Male.			
<i>Row No. 11.</i>					
4	<i>Pyrus baccata</i>	Transcendent	<i>Pyrus prunifolia</i>	29	Did not grow.
4	"	Wealthy	" <i>baccata</i>	145	2 did not grow; 1 strong growth; 1 fair growth.
<i>Row No. 12.</i>					
3	<i>Pyrus baccata</i>	Duchess	" <i>prunifolia</i>	142	1 living; made fair growth.
1	"	Tetofsky	" <i>baccata</i>	45	Did not grow.
5	"	Wealthy	" "	117	1 living; fair growth.
3	"	Transcendent	" <i>prunifolia</i>	19	1 " " strong growth.
5	"	Wealthy	" <i>baccata</i>	118	1 " " strong growth.
3	"	Orange Crab	" <i>prunifolia</i>	1	Did not grow.
<i>Row No. 13.</i>					
2	<i>Pyrus baccata</i>	Wealthy	" <i>baccata</i>	132	Did not grow.
5	"	"	" "	127	1 living; strong growth.
4	"	Red Anis	" "	162	Did not grow.
3	"	Wealthy	" "	122	2 living; fair growth.
3	"	Orange Crab	" <i>prunifolia</i>	16	2 " "
2	"	Tetofsky	" <i>baccata</i>	79	Did not grow.
1	"	Hyslop	" "	30	"
<i>Row No. 14.</i>					
3	<i>Pyrus baccata</i>	Red Anis	" "	164	2 living; fair growth.
3	"	Tetofsky	" <i>prunifolia</i>	116	3 " "
2	"	Red Anis	" <i>baccata</i>	165	1 living; strong growth.
2	"	Tetofsky	" "	46	Did not grow.
2	"	"	" "	53	1 living; fair growth.
3	"	Hyslop	" "	112	2 " "
2	"	"	" <i>prunifolia</i>	107	Did not grow.
2	"	Duchess	" <i>baccata</i>	141	1 living; fair growth.
1	"	Tetofsky	" "	64	Did not grow.
<i>Row No. 15.</i>					
	<i>Pyrus baccata</i>	Red Anis	" "	161	"
12	<i>Pyrus</i> , No. 529				9 growing; 7 fair growth; 2 weak growth.

There are still nine rows to be planted in this orchard.

### TREES PLANTED IN ORCHARD IN SPRING OF 1897.

The blanks caused by the deaths of trees in 1897 and the winter of 1897-8 were this spring filled with seedlings of the same varieties grown on this farm.

Out of 1,120 trees living in the fall of 1897 only 20 died during the winter and spring of 1897-8, and these deaths were mainly due to water standing on one of the orchard plots for some time in the spring.

The *Caragana Arborescens* and Lilac hedges around these four orchard plots are making good progress.

### PLUMS.

*Seedlings of Weaver.*—Planted spring 1894. Twelve trees blossomed, seven of which bore fruit which did not mature and was destroyed by frost in September. The fruit was considerably larger than the Manitoba native wild plum but was not nearly matured when frozen.

*Seedlings of Hungarian.*—Planted 1894. These trees made a strong and healthy growth but did not bear fruit.

*Seedlings of Speer.*—Planted 1895. Made very strong growth but have not yet borne fruit.

*Seedlings of De Soto.*—Planted 1895. Have made strong growth but have not borne fruit.

*Seedlings of Voronesh.*—Planted 1897. All made very strong growth and are in a healthy condition, but have not yet fruited.

*Seedlings of Imperial Blue.*—Planted 1895. Partly winter-killed but made some very strong shoots this season.

PLUMS from Central Experimental Farm. Planted 1897.

Variety.	No. Planted.	Remarks.
De Soto .....	2	Very strong growth.
Aikin .....	1	Killed back; weak growth from root.
Hoskin .....	1	Lived to near tip and made very strong growth.

PLUMS received from Chas. Luedloff, *Cologne, Minnesota.* Planted 1896.

Variety.	No. Planted.	No. Living last Report.	Remarks.
Purple Yosemite .....	2	2	2 strong growth.
Clinton .....	2	1	1 weak growth.
Missouri Apricot .....	2	2	Grafted on Sand Cherry and growing from stock.
Deep Creek .....	2	2	2 strong growth.
Irene .....	2	2	2 fair growth; kills back.
Milton .....	2	1	1 strong growth.
Anthony .....	2	2	2 "
Cottrell .....	2	2	2 "
Emerson .....	2	2	Grafted on Sand Cherry and growing from stock.
Weaver .....	2	2	2 strong growth.
Van Buren .....	2	2	2 "
Reed .....	2	2	2 "
Eather .....	2	2	2 "
Forest Rose .....	2	2	2 fair growth; partly winter-killed.
Dr. Dennis .....	2	2	1 strong, 1 weak growth.
New Ulm .....	2	2	2 strong growth.
Newman .....	2	2	2 "
Van Deman .....	2	2	2 "
Yellow Sweet .....	2	2	1 strong, 1 fair growth.
Chas. Downing .....	2	2	2 strong growth.
Ocheeda .....	2	2	2 "
Speer .....	2	1	1 "
American Eagle .....	2	2	1 strong, 1 very weak growth.
Col. Wilder .....	2	2	2 strong growth.
Pepper's Puritan .....	2	2	2 "
Dunlop No. 1 .....	2	1	1 "
Wood .....	2	1	1 "
Illinois Iron Clad .....	2	1	1 "
Crescent City .....	2	2	2 "
Large Red Sweet .....	2	2	1 " 1 dead.
Hammer .....	2	2	1 " 1 fair growth.
Silas Wilson .....	2	2	2 "
City .....	2	2	2 "
Richland .....	2	1	1 "
Gaylord .....	2	1	1 "
Maldovka .....	2	2	2 "
Neil's .....	2	1	1 "
Hawkeye .....	2	2	1 " 1 fair growth.

# Experimental Farms.

## MANITOBA NATIVE PLUMS.

(From Frankland, Stonewall, Man.)

Planted in one of the garden enclosures in 1895. None of these have yet borne fruit.

No.	Variety.	No. Planted.	No. Living last Report.	Remarks.
No. 60		2	1	1 strong growth.
27		3	2	2 "
7		2	2	2 fair growth.
29		2	2	1 strong, 1 weak growth.
47		3	1	1 strong growth.
59		1	1	"
63		1	1	"
53		1	1	"
84		2	1	"
64		2	2	"
31		2	2	"
21		3	2	1 " 1 dead.
36		3	2	2 "
15		1	1	1 fair growth.
88		1	1	1 strong growth.
91		2	2	1 fair growth, 1 dead.
65		2	2	1 strong growth, 1 dead.
56		2	1	1 "
67		2	2	"
26		2	1	1 "
69		1	1	"
40		1	1	"
51		1	1	"
30		2	1	1 "
61		2	1	1 "
86		1	1	"
85		1	1	"
89		2	2	"
57		2	2	"
81		1	1	"
41		1	1	"
68		2	2	"
39		1	1	"
67		2	2	"

## MANITOBA NATIVE PLUM SEEDLINGS.

Grown from seed planted on Experimental Farm, Indian Head.  
Transplanted 1895.

Five trees bore fruit this season. Several others were covered with bloom which was destroyed by frost in May. Fruit on three of the five trees was of fair size and quality; on the other two the plums were small and sour. All matured in good time.

## CHERRIES.

*Seedlings of Carnation.*—Planted 1894. The tree planted in garden enclosure again came through the winter safely and made fair growth, but did not blossom.

*Seedlings of Lithaur Weichsell.*—The six trees planted in 1894 have made strong growth this season and appear to be gradually becoming hardier, but have not fruited.

*Seedlings of Olivet.*—Two of the four trees planted in 1895 and reported dead in 1897 shot up from roots this year and made strong growth.

*Seedlings of Minnesota Ostheim.*—35 planted in 1895. 11 living in 1897 and survived last winter, making very satisfactory growth this year.

*Rocky Mountain Cherry*.—Planted 1895.

Tree No.	1.	Large crop of small fruit.	Late.
do	2.	Fair do	do
do	3.	Very heavy crop of large fruit.	Early.
do	4.	Small crop of medium fruit.	Late.
do	5.	Large do	do
do	6.	do large fruit.	Ripe August 25.
do	7.	Small do	do
do	8.	Fair do small fruit.	
do	9.	Large do	Late.
do	10.	Fair do large fruit.	Early.
do	11.	do do small fruit.	
do	12.	do do	
do	13.	do do	

The fruit is of good flavour and promises to be a valuable addition to the list of fruits easily grown in the North-west Territories. The bushes made very strong growth during the season and fully matured their wood.

*Wild Cherry from Nebraska*.—Planted 1896. Hardy and strong grower, but has not yet fruited.

*Sand Cherry*.—A number of the sand cherries planted in 1894 bore fruit this season. The fruit is not so large as that of the Rocky Mountain cherry, but promises to improve under cultivation. It is valuable for jellies.

*Mahaleb cherry*.—Planted 1897. Fair growth, kills back one-half.

## APRICOTS.

Two trees from Turkestan, planted in spring of 1897, lived through the winter and made fair growth.

## PEARS.

Longworth.—Planted spring 1897. Winter killed to near ground, and made very weak growth this season.

## GRAPES.

Gibb and Bacchus, planted 1895. Growing slowly.

Manitoba Native Wild, planted 1895, making strong growth, but has not yet fruited.

## SMALL FRUITS.

## WHITE CURRANTS.

White Transparent, planted 1896. Strong growth. Fruited.

White Grape, planted 1896. Fair growth. No fruit.

White Imperial, planted 1897. Fair growth. No fruit.

## RED CURRANTS.

*Planted in 1896.*

Wilder	3 bushes.	Fair growth.	Fruited.
Raby Castle	3 "	"	"
Victoria	3 "	Strong growth.	"
Red Dutch	2 "	"	Small crop.
Versillaise	4 "	"	Good crop.
Fertile d'Angers	3 "	Fair growth.	A few bunches.
Fay's Prolific	2 "	"	Fair crop.
Cherry	4 "	Strong growth.	Good crop.
Prince Albert	3 "	"	"
Lalonde	1 "	Fair growth.	Fair crop.

## Experimental Farms.

*Planted 1897.*

North Star	3 trees.	Strong growth.	No fruit.
Pomona	3 "	"	"

### BLACK CURRANTS.

*Planted 1896.*

Lewis	3 bhs.	Fair growth.	No fruit.	Perry	3 bhs.	Strg. growth.	No fruit.
Oxford	2 "	Strg.	"	Eagle	4 "	"	"
Winona	2 "	"	"	Monarch	4 "	"	"
Perth	1 "	Weak	"	Charmer	4 "	"	"
Ethel	4 "	Strg.	"	Beauty	4 "	"	"
Eclipse	4 "	"	"	Ontario	4 "	"	"
Kerry	3 "	"	"	Stewart	4 "	"	"
Madoc	3 "	"	"	Clipper	4 "	"	"
Star	4 "	"	"	Climax	4 "	"	"
Sterling	4 "	"	"	Black Naples	4 "	"	"
Orton	4 "	"	"	Dakota Tree Currant	2 bhs.	Strong growth.	
Standard	3 "	"	"			Fruited for first time.	

*Planted 1897.*

Victoria	3 bushes.	Strong growth.	No fruit.
Crandall	3 "	"	"

### RASPBERRIES.

*Planted in 1893.*

Dr Reider.—Good crop ; excellent fruit.      Turner.—Fair crop.  
Philadelphia.—Small crop of inferior fruit.

### PLANTED IN SPRING 1897.

Garfield	3 canes.	Strg. growth.	No fruit.	Sharpe	6 canes.	All dead.
Craig	8 "	All dead.		R. B. Whyte	2 "	"
Muriel	6 "	"		Empire	3 "	"
Percy	2 "	"		Sarah	12 "	1 fair growth. 11 dead.
Caroline	2 "	1 strg. growth.	1 dead.	Miller	6 "	3 strong. 3 dead.
Lady Anne	3 "	1 "	2 "	Kenyon	12 "	3 " 9 "
Sir John	2 "	All dead.		Saunders's Large Red	2 canes.	Both dead.

### BLACK AND PURPLE CAP RASPBERRIES.

Schaffer's Colossal and Early Ohio bore a small crop of fruit. Berries small and of medium quality.

*Planted 1897.*

Charles,	1 plant—	Dead.
Royal,	1 do	do

### GOOSEBERRIES.

*Planted 1893.*

Smith's Improved.—	Strg. growth.	Fair crop.	Columbus.—	Fair growth	Small crop.
Lancashire Lad.—	Fair growth.	Small crop.	Houghton.—	Strong growth.	Fair crop.
Governess	"	"	Native	"	"

*Gooseberries Planted 1897.*

Golden Prolific.—1 weak growth.  
Keepsake           2    do  
Pearl                2 strong growth.

## STRAWBERRIES.

*Planted 1895.*

Windsor Chief, New Dominion and Pine Apple bore a very small crop of inferior fruit.

*Planted 1897.*

Scarlet Queen, Brandywine, Gem P., Paris King, Wm. Belt, H. W. Becher, Alpine No. 5. Set out in garden, spring of 1898. Plants healthy and made good growth but did not fruit.

## CATTLE.

The herd on the farm at present consists of three Shorthorn bulls and six females; one Ayrshire bull and three Holstein bulls; also three Ayrshire grades, one Holstein grade, one Polled Angus grade and twenty-three Shorthorn grades of which sixteen are two or three-year old steers.

The pure-bred Shorthorns have all been raised on the farm, with the exception of the young bull "Lord Wolseley" just obtained from the Hon. Thomas Greenway, of Crystal City, Manitoba. This bull is from one of the prize-winning cows of the noted Crystal City herd.

On 5th April of this year, an auction sale of stock was held on the farm at which one pure-bred Shorthorn bull, one Polled Angus cow, one Holstein bull and ten Holstein females were disposed of. The following are the names of animals sold:—

Shorthorn bull	—"Lord of Qu'Appelle."	Holstein cow	—"Pride of Assiniboia."
Polled Angus cow	—"Maid of Skene."	do	—"Lady of Assiniboia."
Holstein bull	—"Prairie King."	Holstein heifer	—"Daisy of Assiniboia."
Holstein cow	—"Abi."	do	—"Favorite of Assiniboia."
do	—"Siepkje 3rd Queen."	do	—"Pride of Assiniboia 2nd."
do	—"Abi of Assiniboia."	do	—"Lady of Assiniboia 2nd."
do	—"Princess of Assiniboia."		

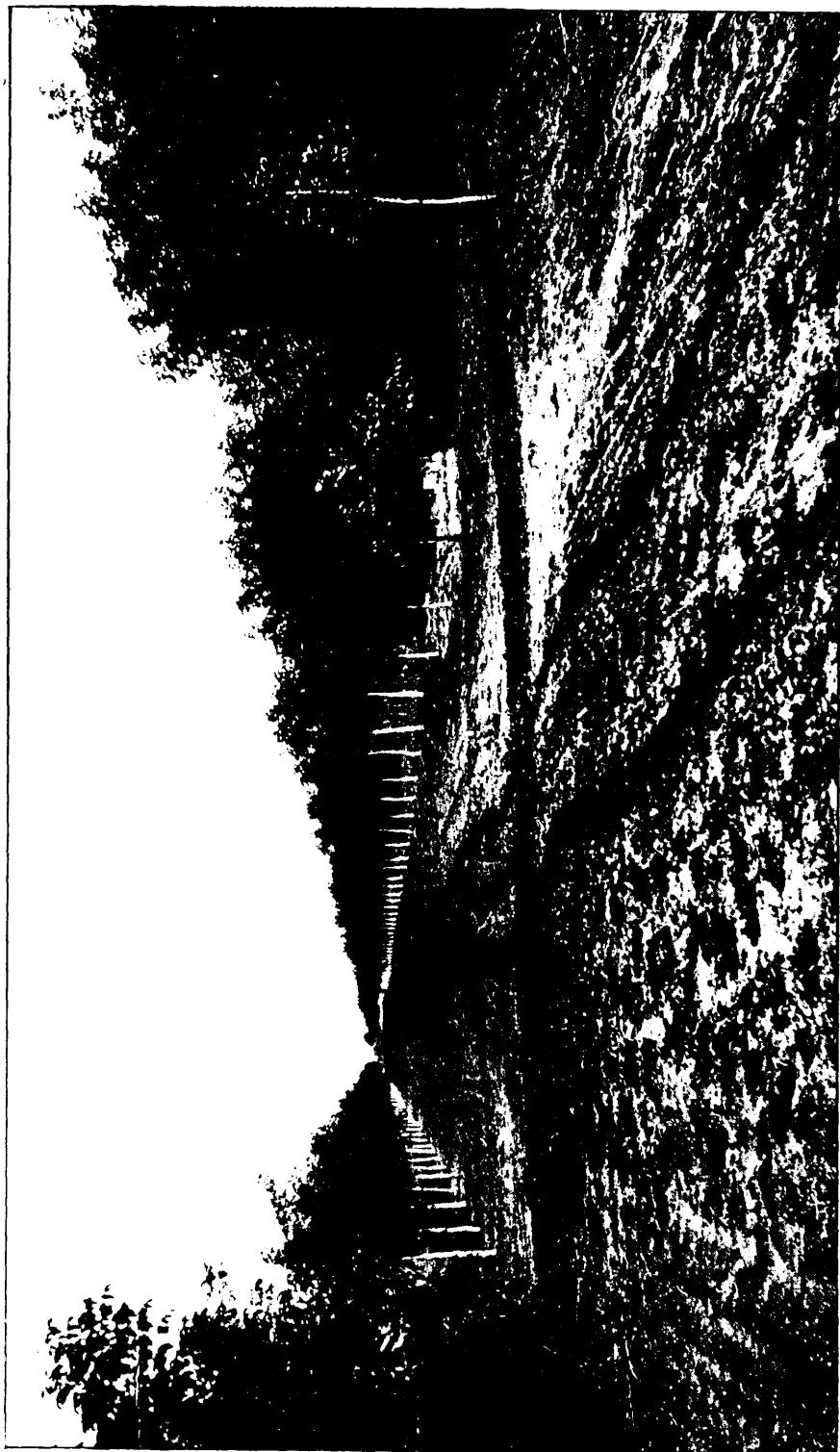
Shortly after the sale the old Holstein bull "Netherland of Brandon" and a Shorthorn bull calf "Katepwe" were disposed of by private sale.

Early in the spring the Ayrshire bull-calf "Dandy Joe of Brandon," obtained from the experimental farm, Brandon, was seriously injured while in the yard with other young stock, and after two months of veterinary attention had to be destroyed. This fall a young Ayrshire bull, "Sir Sydney," has been obtained from the Central Experimental Farm, Ottawa.

The following pure-bred bulls are kept on the farm for service:—

Shorthorn, "Knight of Qu'Appelle."  
" " "Lord Wolseley."  
Holstein, "Earl of Edgeley."  
" " "Prince of the Prairie 2nd."  
Ayrshire, "Sir Sydney."

In November fourteen head of Shorthorn grade steers rising three years were secured from Messrs. Gordon and Ironside, of Winnipeg, for use in the feeding tests to be carried on during the winter. To these will be added two grade steers of the same



View on Experimental Farm, Indian Head, N.W.T., showing avenue of Manitoba Maples (*Nepenthes acroideae*) seven years growth from seed. [369]

## Experimental Farms.

age raised on the farm, making three lots of four steers each and two lots of two each. The lots of four each will be fed rations of wheat straw, barley straw and oat straw, and those of two each on Bromus Inermis (Brome grass) and native hay. Each of the above will be supplemented by rations of corn-ensilage and meal.

### TEST OF HERD FOR TUBERCULOSIS.

During the month of November, 1897, acting under instructions received from Ottawa, the services of Inspector Burnett and an assistant, of the veterinary department of the North-west Mounted Police, were secured and the tuberculin test applied to all the cattle on the farm. Of the fifty-two animals tested, two only, "Prairie Wildflower," a pure-bred Shorthorn cow, and "Abi 2nd of Assiniboia," a pure-bred Holstein cow, reacted and, by order of the Hon. Minister of Agriculture, were destroyed. Both animals had been tested in 1894 and did not then react.

### EXPERIMENTS IN THE FEEDING OF STEERS.

Twelve head of three-year-old steers were divided into four lots of three each and fed from November 13th, 1897, to March 5th, 1898.

Lot No. 1 was fed Brome hay and ensilage ;

Lot No. 2 was fed wheat chaff and ensilage ;

Lot No. 3 was fed threshed Brome grass, ensilage and bran, and

Lot No. 4 was fed native hay, ensilage and bran.

To each of the animals fed as above was given the same ration of ensilage and in addition two pounds of meal per day during the second month, four pounds during the third month and six pounds per day during the last month of the test. The rations were in the proportion of two pounds ensilage to each pound of dry feed. The meal consisted of two parts ground barley and one part ground wheat.

The animals were fed three times a day and were fed on a uniform ration for two weeks before the test was begun.

### MONTHLY AND TOTAL GAINS OF EACH LOT OF STEERS.

Lot No.	Principal Ration.	Gain.	Gain.	Gain.	Gain.	Gain.
		December	January.	February.	March.	Total.
1	Brome hay .....	130	45	165	90	430
2	Wheat chaff .....	10	95	110	110	315
3	Threshed Brome hay .....	60	165	150	30	355
4	Native hay .....	60	190	145	65	460

The total amount and estimated value of feed consumed during the feeding period of 112 days was as follows:—

#### LOT FED ON BROME-HAY.

10,432 lbs.	Ensilage at \$2 per ton.....	\$10 43
5,344 "	Brome-hay at \$5 per ton.....	13 36
933 "	Meal at $\frac{2}{3}$ c. per lb.....	6 22
		30 01



## LOT FED ON THRESHED BROME-HAY.

10,432 lbs.	Ensilage at \$2 per ton.....	10 43
5,344 "	Threshed Brome-hay at \$4 per ton.....	10 69
933 "	Meal at $\frac{3}{4}$ c. per lb.....	6 22
500 "	Bran at \$14 per ton.....	3 50
		<u>30 84</u>

## LOT FED ON NATIVE HAY.

10,432 lbs.	Ensilage at \$2 per ton.....	10 43
5,344 "	Native hay at \$5 per ton.....	13 36
933 "	Meal at $\frac{3}{4}$ c. per lb.....	6 22
500 "	Bran at \$14 per ton.....	3 50
		<u>33 51</u>

## LOT FED ON WHEAT-CHAFF.

10,432 lbs.	Ensilage at \$2 per ton.....	10 43
5,344 "	Wheat chaff at \$2 per ton.....	5 34
933 "	Meal at $\frac{3}{4}$ c. per lb.....	6 22
		<u>21 99</u>

## SUMMARY OF RESULTS.

Lot.	First Cost.	Value of Feed Consumed.	Total Cost.	Sold for.	Profit on Lot.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
3 steers fed on Brome hay.....	99 00	30 01	129 01	156 40	27 39
3 " threshed Brome hay.....	100 92 $\frac{1}{2}$	30 84	131 76 $\frac{1}{2}$	160 80	29 03 $\frac{1}{2}$
3 " native hay.....	99 00	33 51	132 51	166 60	34 09
3 " wheat chaff.....	97 76 $\frac{1}{4}$	21 99	119 75 $\frac{1}{4}$	164 40	44 64 $\frac{3}{4}$

## SWINE.

The herd on the farm consists of twelve animals as follows:—

Improved Chester White.....	1 boar.
Berkshire.....	1 " 2 sows.
Large Yorkshire.....	1 " 1 " 1 barrow.
Tamworth.....	2 " 2 " 1 "

Since my last report one Berkshire boar, two Large Yorkshire boars, five Large Yorkshire sows and two Tamworth sows have been sold to farmers for breeding purposes.

## Experimental Farms.

### POULTRY.

Four breeds are kept, Plymouth Rock, White Wyandotte, White Leghorn and Black Minorca. The breeding pens were made up on March 10th and eggs were gathered as follows:—

Breed.	March.	April.	May.	June.	July.	August.	Total.
Plymouth Rock.....	35	96	108	.....	45	23	307
White Wyandotte.....	26	82	76	.....	32	20	236
White Leghorn.....	25	73	104	12	39	19	272
Black Minorca.....	22	52	84	.....	24	22	204

The hens were allowed to run together after August 31st. Seventeen cockerels, eleven pullets and twenty-seven settings of eggs were sold to farmers during the year.

#### THE FLOCK NOW CONSISTS OF

Plymouth Rocks.....	19 birds.
White Wyandotte.....	16 "
White Leghorn.....	18 "
Black Minorca.....	10 "

#### HORSES.

At present there are nine heavy working horses, two carriage horses, two 2-year-old colts, one colt 6 months old, and one herd pony on the farm. In the spring the two 2-year-olds will be able to take the place of a team of the older animals which were brought up when the farm was started and are now too old to be of much value.

#### BEES.

Not much success can be reported in bee culture. Last fall three hives were put in the Superintendent's house in an unused room where the temperature could be regulated. All came through the winter safely and early in May started work on the poplar.

Only one swarm was obtained during the summer.

Two of the old swarms and the new one were well supplied with honey for the winter when put away this fall. The other swarms, however, had very little and the deficiency had to be made up from the stronger hives.

The two old swarms weighed 50 lbs. each and the new one, which is in a small hive, 40 lbs. when stored for winter.

Supers were put on during June, but except in the new hive no honey was stored. The new swarm partially filled six one-lb. sections, excepting which no honey was obtained from any of the swarms.

#### WEEDS.

During the past season weeds on the farm have not been more troublesome than in previous years. Tumbling Mustard, which for several years has been the cause of much expense, gave very little trouble as the trees on the west and north side of the farm keep all perambulating specimens from being blown in. Stink-weed was rather more abundant than usual, but all plants are being attended to as well as possible. Pigweed was the cause of a decreased yield in several acre plots of oats and barley, the weeds having obtained a start when the grain was cut down by frost. Pigweed was very prevalent throughout the country and in many cases caused serious loss. Districts where moisture was insufficient to cause early germination of the grain, thereby giving weeds a chance to grow, suffered most.

DISTRIBUTION OF SAMPLES OF GRAIN, FOREST TREES, TREE SEEDS, POTATOES, ETC.

During the months of March, April and May, the following distribution of products of the farm was made to applicants throughout the territories of Assiniboia, Alberta and Saskatchewan. The number of applications was largely in excess of the supply available for this purpose.

Samples of	Number.	Total.
Grain—Wheat, 3-lb. bags .....	177	917
" Oats " .....	332	
" Barley " .....	182	
" Pease " .....	205	
" Rye " .....	11	
" Flax " .....	10	
Forest Trees—		11,930
Cuttings—Artemisia Abrotanum.....	6,050	
" American Cottonwood.....	3,800	12,040
" Willow.....	2,080	
Seedlings—Maple (Box Elder).....	6,500	
" Caragana Arb.....	2,640	780
" Ash.....	2,900	
Fruit Seedlings—Plums.....		
Small seeds, packages.....	172	
Potatoes, 3-lb. bags.....	381	
Rhubarb, roots .....	660	
Bromus Inermis Grass seed, 1-lb. bags.....	644	
Agropyrum Tenerum " .....	315	
Ash seed " .....	165	
Manitoba Maple seed " .....	424	

SUMMARY.

Samples.	Bags and Packages.	Roots, Cuttings and Seedlings.
Grain .....	917	
Forest trees and shrubs—cuttings.....		12,040
" " seedlings.....		11,930
Fruit trees—seedlings.....		780
Small seeds.....	172	
Tree seeds.....	589	
Grass seed .....	959	
Potatoes.....	381	
Rhubarb, roots .....		660
	3,020	25,410

EXHIBITIONS ATTENDED.

During the month of July the Winnipeg Industrial Exhibition in Winnipeg, Manitoba, was attended with an exhibit of products of the farm, consisting of grain in straw, grasses and threshed grain in bottles.

In August the united fair of the districts of Indian Head, Qu'Appelle Station and Fort Qu'Appelle, held at Qu'Appelle Station, was attended and an exhibit made similar to that at Winnipeg with the addition of vegetables from this farm and a very fine collection of fruit from the Experimental Farm for British Columbia at Agassiz.

## Experimental Farms.

In October an exhibit of vegetables and roots from Indian Head farm and a collection of apples from Agassiz was made at the Wapella Agricultural Society's fair held at Wapella, Assiniboia.

### MEETINGS.

Meetings called by the North-west Dairymen's Association at Calgary and Olds, Innisfail, Red Deer, Lacombe, Wetaskiwin, Leduc, Edmonton and St. Albert, on the line of the Calgary and Edmonton Railway, were attended in March last. Except at Calgary the meetings were well attended. The work carried on on the Experimental Farms, the best methods of working land to meet climatic conditions, and to produce feed for dairy cattle were the principal topics referred to by myself.

The North-west Dairymen's Association delegates (Mr. Hopkins, president, Mr. Watson, vice-president, and Mr. Trant, secretary, spoke on dairy work exclusively.

### VISITORS.

Visitors to the farm were more numerous during the past summer than ever before. The press excursion from Wisconsin and Minnesota made a short visit to the farm on their return from British Columbia. A large excursion from Moosejaw and points east to Qu'Appelle Station spent a day on the farm. With the farmers from this district and citizens of Indian Head, the visitors that day numbered nearly 1,500 people.

### CORRESPONDENCE.

During the twelve months ending October 31, 1898, 4,702 letters were received, and 5,075 letters mailed from this office. In letters received, reports on grain and other samples are not counted, and in letters mailed, circulars of instruction *re* grain and other samples are not included.

### METEOROLOGICAL.

MONTH.	HIGHEST TEMPERATURE.		LOWEST TEMPERATURE.		SNOW-FALL. Inches.	RAINFALL.		Hours of Sun- shine.
	On.	Degrees	On.	Degrees		No. of Days.	Inches.	
1897.								
November .....	1	66	27	-32	13			53.4
December .....	28	42	1	-32				58.6
1898.								
January .....	11	33	31	-23	4			95.2
February .....	12	38	17	-30	2			74.3
March .....	6	35	27	-32	3			113.9
April .....	26	77	5	-10		1	.75	198.8
May .....	24	84	28	20		1	.5	251.3
June .....	19	95	14	27		11	4.14	182.4
July .....	12	99	20	35		6	3.36	243.5
August .....	8	90	12	32.5		4	4.	210.2
September .....	27	89	9	25		5	4.03	202.6
October .....	13	56	21	16		5	1.25	66.2
Total .....					28	33	18.03	1750.4

I have the honour to be, sir,  
Your obedient servant,

ANGUS MACKAY,  
*Superintendent.*



## Experimental Farms.

# EXPERIMENTAL FARM FOR BRITISH COLUMBIA

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REPORT OF THOMAS A. SHARPE, SUPERINTENDENT.

AGASSIZ, B.C., 30th November, 1898.

TO DR. WM. SAUNDERS,  
Director, Dominion Experimental Farms,  
Ottawa.

SIR,—I have the honour to submit herewith my report of progress made and work done for this, the tenth year, since work was commenced on this farm.

As in the season of 1896, so last year the coldest weather experienced during the winter was in November. The lowest temperature recorded here during last winter being 10 degrees above zero, the 28th of that month.

The winter was mild with a very light snowfall, and only a light rainfall. The spring, however, did not open very early, and April and May were so cold that growth was quite backward, and it was not until the middle of the latter month that really warm spring weather set in. June was rather unusually wet, insuring a heavy hay crop, but from early in July until after the most of the harvest was secured, the weather was very hot and dry. In some cases grain was ripened by the intense heat, too rapidly to fill properly, but the dry harvest weather cured it in fine condition, producing a bright, clean sample. The crop of hay has been very heavy throughout the province, and grain and roots of all kinds a good average. The land on the experimental farm having a light porous gravelly soil, suffered more from the drought than heavier soils did, lessening the yield of grain and roots in many cases, but on the whole the experimental farm crops are fairly good, as will be seen from the particulars herewith given.

### HEDGES.

The sample hedges have continued to grow finely, and are attracting considerable attention. A good many visitors inspecting them with a view to choosing one for their own grounds.

### FOREST TREE PLANTATIONS.

The forest tree plantations are making very strong and healthy growth in the cleared land on the level, and many of those planted on the mountain are making considerable progress.

### ORNAMENTAL TREES AND SHRUBS.

These trees and shrubs have, with scarcely an exception, continued to make satisfactory growth. Some of the shrubs began to bloom in March, and the roses, Japanese hydrangeas, and some of the spiræas are still in bloom.

## NUT TREES.

The Spanish and Japanese chestnuts fruited this year, and some of the nuts were very fine. The walnuts have all made a strong growth, and the variety known as *Juglans max cordiformis*, a heart-shaped nut, produced a fair crop.

## ALMONDS.

Both hard and soft shelled varieties bloomed, but only the hard shelled sort fruited.

## FILBERTS.

The spring was unfavourable for this fruit. The male flowers developed early in March, and the pollen was wasted before many of the female blossoms were ready to receive it, and consequently but few of them were fertilized. Perhaps when the bushes get age this may be remedied.

## DISTRIBUTION OF SAMPLES.

A considerable number of samples of seed grain, potatoes, tree seeds and small fruit plants have been distributed during the past year. The following is a list of what was sent out in this way :—

Wheat, 3-pound packages . . . . .	43
Oats " " . . . . .	61
Pease " " . . . . .	47
Barley " " . . . . .	29
Potatoes . . . . .	137
Scions and cuttings . . . . .	134
Small fruits . . . . .	71
Tree seeds and nuts . . . . .	67
	589
	589

## BEES.

The bees have done very well this year, and although one or two swarms went away, we have seven at present, each one apparently well provided with honey for the winter.

## STOCK.

The cattle mentioned in my report for last year as having the red water have not recovered, although they have been treated under the directions of a veterinary surgeon. The disease appears to be intermittent, sometimes almost, or quite disappearing for a while.

The live stock on the farm at present consists of the following :—Six working horses, nineteen head of cattle, six sheep, six pigs and sixty fowls.

## BUILDINGS.

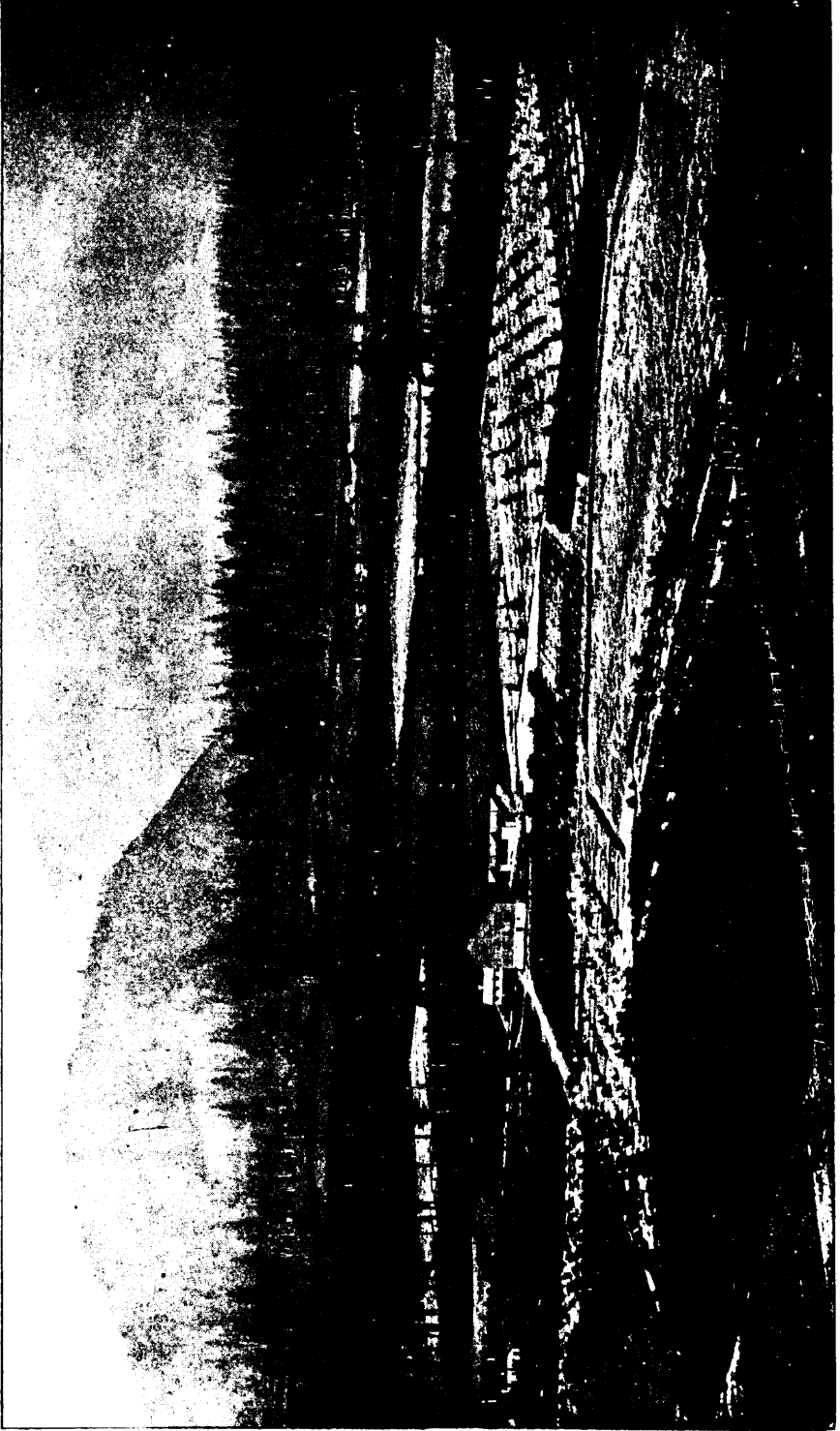
No new buildings have been erected this year, but material is being got ready for a pig house which it is proposed to erect before spring.

## FENCING.

About three-quarters of a mile of wire fence was put up on the west side of the farm, and that part is now enclosed and protected.

## BREAKING.

About ten acres of new land have been broken up this year; a part of it has been under crop this season, and the remainder will be ready for use next spring.



General view of the Experimental Farm at Agassiz, British Columbia, from the mountain.



# Experimental Farms.

## EXPERIMENTS WITH OATS.

Sixty-six varieties of oats were tested under conditions as nearly similar as was possible. All the seed was treated with bluestone before sowing, and there was very little smut. A few samples were rusty, but in most cases the injury was not severe. White Russian, Mortgage Lifter and Olive are among those that suffered from rust last year. White Wonder, Victoria Prize and Abundance, the remainder of those rusted last year were not affected this year, the straw being clean and bright.

These were all sown on the 18th April. The soil was a sandy loam which had been in clover for two years previous. It was ploughed in September, 1897, when the third crop of clover was in bloom, and the sod well cut up with the disc-harrow. This was disc-harrowed again early in the spring, and a third time later, and harrowed with the smoothing-harrow before sowing. The clover turned under was the only manure this land has ever received. The size of the plots was one-twentieth of an acre each.

### OATS.—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.		Yield per Acre.		Rusted.
							Lbs.	Bush.	Lbs	Lbs	
Danish Island	Aug. 13	117	52	Stiff	12	Half-sided	5,400	85	10	38½	None.
Imported Irish	" 9	113	48	"	10	Branching	4,000	72	38	40½	"
Bavarian	" 11	115	48	"	10	"	4,600	66	16	36½	Little.
American Triumph	" 10	114	46	"	9	"	4,100	64	4	36	None.
Cromwell	" 10	114	44	"	11	Half-sided	4,140	62	32	38	"
Golden Tartarian	" 11	115	44	"	10	Sided	4,400	61	28	36	"
White Giant	" 11	115	42	"	10	Half-sided	4,400	61	18	36½	"
Prolific Blk. Tartarian	" 10	114	44	"	10	Sided	4,000	61	19	34½	"
Holstein Prolific	" 12	116	50	"	11	Branching	3,880	60	22	36½	"
Golden Beauty	" 11	115	46	"	10	"	5,000	59	14	35½	"
Lincoln	" 11	115	44	Feeble	9	"	4,600	59	4	37	Little.
California Blk. Prolific	" 13	117	42	"	11	Sided	4,200	58	28	35	None.
Black Mesdag	" 4	108	46	Stiff	11	Half-sided	3,900	58	8	36	"
Banner	" 11	115	50	"	10	Branching	3,900	57	32	35	"
Wide Awake	" 13	117	48	Medium	9	"	4,400	57	22	36½	"
Early Archangel	" 12	116	44	"	10	"	4,200	57	22	40½	"
Cream Egyptian	" 9	113	46	"	10	Half-sided	4,000	57	12	36½	"
Black Beauty	" 8	112	48	Stiff	10	Branching	3,700	57	12	36½	"
Mennonite	" 9	113	42	"	9	"	3,600	57	2	36½	"
Mortgage Lifter	" 9	113	52	Medium	11	"	4,600	56	26	40½	Little.
White Wonder	" 9	113	50	"	9	"	4,000	56	21	41	None.
Columbus	" 10	114	46	Stiff	10	"	4,100	56	..	35½	"
Wallis	" 11	115	48	"	10	"	3,500	55	20	37	Little.
Early Gothland	" 10	114	46	"	9	Half-sided	3,900	55	20	37½	None.
Winter Grey	" 8	112	48	"	11	Branching	4,100	55	10	41½	"
Coulommiers	" 17	121	46	"	10	"	4,200	55	..	36	Considerably.
Early Blossom	" 12	116	42	Medium	9	Half-sided	4,000	54	24	38½	None.
Improved Ligowo	" 12	116	42	"	10	Branching	3,800	54	14	38½	"
Early Maine	" 9	113	48	Stiff	9	"	4,200	54	4	36	"
Victoria Prize	" 8	112	45	"	12	"	3,800	53	18	39½	"
Rosedale	" 10	114	50	"	10	Sided	4,200	53	8	37½	"
Thousand Dollar	" 4	108	42	Medium	10	Branching	4,100	52	32	38	"
Rennie's Prize	" 9	113	50	"	11	"	3,600	52	32	38½	"
Abyssinia	" 12	116	44	"	10	Half-sided	4,160	52	22	35½	"
Scottish Chief	" 4	108	44	Stiff	10	Branching	3,900	52	12	37	"
American Beauty	" 12	116	46	"	10	"	3,500	51	26	35½	"
Olive	" 12	116	48	Medium	10	Sided	3,700	51	16	37	Little.
Medal	" 11	115	50	Stiff	12	Branching	4,000	51	6	38	None.
Abundance	" 12	116	44	"	10	"	3,900	51	6	35½	"
Improved American	" 12	116	48	"	11	"	3,600	50	30	38	"
Russell	" 10	114	52	"	13	Half-sided	3,900	50	20	38½	"
Newmarket	" 10	114	44	"	10	Branching	4,080	50	20	40	"
White Schonen	" 12	116	48	Medium	9	"	3,200	50	15	36½	"
Master	" 9	113	44	Stiff	9	"	3,200	50	10	37½	"
Oxford	" 12	116	48	"	10	Half-sided	3,600	50	10	36½	"

OATS—TEST OF VARIETIES—*Concluded.*

Name of Variety.	Date of Ripening.	No of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.			Rusted.	
							Weight of Straw per Acre.	Yield per Acre.	Weight per Bushel.		
			In.		In.		Lbs.	Bush.	Bbs.	Lbs.	
Bonanza.....	Aug. 9	113	48	Medium..	10	Branching	4,200	50	..	37½	Slightly.
Hazlett's Seizure.....	" 11	115	54	Stiff.....	10	"	2,900	50	..	39	None.
Siberian O. A. C.....	" 12	116	44	Medium..	9	Sided.....	2,900	48	28	36	"
Early Golden Prolific.....	" 13	117	50	Stiff.....	10	Branching	2,800	48	18	36	"
Oderbruch.....	" 13	117	48	Medium..	11	"	3,200	48	8	38½	"
Great White Maine.....	" 17	121	48	Weak....	10	Sided.....	6,400	48	8	36½	Considerably.
Holland.....	" 10	114	46	Stiff.....	12	"	4,200	48	..	34	None.
Miller.....	" 12	116	48	Medium..	9	Branching	3,000	47	28	37	"
Pense.....	" 12	116	48	Stiff.....	10	Sided.....	3,700	47	..	38½	"
Welcome.....	" 11	115	52	Weak....	11	Branching	3,500	46	28	36	Slightly.
Golden Giant.....	" 13	117	54	Medium..	12	Sided.....	3,200	46	20	37	None.
Doncaster Prize.....	" 10	114	58	Stiff.....	10	Branching	4,400	45	30	40½	"
Joanette.....	" 10	114	35	Weak....	9	"	2,800	45	30	36½	"
Poland.....	" 9	113	48	Medium..	10	"	3,400	45	25	38½	"
King.....	" 12	116	50	Stiff.....	10	"	3,000	44	24	37½	"
Flying Scotchman.....	" 9	113	50	Medium..	10	"	3,000	44	24	39½	Slightly.
Buckbee's Illinois.....	" 12	116	44	"	10	"	4,400	44	4	36	None.
Brandon.....	" 11	115	60	Stiff.....	12	"	3,400	43	28	38½	"
White Russian.....	" 8	112	50	"	10	"	2,700	43	18	35	Slightly.
Early Dawson.....	" 8	112	52	"	11	Sided.....	3,200	42	32	41	"
Prize Cluster.....	" 12	116	46	Medium..	10	Branching	3,000	42	12	39½	None.

## SEED OATS TREATED FOR SMUT.

Comparative tests of three varieties of seed oats were made, treated with different remedies for the prevention of smut.

The soil on which these tests were made was a warm sandy loam which had been in Indian corn in 1897. The land was broken up in 1895 and sown with pease that year. It was used for roots in 1896 and has not yet received any manure or fertilizer.

Lot No. 1 in each variety was soaked in Bordeaux Mixture for four hours. This mixture was made with 4 pounds of sulphate of copper and 4 pounds of lime to 40 gallons of water.

Lot No. 2 was soaked in a solution of formalin for two hours, composed of 3 ozs. of formalin to 10 imperial gallons of water.

Lot No. 3 was soaked for two hours in a solution of formalin consisting of 4½ ozs. of formalin to 10 imperial gallons of water.

Lot 4 consisted of seed from the same samples untreated.

## Experimental Farms.

All these were sown on the same day, on soil as nearly uniform as possible, at the rate of two and a half bushels per acre, and all the heads, both smutty and clean, on an average square yard were counted.

No. of Plot.	Name of Variety.	Name of Fungicide.	Date of Sowing.	Date of Ripening.	Length of Heads.	Length of Straw.	Per cent of Smutty Heads.	Per cent of Clean Heads.
1	Flying Scotchman.	Bordeaux mixture.	May 6.	Aug. 13.	In. 11	In. 50	4	96
2	"	Formalin, 2 to 1,000.	" 6.	" 13.	11	50	4	96
3	"	" 3 to 1,000.	" 6.	" 13.	10	52	2	98
4	"	Untreated.	" 6.	" 13.	9	48	9	91
1	Doncaster Prize	Bordeaux mixture.	" 6.	" 13.	11	48	4	96
2	"	Formalin, 2 to 1,000.	" 6.	" 13.	9	46	7	93
3	"	" 3 to 1,000.	" 6.	" 13.	10	48	5	95
4	"	Untreated.	" 6.	" 13.	9	42	17	83
1	Mortgage Lifter	Bordeaux mixture.	" 6.	" 13.	10	44	4	96
2	"	Formalin, 2 to 1,000.	" 6.	" 13.	10	44	4	96
3	"	" 3 to 1,000.	" 6.	" 13.	10	48	3	97
4	"	Untreated.	" 6.	" 13.	10	44	8	92

### EXPERIMENTS WITH BARLEY.

Forty-one varieties of barley were sown in test plots of one-twentieth of an acre each. Nineteen of these were two-rowed, and twenty-two six-rowed sorts. All were sown on 21st April, which was three days later than the barley plots were sown last year, and the date of ripening is in some cases ten days earlier than that of last year. This was owing to the very hot and dry weather experienced here during July and August, which hastened the ripening of all the grain crops and thereby lessened the yield. There was no rust on any of the barley plots.

The soil was a sandy loam and the previous crop was corn. This land was ploughed in the spring and harrowed with disc-harrow and smoothing-harrow before sowing. It has not received any fertilizer since it was broken up.

#### BARLEY—TWO-ROWED—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	Number of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per plot.	Yield per Acre.	Weight per Bushel.
			Inches.		Inches.	Lbs.	Bush. Lbs.	Lbs.
Kinver Chevalier	Aug. 5.	106	36 to 40	Stiff	3½ to 4	240	40	51½
Beaver	" 2.	103	34 to 38	"	3 to 3½	220	39	52
Prize Prolific	" 5.	106	34 to 38	"	3½ to 4½	215	36	49
Pacer	" 2.	103	36 to 38	"	2½ to 3	200	34	51½
Danish Chevalier	" 5.	106	32 to 36	"	3 to 4	165	33	52½
Newton	" 2.	103	32 to 36	"	2½ to 3	165	33	52½
French Chevalier	" 5.	106	24 to 30	"	3 to 3½	150	31	52½
Bolton	" 2.	103	32 to 36	"	2 to 3	160	31	50½
Sidney	" 3.	104	34 to 38	"	3 to 4	175	30	53
Leslie	" 2.	103	32 to 36	"	3 to 4	155	30	51
Victor	" 2.	103	32 to 38	"	2½ to 3	200	29	53½
Dunham	" 2.	103	36 to 40	"	3 to 3½	195	29	50½
Logan	" 2.	103	40 to 46	"	3 to 4	200	29	51
Canadian Thorpe	" 5.	106	34 to 38	"	2 to 3	120	27	44
Monck	" 5.	106	36 to 40	"	3 to 4	190	25	40
Kirby	" 2.	103	30 to 34	"	2½ to 3	175	25	40
Nepean	" 2.	103	36 to 40	"	3 to 3½	165	25	51½
Surprise	" 2.	103	32 to 38	"	3 to 3½	145	25	50½
Thanet	" 5.	106	24 to 30	"	2½ to 3	140	22	44

## BARLEY—SIX-ROWED—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw per Acre.	Yield per Acre.		Weight per Bushel.
							Bush.	Lbs.	
			In.		In.	Lbs.	Bush.	Lbs.	Lbs.
Phoenix .....	Aug. 1..	101	40 to 42	Stiff.....	3	220	40	..	50
Royal .....	July 30..	99	39	" .....	3½	218	38	16	50¾
Mensury .....	" 30.	99	44	" .....	4	220	37	24	49¾
Argyle.....	Aug. 1..	101	42	" .....	2½	217	36	32	49½
Empire.....	" 1..	101	38	" .....	3	225	36	12	49¼
Summit.....	" 2..	102	42	" .....	3½	221	35	40	50¼
Champion.....	July 27..	96	50	" .....	3½	195	35	20	42½
Pioneer.....	" 30..	99	40	" .....	3½	200	35	20	50½
Trooper. ....	Aug. 1..	101	38	" .....	2½	210	35		50¼
Baxter .....	July 30..	99	40	" .....	3½	221	34	28	49¼
Excelsior .....	" 27..	96	48	" .....	3	210	34	28	42¾
Mansfield.....	Aug. 1..	101	50	" .....	3	204	34	28	50¼
Common.....	" 3..	103	36	" .....	2½	165	34	28	41½
Stella .....	" 2..	102	48	" .....	3½	210	34	8	49¾
Odessa.....	" 1..	101	40	" .....	2½	220	34	8	47¾
Success.....	July 27..	96	36	" .....	2½	160	32	44	48¼
Vanguard.....	" 30..	99	38	" .....	3	180	31	22	50
Oderbruch.....	" 30..	99	37	Weak....	3	195	29	28	48¾
Petschora.....	" 30..	99	34	" .....	3	190	28	36	48¼
Nugent.....	Aug. 1..	101	36	Stiff.....	3½	205	28	16	49¾
Rennie's Improved.....	" 1..	101	42	" .....	2½	180	27	44	49¾
Blue Barley .....	" 2..	102	33	" .....	2½	153	26	32	43¼

## EXPERIMENTS WITH SPRING WHEAT.

Forty-four varieties of spring wheat were tested in 1898. They were sown on 15th April on plots of one-twentieth acre each, on a light clay loam which had produced a crop of barley in 1897 and pease following clover in 1896. The land was ploughed in April, 1898, and disc-harrowed and harrowed with the smoothing-harrow before sowing. This land received a light dressing of manure in the autumn of 1894. No fertilizer has been applied since.

The yield promised to be very good in the early summer, but the hot dry weather forced the ripening forward so rapidly that the heads did not fill out nor was the grain as plump as it should have been. There was no rust and only a very little smut in one or two varieties.

# Experimental Farms.

## SPRING WHEAT—TEST OF VARIETIES.

Name of Variety,	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.	Yield per Acre.		Weight per Bushel.
								Lbs.	Bush. Lbs.	
			In.		In.		Lbs.	Bush. Lbs.	Lbs.	
White Connell.....	Aug. 9..	116	42	Stiff, bright	3	Bald ..	3,800	31	20	62½
Huron .....	" 8..	115	40	" "	3½	Bearded	3,500	30	..	63
Black Sea.....	" 6..	113	46	Weak.....	3	" "	3,500	29	40	61½
Monarch.....	" 12..	119	40	Stiff.....	2½	Bald ...	3,900	29	20	61½
Progress.....	" 8..	115	48	" "	3	" "	4,000	29	..	61
Beaudry.....	" 8..	115	38	Weak.....	2½	Bearded	3,960	29	..	63
Vernon.....	" 8..	115	38	Stiff.....	3	" "	3,500	28	40	62½
Preston.....	" 8..	115	40	" "	3	" "	3,300	28	40	62½
White Russian.....	" 9..	116	38	" "	3½	Bald ...	2,900	28	30	63
Plumper.....	" 6..	113	40	" "	2½	Bearded	3,700	28	20	61½
Red Fife.....	" 8..	115	50	" "	3	Bald ...	4,080	28	20	62½
Wellman's Fife.....	" 9..	116	44	" "	3	" "	3,000	28	..	62
Admiral.....	" 8..	115	44	" "	4	" "	3,600	28	..	62
Colorado.....	" 8..	115	40	Medium.....	3	Bearded	2,900	28	..	62
Countess.....	" 5..	112	42	Stiff.....	2½	Bald ...	3,520	27	50	64
Rideau.....	" 5..	112	42	" "	2½	" "	3,880	27	45	62½
Old Red River.....	" 12..	119	40	Medium.....	3	" "	3,000	27	40	61½
Hungarian.....	" 6..	113	44	" "	3½	Bearded	3,600	27	40	62½
Alpha.....	" 8..	115	48	Stiff.....	3	Bald ...	3,800	27	35	61½
Blenheim.....	" 12..	119	44	" "	3½	Bearded	4,800	27	35	62
Rio Grande.....	Aug. 9..	116	38	Medium.....	3	Bearded	3,200	27	30	61½
Golden Drop.....	" 6..	113	40	Stiff.....	3	Bald ...	4,400	27	20	62½
Ladoga.....	" 6..	113	38	Medium.....	3	Bearded	3,700	27	10	63
Campbell's White Chaff	" 8..	115	42	Stiff.....	3	Bald ...	3,720	27	..	62
Dion's.....	" 12..	119	36	" "	3½	Bearded	3,900	27	..	64½
Goose.....	" 12..	119	40	" "	3	" "	3,800	26	40	64
Dufferin.....	" 5..	112	40	" "	2½	" "	3,500	26	20	62½
Blair.....	" 6..	113	36	Medium.....	2½	Bald ...	2,600	26	20	62
White Fife.....	" 9..	116	38	" "	2	" "	3,200	26	10	61½
Pringle's Champlain.....	" 8..	115	46	" "	3	Bearded	3,200	26	..	62½
Red Fern.....	" 9..	116	40	Stiff.....	2½	" "	4,100	26	..	62½
Dawn.....	" 1..	108	36	" "	3	Bald ...	3,300	25	40	62½
Beauty.....	" 8..	115	42	Medium.....	3	" "	3,780	25	40	63
Emporium.....	" 8..	115	46	Weak.....	3½	Bearded	3,700	25	30	62½
Cross.....	" 12..	119	40	Stiff.....	3	Bald ...	3,800	25	20	61
Herisson Bearded.....	" 8..	115	36	Weak.....	2	Bearded	2,900	25	10	60½
Advance.....	" 9..	116	40	Medium.....	3	" "	4,000	25	10	65½
Mason.....	" 5..	112	38	" "	3	Bald ...	3,300	25	..	62½
Amber.....	" 9..	116	40	" "	2	" "	3,200	25	..	62½
Captor.....	" 6..	113	36	" "	3	" "	3,700	24	..	61½
Harold.....	July 30.	106	38	Weak.....	2½	Bearded	3,500	23	40	62
Percy.....	Aug. 6..	113	40	Medium.....	3	Bald ...	3,600	23	30	62½
Stanley.....	" 6..	113	44	" "	3	" "	3,360	23	30	60½
Crown.....	" 6..	113	42	Stiff.....	3	Bearded	2,600	23	..	62½

## EXPERIMENTS WITH PEASE.

Forty-seven varieties of pease were sown on fairly uniform land. The soil was black loam. Early in July these plots promised an extra heavy yield, but the hot weather prevented the fullest development of the pod, by hastening the ripening. King, as in 1897, leads the list in yield. All were sown on same date, 14th April, and the size of the plots was one-twentieth of an acre each.

PEASE—TEST OF VARIETIES.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Pod.	Kind of Pea.	Weight of Straw per Plot.	Yield per Acre.	Weight per Bushel.
			Inches.		Inches.		Lbs.	Bush. Lbs.	Lbs
King .....	Aug. 8	115	54	Clean and bright..	3	Large ..	360	39 ..	64½
White Wonder.....	" 1	108	38	" ..	2½	Medium ..	225	39 ..	64
Agnes.....	" 9	116	60	" ..	3½	Large ..	230	37 20	63½
Mummy .....	" 8	115	58	" ..	3	Medium ..	290	37 ..	62
Macoun .....	" 9	116	72	" ..	3	Large ..	295	36 20	60½
Elephant Blue.....	" 6	113	50	" ..	3	Medium ..	270	36 ..	63
Prince Albert .....	" 6	113	58	" ..	2½	Small ..	270	35 20	61½
Crown.....	" 3	110	54	" ..	3	" ..	240	35 ..	62½
Daniel O'Rourke .....	July 30	106	50	" ..	2½	" ..	220	34 40	63
Cooper.....	Aug. 4	111	52	" ..	3	Large ..	225	34 30	60½
Picton.....	" 8	115	76	" ..	3½	Medium ..	230	34 20	61½
Multiplier .....	" 10	117	74	" ..	3	Small ..	244	34 ..	62
Gregory .....	" 8	115	62	" ..	4	Medium ..	250	34 ..	60½
Fergus .....	" 9	116	60	" ..	3½	Small ..	260	33 50	61½
Creeper.....	" 2	109	62	" ..	3	" ..	245	33 40	61
German White.....	" 3	110	60	" ..	3½	Medium ..	195	33 20	62½
Golden Vine .....	" 9	116	64	" ..	2½	Small ..	215	33 20	60½
Victoria.....	" 9	116	74	" ..	3	" ..	255	33 ..	61
Alma .....	" 9	116	60	" ..	3	" ..	243	32 40	64½
Pride .....	" 5	112	46	" ..	3½	Large ..	215	32 40	62½
Lanark .....	" 4	111	62	" ..	3½	" ..	200	32 20	65
Vincent.....	" 3	110	54	" ..	3½	" ..	210	32 10	62½
New Potter.....	" 6	113	62	" ..	3	" ..	205	32 ..	64
Centennial.....	" 8	115	60	" ..	3½	Medium ..	230	32 ..	63½
Fenton .....	" 1	108	58	" ..	2½	Large ..	196	31 30	65½
Bright.....	" 10	117	62	" ..	3	Medium ..	265	31 20	63½
Arthur .....	" 4	111	42	" ..	3½	" ..	195	31 ..	64½
Carleton .....	" 9	116	58	" ..	3½	" ..	242	30 50	62½
Bedford.....	" 9	116	62	" ..	3½	" ..	210	30 20	62
Canadian Beauty .....	" 3	110	70	" ..	4	Large ..	198	30 20	63½
Prussian Blue.....	" 5	112	74	" ..	3	Medium ..	205	30 ..	63
Kent .....	" 9	116	60	" ..	3½	Large ..	196	30 ..	61
Chancellor .....	" 10	117	62	" ..	4	Small ..	240	29 40	62½
Paragon .....	" 9	116	58	" ..	2½	Medium ..	220	29 20	61
Early Britain.....	July 30	106	70	" ..	2½	" ..	185	29 16	60½
Archer.....	Aug. 6	113	62	" ..	2½	" ..	240	29 10	65½
Bruce.....	" 10	117	58	" ..	3½	Large ..	200	28 40	62½
Perth .....	" 6	113	60	" ..	3	" ..	235	28 ..	62
White Marrowfat.....	" 8	115	52	" ..	3	" ..	260	28 ..	63
Duke .....	" 8	115	52	" ..	3½	" ..	204	27 50	61½
Mackay .....	" 8	115	58	" ..	3½	" ..	200	27 40	61½
Trilby .....	" 8	115	56	" ..	3½	" ..	194	27 30	62½
French Canner.....	July 29	105	36	" ..	2½	Small ..	270	25 20	61½
Black-Eyed Marrowfat .....	Aug. 6	113	58	" ..	3½	Large ..	190	25 10	62½
Prince .....	" 6	113	50	" ..	3	" ..	180	25 ..	62½
Nelson.....	" 4	111	72	" ..	3	Medium ..	165	23 20	62½
Harrison's Glory.....	July 28	104	36	" ..	3	" ..	195	22 40	60

## Experimental Farms.

### OATS—EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.		Char-acter of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre.	Yield per Acre.		Rusted.
			No.	Length of Straw.					Lbs.	Bush. Lbs.	
Banner No. 1.....	April 5.	Aug. 2.	119	50	Stiff ...	10-12	Branching	3,900	50	20	None.
" " 2.....	" 12.	" 4.	114	48	" ...	10-12	" ..	4,000	54	4	"
" " 3.....	" 19.	" 6.	109	50	" ...	10-12	" ..	4,000	61	6	"
" " 4.....	" 26.	" 8.	104	48	" ...	10-11	" ..	3,400	47	2	Slightly.
" " 5.....	May 3.	" 13.	102	52	" ...	10-12	" ..	4,040	62	12	Considerably.
" " 6.....	" 10.	" 15.	97	52	" ...	10-12	" ..	68	28		"
Abundance No. 1.....	April 5.	" 2.	119	46	" ...	10-11	" ..	3,800	47	2	None.
" " 2.....	" 12.	" 4.	114	48	" ...	10-12	" ..	4,600	55	30	"
" " 3.....	" 19.	" 6.	109	49	" ...	10-12	" ..	5,900	50	20	"
" " 4.....	" 26.	" 8.	104	48	" ...	10-12	" ..	5,700	47	19	Slightly.
" " 5.....	May 3.	" 13.	102	50	" ...	10-12	" ..	5,200	68	8	Considerably.
" " 6.....	" 10.	" 15.	97	50	" ...	10-12	" ..	5,000	76	16	"

Plots 5 and 6 in each case had been given a dressing with stable manure in autumn of 1897, because part of the surface soil had been removed in taking out large stumps, and this was thoroughly worked into the soil with drag and spading harrow before the seed was sown. This explains why the yield was so much larger on these plots. There was no smut on any of these oat plots.

### BARLEY—EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.		Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw per Acre	Yield per Acre.	
			No.	Length of Straw.					Lbs.	Bush. Lbs.
Canadian Thorpe, No. 1...	April 5	Aug. 1	117	34	Stiff.....	2 $\frac{1}{2}$	2-rowed...	2,400	20	..
" " 2.....	" 12	" 2	112	34	" .....	2 $\frac{1}{2}$	" ..	2,600	25	..
" " 3.....	" 19	" 5	107	32	" .....	2 $\frac{1}{2}$	" ..	2,600	25	20
" " 4.....	" 26	" 8	103	30	" .....	2	" ..	2,400	21	32
" " 5.....	May 3	" 10	97	30	" .....	3	" ..	2,800	2)	..
" " 6.....	" 10	" 13	94	30	" .....	3	" ..	3,200	21	32
Odessa, No. 1.....	April 5	July 28	114	36	Weak.....	2 $\frac{1}{2}$	6-rowed...	2,600	25	..
" " 2.....	" 12	" 30	109	36	" .....	2 $\frac{1}{2}$	" ..	3,000	24	8
" " 3.....	" 19	Aug. 1	103	38	Medium.....	2 $\frac{1}{2}$	" ..	2,400	20	20
" " 4.....	" 26	" 3	97	36	" .....	2 $\frac{1}{2}$	" ..	2,400	20	..
" " 5.....	May 3	" 5	92	36	Weak.....	2 $\frac{1}{2}$	" ..	4,000	20	30
" " 6.....	" 10	" 6	86	34	" .....	2 $\frac{1}{2}$	" ..	4,080	19	40

There was no rust or smut on any of these plots of barley.

SPRING WHEAT—EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield	
								Weight of Straw per acre.	per Acre.
				In.		In.		Lbs.	Bush. Lbs.
Stanley, No. 1	April 5	Aug. 1	117	52	Stiff	3	Bald	3,200	24 20
" " 2	" 12	" 4	113	48	"	3	"	3,200	23 ..
" " 3	" 19	" 6	103	50	"	3	"	3,000	23 40
" " 4	" 26	" 8	103	52	"	3	"	3,400	25 20
" " 5	May 3	" 13	102	48	"	2½	"	2,800	21 40
" " 6	" 10	" 17	99	50	"	3	"	3,000	23 20
Red Fife, No. 1	April 5	" 4	120	50	"	3½	"	3,900	24 20
" " 2	" 12	" 6	115	50	"	3	"	4,000	25 ..
" " 3	" 19	" 8	110	50	"	3	"	3,600	23 20
" " 4	" 26	" 13	108	48	"	3½	"	3,400	22 20
" " 5	May 3	" 17	105	48	"	3	"	3,600	20 40
" " 6	" 10	" 20	101	48	"	3	"	3,800	22 40

Plots 5 and 6 in both tests had been given a dressing of stable manure in fall of 1897. This had been thoroughly worked into the soil, and will account for the relatively heavy yield in those plots. There was no rust or smut on any of these plots.

PEASE—RESULTS OF EARLY, MEDIUM AND LATE SOWINGS.

The soil of these plots was a sandy loam, the previous crop was clover, which was a light crop on account of the inferior character of the soil. This was turned under in the autumn, and the land prepared for seed in the spring by disc-harrowing and harrowing with the smoothing-harrow. The size of the plots was one-twentieth acre each.

PEASE—EARLY, MEDIUM AND LATE SOWINGS.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Pod.	Size of Pea.	Yield	
								Weight of Straw per Acre	per Acre.
				In.		In.		Lbs.	Bush. Lbs.
Mummy, No. 1	April 5	Aug. 6	122	56	Strong	3	Medium	5,500	42 20
" " 2	" 12	" 8	117	56	"	3	"	4,700	38 40
" " 3	" 19	" 10	112	54	"	3	"	5,800	37 20
" " 4	" 26	" 12	107	54	"	2½	"	5,400	30 40
" " 5	May 3	" 15	102	52	"	2½	"	5,480	30 20
" " 6	" 10	" 17	97	50	"	2½	"	5,520	30 40
Golden Vine, No. 1	April 5	" 6	122	60	Very strong	3½	"	5,700	42 40
" " 2	" 12	" 8	124	56	"	3½	"	5,700	38 40
" " 3	" 19	" 10	117	56	"	3	"	5,800	37 50
" " 4	" 26	" 12	112	52	Strong	3	"	5,400	30 40
" " 5	May 3	" 15	108	52	"	3	"	5,480	30 20
" " 6	" 10	" 17	103	50	"	3	"	5,520	30 50



## Experimental Farms.

### EXPERIMENTS WITH INDIAN CORN.

Twenty-five varieties of corn were tested. From the time the corn was planted until nearly the end of June the season was unfavourable for this crop, being cold and wet, and up to 1st July the corn had made very little growth. From that time forward until it was cut, the weather was more favourable and the growth was rapid, but the yields do not equal those of last year. The soil on which this corn was planted was sandy loam. The corn was grown in rows and hills 3 feet apart, and all the varieties were planted on the 17th May.

#### INDIAN CORN—TEST OF VARIETIES.

Name of Variety.	Height when cut.	Leafiness.	When Tasselled.	In Silk.	Early Milk.	Late Milk.	Condition when cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
								Tons	Lbs.	Tons	Lbs.
	Ins.						Sept. 17th.				
Giant Prolific Sweet.	120 - 130	Very leafy	Aug. 18	Aug. 30	Sept. 23	.....	Early milk	38	450	23	750
Red Cob Ensilage..	120 - 130	" ..	" 14	" 30	" 20	.....	"	33	450	23	200
Early Mastodon ..	108 - 120	" ..	" 2	" 16	Aug. 27	Sept. 10	Glazed ...	29	1,400	24	1,500
Pride of the North..	108 - 120	" ..	" 18	" 30	Sept. 20	.....	Early milk	29	80	21	1,780
Champion White Pearl .....	140 - 150	Medium..	" 20	Sept. 9	.....	.....	In silk .....	28	1,760	21	420
Early Butler.....	110 - 120	Very leafy	" 4	Aug. 16	Aug. 30	Sept. 14	Glazed ...	28	100	16	1,220
Cloud's Early Yellow	108 - 120	" ..	" 16	" 30	Sept. 17	.....	Roasting .	26	1,460	18	1,950
Extra Early Huron Dent. ....	96 - 108	" ..	" 2	" 12	Aug. 29	Sept. 14	Glazed ...	25	1,920	16	340
White Cap Yellow Dent .....	120 - 130	Medium..	" 18	" 30	Sept. 23	.....	Early milk	25	160	16	1,000
King of the Earliest.	120 - 130	" ..	" 9	" 22	" 4	Sept. 15	Glazed ...	22	1,610	15	1,570
Compton's Early ..	108 - 120	Very leafy	" 4	" 20	" 7	" 23	Late milk.	22	1,500	15	800
Mammoth Eight-rowed Flint. ....	96 - 108	" ..	" 3	" 15	" 15	.....	"	24	1,000	15	1,360
Pearce's Prolific..	120 - 136	Medium..	" 11	" 22	" 8	" 18	Glazed ...	24	1,000	15	360
Thoroughbred White Flint. ....	120 - 130	" ..	" 10	" 22	" 16	" 23	Late milk.	23	200	23	1,520
Ruby Mexican .....	84 - 90	" ..	" 12	" 25	" 23	.....	Early milk	22	1,980	12	1,300
North Dakota White	100 - 110	" ..	" 6	" 16	" 2	" 14	Glazed .	22	1,320	18	300
Sanford .....	108 - 120	" ..	" 13	" 29	" 20	.....	Early milk	22	1,100	26	1,250
Selected Leaming..	140 - 150	" ..	" 8	" 19	" 10	.....	"	22	220	17	1,970
Canadian White Flint. ....	84 - 120	" ..	" 16	" 25	" 12	Sept. 23	Late milk.	21	900	15	1,680
Angel of Midnight..	108 - 120	" ..	" 13	" 29	" 15	" 23	"	21	990	16	1,220
Mammoth Cuban....	110 - 120	" ..	" 6	" 16	" 2	" 23	"	20	1,800	18	960
Country Gentleman..	84 - 90	" ..	" 21	Sept. 23	.....	.....	Early milk	19	1,600	11	110
Longfellow.....	100 - 108	" ..	" 4	Aug. 15	" 2	" 12	Glazed ...	19	1,600	16	1,660
Mitchell's Extra Early .....	70 - 80	" ..	July 16	July 27	Aug. 8	Aug. 20	Ripe. ...	16	1,200	10	460
Evergeen Sugar .....	80 - 90	" ..	Aug. 13	Aug. 27	Sept. 22	.....	Early milk	16	1,000	11	440

#### INDIAN CORN PLANTED AT DIFFERENT DISTANCES.

Three varieties of corn were chosen for this test and both were planted in drills or rows ranging at differences of six inches, from 2 feet up to 4.

The plants were thinned to six inches apart in the drill and to four plants in each hill and in each case the hills were the same distance apart each way.

Four rows were planted of each variety in each case, and the two centre rows were weighed for comparison.

It is worth noting that the corn was more matured and the stalks leafier in the drills and rows from 3½ feet and wider. All were planted on May 17 and cut for ensilage Sept. 23.

The yield per acre is reckoned from the product of 66 feet of the two centre rows :—

Name of Variety.	Distance Apart.	Weight in Drills.		Weight in Hills.	
		Feet.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
Selected Leaming.....	2	33	330	25	1,975
" .....	2½	29	1,400	24	1,896
" .....	3	22	550	21	20
" .....	3½	19	440	16	1,943
" .....	4	18	1,025	14	1,535
Longfellow.....	2	22	550	24	1,500
" .....	2½	20	1,976	23	1,520
" .....	3	21	1,920	18	.....
" .....	3½	22	314	17	320
" .....	4	21	147	12	1,410
Champion White Pearl.....	2	15	1,700	23	800
" .....	2½	16	208	20	128
" .....	3	23	1,850	21	900
" .....	3½	26	314	19	1,600
" .....	4	19	610	18	1,620

### EXPERIMENTS WITH TURNIPS.

Eighteen varieties of turnips were tested this year and two sowings were made in each case. The land used for this test was a clay loam which has been cropped for a number of years and is uniform in character, and the seed having been all sown on the same day and all subsequent treatment the same, the test may be considered a fair one, as between varieties. The yield per acre has been calculated from the weight of roots obtained from two rows each 66 feet long.

### TURNIPS—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.	
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.	Tons. Lbs.	Bush. Lbs.
Purple Top Swede.....	May 9.	May 23.	Oct. 19.	Oct. 19.	58 1,040	1,950 40	56 112	1,868 32		
Jumbo.....	" 9.	" 23.	" 19.	" 19.	58 336	1,938 56	40 1,312	1,355 12		
Giant King.....	" 9.	" 23.	" 19.	" 19.	49 624	1,643 44	32 120	1,068 40		
Bangholm Selected .....	" 9.	" 23.	" 19.	" 19.	47 864	1,581 4	31 1,240	1,054 ..		
Sutton's Champion.....	" 9.	" 23.	" 19.	" 19.	40 1,400	1,356 40	38 1,440	1,290 40		
Skirving's.....	" 9.	" 23.	" 19.	" 19.	40 1,312	1,355 12	35 752	1,179 12		
Halewood's Bronze Top.....	" 9.	" 23.	" 19.	" 19.	43 1,120	1,452 ..	28 144	935 44		
Hall's Westbury.....	" 9.	" 23.	" 19.	" 19.	43 1,032	1,450 42	28 144	935 44		
Prize Winner.....	" 9.	" 23.	" 19.	" 19.	35 664	1,177 44	34 992	1,149 52		
East Lothian.....	" 9.	" 23.	" 19.	" 19.	43 1,384	1,456 24	25 952	849 12		
Drummond Purple Top.....	" 9.	" 23.	" 19.	" 19.	35 576	1,176 16	33 ..	1,100 ..		
Shamrock Purple Top.....	" 9.	" 23.	" 19.	" 19.	30 1,424	1,023 44	29 1,840	997 20		
Hartley's Bronze.....	" 9.	" 23.	" 19.	" 19.	30 1,600	1,026 40	29 80	968 ..		
Prize Purple Top.....	" 9.	" 23.	" 19.	" 19.	30 1,952	1,032 32	27 1,440	924 ..		
Marquis of Lorne.....	" 9.	" 23.	" 19.	" 19.	29 784	978 4	29 168	969 28		
Champion Purple Top.....	" 9.	" 23.	" 19.	" 19.	29 256	970 56	28 1,904	965 4		
Carter's Elephant.....	" 9.	" 23.	" 19.	" 19.	29 960	982 40	28 320	938 40		
Mammoth Clyde.....	" 9.	" 23.	" 19.	" 19.	26 800	880 ..	25 1,568	859 28		

## Experimental Farms.

### EXPERIMENTS WITH MANGELS.

Sixteen varieties of mangels were tested and two sowings of each were made. The land was a clay loam and the previous crop was small fruits. The spring during seeding time was rather unfavorable and the seed did not germinate well, and in consequence the stand was uneven and the yield considerably lessened, but, as in previous years, the early sown seed gives the best returns.

#### MANGELS.—TEST OF VARIETIES.

Name of Variety.	1st Plot	2nd Plot	1st Plot	2nd Plot	Yield	Yield	Yield	Yield
	Sown.	Sown.	Pulled.	Pulled.	per	per	per	per
					Acre.	Acre.	Acre.	Acre.
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.
					Tons. Lbs.	Bush. Lbs.	Tons. Lbs.	Bush. Lbs.
Selected Mam. Long Red	April 28	May 12	Oct. 19	Oct. 19	35 1,456	1,190 56	35 48	1,167 28
Red Fleshed Globe	" 28	" 12	" 19	" 19	35 928	1,182 8	35 576	1,176 16
Gate Post	" 28	" 12	" 19	" 19	35 400	1,173 20	34 464	1,141 4
Mammoth Long Red	" 28	" 12	" 19	" 19	33 880	1,114 40	32 1,120	1,085 20
Giant Yellow Intermediate	" 28	" 12	" 19	" 19	30 1,776	1,029 36	29 1,400	990 ..
Warden Orange Globe	" 28	" 12	" 19	" 19	30 1,424	1,023 44	29 80	968 ..
Canadian Giant	" 28	" 12	" 19	" 19	29 1,840	997 20	29 872	981 12
Prize Mam. Long Red	" 28	" 12	" 19	" 19	26 976	882 56	24 1,280	821 20
Champion Yellow Globe	" 28	" 12	" 19	" 19	24 1,984	833 4	24 752	812 32
Golden Fleshed Tankard	" 28	" 12	" 19	" 19	24 1,280	821 20	22 264	736 4
Norbiton Giant	" 28	" 12	" 19	" 19	24 400	806 40	22 1,760	762 40
Giant Yellow Half Long	" 28	" 12	" 19	" 19	22 1,056	750 56	22 264	736 4
Yellow Gate Post	" 28	" 12	" 19	" 19	21 1,120	718 40	20 40	667 40
Ward's Large Oval Shaped	" 28	" 12	" 19	" 19	21 64	701 4	17 1,200	586 40
Red Fleshed Tankard	" 28	" 12	" 19	" 19	17 1,960	599 20	14 1,832	497 12
Giant Yellow Globe	" 28	" 12	" 19	" 19	17 1,200	586 40	14 1,040	484 ..

### EXPERIMENTS WITH CARROTS.

Eighteen varieties of carrots were tested this year. Two sowings of each were made, the first on 28th April and the second on 12th May. The soil was a sandy loam in good condition and fairly uniform in character. One or two varieties suffered somewhat from having been sown on spots where fir stumps had been, and the soil was not as good. The yield per acre has been calculated from two rows each 66 feet long.

#### CARROTS.—TEST OF VARIETIES.

Name of Variety.	1st Plot	2nd Plot	1st Plot	2nd Plot	Yield	Yield	Yield	Yield
	Sown.	Sown.	Pulled.	Pulled.	per	per	per	per
					Acre.	Acre.	Acre.	Acre.
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.
					Tons. Lbs.	Bush. Lbs.	Tons. Lbs.	Bush. Lbs.
Improved Short White	April 28	May 12	Oct. 19	Oct. 19	32 826	1,080 26	42 333	1,405 33
White Belgian	" 28	" 12	" 19	" 19	19 36 1,626	1,227 46	35 986	1,183 16
Half Long White	" 28	" 12	" 19	" 19	19 37 214	1,236 54	32 972	1,082 52
Mam. White Intermediate	" 28	" 12	" 19	" 19	19 34 630	1,143 50	32 1,696	1,094 56
Yellow Intermediate	" 28	" 12	" 19	" 19	19 35 1,720	1,195 20	29 1,986	999 46
Green Top White Orthe	" 28	" 12	" 19	" 19	19 32 826	1,080 26	29 666	977 46
Half Long Chantenay	" 28	" 12	" 19	" 19	19 32 1,266	1,087 46	24 400	806 40
Ontario Champion	" 28	" 12	" 19	" 19	19 28 1,200	953 20	27 1,000	916 40
Guerande or Ox Heart	" 28	" 12	" 19	" 19	19 27 853	914 13	27 256	904 16
Early Gem	" 28	" 12	" 19	" 19	19 25 1,333	855 33	24 1,133	818 53
Iverson's Champion	" 28	" 12	" 19	" 19	19 25 1,726	862 6	24 693	811 33
Giant White Vosges	" 28	" 12	" 19	" 19	19 25 1,333	855 33	22 ..	733 20
Scarlet Intermediate	" 28	" 12	" 19	" 19	19 24 400	806 40	15 1,000	516 00
Long Scarlet Altringham	" 28	" 12	" 19	" 19	19 20 1,946	699 6	16 560	542 40
Carter's Orange Giant	" 28	" 12	" 19	" 19	19 20 153	669 13	14 1,626	493 46
Long Orange or Surrey	" 28	" 12	" 19	" 19	19 12 1,666	427 46	15 1,083	518 3

EXPERIMENTS WITH SUGAR BEETS.

Six varieties of sugar beets were tested. The land was a clay loam, one of the oldest worked pieces on the farm and was fairly uniform in character and moderately rich. The yields per acre were satisfactory. These have been calculated from the weight of roots gathered from two rows each 66 feet long.

SUGAR BEETS.—TEST OF VARIETIES.

Name of Variety.	1st Plot Sown.	2nd Plot Sown.	1st Plot Pulled.	2nd Plot Pulled.	Yield per Acre.		Yield per Acre.		Yield per Acre.			
					1st Plot.	1st Plot.	2nd Plot.	2nd Plot.				
					Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.		
Red Top Sugar.....	May 9.	May 23.	Oct. 19.	Oct. 19.	35	1,456	1,190	56	30	928	1,015	28
Danish Red Top.....	"	"	"	"	35	576	1,176	16	27	384	906	24
Improved Imperial.....	"	"	"	"	30	192	1,003	12	29	1,664	994	24
Vilmorin's Improved.....	"	"	"	"	29	432	973	52	27	1,440	924	00
Danish Improved.....	"	"	"	"	26	1,064	884	24	20	656	677	36
Wanzleben.....	"	"	"	"	21	1,912	731	52	21	1,560	726	00

EXPERIMENTS WITH POTATOES.

One hundred and eleven varieties of potatoes were tested this year. The soil was a strong clay loam, and had been in pease last year, which was the first crop since two or three large fir stumps had been taken out of this area, it was scarcely uniform in quality, and this reduced the yield of those potatoes which happened to be planted in such spots.

The yield on the whole, however, was very fair, the quality excellent and the percentage of rotten tubers was very small. The marketable average is fairly high. All were planted on 13th May.

POTATOES.—TEST OF VARIETIES.

Name of Variety.	Dug.	Total Yield per Acre.		Yield per Acre of Sound.		Yield per Acre of Rotten.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Form and Colour.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.		
Hayden's Seedling.....	Oct.	3	733	20	733	20	None	693	..	46	20	Long purple.	
Topas White.....	"	3	652	40	652	40	"	620	40	33	..	" white.	
Dakota Red.....	"	3	623	20	623	20	"	561	..	20	..	" red.	
New Variety No. 1.....	"	3	616	..	616	..	"	554	24	61	36	Oblong rose.	
Uncle Sam.....	Sept.	26	586	40	586	40	"	528	10	53	30	" white.	
American Giant.....	Oct.	3	586	40	586	40	"	524	..	62	40	Long	
Rural Blush.....	"	27	583	24	583	24	"	495	51	37	33	" red.	
Houlton Rose.....	"	27	583	24	583	24	"	494	30	33	54	" rose.	
Charles Downing.....	"	26	580	48	580	48	"	435	38	143	10	Oblong white.	
Maggie Murphy.....	"	1	572	..	572	..	"	524	30	57	30	Long flat white.	
Troy Seedling.....	"	3	572	..	572	..	"	523	..	59	..	" red.	
Early Norther.....	"	27	564	40	564	40	"	452	40	112	..	" pink and white.	
Dreer's Standard.....	"	1	557	20	557	20	"	490	30	66	50	" rose.	
Foreman's Early.....	"	1	550	..	550	..	"	496	..	54	..	" white.	
American Wonder.....	"	1	550	..	513	30	27	30	461	50	51	40	"
Ideal.....	"	1	548	30	548	30	None	466	15	82	15	" red.	
Daisy.....	Sept.	26	542	40	542	40	"	434	10	108	30	" rose.	

# Experimental Farms.

## POTATOES.—TEST OF VARIETIES—Continued.

Name of Variety.	Dug.	Total Yield per Acre.		Yield per Acre of Sound.		Yield per Acre of Rotten.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Form and Colour.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
Seedling No. 7.....	Oct.	1 542	40 542	40	None	433	50	108	50	30	Long red.	
Bill Nye.....	Sept.	26 532	24 532	24	"	425	54	106	30	" white.		
Sir Walter Raleigh.....	"	27 532	24 532	24	"	479	24	53	"	Oval "		
Holborn Abundance.....	"	27 532	24 452	54	79	30 336	20	116	34	Round "		
Sharpe's Seedling.....	Oct.	1 528	.. 528	..	None	475	40	52	20	Long rose.		
General Gordon.....	Sept.	19 528	.. 514	..	12	488	40	26	20	" pink.		
Seedling No. 230.....	"	19 528	.. 528	..	None	474	20	53	40	Round white.		
Clay Rose.....	"	26 513	.. 513	20	"	461	40	51	30	Long rose.		
Brownell's Winner.....	"	27 513	.. 463	..	50	347	10	115	50	" red.		
Northern Spy.....	"	26 491	20 491	20	None	417	36	73	42	" "		
Crown Jewel.....	"	26 491	20 491	20	"	441	20	50	"	" pale rose.		
Reeve's Rose.....	"	26 486	56 438	26	48	30 340	..	98	26	" rose.		
Money Maker.....	"	26 484	.. 484	..	None	363	..	121	"	" white.		
Irish Daisy.....	"	26 484	.. 484	..	"	387	20	96	40	" "		
Vick's Extra Early.....	Oct.	1 484	.. 484	..	"	435	..	49	"	" rose.		
Peerless Junior.....	"	26 484	.. 484	..	"	433	..	51	..	Oval white.		
Lizzie's Pride.....	"	3 476	40 476	40	"	405	10	71	30	Long pink.		
Empire State.....	"	1 476	40 476	40	"	426	10	50	30	" white.		
Record.....	"	1 476	40 453	..	23	40 317	30	135	30	" "		
Beauty of Hebron.....	Sept.	26 476	40 466	..	10	40 421	..	45	"	" pale rose.		
Early Sunrise.....	"	26 475	12 475	12	None	404	..	71	12	" rose.		
Green Mountain.....	"	26 475	.. 475	..	"	425	30	49	30	Oval white.		
Monroe County.....	"	26 466	24 466	24	"	396	44	69	40	Long red.		
Early Rose.....	Oct.	1 464	56 395	26	69	30 299	41	95	45	" rose.		
Reading Giant.....	"	1 463	28 463	28	None	417	28	46	..	Oblong pink.		
London.....	"	3 462	.. 462	..	"	415	..	47	..	Long rose.		
Clarke's No. 1.....	"	3 462	.. 462	..	"	414	..	48	..	" pale rose.		
Queen of the Valley.....	"	1 457	36 457	36	"	366	36	91	..	" rose.		
Early White Prize.....	"	3 454	40 454	40	"	386	40	68	..	" white.		
Rose No. 9.....	Sept.	26 454	40 454	40	"	364	..	90	40	" red.		
Abundance.....	"	26 448	48 448	48	"	405	..	43	48	Round white.		
Earliest of All.....	Oct.	1 447	20 447	20	"	380	20	67	..	Long rose.		
McKenzie.....	Sept.	27 447	20 447	20	"	358	50	88	30	" white.		
Pride of the Market.....	Oct.	1 445	50 445	50	"	358	50	87	..	" "		
Bovee.....	Sept.	19 445	52 445	52	"	398	22	47	30	" rose.		
Wonder of the World.....	"	19 445	.. 445	..	"	378	14	66	46	" "		
Everett.....	"	19 444	20 444	20	"	400	50	43	30	Round white.		
Burpee's Extra Early.....	"	26 444	20 444	20	"	382	20	62	..	Long pale rose.		
Carman No. 3.....	"	26 443	30 443	30	"	418	30	25	..	Oval white.		
Rural No. 2.....	"	26 443	.. 443	..	"	432	..	11	..	" "		
State of Maine.....	"	27 443	.. 443	..	"	398	..	45	..	Long white.		
Lightning Express.....	Oct.	1 441	28 441	28	"	395	28	46	..	" pale red.		
Maule's Thoroughbred.....	"	1 441	28 441	28	"	350	28	91	..	" rose.		
White Beauty.....	"	3 440	.. 440	..	"	396	..	44	..	" white.		
Early Fortune.....	"	3 440	.. 440	..	"	393	30	46	30	" rose.		
Pearce's Prize Winner.....	"	1 438	32 438	32	"	329	..	109	32	" pink.		
Ohio Junior.....	Sept.	26 436	6 436	6	"	370	42	65	24	" red.		
Stourbridge Glory.....	Oct.	3 431	42 431	42	"	363	27	67	15	" white.		
Pearce's Extra Early.....	Sept.	19 431	42 431	42	"	388	..	43	42	" pale rose.		
Late Puritan.....	"	19 428	46 428	46	"	375	18	42	28	" white.		
Brown's Rot Proof.....	"	19 425	50 425	50	"	404	20	21	30	" red.		
Chicago Market.....	"	26 415	50 425	50	"	402	20	23	30	" red.		
Early Gem.....	Oct.	1 410	40 410	40	"	369	10	41	30	" pale rose.		
Burnaby Seedling.....	"	1 409	12 409	12	"	367	12	42	..	" "		
Lee's Favourite.....	"	3 407	44 407	44	"	367	14	40	30	" rose.		
New Queen.....	"	3 406	14 406	14	"	365	..	41	14	" "		
Flemish Beauty.....	"	3 406	14 394	10	12	14 359	20	39	40	" "		
Seedling No. 214.....	Sept.	19 401	50 401	50	None	361	20	40	30	Round white.		
Early Six Weeks.....	Oct.	1 395	46 395	46	"	355	26	40	20	" "		
Early Puritan.....	"	1 395	40 395	40	"	336	10	59	30	Oblong rose.		
Cambridge Russet.....	"	3 395	40 376	..	19	40 297	..	79	..	Long white.		
I X L.....	Sept.	26 394	12 394	12	None	355	2	39	10	" russet white.		
Orphans.....	"	26 388	40 388	40	"	291	30	97	10	" pink.		

POTATOES—TEST OF VARIETIES.—*Concluded.*

Name of Variety.	Dug.	Total Yield per Acre.		Yield per Acre of Sound.		Yield per Acre of Rotten.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Form and Colour.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
Thorburn	Sept.	26 387	12 387	12 387	12	None	309	56	77	16	Long white.	
Pride of the Table	"	27 385	44 385	44	"	"	308	24	77	20	" red.	
Irish Cobbler	"	27 381	20 381	20	"	"	247	52	133	28	Oval white.	
Rochester Rose	"	19 378	24 378	24	"	"	339	24	39	"	Long red.	
Great Divide	"	26 375	28 375	28	"	"	300	28	75	"	" white.	
Honeoye Rose	"	19 371	4 371	4	"	"	352	24	18	40	Oblong rose.	
Early Ohio	"	26 369	36 369	36	"	"	351	6	18	30	Long rose.	
Columbus	"	26 368	8 368	8	"	"	331	40	36	28	" pale rose.	
Satisfaction	Oct.	1 366	40 366	40	"	"	293	40	73	"	" white.	
Quaker City	"	1 366	40 360	"	36	40	231	"	99	"	" "	
Victor Rose	"	3 365	12 365	12	None	"	328	22	36	50	" rose.	
Delaware	"	3 363	44 363	44	"	"	325	44	38	"	Oblong white.	
Soudan	"	3 359	20 359	20	"	"	269	40	89	40	Round russet.	
Ash Leaf Kidney	Sept.	19 352	" 352	"	"	"	313	30	38	30	Long white.	
Algoma No. 1.	"	19 350	32 350	32	"	"	314	52	35	40	" pink.	
Russell's Seedling.	Oct.	3 344	40 344	40	"	"	275	44	68	56	Oval white.	
Harbinger.	Sept.	27 337	20 337	20	"	"	268	52	67	28	Long pink.	
Good News.	"	26 325	36 325	36	"	"	260	16	65	20	" rose.	
Early Harvest.	"	26 322	40 322	40	"	"	273	16	48	24	" white.	
Freeman's	"	26 319	44 319	44	"	"	185	11	134	33	Oblong white.	
Hopeful	"	26 315	20 315	20	"	"	252	20	63	"	Long white.	
World's Fair	"	26 313	50 313	50	"	"	248	50	65	"	Oblong white.	
Prize Taker.	Oct.	1 310	56 279	36	31	20	221	"	58	36	" red.	
Carman No. 1.	Sept.	26 309	28 309	28	None	"	232	16	77	12	" white.	
Polaris.	"	26 308	" 308	"	"	"	248	"	60	"	Long "	
Vanier.	Oct.	1 308	" 308	"	"	"	277	20	30	40	" red.	
Hale's Champion.	Sept.	26 300	40 270	40	30	"	169	40	108	"	Round white.	
Seattle.	"	27 296	16 296	16	None	"	207	24	88	52	Long "	
Table King.	"	26 293	10 293	10	"	"	231	40	61	30	" "	
King of the Roses	"	27 290	24 275	24	15	"	206	24	69	"	" rose.	
Fillbasket.	Oct.	1 256	40 256	40	None	"	204	50	21	50	" red.	

## SUMMARY OF HAY AND FORAGE CROPS HARVESTED.

	Tons.	Cwt.
Clover hay cured	55	15
Clover put into silo	28	0
Corn " "	34	4
Turnips	32	0
Mangels	7	15
Carrots	13	0
Sugar beets	2	5

A considerable quantity of clover, both first and second crop, was cut and fed green to the horses and cattle.

## EXPERIMENTS WITH FODDER CROPS.

Fodder corn was cut and fed green from 1st of October until last of December, the silo not being large enough to hold it all, owing to the quantity of clover put into it.

## Experimental Farms.

The following mixtures of grain were sown to be cut green for fodder purposes. The soil was a sandy loam. The size of the plots was one-twentieth acre each.

Name of Variety.	Date of Sowing.	Date of Cutting.	Yield.		Yield.		Remarks.
			Weight when cut.		Weight when cured.		
			Tons.	Lbs.	Tons.	Lbs.	
Mixture No. 1 (sown with one bushel each of pease, barley and oats).....	May 2..	July 18..	9	60	4	430	Cut when oats were in late milk.
Mixture No. 2 (sown with one bushel each of pease, wheat and oats).....	" 2..	" 18..	8	1,760	3	1,380	" "

These mixtures continue to give good satisfaction, and where hay land is short provide a first class substitute.

### EXPERIMENTS WITH JAPANESE MILLET, SOJA BEANS AND HORSE BEANS.

#### JAPANESE MILLET.

The seed of this millet, also the seed used in the two following tests of Soja Beans and Horse Beans, was received early in the season from the Director with instructions for sowing. The chief object in view in these experiments was to gain information as to the relative usefulness of these plants as forage crops in this climate and the weight of the crop obtainable from each when sown in different ways.

The land on which the Japanese Millet, Soja Beans and Horse Beans, were sown was a warm sandy loam which had received a dressing of stable manure in the winter of 1896. Where the seed was sown in drills the soil was kept clean and mellow with the cultivator. The season during midsummer being very hot and dry, the cultivation was very advantageous to the plants sown in drills.

The size of the plots was one-twentieth acre each.

Five test plots of the Japanese Millet were sown on 27th April, four of them in drills at different distances apart and one broadcast. They were all cut on the 10th September.

The growth was strong and the stalks leafy, with heads ranging from 2½ to 7 inches in length.

As will be seen by the records the wide drills gave the heaviest yields, the growth in every respect being greater, but where the stalks grow so stout and woody unless the fodder was run through an ensilage cutter there would be considerable waste in feeding. Horses and cattle eat it readily, either freshly cut or cured as hay.

#### JAPANESE MILLET.

Name of Variety.	Length of Straw.	Character of Straw.	Length of Head.	Yield per acre.		Cured. Yield per acre.		Remarks.
				Green.				
	Inches.		Inches.	Tons.	Lbs.	Tons.	Lbs.	
Plot 1, drills 9 inches apart	52-54	Very leafy	5-6	12	600	6	400	Cut when seed was in late milk.
" 2 " 12 "	52-54	"	5-6	12	1,200	6	900	" "
" 3 " 15 "	56-60	"	5-6	14		7	300	Stalks very stout.
" 4 " 18 "	58-62	"	5-7	16	800	8	700	" "
" 5 broadcast.....	36-48	"	2-6	7	1,000	3	1,500	Stalks slender and short.

## SOJA BEANS.

These were sown in drills at different distances apart. The growth was from 35 to 40 inches high, and the plants branched so freely and had so many leaves that by mid-summer the drills were not apparent. The branches were well loaded with pods containing from two to four beans each. This crop requires a longer season to ripen the bean, but it makes a fine fodder for green feed, the cattle and horses preferring it to any other food. All of it was fed green as our silo was full and the weather was unfavourable for curing it.

## SOJA BEANS.

Name of Variety.	Date of Sowing.	Date of Cutting.	Length of Straw.	Yield per acre.	Remarks.
			Inches.	Tons. Lbs.	
Plot 1, drills 2 feet apart	April 27..	Oct. 5.	30-40	6 800	Cut when beans were in a soft green state.
" 2 " 2½ "	" 27..	" 5..	35-40	5 1,800	" "
" 3 " 3 "	" 27..	" 5..	35-40	5 800	" "

## HORSE BEANS.

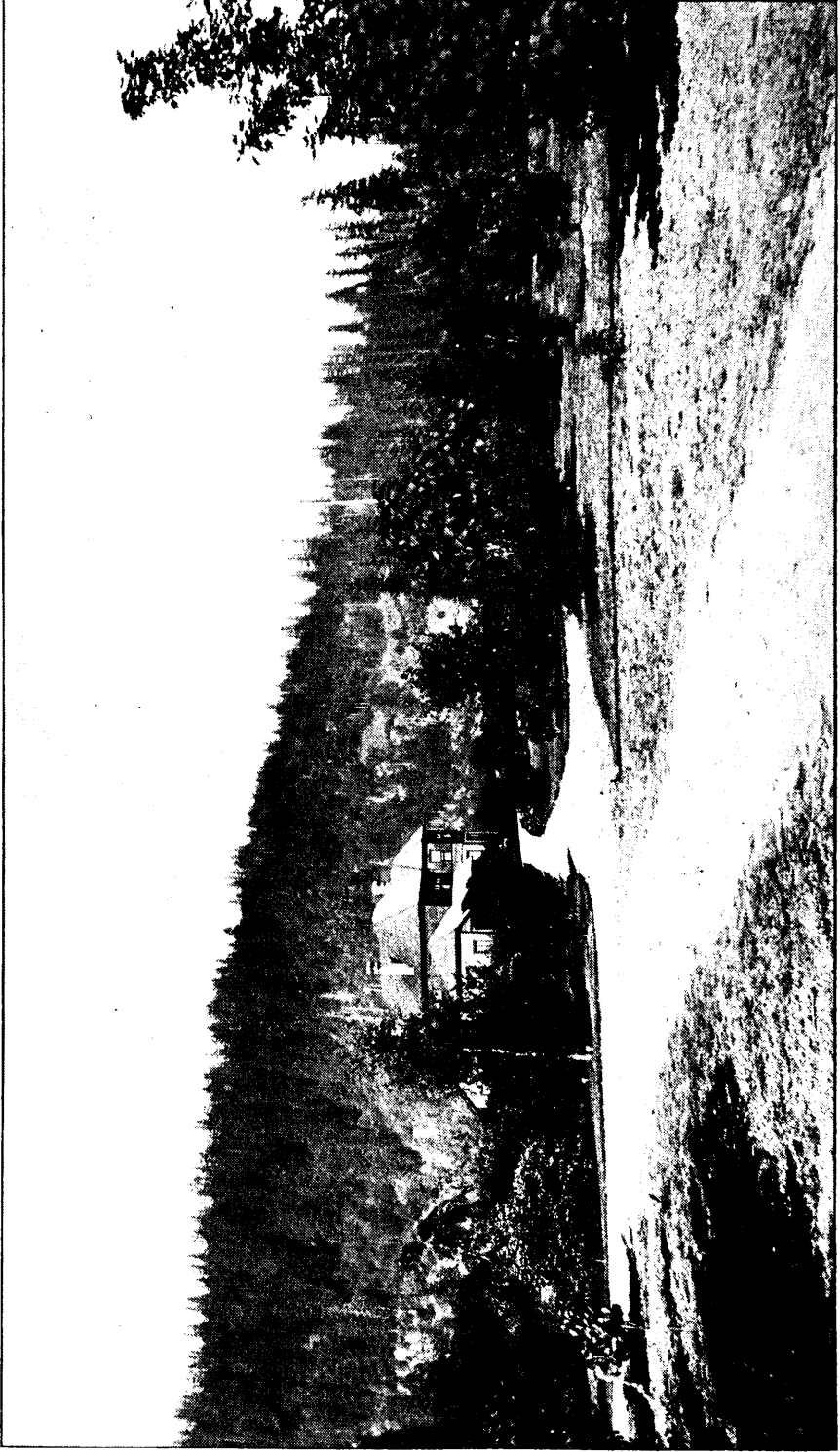
Three plots of these beans were sown. The seed did not germinate well, and the stand was in consequence uneven and poor. The plants grew from 30 to 34 inches high and were fairly well podded, but the pods were short, averaging about three beans each. When cut some of the lower pods were ripe and the beans beginning to shell. Cut 19th September, and mixed with corn and put into silo or fed green.

Number of Plot.	Date of Sowing.	Date of Cutting.	Height of Plant.	Yield per acre.	Remarks.
			Inches.	Tons. Lbs.	
Plot 1, drills 2 feet apart	April 27..	Sept. 19..	30-34	3 600	Cut when lower pods were ripe.
" 2 " 2½ "	" 27..	" 19..	30-40	2 900	" "
" 3 " 3 "	" 27..	" 19..	30-40	2 300	" "

## EXPERIMENTS WITH CLOVER SEED INOCULATED WITH NITRAGIN AND WITHOUT NITRAGIN.

The soil for these tests was a clay loam that had been used as a nursery for some years, but which had received no manure since 1892, when it was given a light dressing of stable manure. This land was ploughed early in the spring of 1898 and sown with a mixture of pease and oats which had made a fair growth, when turned under for the clover tests. Four plots of one-twentieth of an acre each were laid out, and two of these sown with the clover seed which had been treated, one at the rate of 10 pounds per acre, and the other at the rate of 7 pounds per acre. The other two plots were sown





View on the Experimental Farm at Agassiz, British Columbia, showing part of Arboretum and residence of Superintendent.

## Experimental Farms.

with untreated seed at the same rate. The heaviest seeding gave the thickest stand, but apart from that there seemed to be no perceptible difference in the growth at the end of the season.

### POULTRY.

There are four breeds of poultry on the farm—Light Brahmas, White Wyandottes, Black Minorcas, and White Leghorns. These fowls have a comfortable house, and, excepting those which are kept in breeding pens, are allowed to run at large and are regularly fed and cared for. They were not forced in any way either for laying or fattening.

The Black Minorcas are the best layers, and their eggs are large.

The Light Brahmas are the best for the table and second as layers. A pair of Brahma cockerels weighed  $9\frac{1}{2}$  pounds at four months old.

The White Wyandottes are very nearly equal to the Light Brahmas as broilers. A pair of White Wyandotte cockerels weighed 8 pounds 3 ounces at four months old; they have not been as good layers here as the Light Brahmas.

The White Leghorns are good layers, but their eggs are small and their bodies so small that they are of little value for the table.

### LARGE FRUITS.

#### APPLES.

This has been an off year for apples in old orchards or where trees have been bearing continuously for several years. Of winter apples, Salome, Scotts Winter, Baldwin, Ben Davis and Sutton Beauty were the only varieties amongst the old trees that bore a fairly good crop.

In the newer plantations and on the benches the crop has been a fairly good one. The forest tent caterpillar was very plentiful, and where orchards were not promptly sprayed they did considerable damage. A large number of the Russian varieties of apples fruited this year. The trees in almost every case are strong growers and early bearers, but nearly all of them are summer or early autumn apples. The trees on the benches have made a very satisfactory growth, and many of them had some fruit, but unfortunately a good deal of this was destroyed by bears which were very numerous this year, four having been shot in our orchards and others seen.

The following extracts are from notes taken, describing some of the best of those varieties which fruited for the first time this year:—

*Red Juneating*.—Tree a moderate grower and fairly productive. Fruit small to medium in size, conical. Skin greenish yellow, nearly covered with red. Flesh white, crisp, and juicy, acid. Ripe last of July.

*Arkad Solovieff*.—Tree a strong, vigorous grower. Fruit above medium size of an irregular, conical shape. Skin waxen yellow. Flesh white, juicy, nearly sweet, perfumed. Ripe last of July.

*Skrosnina Grell*.—Tree vigorous and productive. Fruit of medium size, roundish flat. Skin yellow with a bronze cheek. Flesh white, crisp, juicy, mild sub acid. Season, last of July.

*Rosy Voronesh, 1277*.—Tree a vigorous grower. Fruit above medium size, oblong conical. Skin yellow streaked and splashed with red. Flesh white, crisp, juicy, pleasant, a little coarse. Season, early August.

*Rosy Repka*.—Tree vigorous and productive. Fruit above medium size, conical. Skin green, striped and splashed with red and with a whitish bloom. Flesh coarse, juicy, sprightly, flavour good. Season, August.

*Pewaukee Russet*.—Tree a very vigorous grower, Fruit flattish, conical. Skin russet green, nearly covered with splashes of red in two shades. Flesh white, juicy, coarse, a pleasant, mild, acid. Season, August.

*White Cardinal*.—Tree a moderate grower, productive. Fruit large, flattish, tapering to the eye. Skin of a clear yellow colour. Flesh coarse, crisp, mildly acid. Season, August.

*Newton*.—Tree a vigorous grower. Fruit of medium size, slightly conical. Skin green, nearly covered with red. Flesh white, crisp, acid. Season, August.

*Excelsior*.—Tree a strong, vigorous grower and productive. Fruit of medium size, nearly globular. Skin yellow with a bright red cheek. Flesh crisp, juicy, white, mildly acid and pleasant. Season, August.

*Repolovka 1 M*.—Tree a vigorous grower. Fruit of medium size, globular. Skin white with a reddish cheek. Flesh white, juicy, firm and of a brisk acid. Season, August.

*Golden Reinette*.—Tree vigorous and productive. Fruit round, flat and of medium size. Flesh white, coarse, juicy, a mild acid. Season, August.

*Koursk Anis*.—Tree a strong grower. Fruit of medium size, flat. Skin green, nearly covered with dark purple. Flesh white, juicy and pleasantly acid. Season, August.

*Arabka*.—Tree a vigorous grower. Fruit of medium size, oblong conical. Skin green, nearly covered with dull red. Flesh white, moderately juicy, sweet, pleasant. Season, August.

*Flat Voronesh*.—Tree a vigorous grower and productive. Fruit very similar to the Duchess, but considerably larger. Season, August.

*William's Favourite*.—Tree a vigorous grower. Fruit above medium in size, conical. Skin green, splashed and streaked with pale and dark red. Flesh white, crisp, pleasant and mildly acid. Season, August.

*Ruby Gem*.—Tree a moderate grower. Fruit of medium size, globular. Skin green, nearly covered with dull red and sprinkled with small white dots. Flesh white, fine, crisp, juicy, of a mild and pleasant acid. Season, August.

*Porter*.—Tree vigorous and productive. Fruit above medium size, oblong, yellow. Flesh white, tender and of fine flavour. Season, August.

*Kara Synap A*.—Tree a strong and vigorous grower. Fruit of medium size, flat, conical. Skin green, freely splashed with red. Flesh yellowish, crisp, juicy, rather coarse but pleasant. Season, August.

*Paperovka*.—Tree vigorous. Fruit above medium size, conical. Skin yellowish white. Flesh white, dry, coarse and granular. Season, August.

*Gracie*.—Tree vigorous and productive. Fruit large, flattish, conical. Skin whitish green. Flesh white, coarse and mildly acid. Season, August.

*Blushed Calville*.—Tree a vigorous grower. Fruit above medium in size, flattish. Skin yellow. Flesh tender, white, juicy, pleasant. Season, August.

*Red Streak*.—Tree a vigorous grower. Fruit large, similar in appearance and quality to Alexander, but earlier. Season, August.

## Experimental Farms.

*Persian Bogdanoff*.—Tree a vigorous grower. Fruit of medium size, oblong, conical. Skin green, nearly covered with dull red. Flesh white, moderately juicy, sweet and pleasant. Season, August.

*Pointed Pipka*.—Tree a vigorous grower. Fruit above medium in size, oblong, conical. Skin whitish yellow, nearly covered with streaks and splashes of bright red. Flesh coarse, juicy, crisp and mildly acid. Season, August.

*Little Hat*.—Tree a vigorous grower. Fruit large, oblong conical. Skin green, splashed and striped with bright red. Flesh yellow, a little soft, juicy, acid. Season, August.

*Anisovka*.—Tree a vigorous grower and productive. Fruit very similar to Duchess in quality and season, but larger. Season, August.

*Orel*.—Tree a vigorous grower. Fruit of the Alexander type, large, handsome, and a good cooking apple. Season, August.

*Avenarius*.—Tree a vigorous grower. Fruit of medium size, nearly round. Skin yellowish green, nearly covered with streaks and spots of light red. Flesh white, not juicy, mildly acid. Season, August.

*Headly*.—Tree a vigorous grower and productive. Fruit very similar to Duchess, but nearly a month later. Season, last of August and first of September.

*Green Stripe*.—Tree a strong grower. Fruit large, oblong, conical. Skin greenish white, with red stripes and sprinkled with white dots. Flesh white, firm, juicy and pleasantly acid. Season, August.

*Mank's Codlin*.—Tree an early and free bearer. Fruit of medium size, oblong, conical. Skin yellow, with a warm blush on the sunny side. Flesh yellowish white, crisp, juicy, and pleasantly acid. Season, August and September.

*Deane's Codlin*.—Tree a vigorous grower and productive. Fruit large, oblong, slightly conical. Skin yellow. Flesh white, juicy, and of a pleasant character. Season, August and September.

*Grandmother*.—Tree a vigorous grower. Fruit above medium in size, flattish, conical. Skin greenish white, streaked and splashed with light red. Flesh rather dry, granular and sweet. Season, autumn.

*Baraboo*.—Tree a vigorous grower. Fruit of medium size, flat. Skin russet white, with a light blush on the sunny side. Flesh white, juicy, acid. Season, autumn.

*Rambour Reinette*.—Tree a vigorous grower. Fruit large, irregular, ribbed, conical. Skin yellow, with a little red on the sunny side. Flesh white, coarse, juicy, acid. Season, autumn.

*Summer Spice*.—Tree a vigorous grower and an early bearer. Fruit of medium size, oblong, tapering to the eye. Skin yellow. Flesh white, not juicy, but mildly acid, pleasant. Season, autumn.

*Quaker Beauty*.—Tree a vigorous grower. Fruit above medium size, flattish, conical. Skin russet green, with a warm blush. Flesh white, not juicy, but mildly acid. Season, autumn.

*Russian Preserve*.—Tree a vigorous grower and productive. Fruit of medium size, round and flattened. Skin greenish white. Flesh dry, tough, white, sweet, and of poor flavour. Season, September.

*Long Arcade*.—Tree a vigorous grower. Fruit large, irregular, conical. Skin green, nearly covered with red, and with many small white dots. Flesh white, juicy and pleasant. Season, September.

*Early Ripe*.—Tree a moderate grower. Fruit above medium size, oblate. Skin green, with a bronze red cheek. Flesh white, crisp, juicy, mildly acid and pleasant. Season, autumn.

*Lowell*.—Tree a vigorous grower and productive. Fruit large, oblong. Skin yellow, oily. Flesh yellowish white, crisp, tender and of fine flavour. Season, September and October.

*Borsdorf*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, tapering to the eye. Skin green, streaked with dull red. Flesh white, mildly acid and juicy. Season, September.

*Western Beauty*.—Tree a vigorous and spreading grower. Fruit large, flattish, globular. Skin greenish white, with splashes and dots of red. Flesh white, mildly acid, juicy, crisp and pleasant. Season, September.

*Day*.—Tree a vigorous grower. Fruit large, oblate. Skin green, with numerous small whitish dots and a little red on the sunny side. Flesh, yellowish white, crisp, juicy and pleasant. Season, September.

*Flora Belle*.—Tree a vigorous grower and productive. Fruit large, oblong, conical. Skin rich yellow, with small patches of russet and small dots. Flesh yellowish, tender, crisp, subacid, pleasant. Season, autumn.

*Fall Wine*.—Tree a moderate grower. Fruit large, conical. Skin green, with a small dull red cheek and sprinkled with whitish dots. Flesh yellowish, juicy, tender, mildly acid, and of fine flavour. Season, autumn.

*Gremuck*.—Tree a very vigorous grower. Fruit very large, conical. Skin green, with a few stripes of red. Flesh white, coarse, acid; quality poor. Season, autumn.

*Royal Table*.—Tree a vigorous grower and productive. Fruit of medium size, globular. Skin green, with a blush and sprinkled with white dots. Flesh white, crisp, juicy and of a pleasant flavour. Season, October and November.

*Mother*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, tapering a little. Skin green and nearly covered with bright red and many small white dots. Flesh yellowish white, crisp, tender, juicy, a mild subacid; quality very good. Season, October and November.

*Haskell's Sweet*.—Tree a moderate grower. Fruit above medium size, oblate. Skin green, with a dull blush. Flesh yellowish white, fine-grained, tender, juicy and sweet. Season, autumn.

*Simbirsk No. 11*.—Tree a strong grower. Fruit of medium size, flat, conical. Skin green, with a reddish blush. Flesh white, firm, juicy, subacid. Season, autumn.

*Tyler's Kernel*.—Tree a moderate grower. Fruit large, oblong, conical. Skin green, nearly covered with dull red, and sprinkled with white dots. Flesh yellowish white, firm, juicy and mildly acid. Season, autumn.

*Early Strawberry*.—Tree a moderate grower. Fruit small to medium in size, oblate. Skin yellow, with a russet cheek and a few streaks of dull red. Flesh white, firm, juicy and pleasantly acid. Season, autumn.

## Experimental Farms.

*Pumpkin Sweet*.—Tree a strong grower. Fruit large, roundish. Skin light green, with white dots and streaks. Flesh sweet, white, not juicy. Season, autumn.

*Gideon's No. 20*.—Tree a vigorous grower and productive. Fruit of medium size, conical. Skin greenish yellow. Flesh white, firm, crisp, juicy. Season, autumn.

*Peasegood's Nonsuch*.—Tree a spreading but moderate grower. Fruit large, globular. Skin whitish green, with a pale red blush and many small whitish dots. Flesh white, juicy, firm, mildly acid and pleasant. Season, autumn.

*Wyken Pippin*.—Tree a medium grower. Fruit below medium in size, oblate. Skin greenish yellow, sprinkled with gray dots. Flesh white, firm, juicy and pleasant. Season, autumn.

*Margil*.—Tree a moderate grower. Fruit of medium size, roundish oblate. Skin green, nearly covered with red. Flesh yellow, firm, juicy, with an aromatic pleasant flavour. Season, autumn.

*Arabskoe*.—Tree a vigorous grower and productive. Fruit large to very large, ribbed, conical. Skin green, nearly covered with smoky red, and sprinkled with small white dots. Flesh firm, white, coarse, juicy, and pleasantly acid. Season, late autumn.

*Bismarck*.—Tree a vigorous grower and productive. Fruit above medium in size, conical. Skin green, nearly covered with red. Flesh rather coarse, white, juicy, mildly acid. Season, November and December.

*Nonpareil*.—Tree a moderate grower. Fruit small, globular, flattened. Skin greenish yellow, nearly covered with russet. Flesh white, firm, moderately juicy and of pleasant flavour. Season, December.

*Arabka Winter*.—Tree a strong grower and productive. Fruit large to very large. Skin green, nearly covered with dull purple. Flesh white, firm, mildly acid and juicy. Season, late autumn.

*Red Winter Calville*.—Tree a moderate grower. Fruit large, oblong, conical. Skin green, with a reddish bronze cheek. Season, winter.

*White Calville*.—Tree a moderate grower. Fruit above medium size, oblong, ribbed. Skin greenish white. Season, winter.

*Pomme d'Ève*.—Tree a slow grower. Fruit under medium size, oblong, globular. Skin green, with a russet bronze cheek. Season, winter.

*Red Winter Pearmain*.—Tree a medium grower and productive. Fruit of medium size, oblong, conical. Skin greenish yellow, nearly covered with red and sprinkled with light dots. Season, winter.

*Golden Harvey*.—Tree a moderate grower. Fruit small, oblong, round. Skin rough, russet, with a dull red cheek. Flesh yellowish, firm, juicy, spicy, rich, and of pleasant flavour. Season, winter.

*Golden Nonpareil*.—Tree a moderate grower. Fruit small, roundish, of a golden yellow colour with a russet blush on the sunny side. Flesh juicy, crisp and acid. Season, winter.

*Ingram*.—Tree a vigorous grower. Fruit small, roundish, flattened. Skin green, with small stripes and splashes of red, and many small whitish dots. Season, winter.

*Arkansas Beauty*.—Tree a vigorous grower and productive. Fruit of medium size, globular. Skin green, with a bronze cheek and many small white dots. Season, winter.

*Red Winter Pearmain*.—Tree a moderate grower. Fruit of medium size, roundish, oblong, conical. Skin yellowish white, nearly covered with dull red, and freely sprinkled with light dots. Season, winter.

*Reinette d'Angleterre*.—Tree a moderate grower. Fruit above medium in size, roundish, conical. Skin yellow, with splashes of light red. Season, winter.

*Bradford's Best*.—Tree a vigorous grower. Fruit small to medium in size, round, flat, green, with a reddish cheek and many light dots. Very liable to black scab. Season, winter.

*Jacob Sweet*.—Tree a moderate grower. Fruit large, oblong, globular, somewhat conical. Skin green, with a brown red blush. Season, winter.

*Danver's Winter*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, conical. Skin smooth, yellow. Season, winter.

*De Chataignier*.—Tree a moderate grower. Fruit small to medium in size, globular. Skin greenish yellow, and speckled with white dots. Season, winter.

*Pyle's Red Winter*.—Tree vigorous. Fruit of medium size, roundish, oblong, conical. Skin green, nearly covered with red, and sprinkled with whitish dots. Season, winter.

*Indian*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, conical. Skin yellow, splashed and streaked over nearly the whole surface with two shades of red, and many small whitish dots. Flesh yellowish, fine grained, tender, crisp, juicy, mildly subacid and of good quality. Season, winter.

*Dickinson*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, inclining to conical. Skin yellowish, with red nearly covering the surface, and freely sprinkled with whitish dots. Season, winter.

*Parker's Pippin*.—Tree a vigorous grower and productive. Fruit medium to large, round, conical. Skin yellow, with a considerable quantity of russet. Season, winter.

*Taffet Winter*.—Tree a strong grower. Fruit small to medium, oblate. Skin greenish yellow, with a blush. Season, winter.

*Burckhardt's Reinette*.—Tree a vigorous grower and productive. Fruit of medium size, round, flattish. Skin russet yellow. Season, winter.

*Green Reinette*.—Tree a vigorous grower. Fruit of medium size, roundish, flattened. Skin yellowish green, with a little russet. Season, winter.

*Round Borsdorf*.—Tree a vigorous grower. Fruit small, round, flat. Skin greenish yellow, with a bronze cheek. Season, winter.

*Queen Olga*.—Tree a vigorous grower and an early bearer. Fruit of medium size, long, oblong, tapering to the eye. Skin yellowish green, with a faint blush and a few white dots. Season, winter.

*Cantil Sinap*.—Tree a vigorous grower. Fruit oblong and of medium size, tapering to the eye. Skin yellowish green, with russet and splashes of pale red on the sunny side. Season, winter.

## Experimental Farms.

*Doux d'Argent*.—Tree a moderate grower. Fruit of medium size, round, flattened. Skin yellowish green, with many white dots. Flesh firm, juicy, mildly acid and of a fine and pleasant flavour. Season, winter.

*Red Queen*.—Tree a vigorous grower. Fruit of medium size, oblong, conical. Skin greenish yellow, with a warm blush. Season, winter.

*North Carolina Limbertwig*.—Tree a vigorous grower. Fruit of medium size, roundish, conical. Skin yellowish green, with a russet and dull red cheek. Season, winter.

*Iowa Blush*.—Fruited for the first time in 1897, and then classed as a winter apple. Proved to be a very fine keeper, keeping crisp and full flavoured until May.

*Scarlet Cranberry*.—Fruit small, flat and roundish, of fair quality, keeps with care until a year old, a plate each of the growth of 1897 and 1898 being shown in the Experimental Farm exhibit this year.

*Carthouse*.—Another apple reported on for the first time in 1897, keeps until the last of March in excellent condition, with a very small percentage of loss.

### CRAB APPLES.

*Red Siberian*.—Tree a vigorous but slender grower. Fruit of medium size, flattish. Skin smooth, yellow, covered with bright red. Season, August.

*Ogilvie's Crab*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, globular. Skin a warm yellow, with a pink blush. Season, August.

*No. 3 Sweet*.—Tree a vigorous grower and productive. Fruit of medium size, oval. Skin greenish white, with red in two shades covering nearly the whole surface, and a bluish bloom. Season, August.

*Paul's Imperial*.—Tree a vigorous grower and productive. Fruit above medium size, round, flattish. Colour white, nearly covered with purple, with a bluish white bloom. Season, August.

*Peach*.—Tree a vigorous grower and productive. Fruit of medium size, oblong. Skin green, with a handsome blush. Season, August.

*Lady Elgin*.—Tree a moderate grower. Fruit small to medium in size, oblong, flattened. Skin yellow, nearly covered with a pale dull red. Season, September.

*Chickasaw*.—Tree a vigorous grower. Fruit small, roundish globular. Skin green, nearly covered with a dull reddish tint. Season, September.

*Alaska*.—Tree a vigorous grower and productive. Fruit above medium in size, oblong, conical. Skin greenish white, splashed with dull pale red on the sunny side. Season, October.

### PEARS.

Very few of the older pear trees bore fruit this year, and in those cases where they did bear, the crop was small and inferior in quality. The following varieties fruited for the first time:—

*Beurre Jacob*.—Tree a strong spreading grower and an early bearer. Fruit of medium size, oblong, pyriform. Skin warm yellow, with a red cheek and freely sprinkled with grayish dots. Flesh white, rather coarse, granular, not juicy, has a tendency to rot at the core. Season, August.



*Beurre Giffard*.—Tree a moderate grower. Fruit of medium size, pyriform, tapering to the stem. Skin greenish yellow, with patches of russet. Flesh white, tender, granular, medium juicy, sweet, quality good. Season, August.

*Early Madelaine*.—Tree an upright and vigorous grower. Fruit of medium size, obovate pyriform. Skin yellowish green, with russet specks. Flesh white, juicy, but not high flavoured. This pear seems very liable to crack.

*Goodale*.—Tree a vigorous grower but slow in coming into bearing. Fruit above medium size, oblong, obtuse pyriform. Skin light yellow with a blush on the sunny side and small patches of russet. Flesh white, juicy, yellowish, rather coarse, and gritty at the core. Season, September.

*Colmar d'Eté*.—Tree a moderately vigorous grower. Fruit of medium size, roundish pyriform. Skin greenish yellow, freely sprinkled with grayish dots and occasionally a slight blush in the sun. Flesh white, coarse, not very good, often rots at core. Season, September.

*St. Swithin*.—Tree a vigorous grower. Fruit below medium size, obovate pyriform. Skin green, with a few russet dots. Flesh white, juicy, buttery and of fine flavour. Season, August and September.

*Van Mons*.—Tree a moderate grower. Fruit of medium size, obovate pyriform. Skin greenish yellow, with patches of russet and many brown dots. Flesh white, juicy, melting sweet and pleasant. Season, September.

*Smith's Hybrid*.—Tree a vigorous and upright grower. Fruit, large very similar to LeConte, but superior in quality to that variety. Season, August and September.

*Duhamel du Monceau*.—Tree a vigorous grower. Fruit of medium size, roundish pyriform. Skin pale greenish yellow, with a brownish red cheek in the sun, and sprinkled with russet dots. Flesh whitish, fine grained, sweet, juicy and of pleasant flavour. Season, October.

*Japan Golden Russet*.—Tree a vigorous and upright grower. Fruit small to medium in size, oval, stem long. Skin greenish russet, freely sprinkled with grayish dots. Flesh white, juicy, firm. Flavour peculiar but not very pleasant. Season, October and November.

*Directeur Alphonse*.—Tree a vigorous grower. Fruit large, obtuse pyriform. Skin green, freely sprinkled with gray dots. Season, winter.

*Emile d'Heyst*.—Tree a vigorous grower. Fruit large, oblong pyriform. Skin yellow, with a bronze orange cheek in the sun, and many russet dots. Flesh yellowish white, fine grained, sweet, juicy and of a pleasant flavour. Season, November.

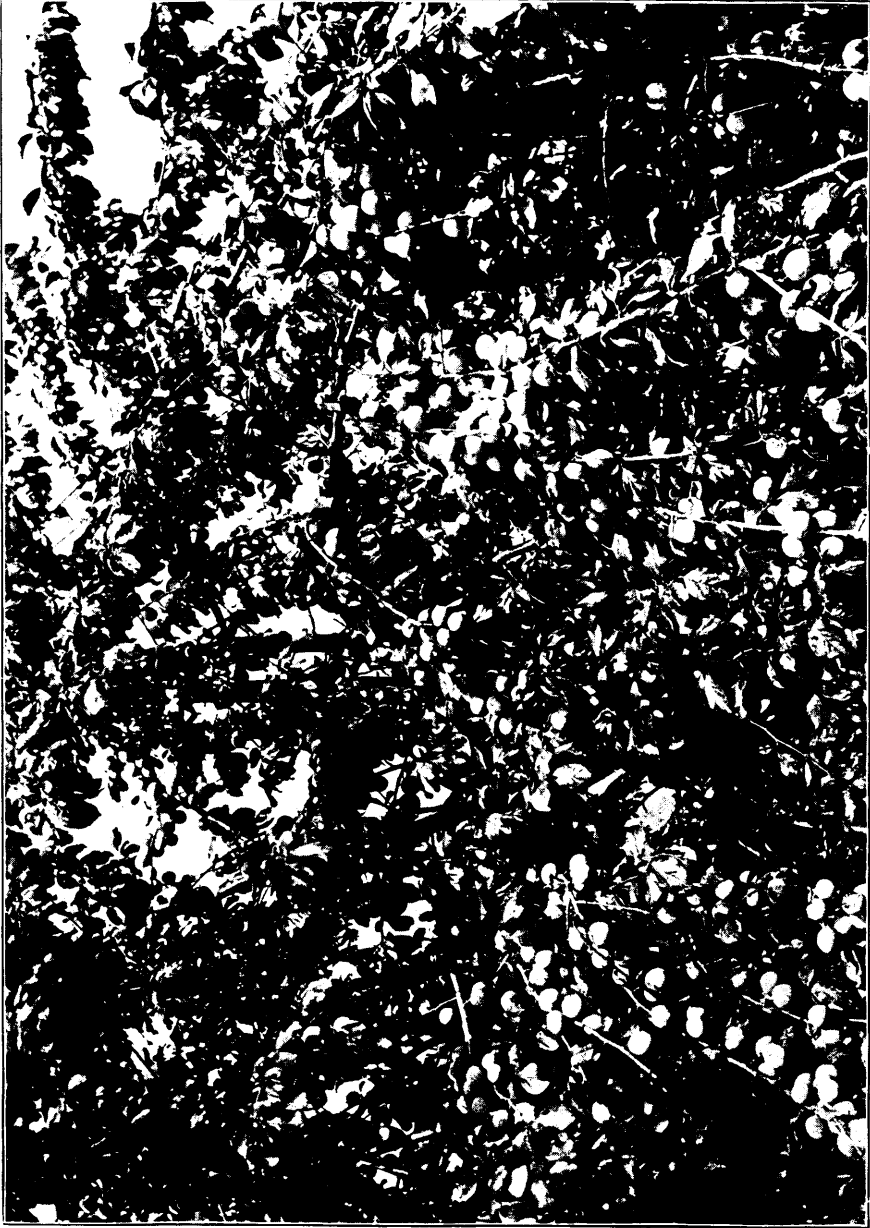
Dr. Jules Guyot, Rivers Princess and Durondeau, of the newer pears are the most productive varieties thus far tested for summer and autumn, and Knight's Monarch for winter.

#### PLUMS.

The European varieties of plums appear to find a congenial soil and climate in British Columbia. No other fruit on the Experimental Farm is so persistent and regular in producing large crops.

The Japanese plums bloom very profusely, but what fruit sets begins falling as soon as set, and very little is left by the time it is full grown.

The American plum trees bloom freely, but the blossoms fall, a few pounds being the best crop yet obtained from any of these varieties, while some of the European sorts of the same age have produced from one to three hundred pounds of marketable fruit.



View of part of a Washington Plum tree in fruit, growing on the Experimental Farm at Agassiz, British Columbia. [401]

## Experimental Farms.

The following varieties fruited for the first time this year :—

*Richland*.—Tree a vigorous grower. Fruit below medium in size. Skin greenish purple. Flesh greenish, juicy and of fine flavour. Ripe early in August.

*Excelsior*.—Tree a medium grower. Fruit small, round. Skin nearly scarlet. Flesh reddish, juicy and of fine flavour. Ripe early in August.

*Monsieur June*.—Tree a moderate grower. Fruit of medium size, roundish. Skin yellow, with a little red near the stem. Flesh yellow, juicy, melting, sweet and of fine flavour. Season, August.

*Orel, No. 19*.—Tree a vigorous grower. Fruit small to medium, oblong, globular. Skin purple, with a bluish bloom. Flesh greenish, juicy and of pleasant flavour. Season, August.

*Yunkin Golden*.—Tree a strong grower. Fruit below medium size, globular. Skin a rich reddish golden colour. Flesh yellow, juicy and of a rich, pleasant flavour. Season, August.

*Wangenheim*.—Tree a medium grower. Fruit of medium size, oblong, oval. Skin deep purple, with a blue bloom. Flesh greenish, juicy, sweet and of a rich flavour. Season, August.

*Luscombe's Nonsuch*.—Tree a vigorous grower. Fruit above medium size, globular. Skin greenish yellow, with orange streaks. Flesh yellow, sweet but not very juicy. Season, August.

*Huling's Superb*.—Tree a strong grower. Fruit above medium size, roundish, oval, one side enlarged. Skin greenish yellow, with a light bloom. Flesh yellow, juicy and of a pleasant flavour. Season, August.

*Reine Claude Rouge*.—Tree a moderate grower. Fruit of medium size, round. Skin, reddish purple, with a thin bloom. Flesh, greenish, juicy, with a pleasant flavour. Season, last of August.

*Reine Claude Vert*.—Tree a moderate grower. Fruit small, roundish. Skin deep purple with a heavy blue bloom. Flesh, greenish, juicy with a pleasant flavour. Season, August.

*Reine Claude Transparent*.—Tree a moderate grower. Fruit of medium size, roundish with one side enlarged. Skin light yellow with reddish streaks. Flesh yellow, juicy, tender, sweet and of very fine flavour. Season, August.

*President Courcelles*.—Tree a moderate grower. Fruit below medium size, heart-shaped. Skin deep purple with a blue bloom. Flesh greenish, sweet, juicy, with a pleasant flavour. Season, August.

*Pershore*.—Tree a strong grower and productive. Fruit of medium size, pear shaped. Skin golden yellow. Flesh yellow, lacking in juiciness, slightly acid. Season, August.

*Ickworth's Imperatrice*.—Tree a medium grower. Fruit of medium size, roundish. Skin, purple with lighter streaks. Flesh greenish yellow, sweet, juicy and rich. Season, August.

*Blubenthal Damson*.—Tree a vigorous grower and early producer. Fruit one of the largest of the damsons, heart-shaped. Skin deep purple with a heavy blue bloom. Flesh green, juicy and sprightly. Season, August.

*Cochet Pere*.—Tree a vigorous grower and an early bearer. Fruit above medium in size, oblong globular. Skin golden yellow. Flesh yellow, sweet, not juicy, not of high quality. Season, August.

*Des Bejonnieres*.—Tree vigorous and an early bearer. Fruit of medium size, globular. Skin yellow. Flesh yellow, juicy, sweet, and of fine quality. Season, August.

*Late Transparent*.—Tree a vigorous grower. Fruit of medium size, round. Skin greenish yellow, with a reddish cheek in the sun. Flesh yellowish, juicy, sweet and of fine flavour. Season, August.

*Petite Mirabelle*.—Tree a slow grower. Fruit very small, round. Skin whitish yellow, with small red dots, and a whitish bloom, Flesh yellowish, sweet, juicy and very pleasant, a free stone variety. Ripe, 20th August.

*Bryanston's Gage*.—Tree a strong grower. Fruit of medium size, oval. Skin yellow with a dull red cheek. Flesh yellow, coarse, juicy, sweet and of pleasant flavour. Season, late August.

*Giant Prune*.—Tree a strong and vigorous grower and early bearer. Fruit large, oval. Skin purple. Flesh firm, sweet, juicy and pleasant. Season, late August.

*Bazaliez's Prune*.—Tree a vigorous grower and productive. Fruit above medium size, oblong, oval. Skin reddish purple, with a whitish bloom. Flesh greenish, sweet, moderately juicy and of fine quality. Season, August.

#### CHERRIES.

The cherry crop has been a light one this year. Some of the sweet varieties bore fairly well, but the birds are fond of them, and before the crop was fit to pick, the birds had taken the most of it.

Quite a number of the Russian cherries fruited again this year, and as they are all more or less acid, they are not touched by birds. Some of them are of fair size, excellent for canning, and when fully ripe quite pleasant for table use, and as the trees begin to bear when young and are fairly productive, they are well worth planting both for home use and market.

The following are, so far as tested, the best of this class: Straus Wiechsel, Gruner Glass, Shadow Amarelle and Kings Morello. The following fruited this year for the first time:—

*Cleveland*.—Tree a strong grower. Fruit large, obtuse, heart shaped. Skin yellowish white, with a warm blush in the sun. Flesh yellowish, firm, juicy, sweet, and of pleasant flavour. Season, middle of June.

*Glaskirsch Doppelte*.—Tree a medium grower. Fruit under medium size, round. Skin light red. Flesh yellowish, juicy, sprightly, with a pleasant flavour. Season, last of June.

*Orel No. 24*.—Tree a medium grower. Fruit of medium size. Skin bright red. Flesh yellowish white, juicy, tender, mildly subacid, and of pleasant flavour. Season, last of June.

*Kings Morello*.—Tree a medium grower. Fruit of medium size, round. Skin pale red. Flesh yellowish white, juicy, tender, sprightly and refreshing. Season, early July.

*Griotte d'Ostheim*.—Tree a moderate grower. Fruit under medium size, nearly globular. Skin a reddish wine colour. Flesh firm, juicy, sprightly, and of fine quality. Season, early July.

*Carnation*.—Tree a vigorous grower. Fruit above medium size, round. Skin bright red. Flesh juicy, sprightly, nearly sweet, refreshing. Season, early July.

*Centennial*.—Tree a vigorous grower. Fruit large, round, deep red. Flesh juicy, tender, sweet and of very fine flavour. Season, July.

## Experimental Farms.

*Rocky Mt. Cherries.*—These bushes have made a strong growth this year, but none of them have fruited.

### PEACHES.

The peach crop on the level land this year was almost an entire failure. The curl leaf was very prevalent, nearly every tree being seriously affected with it. The trees were sprayed with Bordeaux mixture, both before leafing out and several times after, but the spraying did not appear to be effective. In the valley the Amsden, Alexander, Early Canada and Mountain Rose had each a few peaches, and on the bench the Amsden and Hilborn had very good crops, and the curl leaf did not affect the foliage there, in fact it has never injured the foliage on either peach or nectarine trees on the benches over 300 feet above the valley.

### APRICOTS.

The apricot, like the peach and nectarine blooms so early that the weather is very likely to be cool and wet, and the trees although blossoming profusely set very little fruit.

The European apricot trees grow vigorously for a few years and then the large limbs begin to die and the trees go to pieces.

The Russian varieties are hardier in the timber, and longer lived than the tenderer European sorts, but they do not fruit well. Our trees although large and vigorous growers, and blooming freely every year have not yet averaged 2 lbs. of fruit per tree per annum.

### NECTARINES.

Only one of the nectarine trees fruited this year. The Spenser bore about 1 doz. nectarines, which seems to be about an average crop. In sheltered locations or on a wall, peaches, apricots or nectarines would perhaps fruit fairly well here, but in the open orchard they are not profitable.

### MULBERRIES.

All the mulberry trees fruited freely again this season.

The fruit began ripening early in July, and continued in season until 1st September. Fruit juicy, sweet and pleasant, but drops from the tree when fully ripe.

### MEDLARS.

The trees have made a strong growth, and have all produced a full crop. The Nottingham is perhaps the best, being a little the smoothest and evenest in size, but all the varieties are free producers, and the quality is nearly the same in them all.

## SMALL FRUITS.

### GOOSEBERRIES.

The gooseberries were sprayed with the lime sulphur and salt mixture during the winter, and with Bordeaux mixture before leafing out, and the sprayings with Bordeaux mixture were repeated several times during the spring and summer, but the results were not satisfactory. None of the European varieties escaped the mildew, except a few bushes planted on one of the benches, and these, although they have never been sprayed, have never shown the disease either on leaf or fruit.

## GRAPES.

The season has been unusually free from fogs and smoke, and many more varieties of grapes ripened than has been the case heretofore, over sixty varieties were exhibited at the New Westminster exhibition. Here again there is a decided gain in getting on elevated lands, grapes on the bench ripened fully two weeks earlier than the same varieties on the level.

## RED AND WHITE CURRANTS.

The season has been a good one for red and white currants and for all varieties of small fruits, there was sufficient rain early in the summer and in the autumn they had plenty of bright sunshine the result being in most cases a good crop of excellent fruit. The following extracts are from the notes taken of the different varieties.

## RED AND WHITE CURRANTS.

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Moore's Ruby (red.)	June 23	Vigorous	Large	Cluster, medium in length, fairly well filled, a little acid, of good flavour.	Productive.
Versailles (red.)	" 23	"	"	Cluster, medium in length, open, of good flavour.	"
Fay's Prolific (red.)	" 23	"	"	Cluster, medium in length, of good flavour.	"
Red Langtraubige.	" 25	"	Medium	Cluster, long, and well filled, of good flavour.	Moderately productive.
Admirable (red)	" 25	"	Above medium	Cluster, long and full, mild, of pleasant flavour.	Fairly productive.
Victoria (red.)	" 25	"	Medium	Cluster, long, fairly well filled, sweet, of good flavour.	Productive.
Eyatt's Nova (red.)	" 26	"	Above medium	Cluster, long, not very full, sweet, and of good flavour.	Moderately productive.
English Red...	" 26	"	"	Cluster, long and full, of very fine flavour.	Fairly productive.
Brandenburger (white.)	" 26	"	Large	Cluster, medium in length, fairly full, sweet, of good flavour.	Moderately productive.
White Kaiser...	" 26	"	Medium	Cluster, long, but not well filled, seeds yellowish red, of good flavour.	"
Raby Castle (red)	" 26	"	"	Cluster, medium in length, rather open, of good flavour.	Productive.
London Red...	" 26	"	"	Cluster, short, well filled, sweet, and of good flavour.	"
Transparent (white.)	" 26	"	"	Cluster, medium in length, open, of good flavour.	"
La Fertile (red)	" 26	"	Above medium	Cluster, medium in length, and full, of good flavour.	"
White Gondoin.	" 26	"	Medium	Cluster, medium in length, rather open, of good flavour.	Very productive.
La Hative.....	" 26	"	"	Cluster, medium in length, and fairly full, of good quality.	Productive.
Knight's Early.	" 26	"	Small	Cluster, short, not very full, of good flavour.	Moderately productive.
Prince Albert..	" 26	Moderately vigorous.	Medium	Cluster long, moderately full, of good flavour.	"
Esperen's White	" 27	Vigorous	Large	Cluster, medium in length, and full, sweet and of good flavour.	Fairly productive.

## Experimental Farms.

### RED AND WHITE CURRANTS—*Concluded.*

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Large White...	June 27	Vigorous...	Large.....	Cluster, long and well filled, yellowish white, sweet and of good flavour.	Productive.
White Cherry..	" 27	" .....	Small.....	Cluster, medium in length, fairly well filled, mild, sweet, and of good flavour.	Moderately productive.
Red Cherry....	" 27	" .....	Large.....	Cluster, long and fairly well filled, of good flavour.	Productive.
White Pearl....	" 27	" .....	Medium....	Cluster, medium, fairly full, of good flavour.	Fairly productive.
Red Dutch.....	" 27	" .....	" .....	Cluster, medium, fairly well filled, of good flavour.	Productive.
White Dutch...	" 27	" .....	Above medium	Cluster, long, not very full, sweet, and of good flavour.	Fairly productive.
North Star....	" 27	" .....	Medium....	Cluster, long, well filled, good quality.	Productive.
La Conde ...	" 27	" .....	" .....	Cluster, medium in length, fairly well filled, of good flavour.	"
Rankin's Red..	" 28	" .....	Small.....	Cluster, medium in length, fairly well filled, of good flavour, but a little acid.	Moderately productive.
Frauentorfer ..	" 28	" .....	Large.....	Cluster, long, and fairly well filled, of good flavour, but a little acid.	"
Verrier's White	" 28	" .....	Above medium	Cluster, medium in length, fairly full, sweet, and of fine flavour.	Productive.
Chenonceau (red.)	" 28	" .....	Very large....	Cluster, medium in length, and fairly full, of very fine flavour.	Moderately productive.
Ringen's (red)..	" 28	" .....	Medium.....	Cluster, medium in length, not very full, a little acid, of good flavour.	"
Beauty of St. Giles.	" 28	" .....	" .....	Cluster, medium in length and fairly full, a little acid, of good flavour.	Fairly productive.
Large White Dessert.	" 29	" .....	Large.....	Cluster, long, and well filled, acid, but of very good flavour.	"
De la Rochepeze	" 30	Moderately vigorous.	Small.....	Cluster, short, quality inferior.	Not productive.
Champaigner (red.)	" 30	Vigorous...	Medium....	Cluster, medium in length, fairly well filled, acid, but of good flavour.	Fairly productive.
Gondoin.....	" 30	" .....	Small.....	Cluster, short, inferior quality.	Not productive.
Large Red.....	" 30	" .....	Large medium	Cluster, long, fairly full, of good flavour.	Productive.
White Grape...	" 30	" .....	Large.....	Cluster, long, well filled, of good flavour.	"

### BLACK CURRANTS.

Anbrafarbiges..	July 1	Vigorous...	Medium....	Cluster, medium in length, of good quality.	Productive.
Victoria.....	" 1	" .....	" .....	Cluster, medium in length, of good quality.	"
Gewöhnliche...	" 1	" .....	Above medium	Cluster, medium in length, sweet, of good flavour.	"
Dominion.....	" 1	" .....	" .....	Cluster, medium in length, of a fine mild flavour.	"

## BLACK CURRANTS--Continued.

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Star .....	July	1 Vigorous...	Large .....	Cluster, long, sweet, and of good flavour.	Productive,
London .....	"	1 " .....	Above medium	Cluster, long, mild, sweet, and of pleasant flavour.	"
Success .....	"	1 " .....	" .....	Cluster, long, sweet, and mild in flavour.	"
Prince of Wales .....	"	1 " .....	Large .....	Cluster, long, mild, of good flavour.	"
Ruler .....	"	1 " .....	" .....	Cluster, long, mild, sweet, and of good flavour.	"
Norton .....	"	1 " .....	" .....	Cluster, long, of pleasant flavour.	"
Middlesex .....	"	1 " .....	" .....	Cluster, medium in length, sweet, of good flavour.	"
Kentish Hero .....	"	2 " .....	Above medium	Cluster, medium in length, acid.	"
Bang Up .....	"	2 " .....	Large .....	Cluster, medium in length and very good quality.	"
Merneville de la Gironde .....	"	2 " .....	" .....	Cluster, medium length and of good flavour.	"
Lennox .....	"	2 " .....	Above medium	Cluster, long, of very fair quality.	"
Lewis .....	"	2 " .....	Medium .....	Cluster, medium in length, of good flavour.	"
Beauty .....	"	2 " .....	Small .....	Cluster, short, of fair flavour.	"
Eagle .....	"	2 " .....	Above medium	Cluster, long, flavour a little rank.	"
Baldwin .....	"	2 " .....	Large .....	Cluster, medium in length, of good flavour.	"
Stuart .....	"	2 " .....	Medium .....	Cluster, medium in length, flavour a little rank.	"
Stirling .....	"	2 " .....	Large .....	Cluster, long, flavour a little rank.	"
Climax .....	"	2 " .....	" .....	Cluster, long, sweet, of good flavour.	"
Charmer .....	"	3 " .....	Small .....	Cluster, short, flavour rather rank.	Moderately productive.
Ontario .....	"	3 " .....	Large .....	Cluster, long, flavour rather rank.	Productive.
Lanark .....	"	3 " .....	Above medium	Cluster, short, flavour a little rank.	"
Wood .....	"	3 " .....	" .....	Cluster, long, of good flavour.	"
Louise .....	"	3 " .....	" .....	Cluster, long, of fairly good flavour.	"
Ogden's Black .....	"	3 " .....	Small to large.	Cluster, short, flavour a little rank.	"
Henry .....	"	3 " .....	Very large .....	Cluster, long, sweet of good flavour.	"
Oxford .....	"	3 " .....	Small .....	Cluster, medium in length, a little rank, but of good flavour.	"
Parker .....	"	4 " .....	Medium .....	Cluster, medium in length, flavour rather rank.	"
Bella .....	"	4 " .....	Small .....	Cluster, fairly good, flavour moderately good.	"
Eclipse .....	"	4 " .....	Above medium	Cluster, medium in length, a little acid, but of good flavour.	"
Lee's Prolific .....	"	4 " .....	Large .....	Cluster, medium in length, flavour fairly good.	"
Pearce .....	"	5 " .....	" .....	Cluster, medium in length, sweet and of mild flavour.	"
Monarch .....	"	5 " .....	Above medium	Cluster, medium in length, mildly acid, flavour pleasant.	"
Black Naples .....	"	5 " .....	Large .....	Cluster, long, sweet, mild, of good flavour.	"



## Experimental Farms.

### BLACK CURRANTS - *Concluded.*

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Kentville	July 6	Vigorous	Medium	Cluster, short, flavour rather rank.	Productive.
Ethel	" 6	"	Large	Cluster, long, a little acid, but of good flavour.	"
Champion	" 8	"	Medium	Cluster, short, flavour rather rank.	Not productive.
Manitoba Wild.	" 10	Not vigorous, yellow flowers.	Small	Fruit of poor quality	"

### YELLOW AND RED RASPBERRIES.

Crimson Beauty	June 10	Vigorous	Medium	Bright red, round, firm, a good shipper.	Very productive.
Champion	" 11	"	Large	Red, round, sweet and of pleasant flavour, but soft.	Productive.
Thompson	" 12	"	Above medium	Bright red, moderately firm, and of good quality.	Very productive.
Paragon	" 16	"	Large	Bright red, of fair quality	Productive.
Braumforth's Seedling.	" 17	"	Below medium	Dark red, of fairly good quality, but crumbly.	"
Brinckle's Orange.	" 17	"	Large	A handsome berry of very good quality.	"
Falstaff	" 17	"	Medium	Clear red, conical, firm, of good flavour.	"
Battler's Giant.	" 17	"	Above medium	Dark red, round, sweet and of pleasant flavour.	"
Muskingum	" 18	"	"	Dark red, round, conical, sweet, of good flavour.	Very productive.
Heebner	" 20	"	"	Red, handsome, firm, sweet and of good flavour.	Productive.
Hornet	" 20	"	Very large	Dark red, round, firm, of good flavour.	"
Golden Queen	" 20	"	Large	Round, sweet and of very good quality.	"
Marlboro'	" 20	"	Small	Fairly firm, but not of very good quality.	"
Lord Beaconsfield.	" 20	"	Large	Dark red, firm, a little acid, but of good quality.	Very productive.
Belle de Fontenay.	" 20	"	Medium	Red, large, crumbly and undesirable.	Productive.
All Summer	" 20	"	Above medium	Clear red, large, firm, good flavour, continued in bearing till Aug. 1.	"
Franconia	" 20	Vigorous	Medium	Dark red, soft, not of very good quality.	"
Turner	" 20	Moderately vigorous.	Small	Good flavour, but soft	"
White Antwerp	" 20	"	Medium	Yellowish-white, round, sweet soft, of fair flavour.	Fairly productive.
Northumberland Fill Basket.	" 20	Vigorous	Very large	Dark red, conical, firm, of good flavour, a very good berry, continued long in bearing.	Productive.
Phoenix	" 20	Moderately vigorous.	Above medium	Dark red, firm, of good quality.	Fairly productive.
Goliath	" 21	Vigorous	Medium	Dark red, round, sweet, of good flavour, but soft.	Productive.
Duke of Brabant	" 21	"	Large	Bright red, firm, sweet, of pleasant flavour.	"
Sir John	" 21	Moderately vigorous.	Medium	Red, crumbly, soft, of inferior quality.	Moderately productive.
R. B. Whyte	" 21	"	"	Dark red, round, soft	Productive.
Barnet	" 21	"	Small	A few poor crumbly berries	Not productive

## YELLOW AND RED RASPBERRIES—Continued.

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Shaffer's Colossal.	June 21	Vigorous...	Very large...	Purple-red, firm and acid.....	Productive.
Yellow Antwerp.	" 21	" .....	Small.....	Round, crumbly, poor.....	"
Spineless Yellow Autumn Surprise.	" 21	" .....	Medium.....	Long, conical, flavour fair, soft	Productive.
Lady Anne.....	" 22	Moderately vigorous.	Small.....	Yellow, soft, sweet and of pleasant flavour.	Moderately productive.
Craig.....	" 22	" .....	" .....	Yellow, crumbly, of little value	Not productive.
Miller.....	" 22	Vigorous...	Above medium	Clear red, crumbly, of fair flavour.	Productive.
Lemercier.....	" 22	" .....	Medium.....	Red, round, firm, not a good flavour.	"
Sugar of Metz..	" 22	" .....	Large.....	Red, round, sweet, of fine flavour.	"
French Vice-President.	" 22	Moderately vigorous.	Medium.....	Yellow, crumbly, sweet and of pleasant flavour.	"
Kentish Giant..	" 22	Vigorous...	Very large...	Red, largest berry grown on the farm, long, conical, of good flavour, but it is a little difficult to pick off stem.	Very productive.
Prince of Wales	" 22	" .....	Above medium	Red, of good quality.....	Moderately productive.
Herrenhaus Red Perpetual.	" 22	Moderately vigorous.	Small.....	Not of very good quality.....	Productive.
Col. Wilder.....	" 22	" .....	Medium.....	Firm, of fairly good flavour...	"
Arnold's Hybrid	" 22	" .....	Above medium	Pale yellow, soft, sweet and of pleasant flavour.	"
Clarke.....	" 22	Vigorous...	Medium.....	Dark red, soft, crumbly, sweet, of pleasant flavour.	"
Carter's Prolific Chili.....	" 22	" .....	" .....	Fairly firm and of good quality	"
Garfield.....	" 23	" .....	Large.....	Red, of very good quality.....	"
Muriel.....	" 23	" .....	" .....	Light red, crumbly, of good flavour.	"
New Falstaff...	" 23	" .....	Medium.....	Bright red, round, conical, firm, rather dry, would ship well.	Very productive.
Carman.....	" 23	" .....	Above medium	Deep red, conical, firm, of fine flavour.	Moderately productive.
Sarah.....	" 24	" .....	Medium.....	Dark red, conical, sweet, firm, would ship well.	Productive.
Large Yellow Queen of the Market.	" 24	Moderately vigorous.	Small.....	Red, firm, of good flavour...	Not productive.
Malta.....	" 24	Vigorous...	Above medium	Bright red, firm, sweet and of excellent flavour.	Moderately productive.
Conrath.....	" 25	" .....	Large.....	Sweet and of good flavour.....	Productive.
Columbia.....	" 25	" .....	Very large...	Dark red, conical, firm, sweet, of good flavour.	"
Beehive.....	" 25	" .....	Above medium	Yellow, sweet, crumbly, of fair flavour.	"
American Yellow.	" 25	" .....	Large.....	A very good berry, handsome, but a little acid.	"
Billard's Perpetual.	" 25	" .....	" .....	Dark purple, round, firm, and acid.	Moderately productive.
Cuthbert.....	" 26	" .....	Medium.....	Dark red, conical, sweet and firm.	Productive.
Red Herrenhauser.	" 26	" .....	Small.....	Round, sweet and of pleasant flavour.	"
Percy.....	" 27	" .....	Large.....	Clear red, crumbly but of good flavour.	"
	" 28	" .....	" .....	Dark red, firm and of very good quality.	"
	" 28	" .....	Small.....	Round, poor quality.....	"
	" 28	" .....	Large.....	Dark purple, round, firm and of good flavour.	"

## Experimental Farms.

### YELLOW AND RED RASPBERRIES—*Concluded.*

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Hudson River Antwerp.	June 29	Vigorous...	Small. . . . .	Dark red, soft, fair flavour, a poor berry.	Very productive.
Queen Victoria.	July 1	" . . . . .	Medium . . . . .	A few poor, crumbly berries . . . . .	Not productive.
Garnet . . . . .	" 7	" . . . . .	Small . . . . .	Dark purple, of fair flavour. . . . .	Moderately productive.

### BLACK CAP RASPBERRIES.

Smith's Prolific.	June 24	Vigorous . . .	Medium . . . . .	Not very good. . . . .	Moderately productive.
Early Ohio . . . . .	" 25	" . . . . .	Small . . . . .	A poor berry . . . . .	Not productive.
Nemaha . . . . .	July 6	" . . . . .	Large . . . . .	Reddish black, firm, fine . . . . .	Productive.
Lovett . . . . .	" 6	" . . . . .	Medium . . . . .	Of fair quality. . . . .	Fairly productive.
Older . . . . .	" 6	" . . . . .	Medium to large.	Of fair quality, juicy . . . . .	"
Palmer . . . . .	" 7	Moderately vigorous.	Small . . . . .	Not very good, dry and seedy. . . . .	"
Kansas . . . . .	" 10	Vigorous . . .	Small to medium.	Firm, of good quality . . . . .	Moderately productive.
Cromwell . . . . .	" 10	" . . . . .	Small . . . . .	Inferior berries . . . . .	" "
Ada . . . . .	" 10	" . . . . .	Medium . . . . .	Not very good . . . . .	Productive.
Gregg . . . . .	" 12	" . . . . .	Large . . . . .	Firm and of good quality . . . . .	"
Progress . . . . .	" 12	" . . . . .	" . . . . .	Firm, sweet and of good quality . . . . .	Fairly productive.
Jackson's May King.	" 12	" . . . . .	Small . . . . .	Of poor quality . . . . .	Moderately productive.
Minnie . . . . .	" 12	" . . . . .	Medium . . . . .	Dark purple, crumbly, acid, with many imperfect berries . . . . .	" "
Hopkins . . . . .	" 12	" . . . . .	" . . . . .	Firm and juicy, good . . . . .	" "

Black cap raspberries require considerable moisture at time of ripening—as well as heat and sunshine—to bring them to the best condition. This year the weather was hot and dry when they were ripening which caused the fruit to dry up, and made them seedy and comparatively tasteless. On this account the quality of the fruit was not as good as usual and the yield was small.

### BLACKBERRIES.

A quart each of the following varieties were shipped by express at three different times, to the McPherson Fruit Co., Winnipeg, to test their shipping qualities.

They rank in the following order:—

- Eldorado. The best in quality and a good shipper.
- Wilson's Early. Equal to the Eldorado as a shipper.
- Early Cluster.
- Agawam.
- Snyder.
- Stone's Hardy.
- Minnewaska.
- Ohmer.
- Early King.
- Lawton.
- Taylor's Prolific
- Kittatinny.

All but the three last varieties reached Winnipeg in fairly good condition. With proper care in picking and crating and a refrigerated car in which to ship, a good many varieties of blackberries could be marketed in Winnipeg from the Pacific coast with profit.

## BLACKBERRIES.

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Tecunseh. ....	July 25	Moderately vigorous.	Small .....	Uneven in shape, inferior in flavour.	Not productive.
Thompson's Mammoth.	" 27	Vigorous ...	Small to medium.	Berries imperfect and of poor quality.	"
Kittatinny. ....	" 27	" .....	Large .....	Fruit rather acid, of fair flavour.	Productive.
Ohmer. ....	" 27	" .....	" .....	Fruit moderately firm and of fair flavour.	"
Wilson's jr. ....	" 29	" .....	Small .....	Uneven in shape and in ripening, acid, of fair quality.	Not productive.
Lovett's Best. ...	" 30	" .....	" .....	Uneven in size and inferior in every way.	"
Oregon Ever-bearing.	Aug. 10 to Sept. 20.	" .....	Above medium	Acid, but of fair flavour ...	Productive.
Maxwell. ....	Aug. 10	Moderately vigorous.	Small .....	Not a very good berry. ....	Not productive.
Child's Tree. ....	" 16	" .....	" .....	A poor berry. ....	"
Early King. ....	July 10	Vigorous ...	Medium .....	Glossy black, of good flavour. ...	Productive.
Minnewaska. ....	" 10	" .....	Large .....	Glossy black, berry firm and good.	Moderately productive.
Early Harvest. ...	" 11	Moderately vigorous.	Small .....	Not highly flavoured. ....	Not productive.
Hansel. ....	" 15	Vigorous ...	Large .....	Glossy black, of fair quality ...	"
Snyder. ....	" 18	" .....	" .....	Of good quality and firm. ....	Productive.
Early Cluster. ...	" 18	" .....	Medium .....	Sweet, firm and of good flavour ...	"
Agawam. ....	" 20	" .....	Above medium	Fruit firm, sweet and of good quality.	"
Erie. ....	" 20	" .....	Small to very large.	Fruit black, acid, and not of very good quality.	Moderately productive.
Taylor's Prolific	" 20	" .....	Large .....	Fruit sweet and of good quality ...	Productive.
Stone's Hardy. ...	" 22	" .....	Medium .....	Fruit glossy black, firm, and of good flavour.	"
Eldorado. ....	" 22	" .....	Very large. ...	Fruit glossy black, sweet, and of very fine flavour.	Very productive.
Lawton. ....	" 25	" .....	Large .....	Sweet, firm, and of good flavour ...	Productive.
Crystal White. ...	" 25	" .....	Small .....	Fruit of inferior quality. ....	Fairly productive.
Wilson's Early. ...	" 25	" .....	Above medium	Fruit firm, a little acid, but of good flavour.	Productive.

## STRAWBERRIES.

Hautbois. ....	June 4	Vigorous ...	Below medium	Sweet; flavour fair; soft. ....	Not productive.
Daisy. ....	" 5	" .....	Above medium	Of fine flavour; firm; a good berry.	Productive.
Chairs. ....	" 5	" .....	" .....	Of good flavour; firm; continues long in bearing.	"
Van Deman. ....	" 5	" .....	" .....	A little acid, but of good flavour; firm.	"
Smith's Seedling	" 6	" .....	Medium to large.	Of poor flavour; soft. ....	Fairly productive.
Philips' Seedling	" 7	Vigorous ...	Above medium	Of poor quality. ....	Productive.
Omega. ....	" 7	" .....	Large .....	Of good flavour; firm. ....	"
Warfield. ....	" 8	" .....	Above medium	Of very good flavour; firm; continues long in bearing.	"

# Experimental Farms.

## STRAWBERRIES.—*Concluded.*

Name.	Date of Ripening.	Growth of Plant.	Size of Berry.	Quality.	Productiveness.
Alexander II.	June 9	Vigorous...	Above medium	Sweet and of good flavour; firm.	Productive.
Beder Wood	" 9	Moderately vigorous.	"	Of good flavour; firm	"
Iowa Beauty...	" 10	Vigorous...	"	"	"
Bebee's Seedling No. 2.	" 10	"	Large	Of good quality; firm	"
Bebee's Seedling No. 3.	" 11	"	"	Sweet and of good flavour; firm.	"
Alpha	" 11	"	Above medium	Of good quality; firm.	"
Maxwell	" 11	"	Medium	Fairly good in flavour; not uniform in shape; firm.	"
Parker Earle	" 11	"	Large	Of good quality; firm.	"
Anna Kennedy	" 11	"	Medium	Of fairly good flavour; firm.	Fairly productive.
Bissel	" 11	"	Large	Firm and of good flavour.	Productive.
Windsor Chief	" 11	"	"	A little acid, but of good flavour.	"
Imp. Jucunda	" 12	"	Above medium	A bright red, firm berry, of good flavour.	"
Eclipse	" 12	"	Medium to large.	Of good flavour; fairly firm.	"
Beverly	" 13	"	Above medium	Of good quality; fairly firm.	"
Tennessee	" 13	Moderately vigorous.	Medium	A berry of poor flavour	Not productive.
Empress Eugenie.	" 13	"	Above medium	Of good flavour; firm.	Fairly productive.
Yale	" 13	Vigorous	"	Acid, and rather poor in flavour.	Productive.
Pine Apple	" 13	"	Large medium	Sweet, soft and insipid.	Fairly productive.
H. W. Beecher	" 13	"	"	Firm and of good flavour.	Productive.
Greenville	" 14	"	Above medium	A firm, handsome and good flavoured berry.	"
Timbrel	" 14	"	Large	Of good flavour and firm	Not productive.
Weston	" 14	Moderately vigorous.	Medium	Rather acid, but of fair flavour.	"
Mary	" 14	Vigorous	Irregular, small to large.	Firm and fairly good in flavour.	Moderately productive.
Bonny Lass	" 14	"	Large medium	Of good flavour and firm.	Productive.
Sir Joseph Paxton.	" 15	"	Medium	Of fair quality; firm.	Not productive.
Dr. Hogg	" 15	"	"	Sweet and of pleasant flavour.	Not very productive.
Brandywine	" 15	"	Large	Of good flavour; firm	Productive.
Laxford Hall	" 20	Feeble	Small	Berry poor in flavour and imperfect.	Not productive.

## METEOROLOGICAL RECORD.

	Date of Highest Temperature.	Degrees	Date of Lowest Temperature.	Degrees	Rain-fall.	Snow-fall.	Sun-shine.
					Inches.	Inches.	H. M.
1897.							
December .....	28th	52	12th	15	3·33	3	31 18
1898.							
January .....	31st	49	23rd	20	4·56	5	28 18
February .....	26th	63	1st & 2nd	30	7·25	.....	49 18
March .....	5th	67	25th & 26th	23	2·05	3	111 18
April .....	24th	78	3rd	32	3·50	.....	208 48
May .....	25th	93	20th	36	2·62	.....	199 12
June .....	8th and 9th	90	1st	42	4·19	.....	168 24
July .....	30th	100	15th	46	3·41	.....	248 54
August .....	10th	103	22nd, 27th	.....	.....	.....	.....
September .....	8th	96	20th	49	·81	.....	221 30
October .....	2nd	72	30th	36	3·93	.....	125 30
November .....	1st	58	5th	34	7·21	.....	75 48
			21st	20	3·69	12	38 36
Totals for 1897 .....					46·55	20	1,506 54
" 1896 .....					65·95	45½	1,474
					63·47	75½	1,417 27

I have the honour to be, sir,

Your obedient servant,

THOS. A. SHARPE.

## Experimental Farms.

### STATEMENT OF EXPENDITURE ON THE DOMINION EXPERIMENTAL FARMS, FOR THE YEAR ENDING 30TH JUNE, 1898.

#### CENTRAL EXPERIMENTAL FARM—EXPENDITURE, 1897-98.

Live stock .....	\$ 985 20
Feed for stock, including veterinary services .....	563 46
Seed grain, seeds, trees, &c. ....	763 79
Implements, tools, hardware and supplies .....	702 84
Drainage and drain tiles .....	627 64
Manure and fertilizers .....	309 09
Travelling expenses .....	982 11
Exhibition expenses .....	171 55
Blacksmithing, harness supplies and repairs .....	500 20
Bee supplies .....	303 83
Salaries .....	1,855 17
Wages, farm work, including experimental work with grain and other farm crops; also, salaries of farm foreman and Director's assistant in experimental work .....	4,666 66
Wages, care of stock .....	2,310 32
Chemical department .....	938 60
Botanical and entomological department .....	1,052 42
Horticultural department .....	3,673 32
Poultry department .....	1,491 47
Forestry department and care of grounds .....	1,716 43
Arboretum .....	1,285 34
Office help, correspondence branch and messenger service .....	3,350 34
Printing and stationery .....	730 55
Seed testing and care of greenhouses .....	857 38
Dairy department .....	754 94
Museum .....	14 87
Contingencies .....	435 96
" books and newspapers .....	70 48
" telegrams and telephones .....	148 35
Steers purchased for feeding experiments .....	654 32
	31,916 63
LESS--Proceeds of sale of steers purchased for feeding experiments ..	951 40
	\$ 30,965 23

#### EXPERIMENTAL FARM, NAPPAN, N.S.—EXPENDITURE, 1897-98.

Live stock .....	\$ 2,398
Feed for stock, including veterinary services .....	527
Seed grain, seeds, trees, &c. ....	87 37
Implements, tools, hardware and supplies .....	327 70
Draining and drain tiles .....	146 95
Manure and fertilizers .....	183 57
Travelling expenses .....	599 80
Exhibition expenses .....	240 80
Blacksmithing, harness supplies and repairs .....	128 17
Salaries, including proportion of salaries for general work, Ottawa ..	3,923 81
Wages, farm work, including experimental work with farm crops, fruit trees, vines, &c. ....	1,994 07
Wages, care of stock .....	1,036 10
Chemical department .....	547 52
Botanical and entomological department .....	400 53
Poultry department .....	18 15
Forestry department, including care of grounds .....	75 91
Office help .....	272 15
Seed grain distribution .....	126 92
Contingencies (including postage \$46.13) .....	69 10
" printing and stationery .....	28 75
" books and newspapers .....	20 91
" Telegrams .....	308 00
Steers purchased for feeding experiments .....	13,462 78
	593 00
LESS--Proceeds of sale of steers purchased for feeding experiments ..	\$ 12,869 78

## EXPERIMENTAL FARM, BRANDON, MANITOBA—EXPENDITURE, 1897-98.

Live stock.....	42 20
Feed for stock, including veterinary services.....	69 67
Seed grain, seeds, trees, &c.....	210 10
Implements, tools, hardware and supplies.....	581 54
Draining.....	88 50
Travelling expenses.....	106 65
Exhibition expenses.....	286 94
Blacksmithing, harness supplies and repairs.....	228 09
Salaries, including proportion of salaries for general work, Ottawa...	2,482 18
Wages, farm work, including experimental work with farm crops, fruit trees, vines, &c.....	3,393 85
Wages, care of stock.....	609 25
Chemical department.....	547 51
Botanical and entomological department.....	400 52
Forestry department, including care of grounds.....	376 16
Poultry department.....	66 75
Office help (including delivery of mail, \$136).....	377 36
Seed grain distribution.....	691 93
Tree distribution.....	538 05
Contingencies, (including postage, \$79.47).....	149 10
"    printing and stationery.....	69 88
"    books and newspapers.....	23 00
"    telegrams and telephones.....	41 85
Bee supplies.....	25 62
Steers purchased for feeding experiments.....	399 75
	<hr/>
	11,806 45
Less—Proceeds of sale of steers purchased for feeding experiments..	628 29
	<hr/>
	\$ 11,178 16

## EXPERIMENTAL FARM, INDIAN HEAD, N.W.T.—EXPENDITURE 1897-98.

Live stock.....	178 80
Feed for stock, including veterinary services.....	75 91
Seed grain, seeds, trees, &c.....	101 33
Implements, tool, hardware and supplies.....	473 05
Manure and fertilizers.....	.....
Travelling expenses.....	150 81
Exhibition expenses.....	130 60
Blacksmithing, harness supplies and repairs.....	216 40
Salaries, including proportion of salaries for general work, Ottawa..	2,482 17
Wages, farm work, including experimental work with farm crops, fruit trees, vines, &c.....	2,720 24
Wages, care of stock.....	1,465 49
Chemical department.....	547 51
Botanical and entomological department.....	400 52
Poultry department.....	103 65
Forestry department, including care of grounds.....	280 53
Office help.....	471 25
Seed grain distribution.....	398 82
Tree distribution.....	173 64
Contingencies, (including postage, \$153.03).....	227 96
"    printing and stationery.....	34 93
"    telegrams.....	6 55
Bee supplies.....	11 89
Steers purchased for feeding experiments.....	335 50
	<hr/>
	10,987 61
Less—Proceeds of sale of steers purchased for feeding experiments..	703 38
	<hr/>
	\$ 10,284 23



## Experimental Farms.

EXPERIMENTAL FARM, AGASSIZ, B.C.—EXPENDITURE, 1897-98.

Live stock.....	\$ 1 50
Feed for stock, including veterinary services.....	130 12
Seed grain, seeds, trees, &c.....	80 55
Implements, tools, hardware and supplies.....	132 61
Draining and drain tiles.....	22 50
Manure and fertilizers.....	65 35
Travelling expenses.....	228 19
Exhibition expenses.....	69 80
Blacksmithing, harness supplies and repairs.....	67 30
Salaries, including proportion of salaries for general work, Ottawa..	2,482 17
Wages, farm work, including experimental work with farm crops, fruit trees, vines, &c.....	2,889 99
Wages, care of stock.....	461 75
Chemical department.....	547 51
Botanical and entomological department.....	400 52
Poultry department.....	57 25
Forestry department.....	159 02
Office help.....	120 00
Seed grain distribution.....	86 72
Tree distribution.....	12 57
Clearing land.....	581 75
Contingencies (including postage, \$83.37).....	91 90
"    printing and stationery.....	19 26
"    books and newspapers.....	22 00
"    telegrams.....	4 10
Bee supplies.....	50
	<b>\$ 8,734 93</b>

### SUMMARY.

Central Experimental Farm.....	30,965 23
Nappan ".....	12,869 78
Brandon ".....	11,178 16
Indian Head ".....	10,284 23
Agassiz ".....	8,734 93
Seed grain distribution.....	3,467 67
Printing bulletins and distribution of bulletins and reports.....	\$ 4,000 00
Less special sum in estimates for this item.....	4,000 00
	<b>\$ 77,500 00</b>

SUMMARY OF STOCK, MACHINERY, IMPLEMENTS, &c., ON HAND  
31st DECEMBER, 1898.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

14 Horses	\$ 800 00
2 Ayrshire cattle	120 00
1 Durham "	100 00
2 Guernsey "	172 00
3 Jersey "	110 00
7 Canadian "	186 00
23 Grade "	748 00
3 Yorkshire swine	65 00
3 Berkshire "	67 00
4 Tamworth "	82 00
3 Poland China swine	67 00
2 Chester white "	50 00
21 Grade swine	116 00
Farm machinery	1,891 00
Farm implements	683 50
Vehicles, including farm wagons and sleighs	1,034 00
Hand tools, hardware and sundries	1,018 30
Harness	274 75
Dairy department, machinery, &c.	605 55
Horticultural department, implements, tools, &c.	290 80
Forestry " " "	440 50
Botanical " " "	4 50
Poultry " 240 fowls	226 00
" " implements, furnishings, &c.	104 50
Bees and apiarian supplies	406 10
Chemical department, apparatus and chemicals	1,870 65
Books in several departments	401 80
Greenhouse plants, supplies, &c.	1,348 85
Furniture at Director's house	1,215 00
Office furniture and stationery	1,501 25
	\$ 16,000 05

EXPERIMENTAL FARM, NAPPAN, N. S.

7 Horses	\$ 650 00
5 Guernsey cattle	635 00
5 Holstein "	290 00
5 Ayrshire "	355 00
32 Grade "	1,146 00
2 Yorkshire swine	45 00
4 Berkshire "	46 00
3 Tamworth "	42 00
34 Grade "	200 00
28 Sheep	134 00
47 Fowls	34 60
Bees and apiarian supplies	35 00
Vehicles, including farm wagons and sleighs	365 00
Farm machinery	474 50
" implements	206 00
Hand tools, hardware and sundries	313 50
Harness	167 50
Furniture for reception room, and bedroom for visiting officials	189 25
" supplies and books for office	62 00
	\$ 5,390 35

# Experimental Farms.

## EXPERIMENTAL FARM BRANDON, MANITOBA.

10 Horses .....	\$ 600 00
3 Ayrshire cattle .....	125 00
3 Durham " .....	175 00
1 Guernsey " .....	75 00
6 Holstein " .....	275 00
8 Grade " .....	160 00
2 Chester White swine .....	30 00
4 Tamworth " .....	63 00
4 Berkshire " .....	45 00
59 Fowls .....	56 00
Bees and apiarian supplies .....	86 20
Vehicles, including farm wagons and sleighs .....	475 00
Farm machinery .....	987 00
" implements .....	630 00
Hand tools, hardware and sundries .....	619 42
Harness .....	215 50
Furniture for reception room and bedroom for visiting officials .....	162 55
" supplies and books for office .....	182 40
	\$ 4,962 07

## EXPERIMENTAL FARM, INDIAN HEAD, N. W. T.

15 Horses .....	\$ 1,600 00
1 Ayrshire cattle .....	50 00
9 Durham " .....	770 00
3 Holstein " .....	120 00
14 Grade " .....	375 00
3 Yorkshire swine .....	40 00
3 Berkshire " .....	55 00
5 Tamworth " .....	70 00
1 Chester white " .....	10 00
63 Fowls .....	44 00
Bees and apiarian supplies .....	54 47
Vehicles, including farm wagons and sleighs .....	505 00
Farm machinery .....	1,174 50
" implements .....	595 00
Hand tools, hardware and sundries .....	414 45
Harness .....	197 40
Furniture for reception room and bedroom for visiting officials .....	189 00
" supplies and books for office .....	229 25
	\$ 6,493 07

## EXPERIMENTAL FARM, AGASSIZ, B. C.

6 Horses .....	\$ 630 00
5 Durham cattle .....	350 00
5 Ayrshire " .....	200 00
7 Holstein " .....	405 00
1 Grade " .....	30 00
5 Dorset horned sheep .....	45 00
2 Berkshire swine .....	45 00
3 Tamworth " .....	59 00
60 Fowls .....	55 80
Bees and apiarian supplies .....	40 00
Vehicles, including farm wagons .....	225 00
Farm machinery .....	545 00
" implements .....	203 00
Hand tools, hardware and sundries .....	183 05
Harness .....	78 00
Furniture for reception room and bedroom for visiting officials .....	223 50
" supplies and books for office .....	132 00
	\$ 3,449 35

W. H. HAY,  
*Accountant.*



# Experimental Farms.

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62 Victoria.

Sessional Papers (No. 8c.)

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APPENDIX

TO THE REPORT OF THE MINISTER OF AGRICULTURE FOR THE YEAR 1898

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CRIMINAL STATISTICS

FOR THE

YEAR ENDED 30<sup>TH</sup> SEPTEMBER, 1898

PRINTED BY ORDER OF PARLIAMENT

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ANNEXE

AU RAPPORT DU MINISTÈRE DE L'AGRICULTURE POUR L'ANNÉE 1898

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STATISTIQUE CRIMINELLE

POUR

L'ANNÉE EXPIRÉE LE 30 SEPTEMBRE 1898

IMPRIMÉ PAR ORDRE DU PARLEMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST  
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# REPORT OF CRIMINAL STATISTICS

FOR THE YEAR ENDED 30TH SEPTEMBER, 1898.

These Statistics are collected under authority of the Criminal Statistics Act, Chapter 60, Revised Statutes of Canada.

The annexed report is composed of "Indictable Offences" and "Summary Convictions," the former including all cases tried by Police and other Magistrates, with the consent of the accused under the "Speedy Trials," Summary Trial by consent" and "Juvenile Offenders" Acts; while the latter is made up of cases disposed of by Justices of the Peace out of Sessions, under the "Summary Convictions Act."

The indictable offences are divided into six classes:—Offences against the person; offences against property with violence; offences against property without violence; malicious offences against property; forgery and other offences against currency, and other offences not included in the foregoing classes.

The number of charges for indictable offences, during the year ending 30th September, 1898, was 8,153, against 8,027 in 1897, an increase of 126. Out of the above number of charges, there were, in 1898, 2,247 acquittals, 29 detained for lunacy, and 90 cases in which no sentence was given; against 2,172 acquittals, 13 detained for lunacy and 121 cases receiving no sentence, in 1897. The number of convictions is thereby reduced, for 1898, to 5,787, and to 5,721 for 1897, in the following proportions, by provinces.

## INDICTABLE OFFENCES.

PROVINCES.	Number of convictions.		Number of Convictions per 10,000 Inhabitants.	
	1897.	1898.	1897.	1898.
New Brunswick .....	95	104	2·95	3·23
Prince Edward Island .....	42	37	3·84	3·38
Nova Scotia .....	255	240	5·58	5·24
Manitoba .....	245	200	12·07	9·40
Quebec .....	1,737	1,603	11·05	10·10
Ontario .....	2,855	2,900	12·77	12·85
The Territories .....	170	190	13·58	14·56
British Columbia .....	322	513	21·73	32·33
Canada .....	5,721	5,787	11·06	11·06

It will be seen by the above table that although the total number of convictions is about the same for both years, the increase during the year has been considerable in the Province of British Columbia while a noticeable decrease is to be found in Quebec; all the other provinces showing slight changes.

## Criminal Statistics.

# RAPPORT DE LA STATISTIQUE CRIMINELLE

POUR L'ANNÉE FINISSANT LE 30 SEPTEMBRE 1898.

Cette statistique est recueillie en vertu de l' "Acte de la Statistique Criminelle," chapitre 60, Statuts Révisés du Canada.

Le rapport ci-joint contient les "délits sujets à poursuite" et les "condamnations sommaires"; dans les premiers se trouvent compris tous les cas expédiés par les magistrats de police ou autres juges de paix, du consentement des accusés, sous l'autorité des actes concernant les "procès expéditifs", les "procès sommaires" et les "jeunes délinquants"; tandis que les dernières ne contiennent que les cas expédiés sommairement par les juges de paix, en dehors des sessions, sous l'autorité de l' "Acte des condamnations sommaires."

Les délits sujets à poursuite sont subdivisés en six classes :—Outrages contre la personne; délits avec violence contre la propriété; délits sans violence contre la propriété; offenses malicieuses contre la propriété; faux et délits par rapport à la monnaie; autres délits non compris dans les classes précédentes.

Le nombre d'accusations pour délits sujets à poursuite, durant l'année finissant le 30 septembre 1898, s'élevait à 8,153, contre 8,027 en 1897, soit une augmentation de 126. De ce nombre d'accusations, en 1898, il y a eu 2,247 acquittements, 29 ont été détenus pour cause de folie et 90 cas dans lesquels aucune sentence n'a été prononcée; et en 1897, 2,172 acquittements, 13 détenus pour cause de folie et 121 cas ne recevant aucune sentence. Le nombre de condamnations se trouve ainsi réduit à 5,787 en 1898, et à 5,721 en 1897, dans l'ordre suivant par provinces :—

### DÉLITS SUJETS À POURSUITE.

PROVINCES.	Nombre de condamnations.		Nombre de condamnations par 10,000 habitants.	
	1897.	1898.	1897.	1898.
Nouveau-Brunswick .....	95	104	2·95	3·23
Ile du Prince-Edouard .....	42	37	3·84	3·38
Nouvelle-Ecosse .....	255	240	5·58	5·24
Manitoba .....	245	200	12·07	9·40
Québec .....	1,737	1,603	11·05	10·10
Ontario .....	2,855	2,900	12·77	12·85
Les Territoires .....	170	190	13·58	14·56
Colombie-Britannique .....	322	513	21·73	32·33
Canada .....	5,721	5,787	11·06	11·06

On peut voir par le tableau qui précède que le chiffre total des condamnations est à peu près le même pour les deux années, bien qu'il y ait une augmentation considérable dans la Colombie-Britannique et une diminution remarquable dans Québec en 1898; les autres provinces n'accusant que de faibles changements durant cette dernière année.

Out of the total convictions 6·0 per cent were female offenders in 1898, against 6·3 in 1897. The proportion of young offenders, under 16 years of age was 14·4 per cent in 1898, against 12·6 per cent in 1897.

In 1897 the educational status of the convicted was represented by the following figures : unable to read and write, 14·7 ; elementary education, 73·0 ; superior education, 1·8 ; against 14·3, 74·5 and 1·8 respectively, in 1898.

The following figures represent the use of liquor amongst the convicted : moderate, 57·1 per cent, and immoderate, 33·1 per cent, in 1898 ; against 53·9 and 35·5 respectively, in 1897. Out of the total conviction for 1898, 78·9 per cent were convicted for the first time ; 11·7 per cent for the second time, and 9·3 per cent were convicted three times and over ; against 79·2, 11·3 and 9·5 respectively, in 1897.

The following table gives the number of sentences for the years 1897 and 1898 —

SENTENCES.	1897.	1898.
Sentenced to jail with the option of a fine . . . . .	930	825
"    for less than one year . . . . .	2,461	2,540
"    for one year and less than two . . . . .	328	323
"    penitentiary for two years and under five . . . . .	426	369
"    "    five years and over . . . . .	178	189
"    "    life . . . . .	5	1
"    reformatories . . . . .	177	231
"    death . . . . .	4	13
Other sentences, such as bound to keep the peace, sentence deferred, &c . . . . .	1,212	1,296
Totals . . . . .	5,721	5,787

#### INDICTABLE OFFENCES BY CLASSES.

Class I, "Offences against the person," into which are included the higher crimes, such as murder, manslaughter, assaults, &c., shows a decrease of 42 during the year ; 1,205 in 1897, against 1,163 in 1898. The decreases are to be found in Quebec, Manitoba, Nova Scotia and New Brunswick, while the other provinces show increases.

In class II, "Offences against property with violence," comprising burglary, house and shopbreaking, &c., the number of convictions has increased during the year from 475 in 1897, to 540 in 1898, Quebec showing the larger increase in this class.

In class III, "Offences against property without violence," which includes larceny, horse and cattle stealing, embezzlement, fraud and false pretences, &c., the number of convictions has increased from 3,558 in 1897 to 3,659 in 1898, the larger increase being in British Columbia.

Class IV, "Malicious offences against property" shows an increase of 16 during the year ; 74 in 1897 against 90 in 1898.

In class V, "Forgery and other offences against the currency," there has been an increase of 3 during the year ; 82 in 1897 and 85 in 1898.

Class VI, "Other offences not included in the foregoing classes," shows a decrease of 77 during the year ; 327 in 1897, against 250 in 1898, the larger part of such decrease being in Quebec and Ontario.

## Criminal Statistics.

Du chiffre total des condamnations 6·0 pour cent appartenait au sexe féminin en 1898, et 6·3 en 1897. La proportion des jeunes délinquants au-dessous de 16 ans était de 14·4 pour cent en 1898, contre 12·6 pour cent en 1897.

Le degré d'instruction des personnes condamnées se trouvait ainsi représenté en 1898 : incapables de lire et d'écrire, 14·3 pour cent ; ayant une instruction élémentaire, 74·5 pour cent ; ayant une instruction supérieure, 1·8 pour cent, contre 14·7, 73·0 et 1·8 respectivement en 1897.

Les chiffres suivants représentent l'usage des boissons enivrantes en 1898 : usage modéré, 57·1 pour cent, et usage immodéré, 33·1 ; contre 53·9 et 35·5 pour cent respectivement en 1897.

Durant l'année 1898, 78·9 pour cent du total des personnes trouvées coupables ont été condamnées pour la première fois ; 11·7 pour cent, une deuxième fois, et 9·3 pour cent, trois fois et plus ; contre 79·2, 11·3 et 9·5 respectivement en 1897.

Le tableau suivant est un état des sentences pour les années 1897 et 1898 :—

SENTENCES.	1897.	1898.
Condamnés à l'option entre la prison et l'amende.....	930	825
" à la prison pour moins d'un an.....	2,461	2,540
" " un an et moins de deux.....	328	323
" au pénitencier pour deux ans et moins de cinq.....	426	369
" " cinq ans et au-dessus.....	178	189
" " la vie.....	5	1
" aux écoles de réforme.....	177	231
" à mort.....	4	13
Autres sentences, telles que tenus de garder la paix, etc.....	1,212	1,296
Totaux.....	5,721	5,787

### DÉLITS SUJETS À POURSUITE PAR CLASSES.

Dans la classe I, "Outrages contre la personne," dans laquelle se trouvent compris les plus grands crimes, tels que meurtre, homicide, assaut, etc., il y a eu une diminution de 42 dans ce nombre de condamnés, durant l'année : 1,205 en 1897 et 1,163 en 1898. Les diminutions dans cette classe se trouvent dans Québec, Manitoba, la Nouvelle-Ecosse et le Nouveau-Brunswick, tandis que les autres provinces montrent des augmentations.

Dans la classe II, "Délits avec violence contre la propriété," comprenant les vols avec effraction, les bris de maisons et de magasins, etc., le nombre de condamnations a augmenté de 65 durant l'année : 475 en 1897 contre 540 en 1898 ; la plus haute augmentation dans cette classe se trouve dans Québec.

Dans la classe III, "Délits sans violence contre la propriété," qui contient les cas de larcins, vols de chevaux et de bétail, détournements, fraudes et faux prétextes, il y a aussi une augmentation de 101 dans le nombre des condamnations : 3,558 en 1897 contre 3,659 en 1898 ; la plus grande partie de cette augmentation se trouve dans la Colombie-Britannique.

La classe IV, "Dommages malicieux à la propriété," montre une augmentation de 16 durant l'année : 74 en 1897 contre 90 en 1898.

Dans la classe V, "Faux et délits par rapport à la monnaie," il y a eu une augmentation de 3 durant l'année : 82 en 1897 et 85 en 1898.

## SUMMARY CONVICTIONS.

The following table shows the number of Summary Convictions by justices of the peace out of sessions, for the years 1897 and 1898 :—

PROVINCES.	1897.	1898.
Prince Edward Island.....	519	423
Nova Scotia.....	2,421	2,440
New Brunswick.....	2,179	2,250
Quebec.....	8,871	8,423
Ontario.....	14,151	13,911
Manitoba.....	1,232	1,128
British Columbia.....	1,477	1,960
The Territories.....	1,407	1,884
Canada.....	32,257	32,419

By the above it will be seen that the number of summary convictions has increased during the year in the Provinces of Nova Scotia, New Brunswick, British Columbia and the Territories, while it has decreased in all the other provinces.

The cases of drunkenness have increased by 673 during the year: 10,586 in 1897 against 11,259 in 1898. The following figures show the drinking proportion of each province, per 1,000 of the population: Ontario, 1·1; Quebec, 2·3; Prince Edward Island, 2·6; Nova Scotia, 2·7; Manitoba, 2·7; New Brunswick, 4·0; the Territories, 4·4, and British Columbia, 6·1. The number of offences against the Liquor License Act; shows an increase of 79 during the year.

The number of fines for the year 1898 was 27,261 against 27,147 in 1897; the total amount of fines was \$249,328 in 1898, against \$217,691 in 1897, divided by provinces in the following proportions :—

PROVINCES.	Proportion per cent to the total number of fines.		Average Amount for each fine.	
	1897.	1898.	1897.	1898.
Ontario.....	44·54	42·47	\$ 5 38	\$ 5 30
Quebec.....	27·46	26·06	9 35	12 02
Nova Scotia.....	8·16	8·24	7 41	6 98
New Brunswick.....	7·47	7·87	14 57	14 04
British Columbia.....	3·43	5·14	12 94	12 34
The Territories.....	3·26	5·02	11 43	20 27
Manitoba.....	3·91	3·71	8 17	6 80
Prince Edward Island.....	1·77	1·49	13 42	11 83
Canada.....	100·00	100·00	8 03	9 14

Out of the total amount of fines 44·39 per cent were imposed for offences against the Liquor License Acts, and 15·43 per cent for drunkenness in 1898 as against 47·04 and 14·01 respectively in 1897.

## Criminal Statistics.

La classe VI, "Autres délits non compris dans les classes précédentes," indique une diminution de 77 durant l'année; 327 en 1897 contre 250 en 1898. La plus grande partie de cette diminution se trouve dans Québec et Ontario.

### CONDAMNATIONS SOMMAIRES.

Le tableau suivant donne le nombre de condamnations sommaires par les juges de paix, hors des sessions, pour les années 1897 et 1898 :—

PROVINCES.	1897.	1898.
Ile du Prince-Edouard .....	519	423
Nouvelle-Ecosse .....	2,421	2,440
Nouveau-Brunswick .....	2,179	2,250
Québec .....	8,871	8,423
Ontario .....	14,151	13,911
Manitoba .....	1,232	1,128
Colombie-Britannique .....	1,477	1,960
Les Territoires .....	1,407	1,884
Canada .....	32,257	32,419

On peut voir par le tableau qui précède que le nombre des condamnations sommaires a augmenté durant l'année dans les provinces de la Nouvelle-Ecosse, Nouveau-Brunswick, la Colombie-Britannique et les Territoires, tandis qu'il a diminué dans toutes les autres provinces. Il y a eu une augmentation de 673 dans le nombre de cas d'ivresse; 10,586 en 1897 contre 11,259 en 1898.

Les chiffres suivants donnent la proportion des personnes trouvées coupables d'ivresse, dans chaque province, par 1,000 de population: Ontario, 1.1; Québec, 2.3; Ile du Prince-Edouard, 2.6; Nouvelle-Ecosse, 2.7; Manitoba, 2.7; Nouveau-Brunswick, 4.0; les Territoires, 4.4, et la Colombie-Britannique, 6.1. Le nombre d'offenses contre les lois des licences de boissons a augmenté de 79 durant l'année.

Le nombre d'amendes s'élevait à 27,261 en 1898, et à 27,147 en 1897, et le montant des amendes à \$249,328 en 1898, et à \$217,691 en 1897, divisé proportionnellement par province dans l'ordre suivant :—

PROVINCES.	Proportion pour cent du total des amendes.		Montant moyen de chaque amende.	
	1897.	1898.	1897.	1898.
Ontario .....	44.54	42.47	\$ 5.38	\$ 5.30
Québec .....	27.46	26.06	9.35	12.02
Nouvelle-Ecosse .....	8.16	8.24	7.41	6.98
Nouveau-Brunswick .....	7.47	7.87	14.57	14.04
Colombie-Britannique .....	3.43	5.14	12.94	12.34
Les Territoires .....	3.26	5.02	11.43	20.27
Manitoba .....	3.91	3.71	8.17	6.80
Ile du Prince-Edouard .....	1.77	1.49	13.42	11.83
Canada .....	100.00	100.00	8.03	9.14

Du montant total des amendes, 44.39 pour cent ont été imposés pour offenses contre les lois des licences de boissons et 15.43 pour cent pour ivresse, en 1898, contre 47.07 et 14.01 respectivement en 1897.



The total number of convictions (indictable offences and summary convictions) is given in the following table, showing the number of inhabitants for each conviction, in the order of criminality :—

PROVINCES.	Total Convictions.		Number of Inhabitants to each Conviction.	
	1897.	1898.	1897.	1898.
The Territories .....	1,577	2,074	79	63
British Columbia .....	1,799	2,473	82	64
Ontario .....	17,006	16,811	131	134
New Brunswick .....	2,274	2,354	141	136
Quebec .....	10,608	10,026	148	158
Manitoba .....	1,477	1,328	137	160
Nova Scotia .....	2,676	2,680	170	170
Prince Edward Island .....	561	460	195	237
Canada.....	37,978	38,206	136	137

It will be seen by the above figures that the number of convictions has increased considerably in the Territories and British Columbia, while it has decreased in Quebec, Ontario, Manitoba and Prince Edward Island.

The number of cases tried by a jury in Canada, during the year, was 822, of which 454 males and 24 females were convicted; as against 864 cases in 1897, of which 459 males and 10 females were convicted.

The number of cases in which the prerogative of mercy has been exercised, in 1898, was 156, including 4 death sentences commuted, against 165 cases in 1897, including 3 death sentences commuted.

E. H. ST. DENIS,  
*Assistant Statistician.*

## Criminal Statistics.

Le nombre de toutes les condamnations (délits sujets à poursuite et condamnations sommaires) est donné dans le tableau suivant, montrant aussi le nombre d'habitants pour chaque condamnation, dans l'ordre de la criminalité :—

PROVINCES.	Total des condamnations.		Nombre d'habitants pour chaque condamnation.	
	1897.	1898.	1897.	1898.
Les Territoires .....	1,577	2,074	79	63
Colombie-Britannique.....	1,799	2,473	82	64
Ontario .....	17,006	16,811	131	134
Nouveau-Brunswick .....	2,274	2,354	141	136
Québec .....	10,608	10,026	148	158
Manitoba .....	1,477	1,328	137	160
Nouvelle-Ecosse .....	2,676	2,680	170	170
Ile du Prince-Edouard.....	561	460	195	237
Canada.....	37,978	38,206	136	137

On voit par le tableau précédent que le nombre des condamnations a augmenté considérablement dans les Territoires et la Colombie-Britannique, tandis qu'il a diminué dans Québec, Ontario, Manitoba et l'Ile du Prince-Edouard.

Le nombre de cas jugés par un juré en Canada, durant l'année, s'élevait à 822, dont 454 appartenant au sexe masculin et 24 au sexe féminin, ont été condamnés ; contre 864 cas en 1897, dont 459 appartenant au sexe masculin et 10 au sexe féminin, ont été condamnés.

Le nombre de cas dans lesquels le droit de grâce a été exercé durant l'année 1898 s'élevait à 156, y compris 4 sentences de mort commuées, contre 165 en 1897, y compris 3 sentences de mort commuées.

E. H. ST. DENIS,

*Assistant Statisticien.*

Criminal Statistics.

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TABLE I.  
INDICTABLE OFFENCES.

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TABLEAU I.  
DÉLITS SUJETS À POURSUITE.

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TABLE I.		OFFENCES AGAINST THE PERSON.						CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.	De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.		
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	With the option of a fine. — Sur option entre la pri- son ou l'a- me'de	No OPTION. — SANSOPTION	
					Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- vies.		Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
					M.	F.				
<b>MURDER.</b>										
Annapolis, N.S.	1		1							
Antigonish, N.S.	1			1	1					
Colchester, N.S.	1			1	1					
Totals of Nova Scotia.....	3		1	2	2					
Carleton, N.B.	1	1								
Charlotte, N.B.	1	1								
Totals of New Brunswick..	2	2								
Joliette, Que.	1			1	1					
Montreal, Que.	2	1	1							
Ottawa, Que.	1	1								
St. Hyacinthe, Que.	1			1	1					
Totals of Quebec.....	5	2	1	2	2					
Algoma and Manitoulin, Ont....	1		1							
Haldimand, Ont.	1		1							
Kent, Ont.	1		1							
Lennox and Addington, Ont....	1	1								
Middlesex, Ont.	1	1								
Muskoka and Parry Sound, Ont.	1			1	1					
Stormont, D'das & Glengarry, O.	1			1	1					
Waterloo, Ont.	1			1	1					
Totals of Ontario.....	8	2	3	2	2					
Clinton, B.C.	1			1	1					
Victoria, B.C.	2	1		1	1					
Westminster, B.C.	1			1	1					
Totals of British Columbia.	4	1		3	3					
Yukon.....	4			4	4					
Totals of Canada.....	26	5	6	13	13					
<b>ATTEMPT TO MURDER.</b>										
Ottawa, Que.	1	1								
St. Francis, Que.	2			2	2					
Totals of Quebec.....	3	1		2	2					
Kent, Ont.	1			1	1					
Victoria, B.C.	3			3	3					c1
Westminster, B.C.	1			1						
Totals of Canada.....	8	1	1	6	5	1				1

a Previous conviction and sentence of death set aside and new trial ordered by the Minister of Justice.

b Woman, jury disagreed—case, murder of an infant child.

c Under great provocation and with strong recommendation to mercy, 6 months, and to enter into his own recognizance in the sum of \$1,000 with one or two sureties to keep the peace 2 years, in default further sentence of one year.

# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE.											CLASSE I.			
SENTENCE.						OCCUPATIONS.					CIVIL CONDITIONS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réforme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mercial. — Com- merçants.	Domestic — — Servi- teurs.	Indus- trial. — — Indus- triels.	Profes- sional — — Profes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Mariés.	Wi- dowed — — En- veu- vage.	Single — — Céli- ba- taires.
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>MEURTRE.</b>														
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	.....	.....	2	.....	.....	1	.....	.....	.....	1	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	.....	.....	2	.....	.....	1	.....	.....	.....	1	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	2	.....	.....	1	.....	.....	.....	1	.....	.....	.....	2
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	3	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
.....	.....	.....	13	.....	.....	4	.....	.....	.....	1	2	1	.....	7
<b>TENTATIVE DE MEURTRE.</b>														
.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....
.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	1	1	.....	.....	.....	.....	1	.....	.....	2	3	.....	.....	.....
.....	4	1	.....	.....	.....	1	1	.....	.....	3	5	.....	.....	1

a La condamnation antérieure et la sentence de mort mise de côté et un nouveau procès ordonné par le ministre de la Justice.  
 b Une femme, les jurés ne se sont pas accordés—offense, meurtre d'un jeune enfant.  
 c Ayant été fortement provoqué et sous une forte recommandation à la clémence de la cour, 6 mois, et à se rendre responsable avec une ou deux cautions d'une somme de \$1,000, qu'il gardera la paix deux ans et à défaut un an de plus ajouté à sa sentence.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate			
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieur.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- déré	Im- mo- déré			
<b>MURDER.</b>														
Annapolis, N.-E.														
Antigonish, N.-E.	1												1	
Colchester, N.-E.		1												1
Totaux de la N.-Ecosse.	1	1				1		1						1 1
Carleton, N.-B.														
Charlotte, N.-B.														
Totaux du N.-Brunswick.														
Joliette, Qué.	1					1								1
Montréal, Qué.														
Ottawa, Qué.						1								1
St. Hyacinthe, Qué.		1												1
Totaux de Québec.	1	1				2								2
Algoma et Manitoulin, Ont.														
Haldimand, Ont.														
Kent, Ont.														
Lennox et Addington, Ont.														
Middlesex, Ont.														
Muskoka et Parry Sound, Ont.			1					1						1
Storm't, D'das et Gleng'ry, O.														
Waterloo, Ont.		1						1						1
Totaux d'Ontario.		1	1			1		1						2
Clinton, Col.-B.	1							1						1
Victoria, Col.-B.		1						1						1
Westminster, Col.-B.									1					
Totaux de la Col.-Britann.	1	1						2					1	2
Yukon												4		
Totaux du Canada.	3	4	1			4		4				5		7 1
<b>ATTEMPT TO MURDER.</b>														
Ottawa, Qué.								1	1					2
St. François, Qué.		2												
Totaux de Québec.		2						1	1					2
Kent, Ont.	1							1						1
Victoria, Col.-B.	2	1				1		1		1				2 1
Westminster, Col.-B.														
Totaux du Canada.	3	3				1		3	1	1				4 2

## Criminal Statistics.

TABLEAU I.      OUTRAGES CONTRE LA PERSONNE.      CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Can- ada.	Unit- ed States — Etats Unis.	Other Fo- reign Coun- tries. — Autr- es pays etran- gers.	Other Bri- tish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tholi- ques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Meth- odists — Métho- dis- tes.	Pres- byte- rians. — Pres- byté- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>MEURTRE.</b>															
			1				1							1	
			1							1				1	
			2				1			1				2	
			1				1							1	
			1				1							1	
			2				2							2	
			1							1				1	
			1								1			1	
			2							1	1			2	
			1		1		1							1	
			1		1		1							1	
			1		1		2							2	
			7		1		5			2	1			8	
<b>TENTATIVE DE MEURTRE.</b>															
			2					2						2	
			2					2						2	
	1							1						1	
			1		1	1		3					2	1	
	1		3		1	1		6					4	2	

TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine.	No OPTION. —	
											SANS OPTION.
—	—	—	—	—	—	—	Un- der one year.	One year and over.			
MANSLAUGHTER.											
Halifax, N.S. ....	3	1	..	..	2	2	..	..	..	2	..
St. John, N.B. ....	1	..	..	..	1	..	..	1	..	..	..
Montreal, Que. ....	7	4	..	..	3	3	..	..	..	..	..
St. Hyacinthe, Que. ....	1	1	..	..	..	..	..	..	..	..	..
Totals of Quebec. ....	8	5	..	..	3	3	..	..	..	..	..
Hastings, Ont. ....	1	1	..	..	..	..	..	..	..	..	..
Huron, Ont. ....	1	..	..	..	1	1	..	..	..	..	..
Leeds and Grenville, Ont. ....	1	..	..	..	1	1	..	..	..	1	..
Muskoka and Parry Sound, Ont. ....	3	1	1	..	1	1	..	..	..	..	..
Norfolk, Ont. ....	1	..	..	..	1	1	..	..	..	..	..
Renfrew, Ont. ....	1	..	..	..	1	1	..	..	..	..	..
Victoria, Ont. ....	2	..	..	..	2	2	..	..	..	..	2
York, Ont. ....	2	..	1	..	1	1	..	..	..	..	..
Totals of Ontario. ....	12	2	2	..	8	8	..	..	..	1	2
Manitoba, Western ...	1	1	..	..	..	..	..	..	..	..	..
Victoria, B.C. ....	2	..	..	..	2	2	..	..	..	..	..
Alberta, Northern, N.W.T. ....	2	1	..	..	1	1	..	..	..	..	..
Assiniboia, Eastern, N.W.T. ....	1	..	..	..	1	1	..	..	..	..	..
Totals of the N.W.T. ....	3	1	..	..	2	2	..	..	..	..	..
Totals of Canada. ....	30	10	2	..	18	17	..	1	..	3	2
SODOMY AND BESTIALITY.											
Queen's, P.E.I. ....	1	..	..	..	1	1	..	..	..	..	..
Halifax, N.S. ....	1	1	..	..	..	..	..	..	..	..	..
Three Rivers, Que. ....	1	..	..	..	1	1	..	..	..	..	1
Leeds and Grenville, Ont. ....	3	..	..	..	3	3	..	..	..	..	a1
Nipissing, Ont. ....	1	..	..	..	1	1	..	..	..	..	..
Oxford, Ont. ....	2	..	..	..	2	2	..	..	..	..	..
Simcoe, Ont. ....	1	1	..	..	..	..	..	..	..	..	..
York, Ont. ....	b1	..	..	..	..	..	..	..	..	..	..
Totals of Ontario. ....	8	1	..	..	6	6	..	..	..	..	1
Clinton, B.C. ....	1	..	..	..	1	1	..	..	..	..	..
Totals of Canada. ....	12	2	..	..	9	9	..	..	..	..	2

a And 30 lashes—Et 30 coups de fouet.

b Jury disagreed—Les jurés ne se sont pas accordés.



## Criminal Statistics.

TABLEAU I.					OUTRAGES CONTRE LA PERSONNE.						CLASSE I.			
SENTENCE.					OCCUPATIONS.						CIVIL CONDITIONS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- tories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Com- mer- çants.	Do- mestic — Servi- teurs.	In- dus- trial. — In- dus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- niers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>HOMICIDE NON PRÉMEDITÉ.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	3
.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	3
.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	1
.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	2	2	.....	1	.....	2	2	.....	1	.....	2	3	2	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	1	.....	I
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1
.....	2	10	.....	1	.....	2	3	1	4	.....	6	5	2	11
<b>SODOMIE ET BESTIALITÉ.</b>														
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a2	.....	.....	.....	2	.....	1	1	.....	2
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	I	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	1	.....	2	.....	.....	2	.....	4	1	.....	5
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	3	.....	.....	1	.....	2	.....	.....	3	.....	5	2	.....	6

*a* Sentence suspended—Sentence suspendue.

TABLE I.		OFFENCES AGAINST THE PERSON.											CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISÉ.		EDUCATIONAL STATUS. INSTRUCTION.			AGES.									USE OF LIQORS. — USAGE DE LIQUEURS	
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate				
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.						
Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- de- ré	Im- mo- de- ré			
<b>MANSLAUGHTER.</b>															
Halifax, N.-E.	1	1				2					1	1			
St. Jean, N.-B.		1				1						1			
Montréal, Qué.		3		1		2					2	1			
St. Hyacinthe, Qué.															
Totaux de Québec		3		1		2					2	1			
Hastings, Ont.															
Huron, Ont.		1				1						1			
Leeds et Grenville, Ont.		1					1				1				
Muskoka et Parry Sound, O.	1			1							1				
Norfolk, Ont.		1					1					1			
Renfrew, Ont.	1					1					1	1			
Victoria, Ont.		2				2					1	1			
York, Ont.		1					1				1				
Totaux d'Ontario	2	6		1		4	3				4	4			
Manitoba, Ouest															
Victoria, Col.-B.		2			1		1				2				
Alberta, Nord, T. du N.-O.	1			1							1				
Assiniboia, Est, T. du N.-O.									1						
Totaux des Ter. du N.-O.	1			1					1		1				
Totaux du Canada	4	13		2	1	1	9	1	3	1	10	7			
<b>SODOMY AND BESTIALITY.</b>															
Queen's, I. du P.-E.		1						1				1			
Halifax, N.-E.															
Trois-Rivières, Qué.	1					1						1			
Leeds et Grenville, Ont.	1	2				3						3			
Nipissing, Ont.	1						1					1			
Oxford, Ont.		2		1		1					1	1			
Simcoe, Ont.															
York, Ont.															
Totaux d'Ontario	2	4		1		4	1				1	5			
Clinton, Col.-B.										1					
Totaux du Canada	3	5		1		5	2			1	2	6			

# Criminal Statistics.

TABLEAU I.										OUTRAGES CONTRE LA PERSONNE.										CLASSE I.	
BIRTH PLACES. LIEUX DE NAISSANCE.					RELIGIONS.										RESI- DENCE.						
BRITISH ISLES. — ILES BRITANNIQUES.			Can- ada.	United States — Etats- Unis.	Other Fo- reign Coun- tries. — Aut- res pays étran- gers.	Other Brit- ish Pos- ses- ions. — Autr's posses- ions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tholi- ques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Metho- dists — Métho- dis- tes.	Pres- byte- riens. — Pres- byté- riens.	Pro- tes- tants	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.						
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.																			
<b>HOMICIDE NON PRÉMEDITÉ.</b>																					
			2				2							1	1						
			1				1							1							
			3				3							1	2						
			3				3							1	2						
			1						1						1						
			1						1					1	1						
			1				1							1	1						
			2						2					1	2						
	1		7				1	1	5			1	1	2	6						
														2							
					1		1								1						
					1		1								2						
	1		13	2	1		2	7	5			1	2	7	11						
<b>SODOMIE ET BESTIALITÉ.</b>																					
			1						1					1							
			1						1					1							
			2						3					3							
			1		1				1					1	2						
	2						1					1			2						
	2						1	4				1		3	3						
	2						1	6				1		5	3						

TABLE I.		OFFENCES AGAINST THE PERSON.						CLASS I.			
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION.	
										SANS OPTION	Un- der one year. — Moins d'un an.
<b>RAPE.</b>											
King's, N.S.	1	1									
Westmoreland, N.B.	1	1									
Montreal, Que	1			1	1						
Algoma and Manitoulin, Ont.	1			1	1						
Brant, Ont.	2	2									
Carleton, Ont.	1			1	1						
Grey, Ont.	1	1									
Lambton, Ont.	2	2									
Lanark, Ont.	1			1	1						
Middlesex, Ont.	1	1									
Norfolk, Ont.	1			1	1						
Perth, Ont.	1			1	1						
Simcoe, Ont.	3	2		1	1						
Victoria, Ont.	2	2									
Wellington, Ont.	1			1							
York, Ont.	5	5									
Totals of Ontario	22	16		6	5	1					
Manitoba, Eastern	1			1	1					1	
Alberta, Northern, N.W.T.	3	2									
Alberta, Southern, N.W.T.	1	1									
Assiniboia, Western, N.W.T.	1	1									
Saskatchewan, N.W.T.	1			1	1						
Totals of the N.W.T.	6	4		1	1						
Totals of Canada	32	22		9	8	1				1	
<b>ATTEMPT AT RAPE.</b>											
Ottawa, Que.	1	1									
Algoma and Manitoulin, Ont.	2			2	1	1				2	
Essex, Ont.	a1			1	1						
Kent, Ont.	2	1		1	1					1	
Middlesex, Ont.	2			2	2					1	
Northumberland & Durham, O.	1			1	1						
Welland, Ont.	1			1	1					1	
Totals of Ontario	9	1		7	6	1				5	
Totals of Canada	10	2		7	6	1				5	

a Jury disagreed— Les jurés ne se sont pas accordés.

b Nolle prosequi.

# Criminal Statistics.

TABLEAU I.						OUTRAGES CONTRE LA PERSONNE.						CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories.	Other Senten- ces.							ÉTATS CIVILS.		
Two years and un- der five.	Five years and over.	Life.		—	—	—	Agricultural.	Com- mer- cial.	Do- mestic	In- dus- trial.	Pro- fes- sional	La- borers	Mar- ried.	Wi- dowed
— Deux ans et m'ns de cinq.	— Cinq ans et plus.	— A vie	—	En- voyés à la prison de Réfor- me.	— Autres Senten- ces.	— Agriculteurs.	— Com- merçants.	— Servi- teurs.	— Indus- triels.	— Pro- fes- sions libé- rales.	— Jour- na- liers.	— Mariés.	— En- veu- vage.	— Céli- bataires.
VIOL.														
	1										1	1		
	1										1		1	
					a1	1						1		
	1											1		
	1				a1						1	1		1
	1										1			1
	4				a2	1					4	3	1	2
						1								1
	1					1								1
	1					1								1
	6					2	3				5	4	1	4
TENTATIVE DE VIOL.														
							2							2
	1					1								1
	1								1		1			1
									1					1
	2					1	2		2		1	1		6
	2					1	2		2		1	1		6

a Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST THE PERSON. CLASS I.

JUDICIAL DISTRICT IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Super- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
H.				F.	H.	F.	H.	F.	H.	F.	Mo- déré	Im- modéré	
<b>RAPE.</b>													
King's, N.-E . . . . .													
Westmoreland, N.-B. . . . .													
Montréal, Qué. . . . .		1					1					1	
Algoma et Manitoulin, Ont. . . . .	1						1					1	
Brant, Ont. . . . .													
Carleton, Ont. . . . .		1					1					1	
Grey, Ont. . . . .										1			
Lambton, Ont. . . . .					1							1	
Lanark, Ont. . . . .										1			
Middlesex, Ont. . . . .													
Norfolk, Ont. . . . .		1										1	
Perth, Ont. . . . .		1				1						1	
Simcoe, Ont. . . . .										1			
Victoria, Ont. . . . .													
Wellington, Ont. . . . .													
York, Ont. . . . .													
Totaux d'Ontario . . . . .	1	3			1	1	2		2		2	2	
Manitoba, Est . . . . .		1				1					1		
Alberta Nord, T. du N.-O. . . . .													
Alberta, Sud, T. du N.-O. . . . .													
Assiniboia, Ouest, T. du N.-O. . . . .													
Saskatchewan, T. du N.-O. . . . .		1			1							1	
Totaux des T. du N.-O . . . . .		1			1							1	
Totaux du Canada. . . . .	1	6			2	2	3		2		3	4	
<b>ATTEMPT AT RAPE.</b>													
Ottawa, Qué. . . . .													
Algoma et Manitoulin, Ont. . . . .		2				2						2	
Essex, Ont. . . . .													
Kent, Ont. . . . .		1			1						1		
Middlesex, Ont. . . . .		2				2					2		
Northumberl'd et Durham, O. . . . .		1			1						1		
Welland, Ont. . . . .		1				1					1		
Totaux d'Ontario. . . . .		7			2	5					4	3	
Totaux du Canada . . . . .		7			2	5					4	3	

# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.					RESI- DENCE.				
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Protestants.	Other Denominations. — Autres confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.			Autres possessions Britanniques.	Baptistes.	Catholiques.	Eglise d'Angleterre.	Méthodistes.	Presbytériens.	Autres confessions.	Villes.	Districts ruraux.		
<b>VIOL.</b>															
			1				1							1	
	1						1							1	
			1				1							1	
			1						1					1	
	1									1				1	
											1				
	2		2				2		1	1			1	5	
			1								1				1
			1					1						1	
			1					1						1	
	2		5				3	1	1	2			2	7	
<b>TENTATIVE DE VIOL.</b>															
					2			2						2	
1									1					1	1
			2						2					1	1
			1									1		1	1
1			4		2			2	1	2		2		3	4
1			4		2			2	1	2		2		3	4

TABLE I. OFFENCES AGAINST THE PERSON. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'am- m'nde	SANS OPTION.	
										Un- der one year. — Moins d'un an.	One year and over — Un an et plus.

ATTEMPT AND CARNALLY KNOWING A GIRL OF TENDER YEARS.

Pictou, N.S.	1				1	1			1	
Bedford, Que	1				1	1			1	
Quebec, Que	1				1	1				
Totals of Quebec	2				2	2			1	
Essex, Ont.	1				1	1			1	
Grey, Ont.	1				1	1				
Nipissing, Ont.	1	1								
Perth, Ont	1				1	1			a1	
Renfrew, Ont.	1	1								
Simcoe, Ont.	1	1								
York, Ont.	1	1								
Totals of Ontario	7	4			3	3			2	
Manitoba, Eastern.	1				1	1				
Victoria, B.C.	b1									
Alberta, Southern, N.W T.	1	1								
Totals of Canada	13	5			7	7			4	

CARNALLY KNOWING AN IMBECILE GIRL.

Essex, Ont.	1				1	1				
Northumberland & Durham, O.	1	1								
Ontario, Ont.	1	1								
Rainy River, Ont.	1	1								
Totals of Ont. and Canada.	4	3			1	1				

INCEST.

Joliette, Que	2	1	1							
Essex, Ont.	1	1								
Kent, Ont.	2	1	1							
Peterborough, Ont.	1	1								
Prince Edward, Ont	1	1								
Wentworth, Ont	1				1	1				
Totals of Ontario	6	4	1		1	1				
Manitoba, Western	2	1	1							
Totals of Canada	10	6	3		1	1				

a And 5 lashes—Et cinq coups de fouet.

b Nolle prosequi.



## Criminal Statistics.

TABLEAU I.						OUTRAGES CONTRE LA PERSONNE.						CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.							ÉTATS CIVILS.		
Two years and un- der five.	Five years and over.	Life.				—	—	—	Agricultural.	Com- mer- cial.	Do- mestic	In- dus- trial.	Pro- fes- sional	La- borers
D'ux ans et m'ns de cinq.	Cinq ans et plus.	— A vie	—	—	—	Agriculteurs.	Com- mer- çants.	Servi- teurs.	In- dus- triels.	Pro- fes- sions libé- rales.	Jour- na- liers.	Ma- riés.	En- veu- vage.	Céli- ba- taires.
<b>TENTATIVE ET COMMERCE CHARNEL AVEC UNE FILLE EN BAS AGE.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	.....	1
.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	.....	1
.....	al	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	1	1	.....	2
.....	al	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	3	.....	.....	.....	.....	.....	1	1	.....	1	.....	4	3	4
<b>COMMERCE CHARNEL AVEC UNE FILLE ALIÉNÉE.</b>														
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
<b>INCESTE.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....

a And 20 lashes—Et 20 coups de fouet.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.	
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.						USE OF LIQUORS, — USAGE DE LIQUEURS		
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate		
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donnés.				
		Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- dé- ré	Im- mo- dé- ré	
H. F.	H. F.				H. F.	H. F.	H. F.	H. F.	H. F.				
<b>ATTEMPT AND CARNALLY KNOWING A GIRL OF TENDER YEARS.</b>													
Pictou, N.-E.		1		1							1		
Bedford, Qué.		1			1						1	1	
Québec, Qué.		1						1			1		
Totaux de Québec.		2			1			1			1	1	
Essex, Ont.		1					1					1	
Grey, Ont.		1					1				1		
Nipissing, Ont.													
Perth, Ont.		1			1						1		
Renfrew, Ont.													
Simcoe, Ont.													
York, Ont.													
Totaux d'Ontario.		3			1		2				2	1	
Manitoba, Est.		1					1					1	
Victoria, Col.-B.													
Alberta, Sud, T. du N.-O.													
Totaux du Canada.		7		1	2		3		1		4	3	
<b>CARNALLY KNOWING AN IMBECILE GIRL.</b>													
Essex, Ont.		1						1			1		
Northumberl'd et Durham, O.													
Ontario, Ont.													
Rainy River, Ont.													
Totaux d'Ont. et du Can.		1						1			1		
<b>INCEST.</b>													
Joliette, Qué.													
Essex, Ont.													
Kent, Ont.													
Peterborough, Ont.													
Prince-Edouard, Ont.													
Wentworth, Ont.		1						1				1	
Totaux d'Ontario.		1						1				1	
Manitoba, Ouest.													
Totaux du Canada.		1						1				1	

## Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Can- ada.	Uni- ted States — Etats- Unis.	Other Fo- reign Coun- tries. — Autr- es-pays étran- gers.	Other Bri- tish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Meth- odists — Métho- distes.	Pres- byte- rians — Pres- byté- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>TENTATIVE ET COMMERCE CHARNEL AVEC UNE FILLE EN BAS AGE.</b>															
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	1	1	
.....	.....	.....	2	.....	.....	.....	1	.....	1	.....	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	
1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
.....	.....	.....	2	.....	.....	.....	.....	1	1	1	.....	.....	1	2	
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1	.....	.....	6	.....	.....	.....	.....	2	1	2	1	.....	1	4	
<b>COMMERCE CHARNEL AVEC UNE FILLE ALIÉNÉE.</b>															
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
<b>INCESTE.</b>															
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	

TABLE I. OFFENCES AGAINST THE PERSON. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.		De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.		
		M.	F.		Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 réci- di- ves.	With the option of a fine.  —  Sur option entre la pri- son ou l'a- mnde	SANS OPTION	
										Un- der one year.  —  Moins d'un an.	One year and over.  —  Un an et plus.
		SHOOTING, STABBING AND WOUNDING WITH INTENT.									
King's, P.E.I. ....	1	1									
Prince, P.E.I. ....	1				1	1					
Totals of P.E. Island .....	2	1			1	1					
Colchester, N.S. ....	1				1	1					1
Guysborough, N.S. ....	1				1	1				1	
Lunenburg, N.S. ....	1				1	1					
Yarmouth, N.S. ....	5				5	4	1			1	
Totals of Nova Scotia .....	8				8	6	2			2	1
Restigouche, N.B. ....	1	1									
Bedford, Que. ....	1				1			1			
Iberville, Que. ....	1				1	1					
Montreal, Que. ....	11	3	1		7	4		3		2	
Ottawa, Que. ....	2	1			1	1				1	
Quebec, Que. ....	1	1			1						
Richelieu, Que. ....	2				1		1				1
St. Francis, Que. ....	2	1			1	1					
Three Rivers, Que. ....	6	1			5	3	2		1	a4	
Totals of Quebec .....	25	7	1		17	10	3	4	b1	7	1
Bruce, Ont. ....	1	1									
Carleton, Ont. ....	9	5	1		3	3				2	
Essex, Ont. ....	2				2	2			2		
Frontenac, Ont. ....	1				1	1			1		
Grey, Ont. ....	7	1		1	5	5			3	1	
Haldimand, Ont. ....	4		1		3		1	2		1	
Halton, Ont. ....	1				1	1					
Hastings, Ont. ....	1				1	1				1	
Kent, Ont. ....	1				1	1					
Lanark, Ont. ....	1				1	1					
Middlesex, Ont. ....	4	1			3	2	1			1	
Nipissing, Ont. ....	1				1	1			1		
Northumberland & Durham, O.	1				1	1					
Ontario, Ont. ....	1				1			1			
Perth, Ont. ....	4	2			2	2			1	1	
Renfrew, Ont. ....	1				1	1					
Simcoe, Ont. ....	1				1	1				1	
Stormont, D'das & Glengarry, O.	1				1		1			1	
Welland, Ont. ....	1	1									
Wentworth, Ont. ....	4	2			2	1		1			
York, Ont. ....	28	12	4		12	12				6	1
Totals of Ontario .....	75	25	5	2	43	36	3	4	c8	15	1
Manitoba, Eastern .....	1				1	1					

\* Both jail and fine—La prison et l'amende.

Amount of fines—Montant des amendes, b, \$2; c, \$152.

## Criminal Statistics.

TABLEAU I.		OUTRAGES CONTRE LA PERSONNE.										CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- cants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	Laba- rers — Jour- naliers.	Married. — Mariés.	Wid- owed — En- veuve.	Single — Céli- bataires.
Two years and under five. — Deux ans et m <sup>ns</sup> de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>USAGE D'ARMES AVEC INTENTION.</b>														
1					1						1			
1					1						1			
								1		1				1
2	1				a2	1		3		2	3	1		2
2	1				2	1		3	1	3	4	1		3
1										1				1
1										1				1
1	3				a1		2	1		3	2			5
										1				1
1							5			1	5			
4	3				1		7	1		8	7			9
					a1			1		2	3			
						1				1				2
				1						4	1			4
2						3					3			
1							1							1
									1					1
					a1					1	1			1
					a2	2				1	3			
					a1					1	1			
										1	1			
	1									1	1			2
1						1				1				1
							1				1			
2										1				1
	2			1	a2	1	1	1		8	2			10
6	4			2	7	8	3	2	1	25	18			23
	1									1				1

a Sentence suspended—Sentence suspendue.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.	
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. INSTRUCTION.			AGES.						USE OF LIQUORS — USAGE DE LIQUEURS		
		Un- able to read or write.	Elen- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate		
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.				
		Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré
H.	F.				H.	F.	H.	F.	H.	F.			
<b>SHOOTING, STABBING AND WOUNDING WITH INTENT.</b>													
King's, I. du P.-E.													
Prince, I. du P.-E.			1						1				1
Totaux de l'Ile du P.-E.			1						1				1
Colchester, N.-E.		1			1								1
Guysborough, N.-E.			1						1				1
Lunenburg, N.-E.			1			1							1
Yarmouth, N.-E.		4	1		2	1			1	1			3
Totaux de la N.-Ecosse.		5	3		2	2		1	2	1			5
Restigouche, N.-B.													
Bedford, Qué.			1					1					1
Iberville, Qué.			1						1				1
Montréal Qué.		2	5					6	1				2
Ottawa, Qué.			1										1
Québec, Qué.										1			1
Richelieu, Qué.		1						1					1
St. François, Qué.			1								1		1
Trois-Rivières, Qué.		4	1					4		1			1
Totaux de Québec.		7	10					12	1	2			5
Bruce, Ont.													
Carleton, Ont.			3					3					2
Essex, Ont.			2					2					2
Frontenac, Ont.											1		
Grey, Ont.			5		1			3	1				5
Haldimand, Ont.		1	2							3			3
Halton, Ont.			1					1					1
Hastings, Ont.			1					1					1
Kent, Ont.			1					1					1
Lanark, Ont.			1					1					1
Middlesex, Ont.		2	1					1		2			3
Nipissing, Ont.			1							1			1
Northumberl'd et Durham, O.			1					1					1
Ontario, Ont.		1						1					1
Perth, Ont.		1	1		1	1							2
Renfrow, Ont.		1											1
Simcoe, Ont.			1							1			1
Storm't, D'das et Glengarry, O.			1							1			1
Welland, Ont.													
Wentworth, Ont.			1					1			1		1
York, Ont.			12		4			6	1	1			9
Totaux d'Ontario.		6	35		1	6		22	2	10		2	29
Manitoba, Est.			1					1					1

# Criminal Statistics.

TABLEAU I.										OUTRAGES CONTRE LA PERSONNE.										CLASSE I.	
BIRTH PLACES. — LIEUX DE NAISSANCE.						RELIGIONS.										RESI- DENCE.					
BRITISH ISLES. — ILES BRITANNIQUES.						United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autr's confessions.	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.				
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.																		
USAGE D'ARMES AVEC INTENTION.																					
			1						1							1					
			1						1							1					
			1					1							1	1					
			1							1						1					
			5										5			5					
			8					1		1	1		5		1	7					
			1										1			1					
			1							1					1						
			6		1				5	1	1				1						
			1						1						1						
			1						5				1			5					
			16		1				12	2	1		2		9	8					
			1						2				1		3						
1			1						2							2					
			5						3		2				2	3					
			3						1	2	1					3					
			1												1						
			1						1				1			1					
1			1							1					1	1					
1			2							1	2					3					
							1							1							
			1						1						1						
			1								1				1						
			2							1	1				1	1					
			1						1						1						
			1								1				1						
			1												1						
			1						1						1						
1			11						1	8	1	2			11	1					
4	1		33			3		1	12	13	10	2	2	1	25	16					
			1										1		1						

TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	SANS OPTION	
		—	—		—	—	—	—		—	Un- der one year. — Moins d'un an.
<b>SHOOTING, STABBING AND WOUNDING WITH INTENT—Concluded.</b>											
Clinton, B.C.	1				1	1			1		
Victoria, B.C.	3	1			2	2				1	
Westminster, B.C.	3	2			1	1				1	
Totals of British Columbia	7	3			4	4			1	2	
Alberta, Northern, N.W.T.	1	1									
Alberta, Southern, N.W.T.	63				2	2				1	
Totals of the N.W.T.	4	1			2	2				1	
Totals of Canada	123	38	6	2	76	60	8	8	10	3	
<b>SEDUCTION.</b>											
King's, P.E.I.	1	1									
Colchester, N.S.	1	1									
Cumberland, N.S.	1				1	1					
Halifax, N.S.	1	1									
Totals of Nova Scotia	3	2			1	1					
Bedford, Que.	1				1	1				1	
Elgin, Ont.	1	1									
Essex, Ont.	2	1			1	1					
Grey, Ont.	2	2									
Haldimand, Ont.	1	1									
Hastings, Ont.	2	2									
Kent, Ont.	3	2			1	1				1	
Leeds and Grenville, Ont.	1										
Middlesex, Ont.	1										
Muskoka and Parry Sound, Ont.	1										
Northumberland & Durham, O.	1	1									
Oxford, Ont.	1										
Perth, Ont.	1	1									
Peterborough, Ont.	1	1									
Simcoe, Ont.	1				1	1				1	
York, Ont.	4	4									
Totals of Ontario	24	16			3	3				1	
Alberta, Northern, N.W.T.	61										
Saskatchewan, N.W.T.	1	1									
Totals of Canada	31	20			5	5			2	1	
<b>DESERTING CHILD.</b>											
Joliette, Que.	1				1	1				1	

Amount of fines—Montant des amendes: a, \$30; d, \$184. b 1 *Nolle prosequi*. c Charges withdrawn, accused having married complainants—Plaintes retirées, les accusés ayant marié les plaignantes.



## Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE.										CLASSE I.				
SENTENCE.					OCCUPATIONS.						CIVIL CONDITIONS. — ÉTATS CIVILS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Ré- forme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- çants.	Domestic — — Servi- teurs.	Indus- trial. — — Indus- triels.	Profes- sional — — Profes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Mariés.	Wi- dowed — — En- veu- vage.	Single — — Céli- ba- taires.
Two years and under five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.												
<b>USAGE D'ARMES AVEC INTENTION—Fin.</b>														
1						1					1			1
							2				2			3
1											1			1
1											1			1
14	10			2	10	10	2	6	2		40	30	1	40
<b>SÉDUCTION.</b>														
1											1			1
1											1			1
											1			1
1											2			3
<b>DÉSERTION D'ENFANT.</b>														
														1

*a* Sentence suspended—Sentence suspendue.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS		
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- de- rate			
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.						
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- mo- déré	
H.				F.	H.	F.	H.	F.	H.	F.				
<b>SHOOTING, STABBING AND WOUNDING WITH INTENT—Concluded.</b>														
Clinton, Col.-B. ....		1							1		1			
Victoria, Col.-B. ....	2					2					2			
Westminster, Col.-B. ....		1							1			1		
Totaux de la Col.-Britann. ....	2	2				2			2		3	1		
Alberta, Nord, T. du N.-O. ....														
Alberta, Sud, T. du N.-O. ....		1				1			1		1			
Totaux des Ter. du N.-O. ....		1				1			1		1			
Totaux du Canada ....	20	53		1	2	8		39	3	15	1	7	44	28
<b>SEDUCTION.</b>														
King's, I. du P.-E. ....														
Colchester, N.-E. ....														
Cumberland, N.-E. ....		1				1					1			
Halifax, N.-E. ....														
Totaux de la N.-Ecosse. ....		1				1					1			
Bedford, Qué. ....		1				1						1		
Elgin, Ont. ....														
Essex, Ont. ....		1				1						1		
Grey, Ont. ....														
Haldimand, Ont. ....														
Hastings, Ont. ....														
Kent, Ont. ....									1					
Leeds et Grenville, Ont. ....														
Middlesex, Ont. ....														
Muskoka et Parry Sound, Ont. ....														
Northumberland et Durham, O. ....														
Oxford, Ont. ....														
Perth, Ont. ....														
Peterborough, Ont. ....											1			
Simcoe, Ont. ....														
York, Ont. ....														
Totaux d'Ontario ....		1				1			2			1		
Alberta, Nord, T. du N.-O. ....														
Saskatchewan, T. du N.-O. ....														
Totaux du Canada ....		3				3			2		1	2		
<b>DESERTING CHILD.</b>														
Joliette, Qué. ....	1					1						1		

## Criminal Statistics.

TABLEAU I.                      OUTRAGES CONTRE LA PERSONNE.                      CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Metho- dists — Métho- dis- tes.	Pres- byte- rians. — Pres- byté- riens.	Protes- tants — Autr's con- fessions.	Other Deno- mina- tions. — Autr's con- fessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>USAGE D'ARMES AVEC INTENTION—Fin.</b>															
.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	1	.....	.....	2	.....	.....	.....	1	.....	1	.....	1
.....	.....	.....	.....	1	2	.....	2	.....	.....	.....	1	.....	2	.....	2
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1
4	1	.....	59	2	6	.....	2	27	16	12	3	10	2	38	35
<b>SÉDUCTION.</b>															
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	3	.....	.....	.....	1	.....	1	.....	1	.....	2	1
<b>DÉSERTION D'ENFANT.</b>															
.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1

TABLE I.		OFFENCES AGAINST THE PERSON.						CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
								With the option of a fine. — Sur option entre la pri- son ou l'a- m <sup>nde</sup>	SANS OPTION.	
DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.	—	—	—	—	—	—	
		M.	F.		Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- ves.	—	Under one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>DESERTING CHILD—Concluded—</b>										
Frontenac, Ont.....	1			1	1					1
Wentworth, Ont.....	3	1		2	2			2		
York, Ont.....	4	1		3	3					
Totals of Ontario.....	8	2		6	6			2		1
Totals of Canada.....	9	2		7	7			3		1
<b>CONCEALING BIRTH OF INFANT.</b>										
Cape Breton, N.S.....	1			1	1				1	
Halifax, N.S.....	1	1								
Totals of Nova Scotia.....	2	1		1	1			1		
Montreal, Que.....	1			1	1					1
Ottawa, Que.....	1	1								
Totals of Quebec.....	2	1		1	1					1
Hastings, Ont.....	1			1	1					
Leeds and Grenville, Ont.....	1			1	1					
Totals of Ontario.....	2			2	2					
Assiniboia, Eastern, N.W.T.....	1	1								
Totals of Canada.....	7	3		4	4			1		1
<b>ABDUCTION.</b>										
Montreal, Que.....	1			1	1			a1		
Carleton, Ont.....	1	1								
Elgin, Ont.....	1	1								
Grey, Ont.....	2	1		1	1					
Peterborough, Ont.....	b1									
Thunder Bay, Ont.....	1			1	1				1	
York, Ont.....	1			1	1				1	
Totals of Ontario.....	7	3		3	3				2	
Alberta, Northern, N.W.T.....	2	1		1	1					
Assiniboia, Eastern, N.W.T.....	1	1								
Totals of Canada.....	11	5		5	5			a1	2	
<b>ENDANGERING SAFETY OF PASSENGERS ON RAILWAYS.</b>										
Quebec, Que.....	1			1	1				1	

Amount of fines—Montant des amendes : a, \$25.

b Nolle prosequi.

## Criminal Statistics.

TABLEAU I.                      OUTRAGES CONTRE LA PERSONNE.                      CLASSE I.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort.	Com- mit- ted to Refor- matories — En- voyés à la prison de Réforme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Servi- teurs.	Industrial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Ma- riés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>DÉSERTION D'ENFANT—Fin.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	2	a1	.....	.....	3	.....	.....	.....	2	.....	1
.....	.....	.....	.....	2	1	.....	.....	6	.....	.....	.....	2	.....	4
.....	.....	.....	.....	2	1	.....	.....	6	.....	.....	.....	2	.....	5
<b>SUPPRESSION D'ENFANT.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	1	a1	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	1	1	.....	.....	2	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	1	1	.....	.....	3	.....	.....	.....	.....	.....	4
<b>ENLÈVEMENT.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	1	.....	.....	1
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	1	3	.....	2
.....	.....	.....	.....	.....	a1	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	2	2	1	.....	.....	.....	1	3	.....	2
<b>EXPOSANT AU PÉRIL LES PASSAGERS SUR LES CHEMINS DE FER.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1

a Sentence suspended—Sentence suspendue.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.						USE OF LIQUORS. — USAGE DE LIQUEURS			
		Un- able to read or write.	Ele- men- tary.	Super- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate			
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
		Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.	F.				H.	F.	H.	F.	H.	F.				
<b>DESERTING CHILD—Concluded.</b>														
Frontenac, Ont. ....		1						1					1	
Wentworth, Ont. ....			2				1	1					2	
York, Ont. ....			3					3					3	
Totaux d'Ontario. ....		1	5			1		5					6	
Totaux du Canada. ....		2	5			2		5					7	
<b>CONCEALING BIRTH OF INFANT.</b>														
Cap-Breton, N.-E. ....			1					1					1	
Halifax, N.-E. ....														
Totaux de la N.-Ecosse. ....			1					1					1	
Montréal, Qué. ....			1		1								1	
Ottawa, Qué. ....														
Totaux de Québec. ....			1		1								1	
Hastings, Ont. ....		1				1							1	
Leeds et Grenville, Ont. ....			1					1					1	
Totaux d'Ontario. ....		1	1			1		1					2	
Assiniboia, Est, T. du N.-O. ....														
Totaux du Canada. ....		1	3		1	1		2					4	
<b>ABDUCTION.</b>														
Montréal, Qué. ....			1				1						1	
Carleton, Ont. ....														
Elgin, Ont. ....									1				1	
Grey, Ont. ....			1										1	
Peterborough, Ont. ....							1						1	
Thunder Bay, Ont. ....			1							1			1	
York, Ont. ....			1								1		1	
Totaux d'Ontario. ....			3				1		1	1			3	
Alberta, Nord, T. du N.-O. ....		1				1							1	
Assiniboia, Est, T. du N.-O. ....														
Totaux du Canada. ....		1	4			1		2		1	1		5	
<b>ENDANGERING SAFETY OF PASSENGERS ON RAILWAYS.</b>														
Québec, Qué. ....		1						1					1	

## Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE.										CLASSE I.					
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Ca- nada.	Uni- ted States — Etats- Unis.	Other Fo- reign Coun- tries. — Aut- res pays étran- gers.	Other Brit- ish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Cath- olics. — Cath- oliques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Meth- odists — Méth- odistes.	Pres- byte- rians. — Pres- byté- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Deno- mina- tions. — Autr's con- fes- sions.	Cites and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>DÉSERTION D'ENFANT—Fin.</b>															
.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	1	.....	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	3	.....	.....	.....	1	1	.....	1	.....	.....	.....	3	.....
.....	.....	.....	6	.....	.....	.....	2	1	1	.....	1	1	.....	6	.....
.....	.....	.....	7	.....	.....	.....	2	2	1	.....	1	1	.....	6	1
<b>SUPPRESSION D'ENFANT.</b>															
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	1
.....	.....	.....	4	.....	.....	.....	.....	3	1	.....	.....	.....	.....	2	2
<b>ENLÈVEMENT.</b>															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	3	.....	.....	.....	.....	2	.....	.....	1	.....	.....	2	1
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1
.....	.....	.....	4	.....	1	.....	.....	1	2	.....	1	1	.....	3	2
<b>EXPOSANT AU PÉRIL LES PASSAGERS SUR LES CHEMINS DE FER.</b>															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....

TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.				
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.					
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		SANS OPTION.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION. — Un- der one year — Moins d'un an.	One year and over. — Un an et plus.	Un- der one year — Moins d'un an.	One year and over. — Un an et plus.
<b>ENDANGERING SAFETY OF PASSENGERS ON RAILWAYS—Concluded.</b>													
Bruce, Ont. ....	1	1			1	1							
Essex, Ont. ....	1				1	1							
Halton, Ont. ....	2				2	2							
Oxford, Ont. ....	1				1	1							
Simcoe, Ont. ....	1				1	1							
Welland, Ont. ....	1				1	1							
Wellington, Ont. ....	7				7	7							
Totals of Ontario. ....	14	1			13	13							
Totals of Canada. ....	15	1			14	14			1				
<b>ABORTION AND ATTEMPT TO PROCURE ABORTION.</b>													
Ottawa, Que. ....	1	1											
Grey, Ont. ....	1	1											
Ontario, Ont. ....	1	1											
Oxford, Ont. ....	2	2											
Perth, Ont. ....	1				1	1							
Peterborough, Ont. ....	3	2			1	1				1			
Prince Edward, Ont. ....	1				1	1				1			
Simcoe, Ont. ....	1				1	1				1			
York, Ont. ....	4	3	1										
Totals of Ontario. ....	14	9	1		4	4				3			
Victoria, B.C. ....	2				2	2			2				
Totals of Canada. ....	17	10	1		6	6			2	3			
<b>BIGAMY.</b>													
King's, N.B. ....	1				1	1			1				
Bedford, Que. ....	1				1	1			1				
Montreal, Que. ....	1				1	1							
Totals of Quebec. ....	2				2	2			1				
Frontenac, Ont. ....	2	1			1	1			1				
Hastings, Ont. ....	2	1			1	1							
Oxford, Ont. ....	2		1		1	1			1				
Peterborough, Ont. ....	1	1											
York, Ont. ....	4				4	4				1			
Totals of Ontario. ....	11	3	1		7	7			2	1			
Westminster, B.C. ....	1				1	1			1				
Totals of Canada. ....	15	3	1		11	11			5	1			



## Criminal Statistics.

TABLEAU I.						OUTRAGES CONTRE LA PERSONNE.						CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.		D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	ÉTATS CIVILS.									
Two years and un- der five.	Five years and over.				Life.	—	—	Agricultural.	Com- mer- cial.	Do- mestic	In- dus- trial.	Pro- fes- sional	La- borers	Mar- ried.
D'ux ans et m'ns de cinq	Cinq ans et plus.	À vie	—	—	Agriculteurs.	Com- mer- çants.	Servi- teurs.	In- dus- triels.	Pro- fes- sions libé- rales.	Jour- na- liers.	Mariés.	En- veu- vage.	Céli- ba- taires.	
<b>EXPOSANT AU PÉRIL LES PASSAGERS SUR LES CHEMINS DE FER—Fin.</b>														
				a1						1			1	
				a2				2					2	
				a1									1	
				a1	1					1			1	
				a6		1		1		1	1		6	
					1			3		3	1		12	
					1			3		4	1		13	
<b>AVORTEMENT ET TENTATIVE D'AVORTEMENT.</b>														
										1				
										1	1		1	
										1			1	
										2	2	2	2	
								1	1				1	
								1	1	2	2	3	3	
<b>BIGAMIE.</b>														
											1	1		
								1			1	1		
								1			1	2		
								1				1		
										1	1			
										1	1			
										2	4			
										1	1			
										3	7			
												1		
										5	11			

a Sentence suspended—Sentence suspendue.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.			
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQURS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate				
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- modéré
H.				F.	H.	F.	H.	F.	H.	F.					
<b>ENDANGERING SAFETY OF PASSENGERS ON RAILWAYS—Concluded.</b>															
Bruce, Ont. ....															
Essex, Ont. ....		1				1								1	
Halton, Ont. ....		2				2								2	
Oxford, Ont. ....		1				1								1	
Simcoe, Ont. ....		1				1								1	
Welland, Ont. ....		1				1								1	
Wellington, Ont. ....		7		4		3								6	1
Totaux d'Ontario .....		13		4		6			3					12	1
Totaux du Canada .....	1	13		4		6			4					13	1
<b>ABORTION AND ATTEMPT TO PROCURE ABORTION.</b>															
Ottawa, Qué. ....															
Grey, Ont. ....															
Ontario, Ont. ....															
Oxford, Ont. ....															
Perth, Ont. ....			1					1						1	
Peterborough, Ont. ....		1				1								1	1
Prince-Edouard, Ont. ....		1				1								1	
Simcoe, Ont. ....		1						1						1	
York, Ont. ....															
Totaux d'Ontario .....		3	1			1		1		2				2	2
Victoria, Col.-B. ....		2						1	1					2	
Totaux du Canada .....		5	1			1		2	1	2				4	2
<b>BIGAMY.</b>															
King's, N.-B. ....		1						1							1
Bedford, Qué. ....		1								1					1
Montréal, Qué. ....		1								1					1
Totaux de Québec .....		2								2					2
Frontenac, Ont. ....		1								1					1
Hastings, Ont. ....		1								1					1
Oxford, Ont. ....		1						1							1
Peterborough, Ont. ....															
York, Ont. ....		4						2	1	1					4
Totaux d'Ontario .....		7						3	1	3					7
Westminster, Col.-B. ....		1											1		
Totaux du Canada .....		11						4	1	5			1		7 3

# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Metho- dist- s. — Métho- distes.	Pres- byte- ri- ans. — Pres- bytériens.	Protes- tants — Autr's con- fes- sions.	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>EXPOSANT AU PÉRIL LES PASSAGERS SUR LES CHEMINS DE FER—Fin.</b>															
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
1	.....	.....	1	.....	.....	.....	1	.....	.....	1	.....	.....	2	.....	
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	1	.....	6	.....	.....	.....	.....	2	.....	4	1	.....	4	3	
1	1	.....	11	.....	.....	.....	2	3	2	5	1	.....	7	6	
1	1	.....	12	.....	.....	.....	3	3	2	5	1	.....	8	6	
<b>AVORTEMENT ET TENTATIVE D'AVORTEMENT.</b>															
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	.....	.....	4	.....	.....	.....	1	.....	1	1	1	.....	2	2	
1	.....	.....	1	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	
1	.....	.....	5	.....	.....	.....	1	2	1	1	1	.....	4	2	
<b>BIGAMIE.</b>															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	1	.....	1	.....	.....	.....	.....	2	.....	.....	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	4	.....	
.....	1	.....	2	1	.....	.....	1	1	1	1	.....	.....	4	.....	
.....	1	.....	5	1	.....	.....	1	1	1	2	1	1	4	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	
.....	2	.....	7	1	.....	.....	1	4	1	2	1	1	6	5	

TABLE I. OFFENCES AGAINST THE PERSON. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION.	
										SANS OPTION	Un- der one year. — Moins d'un an.
<b>REFUSING TO PROVIDE FOR FAMILY.</b>											
Cumberland, N.S.	1				1	1				1	
Halifax, N.S.	1	1									
Totals of Nova Scotia	2	1			1	1				1	
Charlotte, N.B.	1				1	1					
Iberville, Que.	1	1									
Ottawa, Que.	2	1			1	1					
St. Hyacinthe, Que.	1				1	1				1	
Totals of Quebec	4	2			2	2				1	
Algoma and Manitoulin, Ont.	1	1									
Brant, Ont.	5	1			4	2		2			
Elgin, Ont.	2	2									
Essex, Ont.	3	2			1	1					
Grey, Ont.	1	1									
Halton, Ont.	1				1	1					
Middlesex, Ont.	3				3	3					
Oxford, Ont.	2				2	2					
Peterborough, Ont.	2	1									
Simcoe, Ont.	1	1									
Victoria, Ont.	1				1	1				1	
Wentworth, Ont.	10	7			3	3					
York, Ont.	51	41	1		9	9				5	
Totals of Ontario	83	57	1		24	22		2		5	
Manitoba, Eastern	2	1			1	1					
Westminster, B.C.	2	1			1	1					
Assiniboia, Western, N.W.T.	2	1			1	1				1	
Totals of Canada	96	63	1		31	29		2		8	
<b>LIBEL.</b>											
Digby, N.S.	1		1								
Montreal, Que.	1										
Wentworth, Ont.	3	2	1								
Manitoba, Eastern	2	2									
Assiniboia, Eastern, N.W.T.	1										
Yukon	1	1									
Totals of Canada	11	5	2								
<b>INDECENT ASSAULT.</b>											
Prince, P.E.I.	2				2	2					

Nolle prosequi, a 1, b 3.



TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.	
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate		
				M. F.	M. F.	M. F.	M. F.	M. F.	M. F.			M. F.	
Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	
<b>REFUSING TO PROVIDE FOR FAMILY.</b>													
Cumberland, N.-E.	1						1					1	
Halifax, N.-E.													
Totaux de la N.-Ecosse	1						1					1	
Charlotte, N.-B.							1						
Iberville, Qué.													
Ottawa, Qué.	1								1			1	
St. Hyacinthe, Qué.									1				
Totaux de Québec	1								2			1	
Algoma et Manitoulin, Ont.													
Brant, Ont.	4								4			3 1	
Elgin, Ont.													
Essex, Ont.	1					1						1	
Grey, Ont.													
Halton, Ont.	1					1						1	
Middlesex, Ont.	3					2			1			1 2	
Oxford, Ont.	2								2			2	
Peterborough, Ont.													
Simcoe, Ont.													
Victoria, Ont.	1					1						1	
Wentworth, Ont.	3					3						3 5	
York, Ont.	9					7			2			4 5	
Totaux d'Ontario	24					15	2	10				12 12	
Manitoba, Est.	1								1			1	
Westminster, Col.-B.	1									1			
Assiniboia, Ouest, T. du N.-O.										1			
Totaux du Canada	28					15	2	10		4		14 13	
<b>LIBEL.</b>													
Digby, N.-E.													
Montréal, Qué.													
Wentworth, Ont.													
Manitoba, Ouest.													
Assiniboia, Est, T. du N.-O.													
Yukon													
Totaux du Canada													
<b>INDECENT ASSAULT.</b>													
Prince, I. du P.-E.	2			1				1				1 1	



TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS.			SENTENCE.				
				CONDAMNATIONS.			COMMITTED TO JAIL				
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	With the option of a fine.	NO OPTION.		
DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.	—	—	—	—	—	—	—	
		M.	F.		Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 rédi- ves.	Sur option entre la pri- son ou l'a- m <sup>nde</sup>	Un- der one year.	One year and over.	SANS OPTION. — Un an et plus.
<b>INDECENT ASSAULT—Continued.</b>											
Annapolis, N.S.	1				1	1					
Colchester, N.S.	1				1	1					1
Guysborough, N.S.	1										
Halifax, N.S.	1	1									
Queen's, N.S.	1	1									
Yarmouth, N.S.	2	2									
Totals of Nova Scotia.....	7	4			2	2					1
Albert, N.B.	1				1	1					
Northumberland, N.B.	1				1	1					1
Restigouche, N.B.	1				1	1					
St. John, N.B.	1				1		1				1
Westmoreland, N.B.	1	1									
York, N.B.	1	1									
Totals of New Brunswick..	6	2			4	3		1			2
Beauharnois, Que.	2	2									
Iberville, Que.	2	2									
Montreal, Que.	6	1			5	3	1	1	3	2	
Ottawa, Que.	1				1	1					1
Richelieu, Que.	3				3	3					3
Saguenay, Que.	1				1	1					1
St. Francis, Que.	2	1			1	1					
St. Hyacinthe, Que.	1				1	1					
Totals of Quebec.....	18	6			12	10	1	1	3	6	1
Algoma and Manitoulin, Ont.	1				1	1					1
Brant, Ont.	1				1			1			1
Carleton, Ont.	2	1			1			1			1
Essex, Ont.	2		1		1	1			1		
Frontenac, Ont.	1				1	1					
Grey, Ont.	1				1	1					1
Hastings, Ont.	3				3	3				3	
Kent, Ont.	3				2	2				2	
Leeds and Grenville, Ont.	1				1		1				1
Lincoln, Ont.	1				1	1					1
Middlesex, Ont.	3				3	3					1
Northumberland & Durham, O.	4	1			3	3				1	1
Perth, Ont.	1				1	1			1		
Peterborough, Ont.	1				1	1					1
Renfrew, Ont.	2	1			1	1					1
Simcoe, Ont.	1				1	1					1
Stormont, D'das & Glengarry, O.	1	1									
Victoria, Ont.	3	2			1	1					1
Welland, Ont.	1				1	1					1
Wellington, Ont.	2				2	2		1			1
Wentworth, Ont.	2				2	2					1
York, Ont.	6	3			3	3					3
Totals of Ontario.....	43	9		1	32	29	1	2	3	20	3

a 1 left the country, bail forfeited—Un a laissé le pays, cautionnement confisqué. b One to receive 12 lashes—Un 12 coups de fouet.  
 Amount of fines—Montant des amendes: d, \$10; e, \$20. c One, in consideration of his being confined in jail 7 months he was sen-  
 tenced to one hour in cells—Un, vu qu'il a été détenu 7 mois en prison, il a reçu une sentence de une heure de cellules.





TABLE I.		OFFENCES AGAINST THE PERSON.												CLASS I.	
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Mo- ins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>INDECENT ASSAULT—Continued.</b>															
Annapolis, N.-E.		1			1									1	
Colchester, N.-E.		1						1							1
Guysborough, N.-E.															
Halifax, N.-E.															
Queen's, N.-E.															
Yarmouth, N.-E.															
Totaux de la N.-Ecosse.		2			1		1							1	1
Albert, N.-B.		1			1									1	
Northumberland, N.-B.		1							1					1	
Restigouche, N.-B.		1						1						1	
St. Jean, N.-B.		1						1							1
Westmoreland, N.-B.															
York, N.-B.															
Totaux du N.-Brunswick.		4			1		2		1					3	1
Beauharnois, Qué.															
Iberville, Qué.															
Montréal, Qué.	1	4					5						2	3	
Ottawa, Qué.	1										1			1	
Richelieu, Qué.	3				2		1							3	
Saguenay, Qué.		1							1					1	
St. François, Qué.	1			1									1		
St. Hyacinthe, Qué.		1						1					1		
Totaux de Québec.	6	6		1	2		7		1		1		4	8	
Algoma et Manitoulin, Ont.		1						1							1
Brant, Ont.	1								1						1
Carleton, Ont.		1						1							1
Essex, Ont.		1			1								1		
Frontenac, Ont.		1						1							1
Grey, Ont.		1			1								1		
Hastings, Ont.	1	2			1			1		1			3		
Kent, Ont.		1						1				1		1	
Leeds et Grenville, Ont.		1						1						1	
Lincoln, Ont.		1						1					1		
Middlesex, Ont.	1	2			2				1				3		
Northumberl'd et Durham, O.		3			2			1					3		
Perth, Ont.		1			1								1		
Peterborough, Ont.		1							1				1		
Renfrew, Ont.	1							1						1	
Simcoe, Ont.	1				1								1		
Storm't, D'das et Gleng'ry, O.															
Victoria, Ont.	1							1						1	
Welland, Ont.		1						1					1		
Wellington, Ont.		2							1		1		2		
Wentworth, Ont.		2		1				1					1	1	
York, Ont.		3			1			2					3		
Totaux d'Ontario.	6	25		1	10		14		5		2		22	9	



TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. CONDAMNATIONS.			SENTENCE.				
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.			
								With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION.		
DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.		Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- vés.	Un- der one year. — Moins d'un an.	One year and over — Un an et plus.		
		M.	F.								
<b>INDECENT ASSAULT—Concluded.</b>											
Manitoba, Central.....	1				1		1			a1	
Manitoba, Eastern.....	1	1									
Manitoba, Western.....	1				1	1			1		
Totals of Manitoba.....	3	1			2	1	1		1	1	
Clinton, B.C.....	1				1	1					
Alberta, Southern, N.W.T.....	2	2									
Assiniboia, Western, N.W.T.....	2	2									
Saskatchewan, N.W.T.....	1	1									
Totals of Canada.....	85	27		1	55	48	3	4	e6	30	
<b>ASSAULT ON FEMALES.</b>											
Prince, P.E.I.....	1				1	1				1	
Queen's, P.E.I.....	1	1									
Montreal, Que.....	21	1			20	19	1		15	2	
Three Rivers, Que.....	3	2			1	1				1	
Totals of Quebec.....	24	3			21	20	1		b15	3	
Grey, Ont.....	1				1	1					
Hastings, Ont.....	3				3	1	2		1	1	
Perth, Ont.....	1				1	1			1		
Prescott and Russell, Ont.....	1				1	1			1		
Simcoe, Ont.....	2				2	1		1	2		
York, Ont.....	2				2	2					
Totals of Ontario.....	10				10	7	2	1	c5	1	
Victoria, B.C.....	1				1	1					
Westminster, B.C.....	1				1	1				1	
Totals of British Columbia.....	2				2	2				1	
Alberta, Northern, N.W.T.....	1				1	1				1	
Assiniboia, Eastern, N.W.T.....	1				1	1				1	
Yukon.....	2				2	2			f2		
Totals of Canada.....	42	4			38	34	3	1	g22	7	
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM.</b>											
Queen's, P.E.I.....	3	2			1	1				1	
Halifax, N.S.....	4				4	4			2		
Yarmouth, N.S.....	2				2	2				2	
Totals of Nova Scotia.....	6				6	6			d2	2	

a And 12 lashes—Et 13 coups de fouet. Amount of fines—Montant des amendes: b, \$150; c, \$37; d, \$68; e, \$30; f, \$60; g, \$247.



TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.			
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate					
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- de- ré	Im- mo- de- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>INDECENT ASSAULT—Concluded.</b>															
Manitoba, Centre.....	1				1									1	
Manitoba, Est.....															1
Manitoba, Ouest.....		1			1										1
Totaux de Manitoba.....	1	1			2										2
Clinton, Col.-B.....													1		
Alberta, Sud, T. du N.-O....															
Assiniboia, Ouest, T. du N.-O.															
Saskatchewan, T. du N.-O....															
Totaux du Canada.....	13	40			3	16		25		7			4	33	20
<b>ASSAULT ON FEMALES.</b>															
Prince, I. du P.-E.....			1					1							1
Queen's, I. du P.-E.....															
Montréal, Qué.....	7	13						14		6					20
Trois-Rivières, Qué.....		1						1							1
Totaux de Québec.....	7	14						15		6					21
Grey, Ont.....	1							1							1
Hastings, Ont.....	1	2						2		1					2
Perth, Ont.....		1						1							1
Prescott et Russell, Ont.....			1		1										1
Simcoe, Ont.....	1	1				1		1							1
York, Ont.....		2			1			1							2
Totaux d'Ontario.....	3	6	1		2	1	6		1					7	3
Victoria, Col.-B.....					1										1
Westminster, Col.-B.....													1		
Totaux de la Col.-Britann.....					1								1		1
Alberta, Nord, T. du N.-O....													1		
Assiniboia, Est, T. du N.-O....													1		
Yukon.....													2		
Totaux du Canada.....	10	21	1		3	1	22		7				5	8	25
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM.</b>															
Queen's, I. du P.-E.....		1						1							1
Halifax, N.-E.....	1	3			2			1		1					4
Yarmouth, N.-E.....		2				1		1							1
Totaux de la N.-Ecosse.....	1	5			2	1		2		1				5	1



TABLE I.		OFFENCES AGAINST THE PERSON.						CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.	De- tained for Lur- nacy.  Dé- tenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
				Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 récidi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
								With the option of a fine. — Sur option entre la pri- son ou l'a- me'de	No OPTION. — SANSOPTION	
									Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM—Continued.</b>										
Carleton, N.B.	3			3	1		2		2	
St. John, N.B.	1			1	1			1		
York, N.B.	3			3	3			1	2	
Totals of New Brunswick.	7			7	5		2	2	4	
Arthabaska, Que	2			2	2				1	
Iberville, Que.	1			1	1					
Joliette, Que.	1	1								
Montreal, Que.	43	1		42	41	1		27	11	
Ottawa, Que.	2			2	2				2	
Quebec, Que.	3			3	3			3		
Rimouski, Que.	4	4								
St. Francis, Que.	8			8	7	1		3	5	
Totals of Quebec.	64	6		58	56	2		33	19	
Algoma and Manitoulin, Ont.	3			3	3				1	
Brant, Ont	2	2								
Carleton, Ont.	1	1								
Elgin, Ont.	5	1		4	4			2		
Essex, Ont	3			3	3			3		
Grey, Ont.	1			1	1				1	
Haldimand, Ont.	2	1		1	1			1		
Hastings, Ont.	4			4	4			3	1	
Huron, Ont.	5	1		4	2	2		4		
Kent, Ont.	3			3	3				3	
Lambton, Ont.	2	2								
Lanark, Ont.	3	1		2	2			1		
Leeds and Grenville, Ont.	4			4	2		2	1	3	
Lennox and Addington, Ont.	1			1		1			1	
Lincoln, Ont	2			2	1	1			1	
Middlesex, Ont.	11		1	10	10			3	5	
Muskoka and Parry Sound, Ont	1	1								
Nipissing, Ont	1			1	1				1	
Norfolk, Ont.	3	2		1	1					
Northumberland & Durham, O.	3	3								
Ontario, Ont.	1			1		1			1	
Oxford, Ont.	21									
Perth, Ont.	2	2								
Renfrew, Ont.	1			1	1				1	
Simcoe, Ont.	1			1			1			
Stormont, D'das & Glengarry, O.	2			2	2				1	
Thunder Bay, Ont.	4	3		1		1			1	
Victoria, Ont.	1			1	1				1	
Waterloo, Ont.	1			1					1	
Welland, Ont.	7			7	5	2		2	4	
Wellington, Ont.	2			2	2			2		
Wentworth, Ont.	37	11		26	26			15	10	
York, Ont.	110	47	5	58	57	1		15	37	
Totals of Ontario.	230	78	6	145	133	9	3	52	65	

a Jury disagreed—Les jurés ne se sont pas accordés.  
b, \$125; c, \$493; d, 1,359.

Amount of fines—Montant des amendes,



# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. — ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- çants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Married. — Mariés.	Wid- owed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five.	Five years and over.	Life.												
<b>VOIES DE FAIT GRAVES ET LÉSIONS CORPORELLES—Suite.</b>														
1						2				1	1		2	
						1				2			1	3
1						3				1	2	1		6
1					b1	1				1	2			1
2					a2	1	7		13	15	23			19
						2					2			1
						2	1				2			1
						1				7	3			5
3					3	7	8		13	24	32			26
				1										3
					a1, b1		2			2	1			3
							3				2			1
						1				1				1
						2	1			1	2			2
						2				1	3			4
					a1		1		1		1			1
						1				2	1			2
					a1	1				1	1			1
					a1	1		1	2	5	2			7
					a1					1	1			1
						1				1				1
1						1					1			1
									1	1	2			1
										1				1
										1				1
						3			2	2				7
						1				1	1			1
					a1	1	2		6	13	13			12
					a5		3		4	46	14			44
2				1	12	19	12	1	17		81	46		96

α Sentence suspended—Sentence suspendue.

b Bound to keep the peace—Tenus de garder la paix.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.			
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Super- ior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.			Mo- de- rate	Im- mo- de- rate			
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM—Continued.</b>															
Carleton, N.-B.		3			1		1		1				2	1	
St. Jean, N.-B.		1						1						1	
York, N.-B.		3			2		1						3		
Totaux du N.-Brunswick.		7			3		2		2				5	2	
Arthabaska, Qué.		2					1		1				2		
Iberville, Qué.	1				1									1	
Joliette, Qué.															
Montréal, Qué.	9	33			3		29	3	7				6	36	
Ottawa, Qué.	2						2						2		
Québec, Qué.		3			1		1		1				3		
Rimouski, Qué.															
St. François, Qué.		8					7		1				3	5	
Totaux de Québec.	12	46			5		40	3	10				16	42	
Algoma et Manitoulin, Ont.		3		1			2						1	2	
Brant, Ont.															
Carleton, Ont.															
Elgin, Ont.		4			1		2		1				4		
Essex, Ont.		3					2		1				1	2	
Grey, Ont.		1					1						1		
Haldimand, Ont.		1							1				1		
Hastings, Ont.		4					3		1				3	1	
Huron, Ont.		4			2		2		1				4		
Kent, Ont.	1	2					3						2	1	
Lambton, Ont.															
Lanark, Ont.		2					2						2		
Leeds et Grenville, Ont.		3					2		1		1			3	
Lennox et Addington, Ont.		1							1				1		
Lincoln, Ont.		2					1	1						2	
Middlesex, Ont.		10			1		5		3		1		5	5	
Muskoka et Parry Sound, Ont.															
Nipissing, Ont.		1			1								1		
Norfolk, Ont.		1			1								1		
Northumberland et Durham, O.															
Ontario, Ont.		1							1					1	
Oxford, Ont.															
Perth, Ont.															
Renfrew, Ont.	1								1				1		
Simcoe, Ont.			1											1	
Storm't, D'das et Glengarry, O.		2							2					2	
Thunder Bay, Ont.	1						1						1		
Victoria, Ont.		1							1					1	
Waterloo, Ont.		1			1									1	
Welland, Ont.	1	4	2		1		6						2	5	
Wellington, Ont.		2			1				1				2		
Wentworth, Ont.		25		1	3		16	1	4		1		15	10	
York, Ont.	1	57		1	19		28	3	6	1			42	16	
Totaux d'Ontario.	5	135	3	3	31		76	5	26	1	3		89	54	

# Criminal Statistics.

TABLEAU I.      OUTRAGES CONTRE LA PERSONNE.      CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle-terre.	Metho- dists — Métho- distes.	Pres- byte- rians. — Pres- byté- riens.	Protes- tants — Autr's con- fessions.	Other Deno- mina- tions. — Autr's con- fessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
.....	.....	.....	3	.....	.....	.....	2	.....	1	.....	.....	.....	.....	1	2
2	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	3
2	.....	.....	5	.....	.....	.....	2	.....	4	.....	.....	.....	.....	2	5
.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
4	.....	1	33	3	1	.....	.....	31	5	1	3	2	.....	36	6
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	2
.....	.....	.....	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	1	2
.....	.....	.....	7	.....	1	.....	.....	6	.....	.....	.....	.....	.....	4	4
4	.....	1	48	3	2	.....	.....	45	5	1	3	4	.....	41	17
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3
.....	.....	.....	3	.....	.....	.....	.....	1	.....	1	2	.....	.....	2	2
1	.....	.....	2	1	.....	.....	1	1	.....	1	.....	.....	.....	3	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	3
.....	1	.....	3	.....	.....	.....	.....	4	.....	2	.....	1	.....	1	4
.....	.....	.....	4	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	1	2
.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2	.....
.....	.....	.....	3	.....	.....	.....	.....	1	1	1	.....	.....	.....	2	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	1
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	8	1	.....	.....	.....	2	2	2	.....	3	.....	7	2
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	1	.....	.....	2	.....	.....	.....	.....	.....	2	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1
.....	.....	.....	3	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	3	4	.....	.....	.....	1	.....	.....	3	.....	.....	5	2
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
6	.....	.....	16	.....	.....	.....	.....	8	9	3	5	.....	.....	23	2
4	7	2	46	1	.....	.....	3	24	25	1	3	.....	.....	58	.....
11	9	2	110	8	2	.....	5	51	43	16	18	6	3	113	29

VOIES DE FAIT GRAVES ET LÉSIONS CORPORELLES—*Suite.*

TABLE I. OFFENCES AGAINST THE PERSON. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.				
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		— SANS OPTION.	
									With the option of a fine. — Sur option entre la pri- son ou l'am- nde	No OPTION.	Under one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM—Concluded.</b>												
Manitoba, Central .....	1	1										
Manitoba, Eastern .....	2	2										
Cariboo, B.C. ....	1				1	1				1		
Victoria, B.C. ....	12				12	11	1		2	a8		
Westminster, B.C. ....	6	2			4	4		1	2			
Totals of British Columbia.	19	2			17	16	1	b3	10	1		
Alberta, North and S., N.W.T.	2	2										
Assiniboia, Eastern, N.W.T. ....	3	1			2	2		1	1			
Saskatchewan, N.W.T. ....	1				1	1			1			
Yukon .....	1				1	1		1				
Totals of the N.W.T. ....	7	3			4	4		c2	2			
Totals of Canada .....	330	94	6		238	221	12	d94	103	14		
<b>ASSAULT AND OBSTRUCTING PEACE OFFICER.</b>												
Queen's, P.E.I. ....	3				3	3			e1	2		
Annapolis, N.S. ....	1				1	1		1				
Antigonish, N.S. ....	1				1	1		1				
Cape Breton, N.S. ....	1				1	1		1				
Digby, N.S. ....	1				1	1			1			
Halifax, N.S. ....	45				45	6	39	43	2			
King's, N.S. ....	3	3										
Pictou, N.S. ....	1				1	1		1				
Queen's, N.S. ....	1				1	1		1				
Yarmouth, N.S. ....	1				1	1		1				
Totals of Nova Scotia. ....	55	3			52	13	39	f49	3			
Charlotte, N.B. ....	1	1										
Northumberland, N.B. ....	4				4	4		1	1			
St. John, N.B. ....	8				8		8	8				
Totals of New Brunswick. ....	13	1			12	4	8	g9	1			
Bedford, Que. ....	1				1		1					
Gaspé, Que. ....	1				1	1			1			
Montreal, Que. ....	126	7			119	116		3	101	1		
Ottawa, Que. ....	9				9	9			8	1		
Quebec, Que. ....	51				51	15	35	1	51			
St. Francis, Que. ....	1				1	1						
Three Rivers, Que. ....	3				3	2		1	3			
Totals of Quebec. ....	192	7			185	144	36	5	h160	6		
Algoma and Manitoulin, Ont. ....	1				1		1		1			
Brant, Ont. ....	1	1										

a 5, both jail and fine—5, la prison et l'amende. Amount of fines—Montant des amendes: b, \$45; c, \$90; d, \$2,180 e, \$2; f, \$371; g, \$120; h, \$788.

## Criminal Statistics.

TABLEAU I.						OUTRAGES CONTRE LA PERSONNE.						CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.		Life. — A vie	D'th. — De mort	Com- mit- ted to Refor- ma- to- ries.	Other Senten- ces.							ÉTATS CIVILS.		
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.		En- voyés à la prison de Réfor- me.	Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commerçants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	Labi- orers — Jour- naliers.				
<b>VOIES DE FAIT GRAVES ET LÉSIONS CORPORELLES—Fin.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
.....	.....	.....	.....	.....	b2	1	2	4	3	1	2	3	1	
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	9	
1	.....	.....	.....	.....	2	1	2	4	4	.....	6	3	14	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
7	.....	.....	.....	3	17	30	23	5	34	1	117	84	147	
<b>VOIES DE FAIT ET FAISANT OBSTACLE A UN OFFICIER DE LA PAIX.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	2	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	
.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	3	3	1	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	2	1	.....	1	1	4	5	4	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	a2	.....	.....	.....	.....	.....	1	1	2	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	1	2	
1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
2	.....	.....	.....	.....	a14	.....	21	4	23	3	54	48	70	
.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	2	.....	.....	
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	1	1	1	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	
3	.....	.....	.....	.....	15	3	21	4	25	3	57	53	73	

<sup>a</sup> Sentence suspended—Sentence suspendue. <sup>b</sup> Bound to keep the peace—A tenir une meilleure conduite.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.				
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non donné.	M. F.	M. F.					
Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- déré	Im- modéré		
<b>AGGRAVATED ASSAULT AND INFLECTING BODILY HARM—Concluded.</b>																
Manitoba, Centre.....																
Manitoba, Est.....																
Caribou, Col.-B.....	1											1		1		
Victoria, Col.-B.....	3	9					9		3					8	4	
Westminster, Col.-B.....	2	2					3					1			4	
Totaux de la Col.-Britann.	6	11					12		3			2		9	8	
Alberta, N. et S., T. du N.O.																
Assiniboia, Est, T. du N.-O.												2				
Saskatchewan, T. du N.-O.												1				
Yukon.....												1				
Totaux des Ter. du N.-O.												4				
Totaux du Canada.....	24	205	3	5	40	133	8	42	1	9		124		108		
<b>ASSAULT AND OBSTRUCTING PEACE OFFICER.</b>																
Queen's, I. du P.-E.....		2	1				2		1					1	2	
Annapolis, N.-E.....												1				
Antigonish, N.-E.....		1					1							1		
Cap-Breton, N.-E.....		1					1							1		
Digby, N.-E.....		1					1							1		
Halifax, N.-E.....	3	3			1		4		1			37	2	4	2	
King's, N.-E.....																
Pictou, N.-E.....												1				
Queen's, N.-B.....												1				
Yarmouth, N.-E.....												1				
Totaux de la N.-Ecosse..	3	6			1		7		1			41	2	7	2	
Charlotte, N.-B.....																
Northumberland, N.-B.....		3			1	1				1	1			3		
St. Jean, N.-B.....												8				
Totaux du N.-Brunswick.		3			1	1				1	9			3		
Bedford, Qué.....		1					1								1	
Gaspé, Qué.....	1								1					1		
Montréal Qué.....	20	95	3	1	12		71	7	21	6	1		19	99		
Ottawa, Qué.....	1	1										51		2		
Québec, Qué.....																
St. François, Qué.....		1							1						1	
Trois-Rivières, Qué.....	2	1			1		2							3		
Totaux de Québec.....	24	99	3	1	13		74	7	23	6	61		25	101		
Algoma et Manitoulin, Ont.											1					
Brant, Ont.....																



TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.	Number of Charges	Ac- quit- ted.	De- tain- ed for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.			
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.			
								With the option of a fine.	No OPTION.		
DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.		Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- des.	Sur option entre la pri- son ou l'a- m'nde	Un- der one year.	One year and over.	SANS OPTION — Moins d'un an. — Un an et plus.
		M.	F.								
<b>ASSAULT AND OBSTRUCTING PEACE OFFICER—Concluded.</b>											
Carleton, Ont. ....	4	1			3	3			2	1	
Essex, Ont. ....	1				1	1			1		
Frontenac, Ont. ....	1				1	1				1	
Grey, Ont. ....	1				1	1			1		
Haldimand, Ont. ....	1		1								
Hastings, Ont. ....	4				4	3	1		3		
Kent, Ont. ....	4	1			3	3			2	1	
Leeds and Grenville, Ont. ....	5				5	3	1	1	1	2	1
Lennox and Addington, Ont. ....	9				9	9			8		
Lincoln, Ont. ....	2				2	1	1		1	1	
Middlesex, Ont. ....	2	1			1	1			1		
Muskoka and Parry Sound, Ont. ....	3				3	3			2		
Nipissing, Ont. ....	2				2	2			2		
Northumberland & Durham, O. ....	1				1	1			1		
Ontario, Ont. ....	3				3	3			3		
Oxford, Ont. ....	2				2	2			1	1	
Perth, Ont. ....	1				1	1					
Peterborough, Ont. ....	4				4	4			4		
Rainy River, Ont. ....	6				5	4	1		2	2	1
Renfrew, Ont. ....	1				1	1			1		
Simcoe, Ont. ....	3				3	2		1	1	1	
Stormont, D'das & Glengary, O. ....	1				1	1					1
Victoria, Ont. ....	1	1									
Welland, Ont. ....	3				3	3				2	
Wentworth, Ont. ....	20	7			13	10		3	6	7	
York, Ont. ....	38	15	2		21	20	1		6	11	2
Totals of Ontario. ....	125	27	2	1	94	83	6	5	50	30	5
Manitoba, Western. ....	1				1	1				1	
Victoria, B.C. ....	6				6	6				6	
Westminster, B.C. ....	12	4			8	7	1		5	3	
Totals of British Columbia. ....	18	4			14	13	1		5	9	
Alberta, Northern, N.W.T. ....	2	2									
Assiniboia, Eastern, N.W.T. ....	1				1	1			1		
Assiniboia, Western, N.W.T. ....	1				1	1			1		
Yukon. ....	1				1	1				1	
Totals of the N.W.T. ....	5	2			3	3			2	1	
Totals of Canada. ....	412	44	2	1	364	264	90	10	76	53	6
<b>ASSAULT AND BATTERY.</b>											
Queen's, P.E.I. ....	5	1			4	2	1	1		4	
Colchester, N.S. ....	1				1	1			1		
Cumberland, N.S. ....	2	2									
Halifax, N.S. ....	12	3			9	7	1	1		9	
Lunenburg, N.S. ....	3				3	3			1	2	

Both jail and fine—La prison et l'amende: a, 1; b, 2, c, \$663; d, \$85; e, \$30; f, \$2,059.

Amount of fines—Montant des amendes: g 1 Nolle prosequi.





TABLE I.		OFFENCES AGAINST THE PERSON.												CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS — USAGE DE LIQUEURS	
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate					
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.			M.	F.	M.	F.	
		Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<b>ASSAULT AND OBSTRUCTING PEACE OFFICER—Concluded.</b>																
Carleton, Ont		2					2			1				2		
Essex, Ont										1						
Frontenac, Ont										1						
Grey, Ont										1						
Haldimand, Ont																
Hastings, Ont	2	2			1		2		1				2	2		
Kent, Ont		2					2			1			1	1		
Leeds et Grenville, Ont		2			1		1			3			1	2		
Lennox et Addington, Ont		1					1			8			1			
Lincoln, Ont		2					2						1	1		
Middlesex, Ont		1					1						1	1		
Muskoka et Parry Sound, Ont		1					1			2			1			
Nipissing, Ont										2						
Northumberland et Durham, O.										1						
Ontario, Ont										3						
Oxford, Ont	1	1					1		1				2			
Perth, Ont		1								1			1			
Peterborough, Ont		4					3		1				4			
Rainy River, Ont	2	3			1		4						3	2		
Renfrew, Ont										1						
Simcoe, Ont			1						1					1		
Storm't, D'das et Gleng'ry, O.	1						1			2				1		
Victoria, Ont																
Welland, Ont		2					2			1				2		
Wentworth, Ont		11			1		9		1	2			3	8		
York, Ont	1	18			5		12	1	1	2			12	7		
Totaux d'Ontario	7	53	1		9		44	1	6	1	33		31	30		
Manitoba, Ouest										1						
Victoria, Col.-B.	3	3					6						3	3		
Westminster, Col.-B.	1	4					5			3				5		
Totaux de la Col.-Britann.	4	7					11			3			3	8		
Alberta, Nord, T. du N.-O.																
Assiniboia, Est, T. du N.-O.										1						
Assiniboia, Ouest, T. du N.-O.										1						
Yukon										1						
Totaux des T. du N.-O.										3						
Totaux du Canada	38	170	5	1	24	1	133	8	31	8	151	2	70	143		
<b>ASSAULT AND BATTERY.</b>																
Queen's, I. du P.-E.		4					3		1				1	3		
Colchester, N.-E.		1							1					1		
Cumberland, N.-E.																
Halifax, N.-E.	3	6			1		4	3	1				8	1		
Lunenburg, N.-E.		2	1		2		1						3			



TABLE I.		OFFENCES AGAINST THE PERSON.						CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
	—	—	—		—	With the option of a fine.	NO OPTION. — SANS OPTION			
	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.	Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- vies.	Sur option entre la pri- son ou l'a- m'nde	Un- der one year.	One year and over.	
	M.	F.					Moins d'un an.	Un an et plus.		
<b>ASSAULT AND BATTERY—Continued.</b>										
Pictou, N.S.	2	1		1	1			1		
Victoria, N.S.	2	2								
Totals of Nova Scotia.	22	8		14	12	1	1	c3	11	
Carleton, N.B.	2	2								
King's, N.B.	2	1		1	1			1		
Restigouche, N.B.	2			2	2				2	
Victoria, N.B.	1			1	1				1	
Westmoreland, N.B.	1			1	1				1	
Totals of New Brunswick.	8	3		5	5			a1	4	
Joliette, Que.	1			1	1				1	
Kamouraska, Que.	1			1	1			1		
Montmagny, Que.	1			1	1				1	
Montreal, Que.	9	2	1	6	4	2		6		
Ottawa, Que.	9	3	1	5	4		1	2	2	
Richelieu, Que.	1			1	1				1	
Rimouski, Que.	2	1	1							
Terrebonne, Que.	1			1	1				1	
Totals of Quebec.	25	5	2	16	13	2	1	b9	6	
Brant, Ont.	1	1								
Bruce, Ont.	1			1			1			
Carleton, Ont.	1			1					1	
Elgin, Ont.	2			2	2					
Essex, Ont.	3	1		2	1		1		2	
Frontenac, Ont.	3	1		2	2				2	
Grey, Ont.	4	1	1	2	2			1		
Haldimand, Ont.	5	1		4	2		2		1	
Hastings, Ont.	3			3	3				2	
Huron, Ont.	4	1		3	2	1		3		
Kent, Ont.	2			2	2			1		
Lambton, Ont.	1	1								
Lanark, Ont.	1			1	1					
Leeds and Grenville, Ont.	3			3	3				1	
Lincoln, Ont.	1			1	1			1		
Middlesex, Ont.	10	4	1	5	5			1	1	
Muskoka and Parry Sound, Ont.	2			2	1		1	1		
Norfolk, Ont.	7	4	1	2	2			1		
Northumberland & Durham, O.	13	5		8	8			7		
Ontario, Ont.	1			1			1			
Oxford, Ont.	4	3		1	1					
Peel, Ont.	1			1			1		1	
Perth, Ont.	2			2	1			1	1	
Prince Edward, Ont.	9			9	7	2		3	4	
Rainy River, Ont.	1			1		1			1	
Renfrew, Ont.	2			2	2			1		
Simcoe, Ont.	6	3		3	2		1	1	1	
Stormont, D'das & Glengarry, O.	3			3	3			3		
Victoria, Ont.	1	1								
Waterloo, Ont.	2			2	2			1	1	

Amount of fines—Montant des amendes : a, \$20; b, \$45; c, \$70.

## Criminal Statistics.

TABLEAU I.						OUTRAGES CONTRE LA PERSONNE.						CLASSE I.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort.	Com- mitted to Refor- matories — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.							ÉTATS CIVILS.		
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie				Agricultural. — Agriculteurs.	Com- mercial. — Com- merçants.	Do- mestic — Servi- teurs.	Indus- trial. — Indus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- baires.
<b>AGRESSION AVEC VOIES DE FAIT—Suite.</b>														
							1						1	
						3	2	2	2	1	4	4	10	
						1						1		
						1	2					1		
											1		1	
						2	2				1	2	1	
											1	1		
						1							1	
						1							1	
											6	3	3	
					a1		1				3	4	1	
											1		1	
											1		1	
						1	2	1			12	8	8	
					a1				1				1	
					a2						1		1	
						2					2	2	2	
											1		1	
					a1		1				1	1	1	
					a3	3		1			2	2	2	
					a1	1					1	2	1	
					a1	2			1			3		
					a1	1					1	2		
					a1				1			1		
					a2						2	1	2	
						1					1	1		
					a2, b1	1		2			2	3	2	
					a1	1					1	1		
					a1						1	1	1	
					a1	1			2		5	5	1	
					a1	1					1	1	3	
					a1						1	1		
					a1						1	1		
					a2	1					1	1	2	
											1	1		
					a2		1		1	1	6	4	5	
					a1						2	1	1	
					b1			1			2	1	1	
						1			2			1	2	
											1		2	

*a* Sentence suspended—Sentence suspendue.

*b* Bound to keep the peace—Tenus de garder la paix.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.	
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.						USE OF LIQURS. — USAGE DE LIQUEURS		
		Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate	
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.				
Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- dé- ré	Im- mo- dé- ré		
<b>ASSAULT AND BATTERY—Continued.</b>													
Pictou, N.-E.		1				1						1	
Victoria, N.-E.													
Totaux de la N.-Ecosse.	3	10	1		3	6	3	2				12 2	
Carleton, N.-B.													
King's, N.-B.		1						1				1	
Restigouche, N.-B.						1		1				2	
Victoria, N.-E.			1			1						1	
Westmoreland, N.-B.	1							1				1	
Totaux du N.-Brunswick.	1	2				2		3				5	
Joliette, Qué.	1					1						1	
Kamouraska, Qué.	1					1						1	
Montmagny, Qué.	1					1						1	
Montréal, Qué.	1	5		1	1	1		3				4 2	
Ottawa, Qué.	2	3								5		3 2	
Richelieu, Qué.		1				1						1	
Rimouski, Qué.						1							
Terrebonne, Qué.		1				1						1	
Totaux de Québec.	6	10		1	1	6		3		5		11 5	
Brant, Ont.													
Bruce, Ont.		1					1					1	
Carleton, Ont.	1					1						1	
Elgin, Ont.		2						2				2	
Essex, Ont.		2						2				2	
Frontenac, Ont.		1			1					1		1	
Grey, Ont.		2				2						2	
Haldimand, Ont.	2	2				3		1				2 2	
Hastings, Ont.	3				1	1	1					3	
Huron, Ont.		3				1		2				3	
Kent, Ont.		2				1		1				1 1	
Lambton, Ont.													
Lanark, Ont.		1				1						1	
Leeds et Grenville, Ont.		3				3						3	
Lincoln, Ont.		1				1						1	
Middlesex, Ont.		5				3		2				2 3	
Muskoka et Parry Sound, O.		1						1		1		1	
Norfolk, Ont.		1		1					1			2	
Northumberl'd et Durham, O.		8				8						6 2	
Ontario, Ont.		1						1				1	
Oxford, Ont.		1						1				1	
Peel, Ont.		1				1						1	
Perth, Ont.		2				2						1 1	
Prince-Edouard, Ont.		9		3		4	1	1				5 4	
Rainy River, Ont.		1						1				1	
Renfrow, Ont.		2			1			1				2	
Simcoe, Ont.		3				2		1				2 1	
Storm't, D'das et Gleng'ry, O.	1	2			1	2		1				2 1	
Victoria, Ont.													
Waterloo, Ont.	1	1			1	1						2	

# Criminal Statistics.

TABLEAU I.      OUTRAGES CONTRE LA PERSONNE.      CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autres confessions.	Other Derogations. — Autres confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	1	.....	13	.....	.....	.....	1	6	3	2	1	1	.....	10	4
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	3	.....	.....	.....	2	2	.....	.....	.....	1	.....	2	3
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	6	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	4	2
.....	.....	.....	5	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	4	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	16	.....	.....	.....	.....	16	.....	.....	.....	.....	.....	8	8
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	1	.....	.....	1	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2	.....
.....	.....	.....	4	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	4
.....	.....	.....	3	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	2
.....	.....	.....	3	.....	.....	.....	.....	1	.....	2	.....	.....	.....	.....	3
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	3	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	2	.....	1	.....	4	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	8	.....	.....	.....	.....	5	.....	1	.....	1	.....	2	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	9	.....	.....	.....	.....	2	.....	4	.....	1	.....	6	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	.....	3
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2

TABLE I.		OFFENCES AGAINST THE PERSON.							CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.			
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.			
								With the option of a fine.	No OPTION. — SANS OPTION.	One year and over.	
DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.	Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- des.	Sur option entre la pri- son ou l'a- m'nde	Un- der one year. — Moins d'un an.	Un year and over. — Un an et plus.		
ASSAULT AND BATTERY—Concluded.											
Wentworth, Ont.....	8	3		5	2	2	1	3	2		
York, Ont.....	36	4		32	32			28			
Totals of Ontario.....	143	34	2	106	90	7	9	a57	21		
Manitoba, Central.....	2	1	1								
Manitoba, Eastern.....	1			1	1			1			
Totals of Manitoba.....	3	1	1	1	1			b1			
Clinton, B.C.....	2			2	2				1		
Victoria, B.C.....	3			3	3			2	1		
Westminster, B.C.....	92	34	3	55	52	2	1	39	3		
Totals of British Columbia.....	97	34	3	60	57	2	1	c41	5		
Alberta, Northern, N.W.T.....	11	7		2	2				1		
Alberta, Southern, N.W.T.....	11	11									
Assiniboia, Eastern, N.W.T.....	11	6		4	4			3	1		
Assiniboia, Western, N.W.T.....	3	2		1	1						
Saskatchewan, N.W.T.....	2	1		1	1			1			
Yukon.....	2	2									
Totals of the N.W.T.....	40	29		8	8			d4	2		
Totals of Canada.....	343	115	8	214	188	13	13	e116	53		
VARIOUS OTHER OFFENCES AGAINST THE PERSON.											
Halifax, N.S.....	1			1	1				1		
Arthabaska, Que.....	1			1	1						
Montreal, Que.....	9			9	9				1		
Ottawa, Que.....	4		3m.1f.								
St. Francis, Que.....	1			1	1			1			
Totals of Quebec.....	15		3m.1f.	11	11			f1	1		
Elgin, Ont.....	1	1									
Hastings, Ont.....	1										
Leeds and Grenville, Ont.....	1	1									
Middlesex, Ont.....	2			2	2			2			
Oxford, Ont.....	2	1		1	1						
Perth, Ont.....	2			2	2			2			
Peterborough, Ont.....	1			1	1			1			
Rainy River, Ont.....	2			2	2			2			
Wentworth, Ont.....	13	10	1	2	2						
York, Ont.....	23	21		2	2			1			
Totals of Ontario.....	48	31	5	12	12			g8			
Westminster, B.C.....	3	3									
Assiniboia, Eastern, N.W.T.....	1	1									
Totals of Canada.....	68	35	5	24	24			h9	2		

Amount of fines—Montant des amendes : a, \$345; b, \$10; c, \$464; d, \$115; e, \$1,269; f, \$10; g, \$247; h, \$257. Nolle prosequi: i, 2; j, 1.



# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Ré- forme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Commerçants.	Do- mestic — Servi- teurs.	In- dus- trial. — Indus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.												
<b>AGRESSION AVEC VOIES DE FAIT—Fin.</b>														
				a2, b2	2	2	1	2	27	16	5	16		
				28	18	7	1	11	1	59	51	1	52	
						1							1	
						1							1	
				b1		1	2					1	2	
				a6, b7	1	22	2	8		16	26		28	
				14	1	23	2	10		16	27		31	
				a1	1					1	1		1	
				a1		1					2		1	
						1				1	1		2	
					2	1	1			1	4		2	
					45	28	37	5	23	2	96	97	1	108
<b>DIVERS AUTRES OUTRAGES CONTRE LA PERSONNE.</b>														
						1								1
				b1	1						1			
				b8	1	2		5		1	9			
										1				1
				9	2	2		5		2	10			1
						2					2			
				b1						1				1
										2				2
					1						1			
				b2			1	1		1		2		2
				a1						1	1			1
				4	1	2	1	2		5	6			6
					13	4	4	1	7		7	16		8

a Sentence suspended—Sentence suspendue.

b Bound to keep the peace—Tenus de garder la paix.

TABLE I.		OFFENCES AGAINST THE PERSON.										CLASS I.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
		Un- able to read or write.	Ele- men- tary.	Super- ior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate			
					Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- déré	Im- modéré			
<b>ASSAULT AND BATTERY—Concluded.</b>														
Wentworth, Ont. ....	1	4			1	3	1				1	4		
York, Ont. ....	1	31			4	20	3	5			26	6		
Totaux d'Ontario .....	12	93		4	10	62	7	20	1	2	71	33		
Manitoba, Centre .....														
Manitoba, Est .....		1				1					1			
Totaux de Manitoba .....		1				1					1			
Clinton, Col.-B. ....		1							2		1			
Victoria, Col.-B. ....		3		2				1			3			
Westminster, Col.-B. ....	13	38	4	2	1	1	41	3	6	1	33	22		
Totaux de la Col.-Brit. ...	13	42	4	4	1	1	41	3	7	3	37	22		
Alberta, Nord, T. du N.-O. ....		2				1		1			2			
Alberta, Sud, T. du N.-O. ....														
Assiniboia, Est, T. du N.-O. ....										4				
Assiniboia, Ouest, T. du N.-O. ....										1				
Saskatchewan, T. du N.-O. ....		1				1					1			
Yukon .....														
Totaux des Ter. du N.-O. ....		3				2		1		5	3			
Totaux du Canada .....	35	165	5	0	15	1	123	13	37	1	141	65		
<b>VARIOUS OTHER OFFENCES AGAINST THE PERSON.</b>														
Halifax, N.-E. ....		1					1				1			
Arthabaska, Qué .....	1							1			1			
Montréal, Qué .....	4	5					6	3			1	8		
Ottawa, Qué .....		1			1						1			
St. François, Qué. ....														
Totaux de Québec .....	5	6			1		6	4			3	8		
Elgin, Ont. ....														
Hastings, Ont. ....														
Leeds et Grenville, Ont. ....														
Middlesex, Ont. ....		2					2				2			
Oxford, Ont. ....		1								1		1		
Perth, Ont. ....		2			2						2			
Peterborough, Ont. ....		1						1			1			
Rainy River, Ont. ....		2					2				2			
Wentworth, Ont. ....		2					1	1			1	1		
York, Ont. ....		2			1				1		2			
Totaux d'Ontario .....		12			3		5	1	1	1	10	2		
Westminster, Col.-B. ....														
Assiniboia, Est, T. du N.-O. ....														
Totaux du Canada .....	5	19			4		12	1	5	1	14	10		

# Criminal Statistics.

TABLEAU I. OUTRAGES CONTRE LA PERSONNE. CLASSE I.															
BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.						RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autr's confessions.	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
<b>AGRESSION AVEC VOIES DE FAIT—Fin.</b>															
7	13	4	19	2	1	3	7	16	13	15	1	5	30	2	
9	5	2	78	7	2	4	29	29	20	12	7	2	70	34	
			1					1					1		
			1					1					1		
			3										1	1	
12	3	3	17	10	9		12				36	6	50	5	
12	3	3	20	10	9		12				39	6	53	7	
1		1								1	1			2	
													3	1	
			1					1					1		
1		1	1					1		1	1		4	3	
22	9	6	136	17	11	2	7	66	34	22	14	50	8	60	
<b>DIVERS AUTRES OUTRAGES CONTRE LA PERSONNE.</b>															
				1			1							1	
1			1					1						1	
			8					7	1		1		8	1	
			1					1						1	
1			10					9	1		1		8	3	
			2									2			
			1									1		1	
			2						1	1			2		
	1							1			1			1	
			2						1	1			2	2	
			2						1		1		2		
	1		11					1	3	2	3	3	8	4	
1	1		21	1			1	10	4	2	4	3	16	8	

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE. CLASS II

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations	Ac- quit- ted.  —  Ac- quit- tés.		De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDMNATIONS.			SENTENCE.		
		M.	F.		Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.	
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION
		Under one year. — Moins d'un an.	One year and over. — Un an et plus.							
<b>BURGLARY AND HAVING BURGLARS' TOOLS.</b>										
Halifax, N.S.	3	1			2					
Queen's, N.S.	1				1		1			
Totals of Nova Scotia.	4	1			3	2	1			
Arthabaska, Que.	2				2	2			1	
Iberville, Que.	5	4			1	1				
Montreal, Que.	2	1			1	1			1	
Ottawa, Que.	2	1			1	1			1	
Quebec, Que.	15				15	8	3	4	2	
Richelieu, Que.	1				1	1				
Rimouski, Que.	1	1								
St. Hyacinthe, Que.	2				2	2			2	
Three Rivers, Que.	2				2	1	1		1	
Totals of Quebec.	32	7			25	17	3	5	8	
Brant, Ont.	1				1		1		1	
Dufferin, Ont.	1				1	1				1
Elgin, Ont.	3				3	3				
Essex, Ont.	2	2								
Frontenac, Ont.	1				1			1		
Haldimand, Ont.	3				3	2	1			2
Huron, Ont.	4	1			3		3		1	1
Kent, Ont.	1	1								
Lennox and Addington, Ont.	1	1								
Middlesex, Ont.	2				2	2			1	1
Nipissing, Ont.	2				2	1	1			
Northumberland & Durham, O.	1	1								
Oxford, Ont.	6				6	6				
Perth, Ont.	1				1	1			1	
Peterborough, Ont.	2	1			1	1				
Simcoe, Ont.	1				1		1		1	
Stormont, D'das & Glengarry, O.	1				1	1				1
Victoria, Ont.	2				2	1		1	1	
Welland, Ont.	1				1	1				1
Wellington, Ont.	4				4	1	1	2		2
Wentworth, Ont.	1				1	1			1	
York, Ont.	21	7			14	11	3		5	5
Totals of Ontario.	62	14			48	33	11	4	12	14
Manitoba, Central.	2				2	2				
Manitoba, Eastern.	2				2		2			
Totals of Manitoba.	4				4	2	2			
Cariboo, B.C.	1				1	1				
Westminster, B.C.	11	1			10	10			4	1
Totals of British Columbia.	12	1			11	11			4	1



TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE. CLASS II.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- mo- déré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>BURGLARY AND HAVING BURGLARS' TOOLS.</b>															
Halifax, N.-E.	2			2									2		
Queen's, N.-E.		1								1			1		
Totaux de la N.-Ecosse	2	1		2						1			3		
Arthabaska, Qué	1	1			2								2		
Iberville, Qué		1				1								1	
Montreal, Qué		1			1									1	
Ottawa, Qué		1		1									1		
Québec, Qué		15			3		10		2				11	4	
Richelieu, Qué		1			1								1		
Rimouski, Qué						2								2	
St. Hyacinthe, Qué.		2			2								2		
Trois-Rivières, Qué.	1	1			1				1					2	
Totaux de Québec	2	23		1	10		11		3				17	8	
Brant, Ont.		1							1					1	
Dufferin, Ont.		1					1						1		
Elgin, Ont.		3					3						1	2	
Essex, Ont.															
Frontenac, Ont.	1								1					1	
Haldimand, Ont.		3					3							3	
Huron, Ont.		3		1	1		1						1	2	
Kent, Ont.															
Lennox et Addington, Ont.															
Middlesex, Ont.	1	1					2							2	
Nipissing, Ont.		2							2				2		
Northumberl'd et Durham, O.															
Oxford, Ont.		6		6									6		
Perth, Ont.		1					1						1		
Peterborough, Ont.		1					1							1	
Simcoe, Ont.		1					1							1	
Stormont, D'das et Gleng'ry, O	1						1						1		
Victoria, Ont.		2					2							2	
Welland, Ont.		1					1						1		
Wellington, Ont.		4					4						2	2	
Wentworth, Ont.		1					1							1	
York, Ont.		14			7		4	1	2				8	6	
Totaux d'Ontario	3	45		7	8		26	1	6				24	24	
Manitoba, Centre		2		2									2		
Manitoba, Est		2			2								2		
Totaux de Manitoba		4		2	2								4		
Caribou, Col.-B.	1										1		1		
Westminster, Col.-B.	5	5		5					1		4		8		
Totaux de la Col.-Britann.	6	5		5					1		5		9		

## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ.												CLASSE II.			
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autr's confessions.	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
			2			1			1				2		
			1						1				1		
			3			1			2				2	1	
			2	1			2			1				2	
			1				1						1		
			1							1			1		
			14		1		14				1		14	1	
			1				1						1		
			2				2						2		
			2				2						2		
			23	1	1		22			2	1		20	5	
			1	1			1							1	
			1	3					1		3		3	1	
			2	1			1							1	
	1		2				2		1					3	
			2					2						3	
			2					1	1				2		
			2								2			2	
			6						6				5	1	
	1			1				1					1		
			1						1				1		
			1				1						1		
			2					2					2		
	1		2	2				1			2		1		
			1						1				1		
	1	3	9	1			2	7	4	1			14	1	
	4	4	31	9			2	12	12	12	3	7	34	14	
			1	1				1	1				2		
	2								2				2		
			1	1				1	3				4		
			1					1							
	2		3	1	2						6	2	7	3	
	2		4	1	2			1			6	2	7	4	

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine.  Sur option entre la pri- son ou l'a- me'de	No OPTION. — SANS OPTION	Un- der one year.  Moins d'un an.
<b>BURGLARY AND HAVING BURGLARS' TOOLS—Concluded.</b>											
Alberta, Northern, N.W.T.....	1				1	1					
Alberta, Southern, N.W.T.....	2	1			1	1					
Assiniboia, Western, N.W.T.....	3	3									
Totals of the N.W.T.....	6	4			2	2					
Totals of Canada.....	120	27			93	67	14	12	24	15	
<b>HOUSE AND SHOP BREAKING.</b>											
King's, P.E.I.....	2				2	2					
Prince, P.E.I.....	1				1	1					
Queen's, P.E.I.....	2				2	1	1				
Totals of P.E. Island.....	5				5	4	1				
Annapolis, N.S.....	1				1	1			1		
Cumberland, N.S.....	3				3	2	1				
King's, N.S.....	4				4		1	3			
Lunenburg, N.S.....	1				1		1		1		
Yarmouth, N.S.....	2				2	2					
Totals of Nova Scotia.....	11				11	5	2	4	2		
Charlotte, N.B.....	2				2	2					
Westmoreland, N.B.....	3	1			2	2					
Totals of New Brunswick.....	5	1			4	4					
Arthabaska, Que.....	1				1	1			1		
Bedford, Que.....	5	1			4	3	1		1		
Montreal, Que.....	125	19			105	11	13	81	11	1	
St. Francis, Que.....	18	7			11	11			2		
Three Rivers, Que.....	4				4	2	1	1	2		
Totals of Quebec.....	153	27			125	28	15	82	17	1	
Algoma and Manitoulin, Ont.....	2				2	2			2		
Brant, Ont.....	610	1			8	5		3	6		
Bruce, Ont.....	1				1		1		1		
Carleton, Ont.....	11	1			10	9	1		5	2	
Elgin, Ont.....	1				1		1				
Essex, Ont.....	4				4	4				1	
Frontenac, Ont.....	2				2	2				2	
Grey, Ont.....	3				3	3			2		
Haldimand, Ont.....	2	2									
Hastings, Ont.....	2				2	1	1		1		
Kent, Ont.....	3				3	3			2	1	

a One left the country—Un a laissé le pays.

b One escaped—Un s'est évadé.



## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Commerçants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mar- riés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and under five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>VOL AVEC EFFRACTION ET AYANT EN POSSESSION DES OUTILS DE VOLEUR—Fin.</b>														
1											1			1
1											1			1
2											2			2
18	18			5	13	3	11	1	13		46	13	1	77
<b>BRIS DE MAISONS ET DE MAGASINS.</b>														
1	1										2			2
1											1			1
2														2
4	1										3			5
											1			1
3											3			3
4											4		1	4
2						1						2		
							2							
9						1	2				8	2	1	8
2					a2						2			2
2					2						2			4
3											1			1
23	14			2	a54		7		68		23	15	1	89
8	1					1					8	3		7
1				1							4			4
35	15			3	54	1	7		68		41	19	1	104
				1	a1						2			2
											4	1		7
1				2							1			1
1											5			10
2				1			1				1		1	3
											1		1	2
				1							2	1		2
1							1		1		2			2
													1	1

a Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE.		CLASS II.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQOURS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Super- rior.	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non- donné.		Mo- de- rate	Im- mo- de- rate
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- de- ré	Im- mo- de- ré
<b>BURGLARY AND HAVING BURGLARS' TOOLS—Concluded.</b>															
Alberta, Nord, T. du N.-O. . . . .	1								1				1		
Alberta, Sud, T. du N.-O. . . . .	1								1					1	
Assiniboia, Ouest, T. du N.-O. . . . .															
Totaux des T. du N.-O. . . . .	1	1							2				1	1	
Totaux du Canada . . . . .	14	79		17	20	37	1	13		5		58	33		
<b>HOUSE AND SHOP BREAKING.</b>															
King's, I. du P.-E. . . . .		2				2								2	
Prince, I. du P.-E. . . . .		1			1								1		
Queen's, I. du P.-E. . . . .		2		2									2		
Totaux de l'Ile du P.-E. . . . .		5		2	1	2							3	2	
Annapolis, N.-E. . . . .		1				1							1		
Cumberland, N.-E. . . . .	1	2			3								1	2	
King's, N.-E. . . . .		4			4								4		
Lunenburg, N.-E. . . . .		1				1							1		
Yarmouth, N.-E. . . . .		2				2							2		
Totaux de la N.-Ecosse . . . . .	1	10			7	4							9	2	
Charlotte, N.-B. . . . .	1	1		2									2		
Westmoreland, N.-B. . . . .		2			1	1							2		
Totaux du N.-Brunswick. . . . .	1	3		2	1	1							4		
Arthabaska, Qué. . . . .		1			1								1		
Bedford, Qué. . . . .		4			3	1							4		
Montréal, Qué. . . . .	15	90		2	61	38		4					56	49	
St. François, Qué. . . . .	6	5			1	9				1			11		
Trois-Rivières, Qué. . . . .	2	2		1	1	2							3	1	
Totaux de Québec. . . . .	23	102		3	67	50		4		1			75	50	
Algoma et Manitoulin, Ont. . . . .	1	1			1	1								2	
Brant, Ont. . . . .	1	5		1	2	1		3		1			3	3	
Bruce, Ont. . . . .		1			1									1	
Carleton, Ont. . . . .	3	7		4	5	1							9	1	
Elgin, Ont. . . . .		1				1								1	
Essex, Ont. . . . .		4		1		1		2					1	3	
Frontenac, Ont. . . . .		2			2								2		
Grey, Ont. . . . .	2	1		1		2							2	1	
Haldimand, Ont. . . . .															
Hastings, Ont. . . . .		2			1	1							1	1	
Kent, Ont. . . . .		2				1		1		1			1	1	

## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.

BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.						RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Canada. — Etats- Unis.	United States — Etats- Unis.	Other Fo- reign Coun- tries. — Autr- es pays étran- gers.	Other Bri- tish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Me- tho- dists. — Mé- tho- dis- tes.	Pres- byte- rians. — Pres- byté- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Den- omi- na- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
.....	.....	.....													
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	
.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	1	
8	4	.....	62	12	3	2	3	36	16	14	5	15	2	68 25	
<b>BRIS DE MAISONS ET DE MAGASINS.</b>															
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	
.....	.....	.....	5	.....	.....	.....	.....	3	.....	.....	.....	2	.....	2	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3	
2	.....	.....	2	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	4	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	
.....	.....	.....	1	.....	1	.....	.....	2	.....	.....	.....	.....	2	.....	
2	.....	.....	8	.....	1	.....	1	6	.....	1	.....	3	.....	5 6	
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	
.....	.....	.....	4	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	2	.....	1	.....	.....	.....	4	
.....	.....	.....	102	3	.....	.....	.....	103	.....	1	.....	.....	.....	104	
1	.....	.....	10	1	2	.....	.....	7	.....	2	.....	4	.....	3 8	
.....	.....	.....	4	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	1 3	
1	.....	.....	118	4	2	.....	.....	116	2	3	.....	4	.....	108 17	
.....	.....	.....	2	.....	.....	.....	.....	1	1	.....	.....	.....	.....	2	
2	1	.....	2	1	.....	.....	1	1	3	.....	1	.....	.....	4 4	
.....	.....	.....	10	1	.....	.....	.....	9	.....	.....	1	.....	.....	10 1	
.....	.....	.....	4	.....	.....	.....	.....	1	1	.....	.....	1	.....	3 1	
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	1	.....	2	
1	.....	.....	2	.....	.....	.....	.....	.....	1	1	.....	.....	.....	3	
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2	
1	.....	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2	

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE.		CLASS. II.										
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.	De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.				
				Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 réci- ves.	With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION.		SANS OPTION.	
									Un- der one year.	One year and over.	Un- der one year.	Un an et plus.
<b>HOUSE AND SHOPBREAKING—Concluded.</b>												
Lambton, Ont. ....	1			1	1					1		
Lanark, Ont. ....	3			3	3							
Leeds and Grenville, Ont. ....	5	2		3	1	2						
Lincoln, Ont. ....	3			3		1	2					
Middlesex, Ont. ....	16	4		12	5	1	6			6	3	
Muskoka and Parry Sound, Ont	a7			6	6					2	1	
Norfolk, Ont. ....	2			2	2						1	
Northumberland & Durham, O.	4			4	2		2	1		1	2	
Ontario, Ont. ....	6			6	4		2			3	2	
Oxford, Ont. ....	2			2		2					1	
Peel, Ont. ....	2	1		1			1					
Perth, Ont. ....	1			1	1					1		
Peterborough, Ont. ....	2	1		1	1							
Prince Edward, Ont. ....	1			1	1					1		
Renfrew, Ont. ....	13	2		11	5	4	2					
Simcoe, Ont. ....	8	2		6	3	1	2			1		
Stormont, D'das & Glengarry, O.	1			1	1					1		
Victoria, Ont. ....	4	2		2	1	1					2	
Waterloo, Ont. ....	1	1								1		
Welland, Ont. ....	2			2	2						1	
Wentworth, Ont. ....	8	2		6	1		5			5		
York, Ont. ....	118	29		89	68	11	10			30	13	
Totals of Ontario. ....	251	50		199	137	27	35	d1		72	32	
Manitoba, Central. ....	5			5	3	1	1				3	
Manitoba, Eastern. ....	12	2		10	7	1	2			5	1	
Manitoba, Western. ....	3			3	3					3		
Totals of Manitoba. ....	20	2		18	13	2	3			8	4	
Cariboo, B.C. ....	1			1	1						1	
Victoria, B.C. ....	b25	3		21	10	7	4			2	5	
Westminster, B.C. ....	c7	2	1	2	2						1	
Totals of British Columbia.	33	5	1	24	13	7	4			2	7	
Alberta, Northern, N.W.T. ....	2	1		1	1					1		
Alberta, Southern, N.W.T. ....	4	2		2	2					1		
Assiniboia, Eastern, N.W.T. ....	e7	1		1	1					1		
Totals of the N.W.T. ....	13	4		4	4					3		
Totals of Canada. ....	491	89	1	390	208	54	128	1		104	44	
<b>ROBBERY AND DEMANDING WITH MENACES.</b>												
Iberville, Que. ....	3			3	3							
Montmagny, Que. ....	2			2	2							

a, 1; c, 2; e, 5: Nolle prosequi. b 1 left the country. 1 a laissé le pays. Amount of fines—Montant des amendes: d, \$6.

## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Com- mer- çants.	Do- mestic — Servi- teurs.	In- dus- trial. — In- dus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>BRIS DE MAISONS ET DE MAGASINS—Fin.</b>														
1				a2	1			2		1	1		1	2
2	2			a1		1		1		1				3
				a1		1		1		1	1			2
1	1			a2	2	1		4		3	1		11	4
1				1	2	1				2	2			4
								1						1
				a1		2		1		1	1		3	4
1						1				5	2			2
1										1				1
				b1				1						1
								1						1
2				a7						5				11
3	1			a1				1		5				6
								1						1
				a1				1		1		1		1
8	5			a32		1		3		4			5	5
						4				46	5			84
25	9			10	50	5	14	22	1	98	17	5	174	
1	1						1			4				5
3	1					1	2	4		3	1			9
4	2					1	3	4		7	1			14
6	3			b				1	10	1				1
1						2				3				21
														2
7	3			5		2		1	10	4				24
1						1				1				1
										1	2			
1						1				2	2			1
87	30			18	106	11	26	1	104	1	165	41	7	334
<b>VOL ET DEMANDES AVEC MENACES.</b>														
3										3	2			1
	2							1		1	1			1

a Sentence suspended—Sentence suspendue. b Bound to good behaviour—A tenir une meilleure conduit

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE. CLASS II.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un-able to read or write.	Ele-men-tary.	Supe-rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.	
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non-donné.	Mo-derate	Im-mo-derate			
	Inca-pable de lire ou d'é-crire.	Elé-men-taire.	Supé-rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo-deré	Im-mo-deré	
H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.				
<b>HOUSE AND SHOP BREAKING—Concluded.</b>													
Lambton, Ont.		1					1					1	
Lanark, Ont.		3					2		1			1	2
Leeds et Grenville, Ont.		3			1		2					1	2
Lincoln, Ont.		2	1		1		1		1			2	1
Middlesex, Ont.	1	11		2	1		8		1			6	6
Muskoka et Parry Sound, Ont.	1	5		1	1		1		2	1		6	6
Norfolk, Ont.		1					1				1	1	
Northumberl'd et Durham, O.		4					3					1	3
Ontario, Ont.	1	5			1		4		1			3	3
Oxford, Ont.	1	1					2					2	
Peel, Ont.		1							1			1	
Perth, Ont.		1					1						1
Peterborough, Ont.		1		1								1	
Prince-Edouard, Ont.		1			1							1	
Renfrew, Ont.	4	7		9	1		1					10	1
Simcoe, Ont.		6			2		4						6
Storm't, D'das et Glengarry, O.		1					1						1
Victoria, Ont.		2							2				2
Waterloo, Ont.													
Welland, Ont.	1	1			1				1			1	1
Wentworth, Ont.		5			2		3				1		5
York, Ont.		89		31	35		19		4			82	7
Totaux d'Ontario	16	178	1	51	59		63		21	1	4	139	55
Manitoba, Centre	1	4			2		3					2	3
Manitoba, Est	2	8			2		7		1			6	4
Manitoba, Ouest				1							2		
Totaux de Manitoba	3	12		1	4		10		1		2	8	7
Caribou, Col.-B.	1						1					1	
Victoria, Col.-B.	1	20		6	7		8					14	7
Westminster, Col.-B.		2									2	2	
Totaux de la Col.-Britann.	2	22		6	7		9				2	17	7
Alberta Nord, T. du N.-O.	1								1				1
Alberta, Sud, T. du N.-O.	1	1					1		1				2
Assiniboia, Est, T. du N.-O.											1		
Totaux des T. du N.-O.	2	1					1		2		1		3
Totaux du Canada	48	333	1	65	146		140		28	1	10	255	126
<b>ROBBERY AND DEMANDING WITH MENACES.</b>													
Iberville, Qué.	1	2				1	1		1			2	1
Montmagny, Qué.		2				1	1					2	

## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States	Other Foreign Countries.	Other British Possessions.	Baptists.	R. Catholics.	Ch. of England.	Methodists	Presbyterians.	Protestants	Other Denominations.	Cities and Towns—Villes. Rural Districts—Districts ruraux.	
England and Wales— Angle terre et Galles	Ireland— Irlande.	Scotland— Ecosse.		Etats-Unis.	—	Autr's possessions Britanniques.	—	—	—	—	—	—	Autr's confessions.		
<b>BRIS DE MAISONS ET DE MAGASINS—Fin.</b>															
1			1					1	1			1		1	1
			1	1				3						3	3
			3				1	1	1					2	1
1			11					2	4	3		3		9	3
			6						5			1		6	6
			1					2	1			1		3	1
	1		4					3			2	1		5	1
1	1		1							1	1			2	2
			1					1						1	
			1	1				1						1	
1			10					8		1		3		10	1
1			5					2	3	1				3	3
			1					1				2		1	2
			2											2	
1			1						2						2
2	2		3				1	3			1			5	
	4	3	77	3			5	21	39	6	17		1	89	
14	8	3	160	9			8	65	65	16	30	9	1	161	35
1	1		3					2	1	2				4	1
1	1		6	1	1			3	2	1	3		1	8	2
2	2		9	1	1			5	3	3	3		1	12	3
			1					1							1
			17		4			11	4	1	3		2	21	2
2												2			
2			18		4			12	4	1	3	2	2	21	3
			1						1					1	
				1	1							1	1	1	1
			1	1	1				1			1	1	2	1
21	10	3	323	15	9		11	207	75	24	36	21	5	314	67
<b>VOL ET DEMANDE AVEC MENACES.</b>															
			3					3						2	3
			2												

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE.								CLASS II.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.		Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- ves.	With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION.	
				Un- der one year.					One year and over — Un an et plus.	
ROBBERY AND DEMANDING WITH MENACES— <i>Concluded.</i>										
Montreal, Que .....	5	1	.....	4	.....	1	3	.....	.....	.....
Quebec, Que .....	3	.....	.....	3	.....	.....	3	.....	.....	.....
Richelieu, Que .....	5	.....	.....	5	2	1	2	.....	.....	.....
Totals of Quebec .....	18	1	.....	17	7	2	8	.....	.....	.....
Brant, Ont .....	2	.....	.....	2	.....	.....	2	.....	2	.....
Carleton, Ont .....	3	1	.....	2	1	1	.....	.....	.....	2
Frontenac, Ont .....	1	.....	.....	1	1	.....	.....	.....	.....	.....
Haldimand, Ont .....	1	.....	.....	1	.....	.....	1	.....	.....	1
Lambton, Ont .....	4	3	.....	1	1	.....	.....	.....	.....	1
Middlesex, Ont .....	3	2	.....	1	1	.....	.....	.....	.....	.....
Muskoka and Parry Sound, Ont.	2	.....	.....	2	2	.....	.....	.....	.....	2
Perth, Ont .....	3	.....	.....	3	.....	1	2	.....	.....	3
Rainy River, Ont .....	1	.....	.....	1	.....	1	.....	.....	.....	1
Simcoe, Ont .....	3	1	.....	2	1	1	.....	.....	2	.....
Wentworth, Ont .....	8	5	.....	3	2	1	.....	.....	1	1
York, Ont .....	18	9	1	8	8	.....	.....	.....	2	3
Totals of Ontario .....	49	21	1	27	17	5	5	.....	7	14
Manitoba, Eastern .....	6	3	.....	3	3	.....	.....	.....	3	.....
Clinton, B.C .....	2	.....	.....	2	1	1	.....	.....	.....	.....
Westminster, B.C .....	6	6	.....	.....	.....	.....	.....	.....	.....	.....
Totals of British Columbia.	8	6	.....	2	1	1	.....	.....	.....	.....
Yukon .....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Totals of Canada .....	82	32	1	49	28	8	13	.....	10	14
WAREHOUSE AND FREIGHT CAR BREAKING.										
St. Francis, Que .....	6	4	.....	2	2	.....	.....	.....	.....	.....
Nipissing, Ont .....	3	.....	.....	3	3	.....	.....	.....	1	.....
York, Ont .....	3	.....	.....	3	3	.....	.....	.....	.....	.....
Totals of Ontario .....	6	.....	.....	6	6	.....	.....	.....	1	.....
Totals of Canada .....	12	4	.....	8	8	.....	.....	.....	1	.....
OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.								CLASS III.		
LARCENY FROM DWELLING HOUSES.										
Montreal, Que .....	1	.....	.....	1	.....	.....	1	.....	.....	.....



## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Commerçants.	Do- mestic — Servi- teurs.	In- dus- trial. — Indus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>VOL ET DEMANDES AVEC MENACES—Fin.</b>														
3	1				a2		1		2		1			4
5	1							1		4	2	2		1
11	4				2		1		4		12	7		10
	1							1	1		1	2		1
	1									1			1	1
							1			1				2
									3					3
										1				1
					a1				2		2			1
3								2	1		5			8
3	2				1		5	1	10		11	8	1	18
								1			2			3
	2													
	2													
14	8				3		7	1	14		25	15	1	31
<b>BRIS D'ENTREPOTS ET DE WAGONS DE FRET.</b>														
					b2									2
1	1										2	1		2
					a3									3
1	1				3			1			2	1		5
1	1				5			1			2	1		7
<b>DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.</b>														
<b>VOL DANS DES MAISONS HABITÉES.</b>														
	1										1		1	

a Sentence suspended—Sentence suspendue. b Bound to good behaviour—A tenir une meilleure conduite.

TABLE I. OFFENCES AGAINST PROPERTY WITH VIOLENCE. CLASS II.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate	Im- mo- de- rate			
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.		
H.				F.	H.	F.	H.	F.	H.	F.			
<b>ROBBERY AND DEMANDING WITH MENACES—Concluded.</b>													
Montréal, Qué. ....	4	3		1		3					3	4	
Québec, Qué. ....		1		2		2		1			2	3	
Richelieu, Qué. ....	4												
Totaux de Québec. ....	5	12		5		10		2			9	8	
Brant, Ont. ....		2				2						2	
Carleton, Ont. ....		1		1		1					2		
Frontenac, Ont. ....		1				1						1	
Haldimand, Ont. ....		1					1					1	
Lambton, Ont. ....		1				1					1		
Middlesex, Ont. ....		1				1						1	
Muskoka et Parry Sound, Ont. ....	1	1		1		1					1	1	
Perth, Ont. ....		3				3					3		
Rainy River, Ont. ....	1					1						1	
Simcoe, Ont. ....	2					2						2	
Wentworth, Ont. ....		3				2		1				3	
York, Ont. ....		7	1	1		7					4	4	
Totaux d'Ontario ....	4	22	1	3		22		2			11	16	
Manitoba, Est. ....		3				2		1			1	2	
Clinton, Col.-B. ....										2			
Westminster, Col.-B. ....													
Totaux de la Col.-Britann. ....										2			
Yukon ....													
Totaux du Canada ....	9	37	1	8		34		5		2	21	26	
<b>WAREHOUSE AND FREIGHT CAR BREAKING.</b>													
St. François, Qué. ....		2		2							2		
Nipissing, Ont. ....	2	1			2			1			3		
York, Ont. ....		3		3							3		
Totaux d'Ontario. ....	2	4		3	2			1			6		
Totaux du Canada ....	2	6		5	2			1			8		
<b>OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.</b>													
<b>LARCENY FROM DWELLING HOUSES.</b>													
Montréal, Qué. ....		1						1				1	

## Criminal Statistics.

TABLEAU I. DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE II.															
BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.							RESI- DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of Eng-land. — Eglise d'Angle-terre.	Methodists — Méthodistes.	Pres-byterians — Pres-bytériens.	Protes-tants — Autr's confes-sions.	Other Deno-minations. — Autr's confes-sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng-land and Wales — Angle terre et Galles	Ire-land. — Ir-lande.	Scot-land. — Ecos-se.													
<b>VOL ET DEMANDES AVEC MENACES—Fin.</b>															
.....	.....	.....	3	1	.....	.....	1	3	.....	.....	.....	.....	3	1	
.....	.....	.....	3	1	.....	.....	.....	3	.....	.....	.....	.....	2	1	
.....	.....	.....	4	1	.....	.....	.....	5	.....	.....	.....	.....	4	1	
.....	.....	.....	15	2	.....	.....	1	16	.....	.....	.....	.....	11	6	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	
.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	1	.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....	1	2	
.....	.....	3	1	.....	.....	.....	.....	1	.....	3	.....	.....	3	1	
.....	.....	.....	2	1	2	.....	.....	2	.....	.....	.....	.....	2	3	
.....	2	.....	6	1	.....	.....	.....	4	3	1	1	.....	3	8	
.....	3	3	17	2	2	.....	.....	14	4	2	6	1	23	4	
.....	1	.....	1	1	.....	.....	.....	3	.....	.....	.....	.....	3	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	4	3	33	5	2	.....	1	33	4	2	6	1	37	10	
<b>BRIS D'ENTREPOTS ET DE WAGONS DE FRET.</b>															
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	
.....	.....	.....	3	.....	.....	.....	.....	1	.....	1	.....	1	.....	3	
.....	.....	.....	3	.....	.....	.....	.....	1	.....	2	.....	.....	3	.....	
.....	.....	.....	6	.....	.....	.....	.....	2	.....	3	.....	1	6	.....	
.....	.....	.....	8	.....	.....	.....	.....	2	.....	3	.....	3	6	2	
<b>DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.</b>															
<b>VOL DANS DES MAISONS HABITÉES.</b>															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.		De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.			
		M.	F.		Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Rei- te- rated.  —  Plus de 2 réci- des.	With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	— SANS OPTION.	
										Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
		LARCENY FROM DWELLING HOUSE— <i>Concluded.</i>									
Prince Edward, Ont.....	2				2	1	1			2	
Renfrew, Ont.....	1				1	1					1
Totals of Ontario.....	3				3	2	1			2	1
Cariboo, B.C.....	1				1	1					1
Totals of Canada.....	5				5	3	1	1		2	2
HORSE, CATTLE AND SHEEP STEALING.											
Arthabaska, Que.....	2				2	2				2	
Bedford, Que.....	1				1	1					
Quebec, Que.....	2				2	1	1				
Richelieu, Que.....	1				1	1				1	
Rimouski, Que.....	1				1	1					
St. Francis, Que.....	6	3			3	2	1				
Terrebonne, Que.....	1				1	1				1	
Three Rivers, Que.....	1	1									
Totals of Quebec.....	15	4			11	9	2			4	
Brant, Ont.....	2		1		1	1				1	
Bruce, Ont.....	2		1		1	1				1	
Carleton, Ont.....	1	1									
Essex, Ont.....	4	1			3	2	1				
Grey, Ont.....	1				1	1					
Haldimand, Ont.....	2	1			1		1			1	
Hastings, Ont.....	1				1	1				1	
Kent, Ont.....	3	1	1		1	1					
Lambton, Ont.....	2			1	1	1				1	
Middlesex, Ont.....	1	1									
Norfolk, Ont.....	2				2	2				1	
Northumberland & Durham, O.....	5				5	3		2		1	3
Oxford, Ont.....	1				1	1					
Perth, Ont.....	1				1	1					1
Simcoe, Ont.....	12	3			9	6	2	1	1	2	1
Wentworth, Ont.....	1				1	1				1	
York, Ont.....	6	3			3	3				3	
Totals of Ontario.....	47	11	3	1	32	25	4	3	a1	13	5
Manitoba, Central.....	1	1									
Cariboo, B.C.....	1				1	1					1
Clinton, B.C.....	4				4	4					
Westminster, B.C.....	1				1	1				1	
Totals of British Columbia.....	6				6	6				1	1

Amount of fines—Montant des amendes : a, \$5.

# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mercial. — Com- merçants.	Domestic. — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional. — Pro- fes- sions libé- rales.	La- borers. — Jour- naliers.	Married. — Mariés.	Wid- owed — En- veuve- gés.	Single — Céli- bataires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>VOL DANS DES MAISONS HABITÉES—Fin.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	4	.....	1	4
<b>VOL DE CHEVAUX, BÉTAIL ET MOUTONS.</b>														
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	2	.....	.....	2
.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1
.....	2	.....	.....	.....	b1	.....	.....	.....	.....	.....	2	.....	.....	3
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
.....	4	1	.....	.....	.....	2	2	1	.....	.....	5	2	.....	9
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	3
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	4	3	.....	2
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	7	2	.....	6
.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	2	.....	1
.....	4	2	.....	.....	2	5	5	.....	.....	2	19	9	.....	20
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	2	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	1

a Sentence suspended—Sentence suspendue. b Bound to keep the peace—A tenir une meilleure conduite.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.				
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>LARCENY FROM DWELLING HOUSE—Concluded.</b>															
Prince-Edouard, Ont.....		2			2			1					2		
Renfrew, Ont.....		1						1					1		
Totaux d'Ontario.....		3			2			1					3		
Caribou, Col.-B.....											1				
Totaux du Canada.....		4			2			1		1		1	3	1	
<b>HORSE, CATTLE AND SHEEP STEALING.</b>															
Arthabaska, Qué.....	2			1				1					2		
Bedford, Qué.....		1						1						1	
Québec, Qué.....	2							2					2		
Richelieu, Qué.....	1							1						1	
Rimouski, Qué.....	1							1					1		
St. François, Qué.....		3		1				2					2	1	
Terrebonne, Qué.....	1									1			1		
Trois-Rivières, Qué.....															
Totaux de Québec.....	7	4		2				8		1			8	3	
Brant, Ont.....		1								1				1	
Bruce, Ont.....		1			1									1	
Carleton, Ont.....															
Essex, Ont.....		3						3						3	
Grey, Ont.....		1		1									1		
Haldimand, Ont.....		1								1			1		
Hastings, Ont.....		1						1					1		
Kent, Ont.....											1				
Lambton, Ont.....		1			1								1		
Middlesex, Ont.....															
Norfolk, Ont.....		2		1	1								2		
Northumberl'd et Durham, O.	1	4			1			4					1	4	
Oxford, Ont.....		1						1					1		
Perth, Ont.....		1						1						1	
Simcoe, Ont.....	2	6			2			6				1	4	4	
Wentworth, Ont.....												1			
York, Ont.....		3			1			2					2	1	
Totaux d'Ontario.....	3	26		2	7			18		2		3	14	15	
Manitoba, Centre.....															
Caribou, Col.-B.....	1											1			
Clinton, Col.-B.....		3										4			
Westminster, Col.-B.....												1			
Totaux de la Col.-Brit....	1	3										6		1	

## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Metho- dists — Métho- distes.	Pres- byte- rians. — Pres- byté- riens.	Pro- tes- tants	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>VOL DANS DES MAISONS HABITÉES—Fva.</b>															
1			1					2							2
1							1								1
2			1				1	2							3
															1
2			2				2	2						1	4
<b>VOL DE CHEVAUX, BÉTAIL ET MOUTONS.</b>															
			2					2							2
			1					1							1
			2					2						2	4
			1					1						1	2
1			1					1	1		1		1	1	4
			2					2							2
			1					1							1
			1					1							1
			1					1							1
			1					1							1
			2					2							2
			5					5							5
			1					1	3	1	1				3
			8		1			4	1	3	1			1	7
			2	1				1	1	1				1	2
1			23	4	1		1	7	3	10	4	4		9	20
			1					1							1
															4
			1					1							5

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'am- ande	NO OPTION. — SANS OPTION	
										Under one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>HORSE, CATTLE AND SPEEP STEALING—Concluded.</b>											
Alberta, Northern, N.W.T.....	13	8			5	5				3	1
Alberta, Southern, N.W.T.....	11	9			2	2				1	
Assiniboia, Eastern, N.W.T.....	7	1			5	5			2	2	
Assiniboia, Western, N.W.T.....	5	2			3	3					3
Saskatchewan, N.W.T.....	4	4									
Yukon.....	5	5									
Totals of the N.W.T.....	45	29			15	15			a2	6	4
Totals of Canada.....	114	45	3	1	64	55	6	3	b3	24	10
<b>LARCENY FROM THE PERSON.</b>											
Queen's, N.S.....	3	1			2			2			
York, N.B.....	1	1									
Montreal, Que.....	5	2			3	2		1		1	
Richelieu, Que.....	1				1		1				
Totals of Quebec.....	6	2			4	2	1	1		1	
Carleton, Ont.....	12	5	1		6	4	1	1		5	1
Elgin, Ont.....	1				1	1				1	
Essex, Ont.....	1				1	1					
Haldimand, Ont.....	1	1									
Hastings, Ont.....	7	3			4	2	1	1		4	
Middlesex, Ont.....	2				2	2				2	
Northumberland & Durham, O.....	2	2									
Ontario, Ont.....	2	1			1			1			
Peterborough, Ont.....	1				1	1				1	
Renfrew, Ont.....	2				2	2				1	
Wentworth, Ont.....	3	1			2	2				1	
York, Ont.....	16	4	1		11	11				4	4
Totals of Ontario.....	50	17	2		31	26	2	3		19	5
Cariboo, B.C.....	1				1	1					
Victoria, B.C.....	2				2	2					1
Westminster, B.C.....	4	1			3	3				3	
Totals of British Columbia.....	7	1			6	6				3	1
Alberta, Southern, N.W.T.....	1	1									
Totals of Canada.....	68	23	2		43	34	3	6		23	6
<b>BRINGING STOLEN PROPERTY INTO CANADA.</b>											
Bedford, Que.....	1				1	1					

Nolle prosequi: c, 1.

Amount of fines—Montant des amendes: a, \$20; b, \$25.



## Criminal Statistics.

TABLEAU I. DELITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort.	Com- mitted to Refor- matories — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mercial. — Com- merçants.	Do- mestic — Servi- teurs.	In- dus- trial. — In- dus- triels.	Pro- fes- sional — Pro- fes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>VOL DE CHEVAUX, BETAIL ET MOUTONS—Fin.</b>														
1				a1	1					1			2	
1														
2				1	1					1			2	
12	5			2	8	9	1	2		26	11		32	
<b>VOL SUR LA PERSONNE.</b>														
2						2							2	
	2					1				2	2		1	
1	2					1				3	2		2	
								1		4	1		5	
				1						1	1		1	
						1	2			1	1		3	
								2					2	
					a1					1	1			
1					a1					1	1		1	
1					a2					9	1		10	
2				1	4	1	2	2	3	17	7		22	
1										1			1	
1								2			1		1	
							1				1		1	
2							1		2		1		3	
7	2			1	4	1	6	2	5	21	10		29	
<b>EFFETS VOLES APPORTÉS EN CANADA.</b>														
				a1						1			1	

a Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non donné.							
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- de- ré	Im- mo- de- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>HORSE, CATTLE AND SHEEP STEALING—Concluded.</b>															
Alberta, Nord, T. du N.-O.		1	1					2					3	2	
Alberta, Sud, T. du N.-O.													2		
Assiniboia, Est, T. du N.-O.													5		
Assiniboia, Ouest, T. du N.-O.													3		
Saskatchewan, T. du N.-O.															
Yukon															
Totaux des Ter. du N.-O.		1	1					2					13	2	
Totaux du Canada	11	34	1	4	7	28	3	22	25	18					
<b>LARCENY FROM THE PERSON.</b>															
Queen's, N.-E.		2							2				2		
York, N.-B.															
Montréal, Qué.	1	2				2		1					3		
Richelieu, Qué.		1				1							1		
Totaux de Québec.	1	3				3		1					4		
Carleton, Ont.	2	4		1	2	3							5	1	
Elgin, Ont.		1				1							1		
Essex, Ont.		1					1						1		
Haldimand, Ont.															
Hastings, Ont.	1	3				3		1					2	2	
Middlesex, Ont.		2				2							2		
Northumberland et Durham, O.															
Ontario, Ont.	1					1							1		
Peterborough, Ont.	1					1							1		
Renfrew, Ont.	1					1				1			1		
Wentworth, Ont.	1					1			1				1		
York, Ont.		11		2	1	7		1					9	2	
Totaux d'Ontario.	7	22		3	3	20	1	2	2	2			21	8	
Caribou, Col.-B.		1				1							1		
Victoria, Col.-B.		2				2							2		
Westminster, Col.-B.		1				1				2			1		
Totaux de la Col.-Britann.		4				4				2			3	1	
Alberta, Sud, T. du N.-O.															
Totaux du Canada	8	31		3	3	27	1	5	4	26	13				
<b>BBINGING STOLEN PROPERTY INTO CANADA.</b>															
Bedford, Qué.		1			1								1		

## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. ILES BRITANNIQUES.			Canada.	United States Etats-Unis.	Other Foreign Countries. Autres pays étrangers.	Other British Possessions. Autres possessions Britanniques.	Baptists. Baptistes.	R. Catholics. Catholiques.	Ch. of England. Eglise d'Angleterre.	Methodists Méthodistes.	Presbyterians. Presbytériens.	Protestants Protestants.	Other Denominations. Autres confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales Angleterre et Galles	Ireland. Irlande.	Scotland. Ecosse.													
<b>VOL DE CHEVAUX, BÉTAIL ET MOUTONS—Fin.</b>															
2								1				1			2
2								1				1			2
4			34	4	1		1	17	5	10	4	6		12	35
<b>VOL SUR LA PERSONNE.</b>															
			2							2					2
	1		1	1			1	2						3	
	1		2	1			1	3						4	
			6					6						6	
			1									1		1	1
			4					2		1	1			2	4
	1			1				1				1		2	
			1					1		1				1	
			8	2	1		1	3	4		3	1		11	
	1		23	4	1		1	13	6	3	4	3		24	5
			1							1				2	1
1			1		1			2				1		2	1
1			2		1			2		1		1		2	2
1	2		29	5	2		2	18	6	6	4	4		30	9
<b>EFFETS VOLÉS APPORTÉS EN CANADA.</b>															
			1							1					1

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.										
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.	
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.	
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION
		Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.							
<b>BRINGING STOLEN PROPERTY INTO CANADA—Concluded.</b>										
Essex, Ont.....	1				1	1			1	
Westminster, B.C.....	a1				2	2			1	
Yukon.....	2									
Totals of Canada.....	5				4	4			2	
<b>EMBEZZLEMENT.</b>										
Prince Edward, Ont.....	1				1	1			1	
Wellington, Ont.....	1				1	1			1	
Totals of Ontario.....	2				2	2		d1	1	
Clinton, B.C.....	1				1	1				
Victoria, B.C.....	1				1	1				1
Westminster, B.C.....	a1									
Totals of British Columbia.....	3				2	2				1
Totals of Canada.....	5				4	4		d1	1	1
<b>FRAUD AND CONSPIRACY TO DEFRAUD.</b>										
Quebec, Que.....	1				1	1				
St. Francis, Que.....	3	2			1	1			1	
Totals of Quebec.....	4	2			2	2			1	
Brant, Ont....	20	14			6	3		3	3	
Carleton, Ont.....	6	4			2	2				1
Elgin, Ont.....	2	2								
Essex, Ont.....	2				2	2			1	
Hastings, Ont.....	13	1			12	12		6	1	
Kent, Ont.....	4				4	1	1	2		
Lanark, Ont.....	b2									
Middlesex, Ont.....	4	3			1		1		1	
Muskoka and Parry Sound, Ont.....	1				1	1			1	
Norfolk, Ont.....	1				1	1			1	
Northumberland & Durham, O.....	3	1	1		1	1				
Ontario, Ont.....	1	1								
Oxford, Ont.....	1	1								
Peel, Ont.....	2	2								
Peterborough, Ont.....	1	1								
Rainy River, Ont.....	1				1	1				1
Simcoe, Ont.....	3	2			1	1				
Welland, Ont.....	1				1	1			1	
Wellington, Ont.....	2				2	2				
Wentworth, Ont.....	10	5	2		3	3		1		
York, Ont.....	26	14	2		10	7	1	2	4	
Totals of Ontario.....	106	51	5		48	38	3	7	c8	12

a 1, b 2: Nolle prosequi.

Amount of fines—Montant des amendes : c, \$76 ; d, \$25.

## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — — En- voyés à la prison de Ré- forme.	Other Senten- ces. — — Autres Senten- ces.	Agricultural. — — Agriculteurs.	Commer- cial. — — Commer- çants.	Domestic — — Servi- teurs.	Indus- trial. — — Indus- triels.	Profes- sional — — Profes- sions libé- rales.	La- borers — — Jour- na- liers.	Married. — — Mariés.	Widowed — — En- veu- vage.	Single — — Céli- ba- taires.
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.												
<b>EFFETS VOLÉS APPORTÉS EN CANADA—Fin.</b>														
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	1	1	.....	1
<b>DÉTOURNEMENT.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	1
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	1	.....	1
1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	2	.....	2
<b>FRAUDE ET CONSPIRATION DE FRAUDE.</b>														
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	1
2	.....	.....	.....	.....	a1	1	.....	.....	1	2	2	4	.....	2
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	2	.....	1	.....	1
.....	.....	.....	.....	.....	a1	.....	1	.....	1	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	a3, b1, c1	.....	4	1	3	.....	4	6	.....	6
.....	.....	.....	.....	.....	a4	.....	.....	.....	4	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a2	.....	2	.....	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	a3	.....	.....	.....	3	.....	.....	1	.....	2
.....	.....	.....	.....	.....	a6	.....	5	.....	3	.....	1	3	.....	6
2	.....	.....	.....	.....	24	1	13	1	15	4	9	20	.....	19

a Sentenced suspended—Sentence suspendue. b Bound to good behaviour—A tenir une meilleure conduite. c Acquitted on making restitution—Libéré en faisant restitution

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.	M. F.	M. F.					
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo- dé- ré	Im- mo- dé- ré	
			H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.				
<b>BRINGING STOLEN PROPERTY INTO CANADA—Concluded.</b>															
Essex, Ont. ....		1						1						1	
Westminster, Col.-B. ....												2			
Yukon .....															
Totaux du Canada .....		2			1		1					2		2	
<b>EMBEZZLEMENT.</b>															
Prince-Edouard, Ont. ....		1				1								1	
Wellington, Ont. ....		1							1					1	
Totaux d'Ontario .....		2				1			1					1 1	
Clinton, Col.-B .....				1								1		1	
Victoria, Col.-B .....				1			1							1	
Westminster, Col.-B. ....															
Totaux de la Col.-Britann. ....				2			1					1		2	
Totaux du Canada .....		2	2			1		1		1		1		3 1	
<b>FRAUD AND CONSPIRACY TO DEFRAUD.</b>															
Québec, Qué. ....		1							1					1	
St. François, Qué. ....		1							1					1	
Totaux de Québec. ....		2							2					2	
Brant, Ont. ....		4	2				3		3					4 2	
Carleton, Ont. ....		1	1				1		1					2	
Elgin, Ont. ....															
Essex, Ont. ....		2					2							2	
Hastings, Ont. ....	1	11			1		8	1	2					9 3	
Kent, Ont. ....		4										4			
Lanark, Ont. ....															
Middlesex, Ont. ....		1							1					1	
Muskoka et Parry Sound, O. ....												1			
Norfolk, Ont. ....												1			
Northumberl'd et Durham, O. ....												1			
Ontario, Ont. ....															
Oxford, Ont. ....															
Peel, Ont. ....															
Peterborough, Ont. ....															
Rainy River, Ont. ....	1						1							1	
Simcoe, Ont. ....												1			
Welland, Ont. ....		1							1					1	
Wellington, Ont. ....		2					1		1					2	
Wentworth, Ont. ....		3					3							1 2	
York, Ont. ....		4	5		1		3	3	2			1		6 3	
Totaux d'Ontario .....	2	33	8		2		22	4	11			9		25 14	

## Criminal Statistics.

**TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.**

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Can- ada.	Uni- ted States — Etats- Unis.	Other Fo- reign Coun- tries. — Aut- res pays étran- gers.	Other Bri- tish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tholi- ques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Mé- tho- dists — Mé- tho- dis- tes.	Pres- byte- rians. — Pres- byte- riens.	Pro- tes- tants	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns— Villes.	Rural Districts— Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
<b>EFFETS VOLES APPORTÉS EN CANADA—Fin.</b>															
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
<b>DÉTournEMENT.</b>															
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	.....	.....	2	.....	.....	.....	1	.....	1	.....	.....	.....	1	1	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	
1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	1	.....	2	
1	.....	.....	3	.....	.....	.....	1	.....	2	.....	.....	1	.....	3 1	
<b>FRAUDE ET CONSPIRATION DE FRAUDE.</b>															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	
.....	.....	.....	2	.....	.....	.....	.....	1	.....	.....	.....	1	2	.....	
2	.....	.....	4	.....	.....	.....	1	1	5	.....	.....	.....	3	3	
.....	.....	.....	2	.....	.....	.....	1	.....	1	.....	.....	.....	2	.....	
.....	.....	.....	1	1	.....	.....	1	1	.....	1	.....	.....	1	1	
.....	.....	.....	11	.....	.....	.....	1	2	.....	8	.....	1	10	2	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	
1	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
2	.....	.....	1	.....	.....	.....	1	.....	2	.....	.....	2	.....	2	
2	.....	1	6	.....	.....	.....	.....	6	2	1	.....	.....	3	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	
8	1	1	28	1	.....	.....	3	11	11	10	.....	4	33	10	

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.	De- tained for Lu- nacy.  Dé- tenues pour cause de folie.		CONVICTIONS. — CONDAMNATIONS.				SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.			
			M.	F.	Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- des.	With the option of a fine. — Sur- option entre la pri- son ou l'a- m <sup>d</sup> nde	No OPTION.		One year and over. — Un an et plus.
										SANS OPTION.		
										Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.	
<b>FRAUD AND CONSPIRACY TO DEFRAUD—Concluded.</b>												
Manitoba, Central.....	1				1	1				a1		
Manitoba, Eastern.....	2	1			1	1				1		
Totals of Manitoba.....	3	1			2	2				2		
Westminster, B.C.....	5	5										
Alberta, Northern, N.W.T....	57	4			1	1				1		
Alberta, Southern, N.W.T....	1				1	1						
Assiniboia, East & W., N.W.T.	6	6										
Yukon.....	3	3										
Totals of the N.W.T.....	17	13			2	2				1		
Totals of Canada.....	135	72	5		54	44	3	7	e8	16	2	
<b>STEALING REGISTERED LETTERS AND OTHER MAIL MATTERS.</b>												
Montreal, Que.....	2				2	2						
Quebec, Que.....	1				1	1						
Totals of Quebec.....	3				3	3						
Brant, Ont.....	1				1			1				
Carleton, Ont.....	1	1										
Haldimand, Ont.....	1				1	1						
Lambton, Ont.....	2				2	1	1					
Muskoka and Parry Sound, Ont.	1				1	1						
Renfrew, Ont.....	3				3	1	1	1				
Totals of Ontario.....	9	1			8	4	2	2				
Totals of Canada.....	12	1			11	7	2	2				
<b>FALSE PRETENCES.</b>												
Annapolis, N.S.....	1	1										
Colchester, N.S.....	1	1										
Halifax, N.S.....	2	1			1	1				1		
Totals of Nova Scotia.....	4	3			1	1				1		
Montreal, Que.....	45	19			26	13	2	11	2	12		
Ottawa, Que.....	6	2			4	3		1		4		
Quebec, Que.....	7				7	5		2	1	2		
Richelieu, Que.....	1				1	1				1		
St. Francis, Que.....	4	3			1	1						
St. Hyacinthe, Que.....	2				2	2			1			
Three Rivers, Que.....	1				1	1				1		
Totals of Quebec.....	66	24			42	26	2	14	d4	20		
Brant, Ont.....	4	3			1		1			1		

a Both jail and fine—La prison et l'amende. b 2, Nolle prosequit. c Amount of fines—Montant des amendes : c, \$76 ; d, \$23.



## Criminal Statistics.

**TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.**

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- çants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Married. — Mariés.	Widowed — En- veuve- ge.	Single — Céli- bataires.
Two years and un- der five. — D'ux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>FRAUDE ET CONSPIRATION DE FRAUDE—Fin.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....
2	1	.....	.....	.....	25	1	13	1	15	5	13	22	.....	22
<b>VOL DE LETTRES CHARGÉES ET AUTRES MATIÈRES POSTALES.</b>														
2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	2	.....	.....	1
1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a2	.....	2	.....	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	1
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	3
4	.....	.....	.....	.....	4	.....	3	1	.....	.....	3	.....	2	6
7	.....	.....	.....	.....	4	.....	6	1	.....	.....	3	2	2	7
<b>FAUX PRÉTERTES.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	1	a11	.....	19	.....	3	.....	2	3	.....	23
.....	.....	.....	.....	.....	a3	.....	1	.....	1	.....	2	2	.....	2
1	.....	.....	.....	.....	.....	.....	3	.....	3	.....	1	3	.....	4
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....
.....	.....	.....	.....	.....	a1	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	2	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
1	.....	.....	.....	1	16	.....	25	.....	7	.....	9	9	.....	32
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1

α Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Super- ior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- mo- déré
			H.	F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>FRAUD AND CONSPIRACY TO DEFRAUD—Concluded.</b>															
Manitoba, Centre.....		1						1						1	
Manitoba, Est.....	1							1							1
Totaux de Manitoba.....	1	1						2						1	1
Westminster, Col.-B.....															
Alberta, Nord, T. du N.-O.....												1			
Alberta, Sud, T. du N.-O.....		1						1						1	
Assiniboia, E. et O., T. N.-O.....															
Yukon.....															
Totaux des T. du N.-O.....		1						1					1	1	
Totaux du Canada.....	3	37	8					25	4	13			10	29	15
<b>STEALING REGISTERED LETTERS AND OTHER MAIL MATTERS</b>															
Montréal, Qué.....		2						2						1	1
Québec, Qué.....		1						1						1	
Totaux de Québec.....		3						3						2	1
Brant, Ont.....			1						1					1	
Carleton, Ont.....															
Haldimand, Ont.....			1						1					1	
Lambton, Ont.....			2							2				2	
Muskoka et Parry Sound, Ont.....	1			1										1	
Renfrew, Ont.....			3						3					3	
Totaux d'Ontario.....	1	7		1				5	2					5	3
Totaux du Canada.....	1	10						8	2					7	4
<b>FALSE PRETENCES.</b>															
Annapolis, N.-E.....															
Colchester, N.-E.....															
Halifax, N.-E.....		1								1					1
Totaux de la N.-Ecosse.....		1								1					1
Montréal, Qué.....		24	2	1	9			16						3	23
Ottawa, Qué.....		4										4		3	1
Québec, Qué.....	2	4	1		1			5		1				5	2
Richelieu, Qué.....		1								1				1	
St. François, Qué.....		1			1			1						1	
St. Hyacinthe, Qué.....		1			1							1		1	
Trois-Rivières, Qué.....	1							1						1	
Totaux de Québec.....	3	35	3	1	12			23		2			5	14	27
Brant, Ont.....	1													1	

## Criminal Statistics

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
BIRTH PLACES. — LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Ca- nada.	United States	Other Fo- reign Coun- tries.	Other Bri- tish Pos- ses- sions.	Bap- tists.	R. Ca- tho- lics.	Ch. of Eng- land.	Me- tho- dists.	Pres- byte- rians.	Pro- tes- tants	Other Deno- mina- tions.	Cities and Towns—Villes. Rural Districts—Districts ruraux.
Eng- land and Wales	Ire- land.	Scot- land.		—	—	—	—	—	—	—	—	—	—	
Angle terre et Galles	Ir- lande.	Ecos- se.	—	Etats- Unis.	Autres pays étran- gers.	Autr's posses- sions Bri- tanni- ques.	Bap- tistes.	Catho- liques.	Eglise d'Ang- leterre.	Mé- tho- dis- tes.	Pres- byté- riens.	—	Autr's con- fes- sions.	
<b>FRAUDE ET CONSPIRATION DE FRAUD—Fin.</b>														
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
9	1	1	31	1	1	.....	4	12	12	10	1	5	.....	38 10
<b>VOL DE LETTRES CHARGÉES ET AUTRES MATIÈRES POSTALES.</b>														
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3
1	.....	.....	7	.....	.....	.....	.....	4	3	.....	1	.....	.....	1 7
1	.....	.....	10	.....	.....	.....	.....	7	3	.....	1	.....	.....	4 7
<b>FAUX PRÉTEXTES.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	26	.....	.....	.....	.....	23	1	.....	.....	.....	.....	26
.....	.....	.....	3	.....	.....	1	.....	4	.....	.....	.....	2	.....	2 2
.....	.....	.....	6	.....	.....	1	.....	7	.....	.....	.....	.....	.....	7 1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1 1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1 1
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2 1
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1 1
.....	.....	.....	40	.....	.....	2	.....	38	1	.....	.....	3	.....	38 4
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION	
										Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.

FALSE PRETENCES—Concluded.

Bruce, Ont.	2	1		1	1			1		
Carleton, Ont.	12	2	1	9	5	2	2		2	4
Elgin, Ont.	2	1		1	1				1	
Essex, Ont.	1	1								
Frontenac, Ont.	2			2	2			1	1	
Grey, Ont.	2			2	1	1		1	1	
Hastings, Ont.	4	3		1	1			1		
Kent, Ont.	8	2		6	5	1		2	3	
Lambton, Ont.	8			8	6	1	1		2	
Lanark, Ont.	2	2								
Lincoln, Ont.	2			2		2			1	
Middlesex, Ont.	2			2	2				1	
Mu-koka and Parry Sound, Ont.	2	1		1	1				1	
Nipissing, Ont.	2			2	2			1		
Norfolk, Ont.	4	2		2	2					
Northumberland & Durham, O.	12	3		9		5	4		5	2
Ontario, Ont.	1			1	1			1		
Oxford, Ont.	4	1		3	3				2	
Peel, Ont.	3			3	1	1	1		3	
Perth, Ont.	6	3		3	3				3	
Peterborough, Ont.	4	4								
Prince Edward, Ont.	2			2	1	1		1		1
Rainy, River, Ont.	1			1	1				1	
Stormont, D'das & Glengary, O.	2			2	2				1	
Victoria, Ont.	2	2								
Welland, Ont.	3	1		2	1	1			1	
York, Ont.	13	7	3	3	3				2	
Totals of Ontario.....	112	39	4	69	45	16	8	e9	32	7
Manitoba, Central.....	1			1	1				1	
Manitoba, Eastern.....	2			2	2				2	
Manitoba, Western.....	4			4	3	1			4	
Totals of Manitoba.....	7			7	6	1			7	
Cariboo, B.C.....	1			1	1				1	
Victoria, B.C.....	2			2	1		1		1	1
Westminster, B.C.....	a19	11	3	3	3			1	2	
Totals of British Columbia.....	22	11	3	6	5		1	d1	4	1
Alberta, Northern, N.W.T.....	3	3								
Alberta, Southern, N.W.T.....	4	2	1	1	1				1	
Assiniboia, Eastern, N.W.T.....	63	2								
Yukon.....	2	1		1	1				1	
Totals of the N.W.T.....	12	8	1	2	2				2	
Totals of Canada.....	223	85	8	127	85	19	23	e14	66	8

LARCENY.

Queen's, P.E.I.....	31	14		17	17			f11	5	
---------------------	----	----	--	----	----	--	--	-----	---	--

Nolle prosequi: a, 2; b, 1.

Amount of fines—Montant des amendes: c, \$86; d, \$10; e, \$119; f, \$11.

## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- çants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	Laba- rers — Jour- na- liers.	Married. — Ma- ries.	Wid- owed — En- veu- vage.	Single — Céli- bataires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>FAUX PRÉTERTES—Fin.</b>														
				a3		5	3	1			1	4		5
					1	1					2			1
						1		2			1			1
				a1	1				2		3			
				a6		4					4	4		4
				a1	1	1					1			1
				a1		1					1			
				a1						2	1			1
				a2	1			4		4	5			4
				a1										3
								3	3		1			3
														2
										1				1
				a1						2				2
				a1		2					1			1
				a1	1	1		1			3			
				21	5	18	3	11	3	16	28			31
								1			1			
						2					2			
											1			1
						2	2		1		4			1
							1	1			1			1
							1	1						2
							2	1	1		1			4
										1				1
											1			1
1				1	37	7	47	4	20	3	27	43		69
<b>LARCIN.</b>														
1											3			16

a Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS.  INSTRUCTION.			AGES.								USE OF LIQUORS.  USAGE DE LIQUEURS	
	Un- able to read or write.	Elen- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
H.				F.	H.	F.	H.	F.	H.	F.	Mo- dé- ré	Im- mo- dé- ré	
<b>FALSE PRETENCES—Concluded.</b>													
Bruce, Ont. ....										1			9
Carleton, Ont. ....		9				3	5		1				1
Elgin, Ont. ....		1					1						1
Essex, Ont. ....													
Frontenac, Ont. ....		2					1		1				2
Grey, Ont. ....		2					1		1				1
Hastings, Ont. ....		1					1						1
Kent, Ont. ....		1	2				3			3			3
Lambton, Ont. ....		8			1		3		4				5
Lanark, Ont. ....													
Lincoln, Ont. ....		2					2						1
Middlesex, Ont. ....		2					1			1			1
Muskoka et Parry Sound, Ont.										1			
Nipissing, Ont. ....	1	1					1		1				2
Norfolk, Ont. ....										2			
Northumberl'd et Durham, O.	4	5			2		6		1				5
Ontario, Ont. ....										1			4
Oxford, Ont. ....		3				1	2						3
Peel, Ont. ....			3		3								3
Perth, Ont. ....		3					2		1				2
Peterborough, Ont. ....													
Prince-Edouard, Ont. ....	1						1			1			1
Rainy River, Ont. ....		1							1				1
Storm't, D'das et Gleng'ry, O.	2						2						1
Victoria, Ont. ....									1				
Welland, Ont. ....		1	1				1		1				2
York, Ont. ....		3			1				2				3
<b>Totaux d'Ontario. ....</b>	<b>9</b>	<b>45</b>	<b>6</b>		<b>7</b>	<b>4</b>	<b>34</b>		<b>14</b>		<b>10</b>		<b>46</b>
Manitoba, Centre ....		1					1						1
Manitoba, Est. ....		1	1				1		1				1
Manitoba, Ouest ....			2				1		1		2		2
<b>Totaux de Manitoba. ....</b>		<b>2</b>	<b>3</b>				<b>3</b>		<b>2</b>		<b>2</b>		<b>4</b>
Caribou, Col.-B. ....		1								1			1
Victoria, Col.-B. ....		1	1				2						1
Westminster, Col.-B. ....		1	1				1		1		1		1
<b>Totaux de la Col.-Britann. ....</b>		<b>3</b>	<b>2</b>				<b>3</b>		<b>1</b>		<b>2</b>		<b>3</b>
Alberta, Nord, T. du N.-O. ....													
Alberta Sud, T. du N.-O. ....		1					1						1
Assiniboia, Est, T. du N.-O. ....													
Yukon ....										1			
<b>Totaux des T. du N.-O. ....</b>		<b>1</b>					<b>1</b>			<b>1</b>			<b>1</b>
<b>Totaux du Canada. ....</b>	<b>12</b>	<b>87</b>	<b>14</b>	<b>1</b>	<b>19</b>	<b>4</b>	<b>64</b>		<b>20</b>		<b>20</b>		<b>65</b>
<b>LARCENY.</b>													
Queen's, I. du P.-E. ....	1	15			13				3				1
													14
													2

# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.

BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.							RESI- DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Can- ada.	United States — Etats- Unis.	Other Fo- reign Coun- tries. — Aut- res pays étran- gers.	Other Bri- tish Pos- ses- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Me- tho- dists. — Métho- dis- tes.	Pres- by- terians. — Pres- byté- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes. Rural Districts—Districts ruraux.	
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
.....	.....	3													6
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	
.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	.....	1	2	.....	
1	.....	.....	2	.....	.....	.....	2	1	.....	.....	.....	.....	1	.....	
.....	.....	.....	8	.....	.....	.....	3	1	3	.....	.....	.....	8	.....	
.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	1	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	1	.....	
.....	.....	.....	8	1	.....	.....	.....	3	4	2	.....	.....	4	5	
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....	
.....	.....	.....	3	.....	.....	.....	.....	.....	3	.....	.....	.....	3	.....	
.....	.....	.....	2	.....	1	.....	.....	.....	1	1	.....	1	3	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	
.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	1	1	.....	
.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	
1	.....	.....	1	.....	.....	.....	.....	2	.....	.....	.....	.....	1	.....	
1	.....	.....	1	.....	.....	.....	.....	1	1	.....	.....	.....	1	2	
4	1	3	45	3	3	.....	5	7	12	15	8	9	3	39	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
1	1	1	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	
1	1	1	2	.....	.....	.....	.....	.....	2	1	2	.....	3	2	
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....	.....	1	2	
.....	.....	.....	1	1	.....	.....	.....	2	.....	.....	.....	.....	2	.....	
.....	.....	.....	1	2	2	.....	.....	3	.....	.....	1	.....	1	4	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
5	2	4	88	5	8	1	5	50	15	16	11	12	4	85	
<b>LARCIN.</b>															
.....	.....	.....	16	.....	.....	.....	.....	6	.....	4	6	.....	.....	16	

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.											
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	— SANS OPTION.	
										Under one year. — Moins d'un an.	One year and over — Un an et plus.
<b>LARCENY—Continued.</b>											
Annapolis, N.S.	1				1	1			1		
Antigonish, N.S.	2	2									
Cape Breton, N.S.	10	3			7	7			6		
Colchester, N.S.	7	1			6	4	2		4		
Cumberland, N.S.	2				2	2			1		
Halifax, N.S.	72	5			67	61	5	1	41	1	
Hants, N.S.	1				1	1			1		
King's, N.S.	4	3			1	1			1		
Lunenburg, N.S.	5				5	3	2		5		
Pictou, N.S.	13	2	1		10	7	3		2		
Queen's, N.S.	3				3	3			3		
Richmond, N.S.	1	1									
Shelburne, N.S.	4				4	4			2		
Yarmouth, N.S.	11	5			6	6			6		
<b>Totals of Nova Scotia.....</b>	<b>136</b>	<b>22</b>	<b>1</b>		<b>113</b>	<b>99</b>	<b>11</b>	<b>3</b>	<b>73</b>	<b>1</b>	
Albert, N.B.	3				3	3					
Carleton, N.B.	6				6	2	4		2		
Charlotte, N.B.	1				1	1			1		
Gloucester, N.B.	1				1	1			1		
Kent, N.B.	2		1		1	1					
King's, N.B.	1										
Northumberland, N.B.	6	3			3	1	2		1		
St. John, N.B.	76	52	6		18	18			7		
Sunbury, N.B.	1				1	1					
Victoria, N.B.	2				2	2			1		
Westmoreland, N.B.	127	9			16	16			12		
York, N.B.	8	1			7	7			3		
<b>Totals of New Brunswick.</b>	<b>134</b>	<b>65</b>	<b>7</b>		<b>59</b>	<b>53</b>	<b>4</b>	<b>2</b>	<b>28</b>		
Arthabaska, Que.	2				2	2			2		
Beauharnois, Que.	8	1			6	6			5		
Bedford, Que.	16	3			13	12	1		6	1	
Gaspé, Que.	3				3	3			2		
Iberville, Que.	2				2	2			1		
Joliette, Que.	14	1			13	12	1		7	2	
Kamouraska, Que.	7				7	7			3	2	
Montmagny, Que.	5				5	4	1		1	1	
Montreal, Que.	746	16	1	1	722	548	64	110	110	387	
Ottawa, Que.	17	5	1		11	11			11		
Pontiac, Que.	2				2	2			1		
Quebec, Que.	78	2			76	69	1	6	43	1	
Richelieu, Que.	17				17	13	3	1	11		
Rimouski, Que.	7				7	4	3		3		
St. Francis, Que.	26	6			20	19	1		12		
St. Hyacinthe, Que.	15				15	15			1	10	
Terrebonne, Que.	1	1									
Three Rivers, Que.	14	1			13	7	4	2	6	1	
<b>Totals of Quebec.....</b>	<b>980</b>	<b>36</b>	<b>1</b>	<b>1</b>	<b>934</b>	<b>736</b>	<b>78</b>	<b>120</b>	<b>115</b>	<b>510</b>	

a Escaped before trial—S'est évadé avant son procès. b, 2; c, 1; d, 7: *Nolle prosequi.* Amount of fines—  
Montant des amendes: e, \$625.



# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ.													CLASSE III.		
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commer- çants.	Domestic — Servi- teurs.	Indus- trial. — Indus- triels.	Profes- sional — Profes- sions libé- rales.	Laba- rers — Jour- na- liers.	Married. — Mariés.	Widowed — En- veuve- ge.	Single — Céli- bataires.	
Two years and under five.	Five years and over.	Life.													Deux ans et m'ns de cinq.
<b>LARCIN—Suite.</b>															
										1				1	
1							3		1		2			4	
1	1			1		1		1		3	1			5	
6	1			11	a7	2	3	7	10	5	23	6	2	59	
											1			1	
8						1			1		7	3	1	6	
							1							3	
1	1						1				3	2		2	
										1	1			5	
17	3			12	7	4	8	8	13	5	40	16	3	86	
2					a1		1				2			3	
4									1		5	1		5	
											1			1	
1	1			2										2	
1	1			5	a4	1	2				7	1	1	16	
1											1			1	
1						1					1			2	
1	3							3	1		9	1		15	
3					a1	1					6	1		6	
14	4			7	6	3	3	3	2		31	4	1	51	
1							1				1	1		1	
1				2	a3	1	2		1		3			4	
					a1		1				5	4		9	
					a1						2			3	
3	1			1	a1	1			3		1	1		1	
						4	1				9	9	1	3	
1				2	a1						2	4		3	
26	12			46	a133	10	96	22	151	1	189	140	38	538	
									3		4			4	
2				10	a1						5	3		6	
2				4	a20	1	13	7	12		2	15	2	2	
3	1					3	1				6	1		15	
2				1	a5						6			7	
2				2		2		2			7	5		15	
											8			13	
4	1			1				1	7		2	7	1	4	
47	15			69	165	22	115	32	177	1	276	191	42	687	

a Sentence suspended—Sentence suspendue.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supe- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>LARCENY—Continued.</b>															
Annapolis, N.-E.		1						1					1		
Antigonish, N.-E.															
Cap-Breton, N.-E.	1	5		2				3		1			1	4	
Colchester, N.-E.	1	5				1		5						2	
Cumberland, N.-E.				1								1		1	
Halifax, N.-E.	11	56		18	3	12		28	4	2				54	
Hants, N.-E.		1				1								1	
King's, N.-E.		1						1						1	
Lunenburg, N.-E.		1						1				3	1	1	
Pictou, N.-E.	1	8		1				7		1				8	
Queen's, N.-B.	2	1		2				1				1		3	
Richmond, N.-E.															
Shelburne, N.-E.	1	3				1		3						4	
Yarmouth, N.-E.						1	1	1	2	1					
<b>Totaux de la N.-Ecosse</b>	<b>17</b>	<b>82</b>		<b>24</b>	<b>3</b>	<b>16</b>	<b>1</b>	<b>51</b>	<b>6</b>	<b>5</b>		<b>5</b>	<b>2</b>	<b>80</b>	
Albert, N.-B.		3				2		1						3	
Carleton, N.-B.		6				5		1						6	
Charlotte, N.-B.												1			
Gloucester, N.-B.		1				1								1	
Kent, N.-B.													1		
King's, N.-B.															
Northumberland, N.-B.		2		2								1		2	
St. Jean, N.-B.	3	15		8				7		3				13	
Sunbury, N.-B.		1				1								1	
Victoria, N.-E.		2				1		1						2	
Westmoreland, N.-B.	5	11		4		4	2	5	1					13	
York, N.-B.	1	6				3		4						4	
<b>Totaux du N.-Brunswick</b>	<b>9</b>	<b>47</b>		<b>14</b>		<b>17</b>	<b>2</b>	<b>18</b>	<b>2</b>	<b>3</b>		<b>3</b>		<b>45</b>	
Arthabaska, Qué		2		1		1								2	
Beauharnois, Qué												6			
Bedford, Qué	3	10		4		2		3		4				7	
Gaspé, Qué	1	2				2		1						3	
Iberville, Qué	1	1		1				1						2	
Joliette, Qué	6	7				1		7		5				13	
Kamouraska, Qué	2	5		1		2		3		1				7	
Montmagny, Qué	3	2		1	1	2				1				4	
Montréal, Qué	134	579	3	170	13	130	12	290	28	52	13	5		284	
Ottawa, Qué	4	5										10	1	6	
Pontiac, Qué	2											2		2	
Québec, Qué	28	48		13	2	19	1	21	6	11	3			54	
Richelieu, Qué	13	3		7		3		5	1	1				11	
Rimouski, Qué	4	3		1		3		3						7	
St. François, Qué	13	7		4		1		11	1	3				20	
St. Hyacinthe, Qué	4	5		4	1			4				6		8	
Terrebonne, Qué				1										1	
Trois-Rivières, Qué	8	4		1		2		7		2		1		11	
<b>Totaux de Québec</b>	<b>226</b>	<b>683</b>		<b>3</b>	<b>208</b>	<b>17</b>	<b>177</b>	<b>13</b>	<b>356</b>	<b>36</b>	<b>80</b>	<b>16</b>	<b>30</b>	<b>1441</b>	

# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.					RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autres confessions.	Other Denominations. — Autres confessions.	Cities and Towns—Villes. Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.												
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	1	
2	.....	.....	3	.....	1	.....	4	1	.....	1	.....	.....	3	
.....	.....	.....	6	.....	.....	3	.....	2	.....	1	.....	.....	6	
7	4	.....	50	.....	6	5	35	18	6	3	.....	.....	63	
.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	1	.....	4	
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	
.....	.....	.....	9	.....	.....	1	1	.....	.....	.....	7	.....	5	
.....	.....	.....	3	.....	.....	.....	1	.....	2	.....	.....	.....	3	
.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	4	.....	4	
.....	.....	.....	6	.....	.....	3	2	1	.....	.....	.....	.....	5	
9	4	.....	85	.....	1	6	14	43	22	9	5	12	71	32
.....	.....	.....	3	.....	.....	.....	3	.....	.....	.....	.....	.....	1	2
.....	.....	.....	6	.....	.....	.....	5	.....	1	.....	.....	.....	5	1
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	1	1	.....	.....	.....	1	.....	2	.....
.....	.....	.....	17	.....	1	3	11	3	.....	1	.....	.....	16	2
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	17	.....	.....	.....	11	3	.....	.....	.....	.....	16	2
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	2	.....	.....	.....	1	.....	.....	.....	1	.....	1	.....
.....	.....	.....	15	.....	1	6	7	1	.....	.....	2	.....	13	2
.....	.....	.....	7	.....	.....	.....	3	2	.....	.....	1	.....	5	2
.....	.....	.....	55	.....	1	1	17	25	7	.....	2	6	44	12
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
.....	1	.....	12	.....	.....	.....	6	1	2	1	3	.....	1	13
.....	.....	.....	3	.....	.....	.....	1	.....	1	.....	1	.....	.....	3
.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	13	.....	.....	.....	13	.....	.....	.....	.....	.....	1	12
.....	.....	.....	7	.....	.....	.....	7	.....	.....	.....	.....	.....	3	4
.....	.....	.....	5	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	5
25	20	10	642	8	11	10	610	53	.....	25	14	4	686	30
.....	.....	.....	9	.....	.....	.....	8	.....	.....	1	.....	.....	5	4
.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....	1	.....	74	.....	1	.....	75	.....	.....	.....	1	.....	65	11
.....	.....	.....	15	1	.....	.....	18	.....	.....	.....	.....	.....	7	9
.....	.....	.....	7	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	20	.....	.....	.....	11	.....	.....	.....	9	.....	11	9
.....	.....	.....	15	.....	.....	.....	15	.....	.....	.....	.....	.....	12	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	12	.....	.....	.....	12	.....	.....	.....	.....	.....	10	2
25	22	10	842	9	12	10	793	54	4	27	28	4	801	121

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.											
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.	De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.				
				Total.	Con- vic- ted 1st.  —  Con- dam- nés une fois.	Con- vic- ted 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		SANS OPTION.	
								With the option of a fine.  —  Sur option entre la pri- son ou l'am- nde	No OPTION.	Un- der one year.  —  Moins d'un an.	One year and over.  —  Un an et plus.
<b>LARCENY—Continued.</b>											
Algoma and Manitoulin, Ont....	17	6		11	9	1	1		3	5	
Brant, Ont .....	84	15	2	67	37	7	23		35	1	
Bruce, Ont .....	13	5		8	7	1			3		
Carleton, Ont .....	190	54	4	132	79	24	29		92	18	
Dufferin, Ont .....	4			4	4				1		
Elgin, Ont .....	69	22	1	45	43	2			21		
Essex, Ont .....	76	9	2	65	54	8	3	6	26	7	
Frontenac, Ont.....	33	1		32	28	3	1	1	14	2	
Grey, Ont.....	37	7		30	28	2		2	17		
Haldimand, Ont.....	7			7	3	4			5		
Halton, Ont .....	13			13	12	1			4		
Hastings, Ont.....	50	4	2	44	40	3	1	2	17	1	
Huron, Ont.....	9	3		6	5		1		3	2	
Kent, Ont .....	63	19	2	41	24	9	8		19	6	
Lambton, Ont.....	41	7		34	26	7	1		14	2	
Lanark, Ont .....	12	1		11	9	2			6		
Leeds and Grenville, Ont.....	27	5	1	21	19		2	1	8	1	
Lennox and Addington, Ont.....	17			17	16	1			6	2	
Lincoln, Ont .....	33	11		22	10	8	4	1	12		
Middlesex, Ont.....	93	26		67	50	11	6	1	34	3	
Muskoka and Parry Sound, Ont	21	2	1	18	16		2	5	3	6	
Nipissing, Ont.....	11			11	10	1		1	6	1	
Norfolk, Ont.....	18	2	f. 1	15	13	2			9		
Northumberland & Durham, O.	41	19	1	21	18	2	1		13	1	
Ontario, Ont.....	7		1	6	6				6		
Oxford, Ont.....	39	9		30	27	3		2	11	3	
Peel, Ont .....	15	2		13	7	4	2		7		
Perth, Ont.....	34	8		26	23	2	1	1	6	1	
Peterborough, Ont.....	58	11	1 m. 1	45	36	9		1	14	3	
Prince Edward, Ont.....	6	1		5	4		1		1	2	
Rainy River, Ont .....	9			9	4	2	3		6	2	
Renfrew, Ont.....	26	2		24	19	4	1	2	16		
Simcoe, Ont.....	53	9	1	43	34	5	4	4	15		
Stormont, D'das & Glengarry, O.	11	1	in. 1	9	9			1	6		
Thunder Bay, Ont .....	6			6	6				4		
Victoria, Ont.....	26	7	1	18	15	2	1		3	3	
Waterloo, Ont.....	19	4		15	10	2	3		8		
Welland, Ont.....	39			39	34	5		14	14		
Wellington, Ont.....	42	5	2	35	30	3	2		7	1	
Wentworth, Ont.....	191	80	5	106	89	10	7		43	9	
York, Ont.....	819	261	42	514	458	46	10	4	256	21	
Totals of Ontario.....	2,379	618	69	7	1,685	1,371	196	118	a49	794	103
Manitoba, Central.....	18	2		16	13	3			11	4	
Manitoba, Eastern.....	116	17	3	96	71	23	2	7	74	1	
Manitoba, Western.....	33	6		27	26	1			22		
Totals of Manitoba.....	167	25	3	139	110	27	2	b7	107	5	
Cariboo, B.C.....	5			5	5			1	4		

Amount of fines—Montant des amendes : a, \$449; b, \$25.

# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Com- merçants.	Domestic — — Servi- teurs.	Indus- trial. — — Indus- triels.	Profes- sional — — Profes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Mariés.	Wid- owed — — En- veu- vage.	Single — — Céli- bataires.
Two years and un- der five.	Five years and over.	Life.												
<b>LARCIN—Suite.</b>														
3				a3	8	1				2	1		10	
				a24	4	2		5	9	4	31	16	1	50
				2	3			1	1		7			8
	20			a2		13		8	19		72	23	6	91
				a3				1			2			3
				2	1	2		4	4		31	17		28
				a22	7	4		6	4		24	16	2	43
				a24	1	4		4	7		10	8		24
	1			a11	1	4		4	4		14	6	1	19
				a6	1	3		2	1		3	3		4
				a2	4	1			2		3	1		6
				a7		3		1			21	7		37
				1	a10, b13	2		1			4			5
				a1					1		21	10		28
	3	3		a4	5	1		2	7		17	3		27
				a13		5			2		3			9
				a3				1	2		7			13
				a9	1	1			3		14	7		14
				a4				3	2		7	3		13
	2			a7	1	2			3		11	8	1	43
				a24	4	9		3	9	1	25	21	1	8
				1	a3	1		1			3	3		10
				a3							10		1	7
				a6	4			1	1		4	4		11
				a7	1				3		5	1		5
				1	a11	1		3	1		22	4	2	23
	2			a2		1		1	4		6	6		5
	4			a17	8	2		4	2		8	6		20
	1			2	a12, b13	2		9	7		16	12	2	31
				a2	1						4	3		2
				1		3				1	5	2		7
	3	2		1	a3	6			1		9	11		7
				2	a14, b5	3		1	2		15	3		30
				a2		2			4		3	4		5
				a2		2					4	2		4
	1			2	a5, b4	3			1		7	4	1	13
				1	a5			5	1	3	2	4	1	7
				1	a11	2		3	3		19	3	1	35
				1	a25	9		1	3		9	9		25
				2	a50	2		6	3	15	28	25	1	66
	3	4		32	a194	3		30	20		270	97	2	412
33	32			83	591	86	111	86	134	6	770	367	23	1,208
1						6			3		7	5		11
6	1				a7	9		17	2		36	16	2	78
					a5	2					7	2		7
7	1				12	17	17	2	23	1	50	23	2	96
											2			5

a Sentence suspended—Sentence suspendue. b Bound to good behaviour—A tenir une meilleure conduite.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. INSTRUCTION.			AGES.										USE OF LIQUORS. USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Mo- ins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.	—	—	
<b>LARCENY—Continued.</b>															
Algoma et Manitoulin, Ont.	2	9					7		4				5	6	
Brant, Ont	9	54	4	6	1	16	1	22	1	15	2	3	43	24	
Bruce, Ont	1	7		3	1			4					6	2	
Carleton, Ont	36	94		21		44	2	50	2	7	4	2	93	37	
Dufferin, Ont		3				2		1				1	3		
Elgin, Ont	5	39	1	5		6	1	30	1	2			35	10	
Eseex, Ont	3	58		13		13		22	1	9	3	3	29	22	
Frontenac, Ont	5	27		4		9	1	11	2	4	1		17	15	
Grey, Ont	9	17		3		14		6	1	1	1	4	25	1	
Haldimand, Ont	2	5				1		2					3	4	
Halton, Ont	1	6				3		4				3	1	6	
Hastings, Ont	13	31		17	1	6		17		3			33	11	
Huron, Ont		5		1		1		3				1	2	3	
Kent, Ont	5	33		4	2	3	2	20		6		4	29	9	
Lambton, Ont	5	25		8		8		10		4		4	15	15	
Lanark, Ont	1	8		2			1	5		1		1	4	5	
Leeds et Grenville, Ont.	1	19				6		11		3		1	9	11	
Lennox et Addington, Ont	2	15		5			3	5		4			10	7	
Lincoln, Ont.	2	20		4		5		10		3			15	7	
Middlesex, Ont.	6	59		5		14	2	33	1	9	1	2	40	25	
Muskoka et Parry Sound, Ont	4	4		2		1		3		2		10	8		
Nipissing, Ont.	2	9		1		4		5		1			9	2	
Norfolk, Ont.	1	10		1	1	1	2	3		3		4	11		
Northumberl'd et Durham, O.	2	13		4		4		5		2		6	13	2	
Ontario, Ont.		6		1		1		4					4	2	
Oxford, Ont	4	25		2		5		7		2		10	20	9	
Peel, Ont.		11				4		6		1		2	11		
Perth, Ont.		25	1	2		10		12		2			20	6	
Peterborough, Ont.	8	36	1	10		12	1	16	1	5			26	19	
Prince-Edouard, Ont.	4	1				1		4					4	1	
Rainy River, Ont	1	7	1					7		2			5	4	
Renfrew, Ont.	9	9			1	1		11	1	4		6	10	8	
Simcoe, Ont	4	29		11	1	3		18				10	16	17	
Stormont, D'das et Gleng'ry, O	3	6				2		6		1			6	3	
Thunder Bay, Ont.	3	2	1					6					3	3	
Victoria, Ont.	6	12		7		2		5		4			13	5	
Waterloo, Ont		12		1		2	1	5		3		3	5	7	
Welland, Ont.	4	35		6		17		12		4			31	8	
Wellington, Ont.	4	29	1	11		4		12	1	6		1	28	6	
Wentworth, Ont.	10	80	2	37		6	1	35	3	8	2	14	55	37	
York, Ont.	11	489	11	131	3	93	8	176	27	54	19	3	429	82	
Totaux d'Ontario	188	1384	23	328	11	324	26	630	43	183	33	98	915	441	
Manitoba, Centre.	1	13	2			3		11		2			14	2	
Manitoba, Est.	11	88	2	7		12	3	61	1	12			51	45	
Manitoba, Ouest		9		4		2		3		2		16	7	2	
Totaux de Manitoba	12	105	4	11		17	3	75	1	16		16	72	49	
Caribou, Col.-B.	4									1		4	4		

# Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.

BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.							RESI- DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Ca- nada.	Uni- ted States — Etats- Unis.	Other Fo- reign Coun- tries. — Aut- res pays étran- gers.	Other Brit- ish Pos- ses- ions. — Autr's posses- ions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Meth- odists — Méth- odis- tes.	Pres- byte- rians. — Pres- byte- riens.	Pro- tes- tants — Autr's con- fes- sions.	Other Denom- ina- tions. — Autr's con- fes- sions.	Cities and Towns— Villes.	Rural Districts— Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
7	1	3													
1	3	3	5	1	1	5	5	2	2	1	1	1	4	2	
1	14	3	114	1	1	99	1	1	1	29	128	3	4	4	
7	3	1	35	1	1	2	3	7	17	8	8	3	36	9	
3	2	1	46	10	1	5	22	8	18	5	3	3	39	22	
3	3	1	25	1	1	1	11	1	1	19	30	2	30	2	
1	1	1	24	1	1	2	2	2	12	6	4	4	19	7	
1	1	1	4	1	1	3	3	1	1	4	1	1	6	6	
2	5	1	5	1	1	2	2	2	2	1	1	1	1	1	
5	1	1	37	1	1	10	6	6	26	1	1	2	22	22	
2	1	2	3	2	1	4	4	1	10	6	6	25	5	5	
1	2	1	32	2	1	11	11	1	10	8	6	25	13	13	
2	1	1	27	1	1	1	2	12	12	1	1	26	4	2	
2	1	1	8	1	1	1	5	2	7	1	1	7	4	4	
3	1	1	17	1	1	1	9	3	7	2	7	16	4	4	
8	1	1	12	1	1	1	1	3	4	2	7	9	8	8	
7	11	1	12	1	1	6	6	4	10	2	2	12	10	10	
3	4	1	37	5	4	15	8	8	18	5	19	50	15	15	
4	1	1	5	1	1	6	5	2	4	1	1	4	4	4	
2	1	1	5	1	1	1	6	5	4	5	2	2	9	9	
2	1	1	11	1	1	1	5	4	5	5	3	3	8	8	
2	1	1	14	1	1	1	4	4	4	4	2	12	3	3	
2	1	1	4	2	1	2	3	3	3	2	16	4	2	2	
2	1	1	26	2	1	2	2	1	8	2	2	20	9	9	
1	2	1	9	1	1	5	5	6	6	3	1	1	10	10	
2	2	1	20	2	2	5	7	7	2	4	9	14	12	12	
2	5	1	37	1	1	3	13	6	16	4	3	34	11	11	
2	1	1	4	1	1	1	1	1	3	1	1	4	3	3	
2	1	1	4	2	1	5	5	1	1	2	1	6	6	6	
1	1	2	12	1	5	8	8	1	1	3	5	4	4	14	
1	2	2	31	1	1	1	6	11	6	9	1	11	22	22	
1	2	1	4	1	1	4	4	2	2	2	1	6	3	3	
1	2	1	4	1	1	5	5	1	1	1	6	6	6	6	
1	3	1	14	1	1	1	4	4	4	1	8	5	13	13	
1	3	1	6	1	1	1	4	2	2	1	3	1	6	6	
5	2	1	22	9	3	1	10	12	9	6	1	26	13	13	
9	2	1	28	3	3	16	7	7	3	5	3	16	18	18	
9	5	13	70	5	3	5	27	21	14	17	3	88	4	4	
44	36	13	383	28	7	12	127	241	53	67	4	503	8	8	
131	106	28	1200	73	34	45	458	434	292	183	149	30	1257	338	
6	12	6	8	2	10	2	4	6	4	1	1	9	7	7	
15	6	6	47	6	10	2	18	21	24	20	7	64	32	32	
6	6	6	3	6	10	2	5	5	1	3	4	3	6	6	
27	12	6	58	8	10	2	22	32	29	24	8	4	76	45	
1	1	1	3	1	1	4	4	1	1	1	1	1	5	5	

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- des. ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine.  — Sur option entre la pri- son ou l'a- me'de	NO OPTION.	
										SANS OPTION	
Under one year.  Moins d'un an.	One year and over.  Un an et plus.										

LARCENY—Concluded.

Clinton, B.C.	4				4	4				4	
Victoria, B.C.	a89	1			87	66	9	12		58	8
Westminster, B.C.	g173	57	6	1	105	88	7	10	1	77	1
Totals of British Columbia.	271	58	6	1	201	163	16	22	e2	143	9
Alberta, Northern, N.W.T.	o67	38			25	24	1			13	
Alberta, Southern, N.W.T.	s54	22			30	29	1			24	
Assiniboia, Eastern, N.W.T.	f34	16			17	17				16	
Assiniboia, Western, N.W.T.	20	6	1		13	13				8	1
Saskatchewan, N.W.T.	10	4			6	6				6	
Yukon	h49	22	2		20	20				j14	2
Totals of the N.W.T.	234	108	3		111	109	2			81	3
Totals of Canada.	4,332	946	90	9	3,259	2,658	334	267	d184	1,741	134

FELONIOUSLY RECEIVING.

Digby, N.S.	1				1	1					
Halifax, N.S.	1				1	1					
Hants, N.S.	2				2	2					
Lunenburg, N.S.	1				1	1				1	
Pictou, N.S.	1				1	1				1	
Queen's, N.S.	1	1									
Totals of Nova Scotia.	7	1			6	5	1			2	
Carleton, N.B.	1				1	1					
Westmoreland, N.B.	2				2	2				2	
Totals of New Brunswick.	3				3	3				2	
Iberville, Que.	1				1	1				1	
Joliette, Que.	1				1	1				1	
Montreal, Que.	15	2			13	9	1	3	3	5	1
Quebec, Que.	5	2			3	1	2			2	
St. Hyacinthe, Que.	1	1									
Totals of Quebec.	23	5			18	12	3	3	e3	9	1
Carleton, Ont.	5	3			2	1	1			1	1
Elgin, Ont.	2				2	2				1	
Frontenac, Ont.	1				1	1					
Grey, Ont.	1				1	1					
Hastings, Ont.	1	1									
Kent, Ont.	3	1	1		1	1				1	
Lincoln, Ont.	2	2									
Middlesex, Ont.	2				2	1		1			

a One left the country—Un a laissé le pays. Amount of fines—Montant des amendes : c, \$60 ; d, \$1,170 ; e, \$35. Nolle prosequi : f, 1 ; g, 4 ; h, 5 ; i, 2. j 1, 6 months and \$200—1, 6 mois et \$200.



## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- ma- tories — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Com- mer- çants.	Do- mestic — Servi- teurs.	In- dus- trial. — In- dus- triels.	Pro- fes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five.	Five years and over.	Life. — A vie												
D'ux ans et m'ns de cinq.	Cinq ans et plus.	A vie												
<b>LARCIN—Fin.</b>														
2	1			9	a2, b7	17	7	19	1	25	9			1
3					a23	14	3	6		25	4		2	78
5	1			9	32	31	10	25	1	52	13		2	165
1					a9, b2	1		2		9	3			9
1					a5					7	3			4
4											1			1
1	1				a2									
8	1				18	1		2		16	7			14
132	57			180	831	133	285	141	376	14	1,238	621	73	2,323
<b>RECEL.</b>														
1										1	1			1
1										1				2
2								2						1
										1				1
4								2		3	1			4
1										1				1
										1				2
1										2				3
										1	1			
					a1		7	4		1	1			3
					a1		1			2	2			1
3														
3					2		8	4		5	13		1	4
								2			1	1		2
					a1			1		1				1
					a1		1							1
					a1						1			1
1					a1	1				1	1			1

a Sentence suspended—Sentence suspendue. b Bound to good behaviour—A tenir une meilleure conduite.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- mo- de- rate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.					
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
H.				F.	H.	F.	H.	F.	H.	F.	Mo- déré	Im- modéré	
<b>LARCENY—Concluded.</b>													
Clinton, Col.-B.....		1								3	1		
Victoria, Col.-B.....	15	71	1	17	1	9	45	1	14			58	29
Westminster, Col.-B.....	20	69		35			40	2	9			19	63
Totaux de la Col.-Britann.	39	141	1	52	1	9	85	3	24		26	125	53
Alberta, Nord, T. du N.-O...	2	10				2	1		3		19	10	2
Alberta, Sud, T. du N.-O....	1	6		1			4		2		23	5	2
Assiniboia, Est, T. du N.-O..											17		
Assiniboia, Ouest, T. du N.-O.											13		
Saskatchewan, T. du N.-O....											5	1	
Yukon.....											20		
Totaux des T. du N.-O....	3	16		1		2	5		5		97	1	15
Totaux du Canada.....	495	2473	31	651	32	562	45	1223	91	316	49	276	14
<b>FELONIOUSLY RECEIVING.</b>													
Digby, N.-E.....		1					1					1	
Halifax, N.-E.....		1					1						1
Hants, N.-E.....		2					2					2	
Lunenburg, N.-E.....											1		
Pictou, N.-E.....		1			1							1	
Queen's, N.-E.....													
Totaux de la N.-Ecosse....		5			1		4				1	4	1
Carleton, N.-B.....		1							1			1	
Westmoreland, N.-B.....		2		1	1							2	
Totaux du N.-Brunswick..		3		1	1				1			3	
Iberville, Qué.....		1							1			1	
Joliette, Qué.....	1								1			1	
Montréal, Qué.....	4	9					7	1	5			5	8
Québec, Qué.....		3					2		1			2	1
St. Hyacinthe, Qué.....													
Totaux de Québec.....	5	13					9	1	8			9	9
Carleton, Ont.....		2					2					1	1
Elgin, Ont.....	2						2					2	
Frontenac, Ont.....		1			1							1	
Grey, Ont.....		1			1							1	
Hastings, Ont.....													
Kent, Ont.....		1						1				1	
Lincoln, Ont.....													
Middlesex, Ont.....		2					2					2	



TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.		
		M.	F.		Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	With the option of a fine. — Sur option entre la pri- son ou l'a- mende	No OPTION. — SANS OPTION.	
						Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 rédi- ves.		Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.

FELONIOUSLY RECEIVING—*Concluded.*

Muskoka and Parry Sound, Ont.	a6	1			2	2						
Perth, Ont	3	3										
Peterborough, Ont.	3	2	1									
Simcoe, Ont.	5	3			2	2				1		
Welland, Ont.	1	1			1	1						
Wentworth, Ont.	3	2			1	1						
York, Ont.	23	6	3		14	12	2			6	2	
Totals of Ontario	61	24	5		29	25	3	1		10	3	
Manitoba, Eastern	1	1										
Manitoba, Western	3				3	3				3		
Totals of Manitoba	4	1			3	3				3		
Cariboo, B.C.	1				1	1						
Victoria, B.C.	11				11	8	3			9	1	
Westminster, B.C.	25	10			15	11	1	3		10	1	
Totals of British Columbia	37	10			27	20	4	3		19	2	
Alberta, Southern, N.W.T.	2	2										
Assiniboia, Eastern, N.W.T.	2	1			1	1			1			
Yukon	1				1	1				1		
Totals of the N.W.T.	5	3			2	2			b1	1		
Totals of Canada	140	44	5		88	70	11	7	e4	46	6	

MALICIOUS OFFENCES AGAINST PROPERTY.

CLASS IV.

ARSON.

Prince, P.E.I.	2				2	2						
Halifax, N.S.	1				1	1						
King's, N.S.	2	1			1	1						
Totals of Nova Scotia	3	1			2	2						
Carleton, N.B.	2				2	2						
Montreal, Que.	1	1										
Ottawa, Que.	1				1	1						
Richelieu, Que.	3				3	1	1	1		1		
Terrebonne, Que.	1	1										
Totals of Quebec	6	2			4	2	1	1		1		
Algoma and Manitoulin, Ont.	1	1										
Carleton, Ont.	1	1										

a, 1m., 2f. : *Nolle prosequi.*

Amount of fines—Montant des amendes : b, \$5 ; e, \$40.

## Criminal Statistics.

TABLEAU I. DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ. CLASSE III.															
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Com- mer- çants.	Do- mestic — Servi- teurs.	In- dus- trial. — Indus- triels.	Pro- fes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.	
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie													
<b>RECEL—Fin.</b>															
.....	.....	.....	.....	.....	a2	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	.....	.....	a1	.....	.....	1	.....	.....	.....	.....	.....	1	
1	1	.....	.....	.....	a5	.....	4	.....	1	.....	5	12	.....	2	
2	1	.....	.....	1	12	1	6	.....	5	.....	8	16	2	8	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	
1	.....	.....	.....	1	a3	.....	3	.....	5	.....	6	1	2	11	
.....	.....	.....	.....	1	3	1	8	.....	2	.....	7	1	2	24	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
12	1	.....	.....	2	17	2	22	.....	13	.....	25	31	5	43	
<b>DOMMAGES MALICIEUX A LA PROPRIÉTÉ</b>													<b>CLASSE IV.</b>		
<b>INCENDIE PAR MALVEILLANCE.</b>															
.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	1	
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2	
.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	
1	1	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....	.....	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1	2	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....	4	

a Sentence suspended—Sentence suspen ue.

TABLE I. OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE. CLASS III.															
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>FELONIOUSLY RECEIVING—Concluded.</b>															
Muskoka et Parry Sound, Ont. ....													2		
Perth, Ont. ....															
Peterborough, Ont. ....															
Simcoe, Ont. ....		1					1				1		1		
Welland, Ont. ....		1			1								1		
Wentworth, Ont. ....		1							1					1	
York, Ont. ....		13	1	1			7	1	3	2			13	1	
Totaux d'Ontario. ....	2	23	1	1	3		13	3	4	2	3		23	3	
Manitoba, Est. ....											3				
Manitoba, Ouest. ....															
Totaux de Manitoba. ....											3				
Caribou, Col.-B. ....	1										1		1		
Victoria, Col.-B. ....		11		1	4		6						11		
Westminster, Col.-B. ....	3	12		1	2		9		2		1		9	5	
Totaux de la Col.-Britann. ....	4	23		2	6		15		2		2		21	5	
Alberta, Sud, T. du N.-O. ....															
Assiniboia, Est, T. du N.-O. ....											1				
Yukon. ....											1				
Totaux des T. du N.-O. ....											2				
Totaux du Canada. ....	11	67	1	4	11		41	4	15	2	11		60	18	
<b>MALICIOUS OFFENCES AGAINST PROPERTY. CLASS IV.</b>															
<b>ARSON.</b>															
Prince, I. du P.-E. ....	1	1					2						1	1	
Halifax, N.-E. ....		1					1						1		
King's, N.-E. ....		1							1					1	
Totaux de la N.-Ecosse. ....		2					1		1				1	1	
Carleton, N.-B. ....		2			1		1						2		
Montréal, Qué. ....															
Ottawa, Qué. ....	1						1						1		
Richelieu, Qué. ....		3			3								3		
Terrebonne, Qué. ....															
Totaux de Québec. ....	1	3			3		1						4		
Algoma et Manitoulin, Ont. ....															
Carleton, Ont. ....															



TABLE I.		MALICIOUS OFFENCES AGAINST PROPERTY.						CLASS IV.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges	Ac- quit- ted.	De- tained for Lu- nacy.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
				Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
	Con- dam- nés une fois.	Con- dam- nés deux fois.	Plus de 2 réci- ves.					With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	NO OPTION. — SANS OPTION.	
	Nombre d'accu- sations.	Ac- quit- tés.	Dé- tenues pour cause de folie.						Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
	M.	F.								
<b>ARSON—Concluded.</b>										
Essex, Ont. ....	2	2		2	2					
Grey, Ont. ....	2			1	2					
Hastings, Ont. ....	2		1	1		1				
Huron, Ont. ....	2	1		1	1				1	
Kent, Ont. ....	1			1	1					1
Leeds and Grenville, Ont. ....	4	2		2	2				1	
Lincoln, Ont. ....	2		1	1	1					
Middlesex, Ont. ....	1			1		1				1
Northumberland & Durham, O.	4	4								
Oxford, Ont. ....	1	1								
Peel, Ont. ....	1			1	1					
Perth, Ont. ....	3	1		2	2					
Simcoe, Ont. ....	a1									
Waterloo, Ont. ....	1	1								
Wellington, Ont. ....	1			1			1			
Wentworth, Ont. ....	4	4								
York, Ont. ....	18	10		8	8					
Totals of Ontario .....	52	28	2	21	18	2	1		2	2
Manitoba, Western .....	1	1								
Victoria, B.C. ....	1		1							
Westminster, B.C. ....	1	1								
Alberta, Northern, N.W.T. ....	1			1	1					
Yukon .....	2	2								
Totals of Canada .....	71	35	1	2	32	27	3	2	3	2
<b>MALICIOUS INJURY TO HORSES, CATTLE AND OTHER PROPERTY.</b>										
Cape Breton, N.S. ....	1			1	1				1	
Colchester, N.S. ....	1	1								
Digby, N.S. ....	1			1		1				
Halifax, N.S. ....	3	1		2	2			1		
Victoria, N.S. ....	3	3								
Totals of Nova Scotia .....	9	5		4	3	1		b1	1	
Madawaska, N.B. ....	1	1								
Montreal, Que. ....	7	4		3	3			1		
Ottawa, Que. ....	4	2	1	1	1				1	
Pontiac, Que. ....	2			2	2					
Terrebonne, Que. ....	3	3								
Totals of Quebec .....	16	9	1	6	6			c1	1	
Algoma and Manitoulin, Ont. ....	1	1								
Bruce, Ont. ....	1			1	1				1	

<sup>a</sup> Jury disagreed—Les jurés ne se sont pas accordés. Amount of fines—Montant des amendes : b, \$30; c, \$23.



## Criminal Statistics.

TABLEAU I. DOMMAGES MALICIEUX À LA PROPRIÉTÉ.											CLASSE IV.			
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS. ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Commerçants.	Do- mestic — Servi- teurs.	Indus- trial. — Indus- triels.	Pro- fes- sional — Profes- sions libé- rales.	Laba- rers — Jour- na- liers.	Mar- ried. — Mariés.	Wid- owed — En- veu- vage.	Single — Céli- bataires.
Two years and under five. — D'ux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>INCENDIE PAR MALVEILLANCE—Fin.</b>														
1				1						1				2
1								1						1
	1					1	1					2		1
				1						1				1
														1
	1				a1	1	1				1			1
	1													1
					a8									8
	6			2	9	3	2	1	2	3	4			17
1										1				1
2	14			2	9	5	2	1	6	8	5			27
<b>DOMMAGES MALICIEUX AUX CHEVAUX, BESTIAUX ET AUTRES PROPRIÉTÉS.</b>														
								1						1
1	1							1		1	1			1
1	1							2		1	2			2
1					b1		2	1			1			3
					a2					2	1			1
1					3		2	1		2	2			4
										1				1

*a* Sentence suspended—Sentence suspendue. *b* Bound to good behaviour—A tenir une meilleure conduite.

TABLE I.		MALICIOUS OFFENCES AGAINST PROPERTY.										CLASS IV.			
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- mo- déré
			H.	F.	H.	F.	H.	F.	H.	F.	H.	F.			
<b>ARSON—Concluded.</b>															
Essex, Ont. ....															
Grey, Ont. ....	1	1		1	1									2	
Hastings, Ont. ....		1							1					1	
Huron, Ont. ....		1						1						1	
Kent, Ont. ....		1						1						1	
Leeds et Grenville, Ont. ....		2						1		1				1	1
Lincoln, Ont. ....		1		1				1						1	
Middlesex, Ont. ....	1				1										1
Northumberland et Durham, O.															
Oxford, Ont. ....															
Peel, Ont. ....		1								1				1	
Perth, Ont. ....		2						1		1				2	
Simcoe, Ont. ....															
Waterloo, Ont. ....															
Wellington, Ont. ....		1			1										1
Wentworth, Ont. ....															
York, Ont. ....		8		7	1									8	
Totaux d'Ontario .....	2	19		9	4			4		4				18	3
Manitoba, Ouest. ....															
Victoria, Col.-B. ....															
Westminster, Col.-B. ....															
Alberta, Nord, T. du N.-O. ....	1									1				1	
Yukon .....															
Totaux du Canada. ....	5	27		9	8			9		6				27	5
<b>MALICIOUS INJURY TO HORSES, CATTLE AND OTHER PROPERTY.</b>															
Cap-Breton, N.-E. ....		1			1										1
Colchester, N.-E. ....															
Digby, N.-E. ....	1								1						1
Halifax, N.-E. ....		2			1				1				1	1	
Victoria, N.-E. ....															
Totaux de la N.-Ecosse. ....	1	3			2				2					1	3
Madawaska, N.B. ....															
Montréal, Qué. ....		3						2		1					3
Ottawa, Qué. ....		1											1	1	
Pontiac, Qué. ....	2											2		2	
Terrebonne, Qué. ....															
Totaux de Québec. ....	2	4						2		1		2	1	2	4
Algoma et Manitoulin, Ont. ....															
Bruce, Ont. ....		1			1									1	



TABLE I.		MALICIOUS OFFENCES AGAINST PROPERTY.						CLASS IV.		
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.	De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
				Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- dive- s.	COMMITTED TO JAIL — EMPRISONNÉS.		
								With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION. — SANS OPTION	
									Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>MALICIOUS INJURY TO HORSES, CATTLE AND OTHER PROPERTY—Concluded.</b>										
Hastings, Ont.....	4			4	3		1	2	1	
Lambton, Ont.....	3			3	3					
Middlesex, Ont.....	9	7		2	2					
Nipissing, Ont.....	1	1								
Northumberland & Durham, O.	2	1		1	1			1		
Oxford, Ont.....	3			3	3					
Peterborough, Ont.....	2	1		1		1				
Prescott and Russell, Ont.....	1	1								
Rainy River, Ont.....	1			1	1				1	
Simcoe, Ont.....	4	3		1		1				1
Victoria, Ont.....	3			3	3			3		
Welland, Ont.....	1			1		1				
York, Ont.....	2	1		1	1			1		
Totals of Ontario.....	38	16		22	18	3	1	e7	3	1
Manitoba, Central.....	3			3	3				3	
Victoria, B.C.....	a1									
Westminster, B.C.....	b34	10	2	20	20			19		
Totals of British Columbia.....	35	10	2	20	20			d19		
Alberta, Northern, N.W.T.....	a5	2		2	2				2	
Alberta, Southern, N.W.T.....	1			1	1				1	
Assiniboia, Eastern, N.W.T.....	f2	1								
Saskatchewan, N.W.T.....	4	4								
Totals of the N.W.T.....	12	7		3	3				3	
Totals of Canada.....	114	48	3	58	53	4	1	e28	11	1
<b>FORGERY AND OFFENCES AGAINST THE CURRENCY. CLASS V.</b>										
St. John, N.B.....	1	1								
Westmoreland, N.B.....	a3	1		1	1					
York, N.B.....	1			1	1					
Totals of New Brunswick.....	5	2		2	2					
Montreal, Que.....	12	3		9	6	1	2		4	
Richelieu, Que.....	1			1	1				1	
St. Francis, Que.....	1			1	1					1
Totals of Quebec.....	14	3		11	8	1	2		5	1
Bruce, Ont.....	1			1	1					
Carleton, Ont.....	2			2	1	1			2	
Essex, Ont.....	1	1								
Frontenac, Ont.....	1			1	1				1	

a 1, b 2, *Nolle prosequi*. Amount of fines—Montant des amendes: c, \$53; d, \$53; e, \$250 / Prisoner shot whilst resisting arrest—Prisonnier tué en résistant l'arrestation.

## Criminal Statistics.

TABLEAU I. DOMMAGES MALICIEUX À LA PROPRIÉTÉ.							CLASSE IV.							
SENTENCE.							OCCUPATIONS.					CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries	Other Senten- ces.	ÉTATS CIVILS.								
Two years and under five.	Five years and over.	Life.		— — —	— — —	— — —	Agricultural.	Com- mer- cial.	Do- mestic	In- dus- trial.	Pro- fes- sional	La- borers	Mar- ried.	Wi- dowed
D'ux ans et m'ns de cinq.	Cinq ans et plus.	A vie.	— — —	En- voyés à la prison de Ré- forme.	Autres Senten- ces.	— — —	— — —	— — —	— — —	— — —	— — —	Ma- riés.	En- veu- vage.	Céli- ba- taires.

### DOMMAGES MALICIEUX AUX CHEVAUX, BESTIAUX ET AUTRES PROPRIÉTÉS—Fin.

1					a1	2			1		1		1	3
					a2						3			3
					b2			1			2			2
														1
				2	a1						1			3
	1													1
						1								1
						1					3	1		3
				1								1		1
1	1			3	6	4	1		2		10	2	1	19
									1		2			3
					c1			5	1	1	12	2		17
						1		5	1	1	12	2		17
											1	1		
											1	1		
											2	2		
3	2			3	10	4	8	1	7		29	10	1	45

### FAUX ET DÉLITS PAR RAPPORT À LA MONNAIE. CLASSE V.

1						a1	1	1				1		
							1	1				2		
1														
3						a2	1	5	2		1	1	1	7
								1						1
								1						1
3						2	1	7	2		1	1	1	9
						a1				1				1
											2			2
											1			

a Sentenced suspended—Sentence suspendue.  
c To leave Canada—À quitter le Canada.

b Acquitted on paying damages—Acquittés en payant les dommages.

TABLE I. MALICIOUS OFFENCES AGAINST PROPERTY. CLASS IV.													
JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un-able to read or write.	Ele-men-tary.	Super-ior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo-dé-erate	Im-mo-dé-erate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non-donné.					
	Incapable de lire ou d'écrire.	Elémen-taire.	Supé-rieure	M.	F.	M.	F.	M.	F.	M.	F.	Mo-déré	Im-mo-déré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.	
<b>MALICIOUS INJURY TO HORSES, CATTLE AND OTHER PROPERTY—Concluded.</b>													
Hastings, Ont. ....	1	3				3		1			2	2	
Lambton, Ont. ....		3			1	1		1			3		
Middlesex, Ont. ....		2				2						2	
Nipissing, Ont. ....													
Northumberl'd et Durham, O.		1		1							1		
Oxford, Ont. ....		3		3							3		
Peterborough, Ont. ....		1				1						1	
Prescott et Russell, Ont. ....													
Rainy River, Ont. ....		1				1					1		
Simcoe, Ont. ....	1					1					1		
Victoria, Ont. ....		3			3						3		
Welland, Ont. ....	1			1							1		
York, Ont. ....		1						1				1	
Totaux d'Ontario. ....	3	19		5	5	9		3			16	6	
Manitoba, Centre. ....		3				3					3		
Victoria, Col.-B. ....													
Westminster, Col.-B. ....	5	14			2	16		1		1	12	7	
Totaux de la Col.-Britann.	5	14			2	16		1		1	12	7	
Alberta, Nord, T. du N.-O.	1					1				1	1		
Alberta, Sud, T. du N.-O.	1					1					1		
Assiniboia, Est, T. du N.-O.													
Saskatchewan, T. du N.-O.													
Totaux des Ter. du N.-O.	2					2				1	2		
Totaux du Canada. ....	13	43		5	9	32		7		4	36	20	
<b>FORGERY AND OFFENCES AGAINST THE CURRENCY. CLASS V.</b>													
St. Jean, N.-B. ....													
Westmoreland, N.-B. ....		1				1					1		
York, N.-B. ....		1				1					1		
Totaux du N.-Brunswick.		2				2					2		
Montréal, Qué. ....		9				8		1			1	8	
Richelieu, Qué. ....		1				1					1		
St. François, Qué. ....		1								1	1		
Totaux de Québec. ....		11				9		1		1	3	8	
Bruce, Ont. ....		1				1					1		
Carleton, Ont. ....		2				2					2		
Essex, Ont. ....													
Frontenac, Ont. ....		1						1				1	

## Criminal Statistics.

TABLEAU I. DOMMAGES MALICIEUX À LA PROPRIÉTÉ. CLASSE IV.															
BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.						RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Catho- liques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Metho- dists — Métho- distes.	Pres- byte- rians. — Pres- byte- riens.	Pro- tes- tants	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.													
1			3					1	3				1	3	
			2				1	1		1			3		
			1										1		
			3						3	1			3		
				1				1					1		
			1							1			1		
			3						3				3		
	1		1					1					1		
1	1		19	1			1	3	4	9	3	2	15	7	
			3						1	1	1		3		
4	1		9	1	4			3				13	3	19	
4	1		9	1	4			3				13	3	19	
			1					1						1	
			1					1						1	
								2						2	
5	2		43	2	4		1	15	7	10	4	16	3	44	
DOMMAGES MALICIEUX AUX CHEVAUX, BESTIAUX ET AUTRES PROPRIÉTÉS—Fin.															
			1											1	
			1				1			1				1	
			2				1			1				2	
2			5		1	1		6	3				8	1	
			1					1				1	1	1	
2			7		1	1		7	3			1	9	2	
				1						1				1	
2									2				2		
			1									1	1		

TABLE I. FORGERY AND OFFENCES AGAINST CURRENCY—*Concluded.* CLASS V.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.		De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.			
		M.	F.		Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	With the option of a fine. — Sur option entre la pri- son ou l'a- mende	NO OPTION.	
										SANS OPTION	
							Con- dam- nés une fois.		Plus de 2 réci- des.		Un- der one year. — Moins d'un an.
Grey, Ont. ....	2				2	2				2	
Huron, Ont. ....	2				2	1	1				2
Kent, Ont. ....	2	2									
Lambton, Ont. ....	1	1									
Lincoln, Ont. ....	2				2	1		1			
Muskoka and Parry Sound, Ont.	2				2	1	1			2	
Norfolk, Ont. ....	1				1	1					
Northumberland & Durham, O..	1				1	1					
Oxford, Ont. ....	1				1	1					
Renfrew, Ont. ....	5				5	2	2	1			
Simcoe, Ont. ....	3				3	3				2	
Stormont, D'as & Glengarry, O.	1				1	1				1	
Victoria, Ont. ....	1				1		1				1
Waterloo, Ont. ....	1				1	1					1
Welland, Ont. ....	1				1	1				1	
Wellington, Ont. ....	2				2	2				1	
Wentworth, Ont. ....	1				1		1			1	
York, Ont. ....	16	4			12	8	3	1		5	1
Totals of Ontario.....	50	8			42	29	10	3		18	5
Manitoba, Eastern.....	6	1			5	2	1	2		2	2
Manitoba, Western.....	2				2	2				1	1
Totals of Manitoba.....	8	1			7	4	1	2		3	3
Clinton, B.C. ....	1				1	1				1	
Victoria, B.C. ....	7	1			6	3	3			1	5
Westminster, B.C.....	13	1			12	9	2	1		3	5
Totals of British Columbia	21	2			19	13	5	1		5	10
Alberta, Southern, N.W.T. ....	1				1	1				1	
Assiniboia, Eastern, N.W.T. ....	2	1			1	1				1	
Assiniboia, Western, N.W.T. ....	3	1			2	2					
Saskatchewan, N.W.T. ....	1	1									
Totals of the N.W.T. ....	7	3			4	4				2	
Totals of Canada.....	105	19			85	60	17	8		33	19

OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES. CLASS VI.

OFFENCES AGAINST GAMBLING AND LOTTERY ACTS.

Beauharnois, Que. ....	1				1	1				a1	
Westminster, B.C. ....	45	6			39	30	9		b39		
Alberta, Northern, N.W.T. ....	1				1	1					
Yukon ....	2	1			1	1				1	
Totals of Canada.....	49	7			42	33	9		b39	2	

a Both jail and fine—La prison et l'amende. Amount of fines—Montant des amendes : b, \$850.



## Criminal Statistics.

TABLEAU I. FAUX ET DÉLITS PAR RAPPORT A LA MONNAIE—Fin. CLASSE V.

SENTENCE.					OCCUPATIONS.						CIVIL CONDITIONS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort.	Com- mit- ted to Refor- ma- to- ries  — En- voyés à la prison de Réfor- me.	Other Senten- ces.  — Autres Senten- ces.	Agricultural. — — Agriculteurs.	Com- mer- cial. — — Com- mer- çants.	Do- mestic — — Servi- teurs.	In- dus- trial. — — In- dus- triels.	Pro- fes- sional — — Pro- fes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Ma- riés.	Wi- dowed — — En veu- vage.	Single — — Céli- ba- taires.
Two years and under five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.												
							2			2		1		1
											2			
						1			1		1			1
					a1				1		1			1
					a1					1	1			1
							1				1			1
4	1					3				2	3			2
	1					1				1	2			1
									1		1			1
							1		1					1
					a1					2	1			1
	1				a5	1	5	1		1	1	4		8
6	3				10	6	9	1	5	4	12	20		22
1						1	2		2		1	1		4
														1
1						1	2		2		1	1		5
						1	5			1	1	4		2
1					a3		3			4	2	1		5
1					3	1	8			5	2	6		7
											1			1
					a2									
					2						1			1
12	3				18	10	27	3	7	9	17	30	1	44
AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.														
INFRACTIONS AUX LOIS DÉFENDANT LE JEU ET LES LOTERIES.														
							1					1		
							19		3		3	15	3	21
					a1				1					1
					1		20		4		3	16	3	22

a Sentence suspended—Sentence suspendue.

TABLE I. FORGERY AND OFFENCES AGAINST CURRENCY—*Concluded.* CLASS V.

JUDICIAL DISTRICT IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS		
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo- de- rate	Im- de- rate			
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.						
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- de- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.	H.	F.
Grey, Ont.....		2				1		1					1	1
Huron, Ont.....			2			2							2	
Kent, Ont.....														
Lambton, Ont.....								1					2	
Lincoln, Ont.....		2			1				1				2	
Muskoka et Parry Sound, O.....		2			1			1					2	
Norfolk, Ont.....		1				1							1	
Northumberland et Durham, O.....		1		1									1	
Oxford, Ont.....		1							1				1	
Renfrew, Ont.....		5			2			3					3	2
Simcoe, Ont.....		3			1			1	1				3	
Storm't, D'das et Glengarry, O.....	1					1							1	
Victoria, Ont.....		1				1							1	
Waterloo, Ont.....		1			1								1	
Welland, Ont.....		1							1				1	
Wellington, Ont.....		2				2							1	1
Wentworth, Ont.....		1					1						1	
York, Ont.....		7	5	4	1	4		3					12	
<b>Totaux d'Ontario.....</b>	<b>1</b>	<b>34</b>	<b>7</b>	<b>5</b>	<b>7</b>	<b>1</b>	<b>15</b>	<b>1</b>	<b>12</b>	<b>1</b>			<b>33</b>	<b>9</b>
Manitoba, Est.....		5				2		2		1			3	2
Manitoba, Ouest.....		1				1					1		1	
<b>Totaux de Manitoba.....</b>		<b>6</b>				<b>3</b>		<b>2</b>		<b>1</b>			<b>4</b>	<b>2</b>
Clinton, Col.-B.....		1									1			
Victoria, Col.-B.....		3	3					6					1	5
Westminster, Col.-B.....		5	6					6			6		6	2
<b>Totaux de la Col.-Britann.....</b>		<b>9</b>	<b>9</b>					<b>12</b>			<b>7</b>		<b>7</b>	<b>7</b>
Alberta, Sud, T. du N.-O.....		1			1								1	
Assiniboia, Est, T. du N.-O.....											1			
Assiniboia, Ouest, T. du N.-O.....											2			
Saskatchewan, T. du N.-O.....														
<b>Totaux des T. du N.-O.....</b>		<b>1</b>			<b>1</b>						<b>3</b>		<b>1</b>	
<b>Totaux du Canada.....</b>	<b>1</b>	<b>63</b>	<b>16</b>	<b>5</b>	<b>11</b>	<b>1</b>	<b>40</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>12</b>		<b>50</b>	<b>26</b>

OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES. CLASS VI.

OFFENCES AGAINST GAMBLING AND LOTTERY ACTS.

Beauharnois, Qué.....		1											1	1
Westminster, Col.-B.....	1	35	3					30		9			34	5
Alberta, Nord, T. du N.-O.....		1						1					1	
Yukon.....												1		
<b>Totaux du Canada.....</b>	<b>1</b>	<b>37</b>	<b>3</b>					<b>31</b>		<b>9</b>			<b>36</b>	<b>5</b>



TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.	De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. CONDAMNATIONS.				SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS.		
				Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 réci- des. ves.	With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION. — SANS OPTION.	
									Un- der one year. — Moins d'un an.	One year and over — Un an et plus.
<b>ATTEMPT TO COMMIT SUICIDE.</b>										
Montreal, Que. ....	6			6	5		1	4		
Ottawa, Que. ....	1		1							
Totals of Quebec. ....	7		1	6	5		1	4		
Brant, Ont. ....	1	1								
Carleton, Ont. ....	1			1	1					
Leeds and Grenville, Ont. ....	1					1				
Ontario, Ont. ....	1			1	1					
Victoria, Ont. ....	1			1	1			1		
York, Ont. ....	2	1		1	1					
Totals of Ontario. ....	7	2		5	4	1		1		
Victoria, B.C. ....	2			2	2			1		
Alberta, Southern, N.W.T. ....	1			1	1			1		
Assiniboia, Eastern, N.W.T. ....	1	1								
Totals of Canada. ....	18	3	1	14	12	1	1	7		
<b>INDECENT EXPOSURE AND OTHER OFFENCES AGAINST PUBLIC MORALS.</b>										
Digby, N.S. ....	2	1	1							
Halifax, N.S. ....	2			2	2			1		
Lunenburg, N.S. ....	1	1								
Totals of Nova Scotia. ....	5	2	1	2	2			a1		
Montreal, Que. ....	7			7	7			4	1	
Ottawa, Que. ....	2			2	2				2	
Quebec, Que. ....	2			2	2					
St. Francis, Que. ....	1	1								
Totals of Quebec. ....	12	1		11	11			b4	3	
Brant, Ont. ....	1			1	1				1	
Hastings, Ont. ....	1			1	1			1		
Middlesex, Ont. ....	1			1	1				1	
Northumberland & Durham, O. ....	3	1		2	2			2		
Welland, Ont. ....	1			1	1				1	
Wentworth, Ont. ....	3			3	2	1			1	
York, Ont. ....	8	2	2	4	4				1	
Totals of Ontario. ....	18	3	2	13	12	1		c3	5	
Victoria, B.C. ....	1			1	1				1	
Westminster, B.C. ....	8	3		5	5			3		
Totals of British Columbia. ....	9	3		6	6			d3	1	
Alberta N'th and Assiniboia W	2	1		1	1					
Totals of Canada. ....	46	10	3	33	32	1		e11	8	

Amount of fines—Montant des amendes: a, \$20; b, \$70; c, \$45; d, \$70; e, \$205.

## Criminal Statistics.

TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES CLASSE VI PRÉCÉDENTES.														
SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories — En- voyés à la prison de Réforme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commer- cial. — Commerçants.	Domestic — —	Indus- trial. — Industriels.	Profes- sional — —	La- borers — Journai- niers.	Mar- ried. — Mariés.	Wi- dowed — En- veuve- gés.	Single — Célibat- naires.
Two years and under five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>TENTATIVE DE SUICIDE.</b>														
.....	.....	.....	.....	.....	a2	.....	.....	1	.....	2	2	1	3	
.....	.....	.....	.....	.....	2	.....	.....	1	.....	2	2	1	3	
1	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	1	.....	
.....	.....	.....	.....	.....	a1	.....	.....	1	.....	1	1	.....	1	
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	.....	1	
1	.....	.....	.....	.....	3	.....	.....	1	.....	4	1	1	3	
.....	.....	.....	.....	.....	a1	.....	.....	1	.....	1	2	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	
1	.....	.....	.....	.....	6	.....	.....	3	.....	8	5	2	7	
<b>EXPOSITION INDÉCENTE ET AUTRES DÉLITS CONTRE LA MORALE PUBLIQUE.</b>														
.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	.....	.....	2	
.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	.....	.....	2	
.....	1	.....	.....	.....	a1	3	.....	3	.....	.....	4	1	2	
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	
2	1	.....	.....	.....	1	3	.....	3	.....	.....	6	1	4	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	
.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	1	
.....	.....	.....	.....	a3	.....	.....	.....	.....	.....	1	1	.....	3	
.....	.....	.....	.....	2	3	1	1	2	.....	3	4	.....	9	
.....	.....	.....	.....	.....	a2	.....	4	1	.....	.....	1	1	1	
.....	.....	.....	.....	.....	2	.....	4	1	.....	1	1	1	4	
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	.....	.....	.....	.....	
2	1	.....	.....	3	7	1	9	2	5	4	11	2	19	

a Sentence suspended—Sentence suspendue.

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Super- rior.	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non- donné.		Mo- de- rate	Im- mo- de- rate
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- déré	Im- mo- déré
<b>ATTEMPT TO COMMIT SUICIDE.</b>															
Montréal, Qué . . . . .	2	4					2	2	1	1			2	4	
Ottawa, Qué . . . . .															
Totaux de Québec . . . . .	2	4					2	2	1	1			2	4	
Brant, Ont. . . . .															
Carleton, Ont. . . . .		1							1				1		
Leeds et Grenville, Ont. . . . .		1						1					1		
Ontario, Ont. . . . .		1						1					1		
Victoria, Ont. . . . .	1							1					1		
York, Ont. . . . .		1						1					1		
Totaux d'Ontario . . . . .	1	4					4		1				1	4	
Victoria, Col.-B. . . . .	1		1							2				2	
Alberta, Sud, T. du N.-O. . . . .	1								1					1	
Assiniboia, Est, T. du N.-O. . . . .															
Totaux du Canada . . . . .	5	8	1				6	2	5	1			3	11	
<b>INDECENT EXPOSURE AND OTHER OFFENCES AGAINST PUBLIC MORALS.</b>															
Digby, N.-E. . . . .															
Halifax, N.-E. . . . .		2			1	1							2		
Lunenburg, N.-E. . . . .															
Totaux de la N.-Ecosse . . . . .		2			1	1							2		
Montréal Qué . . . . .	1	6					4		2	1			3	4	
Ottawa, Qué . . . . .		2									1	1	2		
Québec, Qué . . . . .		2				1		1					2		
St. François, Qué . . . . .															
Totaux de Québec . . . . .	1	10				1	4	1	2	1	1	1	7	4	
Brant, Ont. . . . .	1								1				1		
Hastings, Ont. . . . .		1							1				1		
Middlesex, Ont. . . . .		1						1					1		
Northumberl'd et Durham, O. . . . .		2							1				2		
Welland, Ont. . . . .	1				1								1		
Wentworth, Ont. . . . .		3				1		2					3		
York, Ont. . . . .		4		3			1						3	1	
Totaux d'Ontario . . . . .	2	11		3	2	1	2	2	3				10	3	
Victoria, Col.-B. . . . .		1						1					1		
Westminster, Col.-B. . . . .	1	4					4	1					2	3	
Totaux de la Col.-Brit. . . . .	1	5					4	1	1				3	3	
Alberta, N. et Assiniboia, O. . . . .													1		
Totaux du Canada . . . . .	4	28		3	3	3	10	4	6	1	1	2	22	10	

## Criminal Statistics.

**TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.**

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.		
BRITISH ISLES. — ILES BRITANNIQUES.				United States — Etats- Unis.	Other Fo- reign Coun- tries. — Autr's pays étran- gers.	Other Bri- tish Pos- sions. — Autr's posses- sions Bri- tanni- ques.	Bap- tists. — Bap- tistes.	R. Ca- tho- lics. — Ca- tholi- ques.	Ch. of Eng- land. — Eglise d'An- gle- terre.	Me- tho- dists — Mé- tho- dis- tes.	Pres- byte- rians. — Pres- byté- riens.	Pro- tes- tants	Other Deno- mina- tions. — Autr's con- fes- sions.	Cities and Towns— Villes.	Rural Districts— Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.	Cana- da.												
<b>TENTATIVE DE SUICIDE.</b>															
1	2	1	2					4	2					6	
1	2	1	2					4	2					6	
			1							1		1	1	1	
		1	1							1		1	1	1	
	1		1					1				1	1	1	
	1	1	3					1	1	1	2		3	2	
1					1			1				1	2		
	1							1						1	
2	4	2	5		1			5	4	1	1	2	1	8	
<b>EXPOSITION INDECENTE ET AUTRES DELITS CONTRE LA MORALE PUBLIQUE.</b>															
			2					1		1				2	
			2					1		1				2	
			7					6		1			7	2	
			2					2					2		
			11					10		1			11		
1			1					1	1				1	1	
			1	1				1			1		1	1	
			2					1	1				1	1	
			1	2				2	1				3	1	
			4					3	1				4		
1			9	3				1	7	3		2	11	2	
			2	1				1					1		
2			2		1			1			4		5		
2			2	1	1			2			4		6		
3			24	4	1			14	7	5		6	30	2	

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  Ac- quit- tés.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.				
					Total.	Con- victed 1st.  — Con- dam- nés une fois.	Con- victed 2nd.  — Con- dam- nés deux fois.	Reite- rated.  — Plus de 2 réci- ves.	With the option of a fine. — Sur option entre la pri- son ou l'a- me'de	NO OPTION.		
										Sans option	Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
		M.	F.									
<b>PERJURY AND SUBORNATION OF PERJURY.</b>												
Colchester, N.S.	1	1			1	1			1			
Halifax, N.S.	2	1			1				1			
Totals of Nova Scotia	3	2			1	1			1			
Montreal, Que.	a4	3										
Ottawa, Que.	1	1										
Totals of Quebec	5	4										
Brant, Ont.	a2	1										
Bruce, Ont.	3	3										
Frontenac, Ont.	1	1										
Grey, Ont.	1				1	1			1			
Haldimand, Ont.	1	1										
Kent, Ont.	2	1			1		1			1		
Leeds and Grenville, Ont.	1				1	1						
Muskoka and Parry Sound, Ont.	b4	1			1	1			1			
Northumberland & Durham, O.	3	1			2	2			2			
Peel, Ont.	6				6	4	2					
Peterborough, Ont.	2	1			1		1			1		
Renfrew, Ont.	1				1	1			1			
Wellington, Ont.	2				2	1	1		1			
Wentworth, Ont.	1				1	1						
York, Ont.	5	4			1	1						
Totals of Ontario	35	14			18	13	5		6	2		
Manitoba, Eastern	3	3										
Westminster, B.C.	2	2										
Alberta, Southern, N.W.T.	3				3	3			3			
Assiniboia, Eastern, N.W.T.	3	2			1	1			1			
Assiniboia, Western, N.W.T.	1	1										
Saskatchewan, N.W.T.	1				1	1						
Totals of the N.W.T.	8	2	1		5	5			4			
Totals of Canada	56	27	1		24	18	6		11	2		
<b>VIOLATION OF THE ELECTION ACT.</b>												
Victoria, Ont.	2	1			1	1						
Wentworth, Ont.	1	1										
Totals of Ontario	3	2			1	1						
Westminster, B.C.	2				2	2			c2			
Totals of Canada	5	2			3	3			2			

a, 1; b, 2: *Nolle prosequi.*

Amount of fines—Montant des amendes: c, \$207.



# Criminal Statistics.

**TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.**

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic. — Servi- teurs.	Industrial. — Indus- triels.	Profes- sional. — Profes- sions libé- rales.	Laba- rers. — Jour- na- liers.	Mar- ried. — Ma- riés.	Wi- dowed. — En- veu- vage.	Single. — Céli- ba- taires.
Two years and under five. — Deux ans et moins de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												

**PARJURE ET SUBORNATION DE PARJURE.**

.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	1
6	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	.....	.....	2	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	.....	2
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	.....	.....
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	.....	.....
7	.....	.....	.....	.....	3	11	2	.....	1	.....	4	12	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
.....	.....	.....	.....	.....	a1	.....	1	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	4	.....	.....
7	.....	.....	.....	.....	4	11	3	1	1	.....	4	16	7

**INFRACTIONS À LA LOI ÉLECTORALE.**

.....	.....	.....	.....	a1	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	.....	.....

a Sentence suspended—Sentence suspendue.

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.	Mo- de- rate		Im- mo- de- rate		Mo- de- ré	Im- mo- de- ré	
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Elé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
				H.	F.	H.	F.	H.	F.	H.	F.				
<b>PERJURY AND SUBORNATION OF PERJURY.</b>															
Colchester, N.-E. ....	1							1						1	
Halifax, N.-E. ....															
Totaux de la N.-Ecosse. . .	1							1						1	
Montréal, Qué. ....															
Ottawa, Qué. ....															
Totaux de Québec. ....															
Brant, Ont. ....															
Bruce, Ont. ....															
Frontenac, Ont. ....															
Grey, Ont. ....			1					1						1	
Haldimand, Ont. ....															
Kent, Ont. ....		1				1								1	
Leeds et Grenville, Ont. . .	1							1						1	
Muskoka et Parry Sound, Ont.	1					1								1	
Northumberl'd et Durham, O.		1	1			2								1	
Peel, Ont. ....		6						6						6	
Peterborough, Ont. ....		1				1								1	
Renfrow, Ont. ....		1				1								1	
Wellington, Ont. ....		2						2						2	
Wentworth, Ont. ....	1							1						1	
York, Ont. ....		1						1						1	
Totaux d'Ontario. ....	3	13	2		1	5	12						12	6	
Manitoba, Est. ....															
Westminster, Col.-B. ....															
Alberta, Sud, T. du N.-O. . .	3				1	1	1						3		
Assiniboia, Est, T. du N.-O. .										1					
Assiniboia, Ouest, T. du N.-O.		1						1						1	
Saskatchewan, T. du N.-O. . .															
Totaux des T. du N.-O. . .	3	1			1	1	2			1			4		
Totaux du Canada. ....	7	14	2		2	6	14			1			17	6	
<b>VIOLATION OF THE ELECTION ACT.</b>															
Victoria, Ont. ....		1						1						1	
Wentworth, Ont. ....															
Totaux d'Ontario. ....		1						1						1	
Westminster, Col.-B. ....										2					
Totaux du Canada. ....		1						1		2					



TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  Nombre d'accu- sations.	Ac- quit- ted.		De- tained for Lu- nacy.  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE. — COMMITTED TO JAIL — EMPRISONNÉS.			
		M.	F.		Total.	Con- victed 1st.  Con- dam- nés une fois.	Con- victed 2nd.  Con- dam- nés deux fois.	Reite- rated.  Plus de 2 récidi- ves.	With the option of a fine.  Sur option entre la pri- son ou l'a- m'nde	No OPTION. — SANS OPTION.	
										Un- der one year.  Moins d'un an.	One year and over.  Un an et plus.
<b>PRISON BREACH, ESCAPE AND ATTEMPT TO ESCAPE FROM PRISON.</b>											
Cape Breton, N.S.	1				1		1		1		
Halifax, N.S.	1				1		1		1		
Yarmouth, N.S.	1				1		1		1		
Totals of Nova Scotia	3				3		2	1	3		
Westmoreland, N.B.	3				3		2	1	3		
Bedford, Que.	1				1			1			
Montreal, Que.	3				3			3	1		
Totals of Quebec	4				4			4	1		
Frontenac, Ont.	9				9		5	4	1	6	
Grey, Ont.	1				1		1		1		
Middlesex, Ont.	1				2		2		1		
Muskoka and Parry Sound, Ont.	2				1		1		1		
Oxford, Ont.	1				1		1				
Peterborough, Ont.	1				1		1		1		
Renfrew, Ont.	2				2		2				
Welland, Ont.	1				1		1		1		
Wentworth, Ont.	4				4		4		4		
York, Ont.	2				2		2			1	
Totals of Ontario	24				23		19	4	9	7	
Manitoba, Eastern	4				4		4		2	2	
Manitoba, Western	2				2		2		1		
Totals of Manitoba	6				6		6		3	2	
Cariboo, B.C.	3				3		3		3		
Clinton, B.C.	7				7		7		7		
Victoria, B.C.	3				3		3		3		
Westminster, B.C.	2				2		2		2		
Totals of British Columbia	15				15		15		15		
Assiniboia, Western, N.W.T.	1				1		1				
Totals of Canada	56				55		45	10	34	9	
<b>CONSPIRACY.</b>											
Oxford, Ont.	6				3		3				
Wentworth, Ont.	3	6			1		1				
York, Ont.	3	1	1		1		1				
Totals of Ontario	13	7	1		4		4				
Westminster, B.C.	1	1									
Totals of Canada	14	8	1		4		4				

a Nolle prosequi.

b One, jury disagreed—Un, les jurés ne se sont pas accordés.

# Criminal Statistics.

**TABEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.**

SENTENCE.											CIVIL CONDITIONS.			
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- ma- to- ries.							Other Senten- ces.	OCCUPATIONS.		
Two years and un- der five.	Five years and over.	Life.			—	—	Agricultural.	Com- mer- cial.	Do- mestic	In- du- s- trial.	Pro- fes- sional	La- borers	Mar- ried.	Wid- owed
Deux ans et m'ns de cinq.	Cinq ans et plus.	A vie		En- voyés à la prison de Réfor- me.	Autres Senten- ces.	Agriculteurs.	Com- mer- çants.	Servi- teurs.	In- du- s- triels.	Pro- fes- sions libé- rales.	Jour- na- liers.	Mariés.	En- veu- vage.	Céli- ba- taires.
<b>BRIS DE PRISON, ÉVASION ET TENTATIVE D'ÉVASION.</b>														
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	3
.....	.....	.....	.....	.....	a1	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	a2	.....	.....	.....	1	.....	2	1	.....	2
.....	.....	.....	.....	.....	3	1	.....	.....	1	.....	2	2	.....	2
1	.....	.....	.....	.....	a1	1	.....	.....	.....	.....	8	2	.....	7
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
1	.....	.....	.....	.....	a1	1	.....	.....	.....	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	a1	.....	.....	.....	1	.....	2	.....	.....	2
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
4	.....	.....	.....	.....	3	2	1	.....	2	.....	15	3	.....	17
.....	.....	.....	.....	.....	a1	.....	1	.....	1	.....	2	.....	1	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	1	.....	1	.....	1	.....	3	.....	1	4
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	3
.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	1	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	2	1	.....	1	.....	4	2	.....	7
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	.....	.....	.....	.....	7	5	4	.....	5	.....	28	7	1	36
<b>CONSPIRATION.</b>														
.....	.....	.....	.....	.....	a3	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	1

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS		
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.					Mo- de- rate	Im- de- rate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.								
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré
H.				F.	H.	F.	H.	F.	H.	F.	H.	F.	H.	F.	H.	F.
<b>PRISON BREACH, ESCAPE AND ATTEMPT TO ESCAPE FROM PRISON.</b>																
Cap-Breton, N.-E.	1				1										1	
Halifax, N.-E.	1				1										1	
Yarmouth, N.-E.	1				1										1	
Totaux de la N.-Ecosse	3				1	1		1							3	
Westmoreland, N.-B.	1	2						3							1	2
Bedford, Qué.	1							1								1
Montréal, Qué.	3							3								3
Totaux de Québec	4							4								4
Frontenac, Ont.	9							9							7	2
Grey, Ont.																
Middlesex, Ont.	1							1							1	
Muskoka et Parry Sound, Ont.	2							1		1					2	
Oxford, Ont.	1												1			
Peterborough, Ont.	1				1										1	
Renfrew, Ont.	2				1			1							1	1
Welland, Ont.	1							1							1	
Wentworth, Ont.	2							2					2		3	1
York, Ont.	2				1			1							2	
Totaux d'Ontario	20				3			16		1			3		18	4
Manitoba, Est.	4							4							1	3
Manitoba, Ouest	1				1								1		1	
Totaux de Manitoba	5				1			4					1		2	3
Caribou, Col.-B.	3					2							1		3	
Clinton, Col.-B.		3											7			
Victoria, Col.-B.		3						2		1					3	
Westminster, Col.-B.	2												2			2
Totaux de la Col.-Britann.	5	6				2		2		1			10		6	2
Assiniboia, Ouest, T. du N.-O.													1			
Totaux du Canada	6	40			1	7		30		2			15		30	15
<b>CONSPIRACY.</b>																
Oxford, Ont.															3	
Wentworth, Ont.																
York, Ont.	1							1							1	
Totaux d'Ontario	1							1							3	1
Westminster, Col.-B.																
Totaux du Canada	1							1							3	1

## Criminal Statistics.

**TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES CLASSE VI. PRÉCÉDENTES.**

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.		
BRITISH ISLES. ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists.	R. Catholics.	Ch. of England.	Methodists.	Presbyterians.	Protestants	Other Denominations.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.					Baptists.	Catholics.	Eglise d'Angleterre.	Methodists.	Presbyterians.		Autr's confessions.		
<b>BRIS DE PRISON, ÉVASION ET TENTATIVE D'ÉVASION.</b>							1						1		
			1								1		1		
			2				1				1		3		
			3				3						3		
			1				1	1						1	
			3				1	2						3	
			4				1	3						4	
1	1		5	1	1		3	2	2	1	1		1	8	
			1								1			1	
			2				1	1						2	
1			1					1		1			1	2	
			2	1			1		1		1		1	2	
			1	1			1			1			2	2	
2	1		13	3	1		2	5	3	4	3	3	9	11	
1	1		2					1	1		2		4		
			1							1			1		
1	1		3					1	1		3		5		
			3					3						3	
2				1					2		1		2	6	
			2								2		2	1	
2			5	1				3	2		1	2	4	10	
5	2		30	4	1		2	14	9	4	7	6	24	25	
<b>CONSPIRATION.</b>															
			1							1				1	
			1							1				1	
			1							1				1	

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations	Ac- quit- ted.  —  Ac- quit- tés.		De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. CONDAMNATIONS.			SENTENCE.		
		M.	F.		Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 rédi- ves.	COMMITTED TO JAIL — EMPRISONNÉS.	
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION. — SANS OPTION
		OFFENCES AGAINST REVENUE LAWS.								
Bedford, Que. ....	7				7	1			7	
Montmagny, Que. ....	3				3	7	2		a3	
Montreal, Que. ....	7				7	2	2	3	4	
Pontiac, Que. ....	3				3	3			a2	
Richelieu, Que. ....	3				3	3			3	
Totals of Quebec. ....	23				23	16	4	3	e11	8
Elgin, Ont. ....	1	1								
Hastings, Ont. ....	1				1	1				1
Totals of Ontario. ....	2	1			1	1				1
Westminster, B.C. ....	6				6	6			d6	
Yukon. ....	1				1	1			e1	
Totals of Canada. ....	32	1			31	24	4	3	f18	9
CARRYING UNLAWFUL WEAPONS.										
Montreal, Que. ....	5				5	3	1	1		4
Rimouski, Que. ....	1				1	1				
Totals of Quebec. ....	6				6	4	1	1		4
Kent, Ont. ....	1				1	1				
Northumberland & Durham, O..	1				1	1			1	
Rainy, River, Ont. ....	2				2	1		1	2	
Simcoe, Ont. ....	1		1							
Wentworth, Ont. ....	5	4			1	1				1
Totals of Ontario. ....	10	4	1		5	4		1	g3	1
Westminster, B.C. ....	8	2			6	6			h3	
Alberta, North & South, N.W.T.	2	2								
Totals of Canada. ....	26	8	1		17	14	1	2	i6	5
FORCIBLE ENTRY.										
Montreal, Que. ....	2	2								
Nipissing, Ont. ....	2	1			1	1				1
Simcoe, Ont. ....	2		1		1	1				
Waterloo, Ont. ....	4				4	4			3	
Welland, Ont. ....	2	1			1		1			
York, Ont. ....	5	3			2	2			2	
Totals of Ontario. ....	15	5	1		9	8	1		j5	1
Manitoba, Eastern. ....	1	1								

a Both jail and fine—La prison et l'amende. Amount of fines—Montant des amendes : c, \$621 ; d, \$270 ; e, \$25 ; f, \$916 ; g, \$388 ; h, \$45 ; i, \$133 ; j, \$90.



## Criminal Statistics.

TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES CLASSE VI. PRÉCÉDENTES.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mitted to Refor- matories. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Profes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Ma- riés.	Wi- dowed — En- veu- vage.	Single — Céli- bataires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>DÉLITS CONTRE LE REVENU DE L'ÉTAT.</b>														
.....	.....	.....	.....	.....	6	1	.....	.....	.....	.....	5	.....	2	
.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3	.....	.....	
.....	.....	.....	.....	.....	a3	7	.....	.....	.....	.....	7	.....	.....	
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	2	1	1	.....	
.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3	.....	.....	
.....	.....	.....	.....	.....	4	12	8	.....	.....	2	19	1	3	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	
.....	.....	.....	.....	.....	.....	5	.....	.....	.....	1	3	.....	3	
.....	.....	.....	.....	.....	4	12	13	.....	1	.....	3	23	1	6
<b>PORT D'ARMES ILLÉGAL.</b>														
.....	.....	.....	.....	.....	a1	3	.....	2	.....	.....	1	.....	4	
.....	.....	.....	.....	.....	a1	.....	.....	.....	.....	1	.....	.....	1	
.....	.....	.....	.....	.....	2	3	.....	2	.....	1	1	.....	5	
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	
.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2	.....	.....	
.....	1	.....	.....	.....	.....	2	.....	1	.....	2	3	.....	2	
.....	.....	.....	.....	.....	a3	.....	.....	4	.....	2	1	1	4	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	1	.....	.....	.....	5	5	.....	7	.....	5	5	1	11	
<b>ENTRÉE FORCÉE.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1	.....	.....	.....	.....	a1	1	.....	1	.....	3	2	.....	2	
.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2	.....	1	
1	.....	.....	.....	1	1	1	.....	2	1	3	4	.....	4	

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED. — DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS			
	Un- able to read or write.	Ele- men- tary.	Supe- rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo- de- rate	Im- mo- de- rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non- donné.							
	Inca- pable de lire ou d'é- crire.	Élé- men- taire.	Supé- rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo- dé- ré	Im- mo- dé- ré
<b>OFFENCES AGAINST REVENUE LAWS.</b>															
Bedford, Qué	1	6			1		2		4				6	1	
Montmagny, Qué	1	2					2		1				3		
Montréal, Qué		7					5		2				7		
Pontiac, Qué	1	2									2	1	3		
Richelieu, Qué		3					3							3	
Totaux de Québec	3	20			1		12		7		2	1	19	4	
Elgin, Ont.															
Hastings, Ont.		1					1							1	
Totaux d'Ontario		1					1							1	
Westminster, Col.-B.	2	3	1				5		1				5	1	
Yukon											1				
Totaux du Canada	5	24	1		1		18		8		3	1	24	6	
<b>CARRYING UNLAWFUL WEAPONS.</b>															
Montréal, Qué		5					5						2	3	
Rimouski, Qué		1			1								1		
Totaux de Québec		6			1		5						3	3	
Kent, Ont.		1					1							1	
Northumberl'd et Durham, O.		1					1							1	
Rainy River, Ont		2					1		1				2		
Simcoe, Ont.															
Wentworth, Ont.		1					1						1		
Totaux d'Ontario		5					4		1				3	2	
Westminster, Col.-B.		6					5		1				4	2	
Alberta, N. et S., T. du N.-O.															
Totaux du Canada		17			1		14		2				10	7	
<b>FORCIBLE ENTRY.</b>															
Montréal, Qué															
Nipissing, Ont.			1						1				1		
Simcoe, Ont												1			
Waterloo, Ont		4			2		1		1				4		
Welland, Ont.		1					1							1	
York, Ont.		2					1		1				2		
Totaux d'Ontario		7	1		2		3		3			1	7	1	
Manitoba, Est.															

# Criminal Statistics.

**TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.**

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States	Other Foreign Countries.	Other British Possessions.	Baptists.	R. Catholics.	Ch. of Eng-land.	Metho-dists	Pres-byterians.	Other Deno-minations.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng-land and Wales	Ire-land.	Scot-land.		Etats-Unis.	—	Autr's possessions Britanni-ques.	—	—	—	—	—	—		
Angle terre et Galles	Ir-lande.	Ecos-se.			Autr's pays étran-gers.	Bap-tists.	Catho-ques.	Eglise d'An-gle-terre.	Métho-distes.	Pres-byté-riens.	Pro-tes-tants			
<b>DÉLITS CONTRE LE REVENU DE L'ÉTAT.</b>														
.....	.....	.....	7	.....	.....	.....	4	.....	.....	.....	3	.....	1	6
.....	.....	.....	3	.....	7	.....	3	.....	.....	.....	.....	.....	2	3
.....	.....	.....	3	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	5
.....	.....	.....	3	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
.....	.....	.....	3	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
.....	.....	.....	16	.....	7	.....	20	.....	.....	.....	3	.....	3	20
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
1	.....	.....	2	1	2	.....	2	.....	.....	.....	3	1	6	.....
1	.....	.....	19	1	9	.....	22	1	.....	.....	6	1	10	20
<b>PORT D'ARMES ILLÉGAL.</b>														
.....	.....	.....	3	2	.....	.....	1	3	1	.....	.....	.....	5	.....
.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....
.....	.....	.....	4	2	.....	.....	1	4	1	.....	.....	.....	6	.....
.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	1	2	2	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	1	.....	2	2	.....	.....	.....	1	.....	1	.....	3	5	.....
1	1	.....	1	2	1	.....	.....	2	.....	.....	4	.....	2	4
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	2	.....	7	6	1	.....	1	7	1	1	7	.....	13	4
<b>ENTRÉE FORCÉE.</b>														
.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	3	.....	4
.....	1	.....	3	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
1	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2
1	1	.....	4	.....	2	.....	1	2	1	.....	1	.....	3	7

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASS VI. CLASSES.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges  —  Nombre d'accu- sations.	Ac- quit- ted.  —  Ac- quit- tés.	De- tained for Lu- nacy.  —  Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.				SENTENCE.		
				Total.	Con- victed 1st.  —  Con- dam- nés une fois.	Con- victed 2nd.  —  Con- dam- nés deux fois.	Reite- rated.  —  Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
								With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	No OPTION. — SANS OPTION	
									Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
<b>FORCIBLE ENTRY—Concluded.</b>										
Westminster, B.C.....	3	2	.....	1	1	.....	.....	1	.....	
Totals of Canada.....	21	10	1	10	9	1	.....	a5	2	
<b>VARIOUS OTHER MISDEMEANOURS.</b>										
Halifax, N.S.....	1	.....	.....	1	1	.....	.....	1	.....	
Joliette, Que.....	2	.....	.....	2	2	.....	.....	2	.....	
Montreal, Que.....	4	.....	.....	4	4	.....	3	1	.....	
Totals of Quebec.....	6	.....	.....	6	6	.....	b3	3	.....	
Kent, Ont.....	1	1	.....	.....	.....	.....	.....	.....	.....	
Lincoln, Ont.....	1	.....	.....	1	1	.....	.....	1	.....	
Rainy River, Ont.....	1	.....	.....	1	1	.....	.....	1	.....	
Victoria, Ont.....	1	1	.....	.....	.....	.....	.....	.....	.....	
Wellington, Ont.....	7	4	.....	3	3	.....	3	.....	.....	
York, Ont.....	6	2	.....	4	4	.....	.....	3	.....	
Totals of Ontario.....	17	8	.....	9	9	.....	c3	5	.....	
Westminster, B.C.....	2	2	.....	.....	.....	.....	.....	.....	.....	
Saskatchewan, N.W.T.....	1	.....	.....	1	1	.....	.....	.....	.....	
Totals of Canada.....	27	10	.....	17	17	.....	d6	9	.....	

Amount of fines—Montant des amendes: a, \$90; b, \$85; c, \$30; d, 115.

# Criminal Statistics.

TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES. CLASSE VI.

SENTENCE.					OCCUPATIONS.							CIVIL CONDITIONS. — ÉTATS CIVILS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries. — En- voyés à la prison de Réfor- me.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic. — Serviteurs.	Industrial. — Industriels.	Profes- sional — Profes- sions libé- rales.	La- borers — Jour- na- liers.	Mar- ried. — Mariés.	Wi- dowed — En- veu- vage.	Single — Céli- ba- taires.
Two years and un- der five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie												
<b>ENTREE FORCÉE—Fin.</b>														
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	1	1	1	2	.....	2	1	3	4	.....	5
<b>DIVERS AUTRES DÉLITS.</b>														
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	3	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	4	3	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	al	3	.....	.....	.....	3	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
.....	.....	.....	.....	.....	.....	1	3	1	.....	.....	3	1	1	8
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	al	1	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	2	4	2	.....	1	3	5	5	12

TABLE I. OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE COMMITTED.  DISTRICTS JUDI- CIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un-able to read or write.	Ele-men-tary.	Supe-rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo-de-rate	Im-mo-déré		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non donné.					
	Inca-pable de lire ou d'é-crire.	Elé-men-taire.	Supé-rieure	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	Mo-déré	Im-mo-déré	
			H. F.	H. F.	H. F.	H. F.	H. F.	H. F.	H. F.				
<b>FORCIBLE ENTRY—Concluded.</b>													
Westminster, Col.-B. ....	1							1				1	
Totaux du Canada.....	8	1		2	3	4		1	7	2			
<b>VARIOUS OTHER MISDEMEANOURS.</b>													
Halifax, N.-E.....	1					1						1	
Joliette, Qué.....	2			1	1							2	
Montréal, Qué.....	4					3		1				2	
Totaux de Québec.....	2	4		1	1	3		1				4	
Kent, Ont.....													
Lincoln, Ont.....		1				1						1	
Rainy River, Ont.....		1				1						1	
Victoria, Ont.....													
Wellington, Ont.....		3			1	2						3	
York, Ont.....			4		2	1		1				4	
Totaux d'Ontario.....		5	4		3	5		1				9	
Westminster, Col.-B.....													
Saskatchewan, T. du N.-O.....		1						1				1	
Totaux du Canada.....	2	11	4	1	4	9		1	2			14	

## Criminal Statistics.

TABLEAU I. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES CLASSE VI. PRÉCÉDENTES.

BIRTH PLACES. LIEUX DE NAISSANCE.						RELIGIONS.							RESI- DENCE.			
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Bap- tists.	R. Ca- tho- lics.	Ch. of Eng- land.	Me- tho- dists	Pres- byte- rians.	Pro- tes- tants	Other Deno- mina- tions.	— Autr's con- fes- sions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Eng- land and Wales — Angle terre et Galles	Ire- land. — Ir- lande.	Scot- land. — Ecos- se.														
<b>ENTRÉE FORCÉE—Fin.</b>																
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	
1	1	.....	5	.....	2	.....	1	2	1	.....	1	1	3	2	7	
<b>DIVERS AUTRES DÉLITS.</b>																
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	
.....	.....	.....	3	.....	1	.....	.....	2	1	.....	.....	.....	1	1	3	
.....	.....	.....	5	.....	1	.....	.....	4	1	.....	.....	.....	1	3	3	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	.....	.....	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3	
1	1	.....	2	.....	.....	.....	1	1	1	.....	1	.....	.....	4	.....	
1	1	.....	7	.....	.....	.....	1	4	1	1	1	1	.....	5	4	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	
1	1	.....	13	1	1	.....	1	8	4	1	1	1	1	8	9	





Criminal Statistics.

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TABLE II.

SUMMARY BY CLASSES AND PROVINCES, WITH TOTALS OF EACH  
PROVINCE AND OF CANADA.

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TABLEAU II.

RÉCAPITULATION PAR CLASSES ET PAR PROVINCES AVEC TOTAUX  
DE CHAQUE PROVINCE ET DU CANADA.

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TABLE II. SUMMARY BY CLASSES AND PROVINCES.

PROVINCES.	Number of Charges	Acquit- ted.		De- tained for Lu- nacy.	CONVICTIONS. — CONdamnATIONS.				SENTENCE.			
		Nombre d'accu- sations.	Ac- quit- tés.		Dé- tenues pour cause de folie.	Total.	Con- victed 1st.	Con- victed 2nd.	Reite- rated.	COMMITTED TO JAIL — EMPRISONNÉS.		
										With the option of a fine.	No OPTION.	
											Sur option de 2 la pri- son ou l'a- m'nde	SANS OPTION.
<b>CLASS I.—OFFENCES AGAINST THE PERSON.</b>												
Prince Edward Island.....	19	6	.....	13	11	1	1	1	7	1		
Nova Scotia.....	116	21	2 1	91	48	42	1	54	25	1		
New Brunswick.....	41	8	2.....	31	19	8	4	12	12	.....		
Quebec.....	400	47	6 6	340	284	45	11	223	54	5		
Ontario.....	917	328	32 5	539	482	31	26	183	167	37		
Manitoba.....	20	10	2.....	8	7	1	.....	1	2	2		
British Columbia.....	164	48	3 1	111	106	4	1	50	31	1		
The Territories.....	92	52	1.....	30	30	.....	.....	10	9	.....		
Totals of Canada.....	1,769	520	48 13	1,163	987	132	44	534	307	47		
<b>CLASS II.—OFFENCES AGAINST PROPERTY WITH VIOLENCE.</b>												
Prince Edward Island.....	5	.....	.....	5	4	1	.....	.....	.....	.....		
Nova Scotia.....	15	1	.....	14	7	2	5	.....	2	.....		
New Brunswick.....	5	1	.....	4	4	.....	.....	.....	.....	.....		
Quebec.....	209	39	.....	169	54	20	95	.....	25	1		
Ontario.....	368	85	1.....	280	193	43	44	1	92	60		
Manitoba.....	30	5	.....	25	18	2	5	.....	11	4		
British Columbia.....	53	12	1.....	37	25	8	4	.....	6	8		
The Territories.....	20	9	.....	6	6	.....	.....	.....	3	.....		
Totals of Canada.....	705	152	1 1	540	311	76	153	1	139	73		
<b>CLASS III.—OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.</b>												
Prince Edward Island.....	31	14	.....	17	17	.....	.....	11	5	.....		
Nova Scotia.....	150	27	1.....	122	105	12	5	.....	76	1		
New Brunswick.....	138	66	7.....	62	56	4	2	.....	30	.....		
Quebec.....	1,099	73	1 1	1,016	791	86	139	122	545	14		
Ontario.....	2,770	761	88 8	1,908	1,539	227	142	68	884	126		
Manitoba.....	182	28	3.....	151	121	28	2	7	119	5		
British Columbia.....	353	85	9 1	249	203	20	26	3	170	16		
The Territories.....	316	162	4.....	134	132	2	.....	3	92	7		
Totals of Canada.....	5,039	1216	113 10	3,659	2,964	379	316	214	1,921	169		
<b>CLASS IV.—MALICIOUS OFFENCES AGAINST PROPERTY.</b>												
Prince Edward Island.....	2	.....	.....	2	2	.....	.....	.....	.....	.....		
Nova Scotia.....	12	6	.....	6	5	1	.....	1	1	.....		
New Brunswick.....	3	1	.....	2	2	.....	.....	.....	.....	.....		
Quebec.....	22	11	1.....	10	8	1	1	1	2	.....		
Ontario.....	90	44	..... 2	43	36	5	2	7	5	3		
Manitoba.....	4	1	.....	3	3	.....	.....	.....	3	.....		
British Columbia.....	37	11	3.....	20	20	.....	.....	19	.....	.....		
The Territories.....	15	9	.....	4	4	.....	.....	.....	3	.....		
Totals of Canada.....	185	83	4 2	90	80	7	3	28	14	3		

## Criminal Statistics.

TABLEAU II. RÉCAPITULATION PAR CLASSES ET PROVINCES.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort.	Com- mit- ted to Refor- ma- to- ries — — En- voyés à la prison de Réfor- me.	Other Senten- ces. — — Autres Senten- ces.	Agric- ultural. — — Agric- cul- teurs.	Com- mer- cial. — — Com- mer- cants.	Do- mestic — — Servi- teurs.	In- dus- trial. — — In- dus- triels.	Pro- fes- sional — — Pro- fes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Mar- riés.	Wi- dowed — — En- veu- vage.	Single — — Céli- ba- taires.
Two years and un- der five.	Five years and over.	Life.												
D'ux ans et m'ns de cinq.	Cinq ans et plus.	A vie												
<b>CLASSE I.—OUTRAGES CONTRE LA PERSONNE.</b>														
3	1				2	1		1		8	4		9	
3	2		2	2	8	4	7	6	2	19	16	1	31	
3	1			3	5	3			1	9	6		12	
11	11		2	1	17	45	5	60	3	126	137		143	
17	20		2	10	103	61	16	59	5	273	200	7	289	
	2				1	1	2			4	2		5	
3	4	1	3		18	3	31	9	18	32	39		62	
1	3		4		3	1				3	5		6	
41	44	1	13	13	163	100	132	37	144	11	474	409	8	557
<b>CLASSE II.—DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ.</b>														
4	1									3			5	
12					1	3				10	2	1	11	
2										2			4	
53	23			3	2					65	29	2	137	
31	23			14	59	8	25	2	79	136	36	6	235	
4	4				2	1	4		4	11	1		21	
11	6			6				1	10	7			33	
3						1				4	2		3	
120	57			23	127	14	45	3	131	1	238	70	9	449
<b>CLASSE III.—DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ.</b>														
1										3			16	
23	3			12	7	4	10	8	15	5	44	18	3	92
15	4			7	6	3	3	3	2		33	4	1	54
59	20			70	186	24	153	32	188	2	301	220	44	737
47	35			87	661	99	153	93	171	13	846	449	27	1,318
7	1				12	19	2	24	1	52	27	2	99	
12	3			10	35	2	44	11	30	1	62	17	4	199
10	1				21	2			2		19	8		17
174	67			186	928	153	382	149	432	22	1,360	743	81	2,532
<b>CLASSE IV.—DOMMAGES MALICIEUX CONTRE LA PROPRIÉTÉ.</b>														
	2									2	1		1	
1	3					1			3	1	2		4	
2	2									2			2	
2	2				3	1	2		3	3	2		8	
1	7			5	15	7	3	1	4	13	6	1	36	
									1	2			3	
					1		5	1	1	12	2		17	
1									1	2	2		1	
5	16			5	19	9	10	2	13		37	15	1	72

TABLE II. SUMMARY BY CLASSES AND PROVINCES.

PROVINCES.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Un-able to read or write.	Ele-men-tary.	Supe-rior.	Under 16 years.		16 years and under 21.		21 years and under 40.		40 years and over.		Not given.		Mo-de-rate	Im-mo-de-rate
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non-donné.							
	Inca-pable de lire ou d'écrire.	Elé-mentaire.	Supé-rieure	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Mo-déré	Im-mo-déré
H.				F.	H.	F.	H.	F.	H.	F.					
<b>CLASS I.—OFFENCES AGAINST THE PERSON.</b>															
Ile du Prince-Edouard		12	1	1			8		4				5	8	
Nouvelle-Ecosse	14	33	1	3	2	9		22	5	6	1	41	2	37	11
Nouveau-Brunswick	1	18				5	1	8	1	7		9		16	5
Québec	71	206	3	3	1	26	1	167	12	53	6	71		75	204
Ontario	47	442	7	14		84	3	271	23	92	5	47		319	176
Manitoba	1	6				2		4		1		1		5	2
Colombie-Britannique	28	70	4	4	3	2	70	5	11			16		61	40
Les Territoires	2	5		1		2		3		1		23		6	1
Totaux du Canada	164	792	16	26	3	131	7	553	46	175	12	208	2	524	447
<b>CLASS II.—OFFENCES AGAINST PROPERTY WITH VIOLENCE.</b>															
Ile du Prince-Edouard		5		2		1		2						3	2
Nouvelle-Ecosse	3	11		2		7		4		1				12	2
Nouveau-Brunswick	1	3		2		1		1						4	
Québec	30	139		6		82		71		9		1		103	66
Ontario	25	249	2	61		72		111	1	30	1	4		180	95
Manitoba	3	19		3		6		12		2		2		13	9
Colombie-Britannique	8	27		11		7		9		1		9		26	7
Les Territoires	3	2						1		4		1		1	4
Totaux du Canada	73	455	2	87		176		211	1	47	1	17		342	185
<b>CLASS III.—OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.</b>															
Ile du Prince-Edouard	1	15		13				3				1		14	2
Nouvelle-Ecosse	17	90		24	3	17	1	55	6	8		6	2	86	22
Nouveau-Brunswick	9	50		15		18	2	18	2	4		3		48	11
Québec	242	745	6	211	17	189	13	402	37	95	16	35	1	477	516
Ontario	212	1546	38	335	11	349	30	744	53	217	35	125	9	1293	499
Manitoba	13	108	7	11		17	3	80	1	18		21		74	54
Colombie-Britannique	44	174	5	54	1	15		108	3	27		40	1	155	61
Les Territoires	3	19	1	1		2		9		5		116	1	19	4
Totaux du Canada	541	2747	57	664	32	607	49	1419	102	374	51	347	14	2166	1169
<b>CLASS IV.—MALICIOUS OFFENCES AGAINST PROPERTY.</b>															
Ile du Prince-Edouard	1	1						2						1	1
Nouvelle-Ecosse	1	5				2		1		3				2	4
Nouveau-Brunswick		2				1		1						2	
Québec	3	7				3		3		1		2	1	6	4
Ontario	5	38		14		9		13		7				34	9
Manitoba		3						3						3	
Colombie-Britannique	5	14				2		16		1		1		12	7
Les Territoires	3							2		1		1		3	
Totaux du Canada	18	70		14		17		41		13		4	1	63	25

## Criminal Statistics.

TABLEAU II. RÉCAPITULATION PAR CLASSES ET PROVINCES.

BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.								RESI- DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries.	Other British Possessions.	Baptists.	R. Catholics.	Ch. of England.	Methodists.	Presbyterians.	Protestants.	Other Denominations.	Cities and Towns—Villes. Rural Districts—Districts ruraux.		
England and Wales — Angle terre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.			Autr's Foreign Countries. — Autr's pays étrangers.	Autr's Possessions. — Autr's possessions Britanniques.		Catholics. — Catholiques.	Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.		Autr's Confessions. — Autr's confessions.			
<b>CLASSE I.—OUTRAGES CONTRE LA PERSONNE.</b>																
1	1		13	1	2		6	11		1		1		9	4	
2			43				16	16		9		10		26	22	
16	9	4	16		1	2	7	7		4		2		11	10	
38	32	8	240	6	5	1	6	231	9	3		6		224	57	
			376	26	10	2	21	143	138	80		45		340	157	
			5	1	1			2	1			3		3	4	
18	4	5	36	16	17	2		31	6			1		84	20	
1		1	2		3		1		2			1		4	8	
76	46	18	731	50	39	7	34	441	169	88	73	144	16	701	282	
<b>CLASSE II.—DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ.</b>																
			5					3				2		3	2	
2			11		1		2	6		3		3		7	7	
			4				2							2		
1			158	7	3		1	154	2	3		2		139	30	
18	15	6	214	20	2		10	93	81	33		39	17	224	53	
4	3		11	3	1			9	6	3		3		19	3	
4			22	1	6			13	4	1		3		28	7	
			1	1	1	2		2				8		4	3	
												2		1	2	
29	18	6	426	32	14	2	15	278	95	43	47	40	7	425	104	
<b>CLASSE III.—DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ.</b>																
			16					6		4		6		16		
9	4		92		7		14	47	23	11		5	13	74	37	
			58		1		18	26	7			2	6	46	13	
					1									7		
26	23	10	919	10	14		11	866	56	5		27	33	867	137	
149	110	33	1349	87	40	1	55	510	481	336		204	169	33	408	
28	13	7	61	8	11		3	22	34	30		27	8	4	47	
38	14	8	74	33	49	1		63	1	2		11	105	32	31	
5			7	4	5	2		9	7				7	13	15	
255	164	58	2576	142	121	12	101	1549	609	388	282	341	74	2679	688	
<b>CLASSE IV.—DOMMAGES MALICIEUX CONTRE LA PROPRIÉTÉ.</b>																
			2					1		1					2	
		1	5					2		2		1		4	2	
			2											2		
			10				2							7	3	
1	1		39	2			2	8	11	14		3	4	26	17	
			3						1	1		1		3		
4	1		9	1	4			3					13	3	19	
			2		1			2					1		3	
5	2	1	72	3	5		4	26	14	16		5	19	4	59	

TABLE II. SUMMARY BY CLASSES AND PROVINCES.

PROVINCES.	Number of Charges — Nombre d'accusations.	Acquit- ted. — Acquit- tés.		De- tained for Lu- nacy. — Dé- tenues pour cause de folie.	CONVICTIONS. — CONDAMNATIONS.			SENTENCE.			
		M.	F.		Total.	Con- victed 1st. — Con- dam- nés une fois.	Con- victed 2nd. — Con- dam- nés deux fois.	Reite- rated. — Plus de 2 réci- ves.	COMMITTED TO JAIL — EMPRISONNÉS.		
									With the option of a fine. — Sur option entre la pri- son ou l'a- m'nde	SANS OPTION.	
										Un- der one year. — Moins d'un an.	One year and over. — Un an et plus.
CLASS V.—FORGERY AND OFFENCES AGAINST THE CURRENCY.											
Prince Edward Island.....											
Nova Scotia.....											
New Brunswick.....	5	2			2	2					
Québec.....	14	3			11	8	1	2	5	1	
Ontario.....	50	8			42	29	10	3	18	5	
Manitoba.....	8	1			7	4	1	2	3	3	
British Columbia.....	21	2			19	13	5	1	5	10	
The Territories.....	7	3			4	4			2		
Totals of Canada.....	105	19			85	60	17	8	33	19	
CLASS VI.—OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES.											
Prince Edward Island.....											
Nova Scotia.....	12	4	1		7	3	3	1	1	5	
New Brunswick.....	3				3	2	1			3	
Québec.....	66	7		1	57	43	5	9	18	24	
Ontario.....	144	46	3	2	88	56	27	5	14	29	
Manitoba.....	10	4			6	6				3	
British Columbia.....	95	18			77	53	24		53	17	
The Territories.....	20	7	1		12	11	1		1	6	
Totals of Canada.....	350	86	5	3	250	166	68	16	87	87	
GRAND TOTALS BY PROVINCES.											
Prince Edward Island.....	57	20			37	34	2	1	12	12	
Nova Scotia.....	305	59	4	1	240	168	60	12	56	109	
New Brunswick.....	195	78	9		104	83	14	7	12	45	
Quebec.....	1,810	180	8	8	1,603	1,188	158	257	364	655	
Ontario.....	4,339	1272 <sup>124</sup>		17	2,900	2,335	343	222	273	1,195	
Manitoba.....	254	49	5		200	153	38	9	8	141	
British Columbia.....	723	176	15	3	513	420	61	32	125	229	
The Territories.....	470	242	6		190	187	3		14	115	
Grand Totals of Canada...	a8,153	2076 <sup>171</sup>		29	5,787	4,568	679	540	864	2,501	

a 73, *Nolle prosequi*. 6, Jury disagreed—Les jurés ne se sont pas accordés. 5, Left the country—Ont évadés, and one shot whilst resisting arrest—Et un tué en résistant l'arrestation.

## Criminal Statistics.

TABLEAU II. RECAPITULATION PAR CLASSES ET PROVINCES.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITIONS.		
PENITENTIARY. — PÉNITENCIER.			D'th. — De mort	Com- mit- ted to Refor- ma- to- ries — En- voyés à la prison de Ré- forme.	Other Senten- ces. — Autres Senten- ces.	Agricultural. — Agriculteurs.	Com- mer- cial. — Com- mer- çants.	Do- mestic — — Servi- teurs.	In- dus- trial. — — In- dus- triels.	Pro- fes- sional — — Pro- fes- sions libé- rales.	La- borers — — Jour- na- liers.	Mar- ried. — — Mariés.	Wi- dowed — — En- veu- vage.	Single — — Céli- ba- taires.
Two years and un- der five. — D'ux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.												

**CLASSE V.—FAUX ET DÉLITS PAR RAPPORT À LA MONNAIE.**

1					1	1	1					2		
3					2	1	7	2			1		1	9
6	3				10	6	9	1		4	12		20	22
1					1	1	2		5		1		1	5
1					3	1	8			5	2		6	7
					2						1			1
12	3				18	10	27	3	7	9	17	30	1	44

**CLASSE VI. AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES.**

				1			2	2	1		1			7
2	1				12	13	16		7		11	34	3	20
14	1			3	18	21	8		10	4	32	30	1	50
					1	1	1		1		3			4
					6	2	30	1	9		12	24	5	40
1					4	1	1		1		1	5		2
17	2			4	41	37	58	3	29	4	63	93	10	126

**GRANDS TOTAUX PAR PROVINCES.**

8	4						2	1		1		16	5		31
39	8		2	15		9	14	19	17	25	7	75	38	5	145
21	7			7		12	9	7	3	2	1	49	12	1	75
130	57		2	74		300	57	236	39	337	5	507	423	50	1,054
116	89		2	119		866	202	243	113	287	27	1,312	741	42	1,950
12	7					16	22	28	2	32	1	73	31	3	137
27	13	1	3	16		63	10	118	23	68	6	127	88	9	358
16	4		4			30	7	2		4		30	22		30
369	189	1	13	231		1,296	323	654	197	756	47	2,189	1,360	110	3,780

laissé le pays. 3, Acquitted on account of marriage—Libérés pour cause de mariage. 2, Escaped—Se sont

TABLE II. SUMMARY BY CLASSES AND PROVINCES.

PROVINCES.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.								USE OF LIQUORS — USAGE DE LIQUEURS	
	Un-able to read or write.	Ele-men-tary.	Supe-rior.	Under 16 years.	16 years and under 21.	21 years and under 40.	40 years and over.	Not given.		Mo-de-rate	Im-mo-de-rate		
				Moins de 16 ans.	16 ans et moins de 21.	21 ans et moins de 40.	40 ans et plus.	Non-donné.					
	Inca-pable de lire ou d'écrire.	Elé-men-taire.	Supé-rieure	M.	F.	M.	F.	M.	F.	M.	F.	Mo-déré	Im-mo-déré
H.				F.	H.	F.	H.	F.	H.	F.			

CLASS V.—FORGERY AND OFFENCES AGAINST THE CURRENCY.

Ile du Prince-Edouard															
Nouvelle-Ecosse															
Nouveau-Brunswick		2				2								2	
Québec		11				9			1		1			3	8
Ontario	1	34	7	5	7	1	15	1	12	1				33	9
Manitoba		6			3		2		1					4	2
Colombie-Britannique		9	9				12							7	7
Les Territoires		1			1									3	1
Totaux du Canada	1	63	16	5	11	1	40	1	14	1	12			50	26

CLASS VI.—OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES.

Ile du Prince-Edouard																
Nouvelle-Ecosse	1	6			1	2	1	2	1						6	1
Nouveau-Brunswick	1	2						3							1	2
Québec	8	49		1	3	1	30	3	10	3	4	2	36	21	36	21
Ontario	6	68	7	3	11	1	41	2	22	1	3	4	61	22	4	21
Manitoba		5			1		4						2	3		
Colombie-Britannique	10	56	5		2		46	1	16				52	16		
Les Territoires	4	3			1		2		4				4	1	6	1
Totaux du Canada	30	189	12	4	1	20	3	128	7	52	4	24	7164	66		

GRAND TOTALS BY PROVINCES.

Ile du Prince-Edouard	2	33	1	16	1	15	4	1	23	13					
Nouvelle-Ecosse	36	145	1	29	6	37	2	84	12	18	1	47	4	143	40
Nouveau-Brunswick	12	77		17	25	3	33	3	11		12		73	18	
Québec	354	1157	9	221	18	303	15	682	52	169	25	114	4	700	819
Ontario	296	2377	61	432	11	532	35	1195	80	380	43	179	13	1920	810
Manitoba	17	147	7	14	29	3	105	1	22		26		101	70	
Colombie-Britannique	95	350	23	69	1	29	2	261	9	56		85	1	313	138
Les Territoires	15	30	1	2	6	17	15	148	2	36	10				
Grands totaux du Canada	827	4316	103	800	36	962	60	2392	157	675	69	612	24	3309	1918



## Criminal Statistics.

TABLEAU II. RÉCAPITULATION PAR CLASSES ET PROVINCES.

BIRTH PLACES. LIEUX DE NAISSANCE.							RELIGIONS.							RESI- DENCE.	
BRITISH ISLES. ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants — Autres confessions.	Other Denominations. — Autres confessions.	Cities and Towns—Villes. Rural Districts—Districts ruraux.	
Eng-land and Wales — Angle terre et Galles	Ire-land. — Irlande.	Scot-land. — Ecosse.													
<b>CLASSE V.—FAUX ET DÉLITS PAR RAPPORT A LA MONNAIE.</b>															
2			2				1			1				2	
3	1	2	31	4	1	1	3	7	3	8	12	6	4	9	
3			3					2	3	1				5	
4			1	7					1		5	6	1	15	
				1								1		1	
12	1	2	44	12	2	1	4	18	15	14	11	12		60	
<b>CLASSE VI.—AUTRES DÉLITS NON COMPRIS DANS LES CLASSES PRÉCÉDENTES.</b>															
			6					3	1	1		1		6	
			3					3						3	
1	2	1	43	2	8		1	44	7	1		3	1	29	
7	8	2	53	8	3		4	16	16	18	11	13	3	40	
1	1		3					1	1		3			5	
7	3		29	21	8			22	3		1	33	9	59	
	1		4	2				4	1		1	1		1	
16	15	3	141	33	19		5	93	29	20	16	51	13	143	
<b>GRANDS TOTAUX PAR PROVINCES.</b>															
			36					21		6	6	3		28	
12	5	1	157	1	4	7	22	74	35	19	9	28		117	
2			85		2	3	29	36	11	1	2	8	1	62	
46	34	15	1377	25	31	2	13	1312	77	12	55	76	5	1275	
216	167	51	2062	147	56	3	95	779	735	493	322	253	44	2047	
36	17	7	86	12	13		3	36	46	35	37	8	6	116	
75	22	13	171	79	84	3		132	15	3	21	218	55	400	
6	1	1	16	8	10	4	1	15	12		2	13	3	22	
393	246	88	3990	272	200	22	163	2405	931	569	434	607	114	4067	



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TABLE III.  
SUMMARY CONVICTIONS.

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TABLEAU III.  
CONDAMNATIONS SOMMAIRES.

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TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF PRINCE EDWARD ISLAND. — PROVINCE DE L'ÎLE DU PRINCE-ÉDOUARD.							
	PRINCE.				QUEEN'S.			
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.		
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.
		Sur- option	Empri- sonnés sans option.	Re- mise, etc.		Sur- option	Empri- sonnés sans option.	Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food .....								
Assaults.....	2		2		24	2	24	2
Breach of peace.....	1		1		2		2	
Carrying fire-arms and unlawful weapons.....	2		2		2		2	
Contempt of court .....	1		1					
Cruelty to animals.....								
Disturbing religious and like meetings.....								
Fishery Acts, offences against.....					21		21	
Gambling Acts.....								
Game Laws .....								
Larceny.....								
“ of dogs, birds, &c.....								
“ of timber, trees, fruits, &c.....								
Liquor License Acts, offences against.....					16	1	17	
Breach of Canada Temperance Act.....					13	1	14	
Selling liquor during prohibited hours.....								
“ without license.....								
Violation of Indian liquor law .....								
Malicious injury to property.....					6		6	
Other damage to property.....					1		1	
Master's and Servant's Acts, offences against.....								
Medical and Dentistry Acts, offences against.....								
Militia Acts.....					1		1	
Miscellaneous minor offences .....								
Municipal Acts and By-laws, breaches of.....					17		17	
Exercising various callings without license.....								
Health By-laws, offences against.....								
Highways, offences relating to.....	1		1		1		1	
Neglecting to support family.....								
Pharmacy Acts, offences against.....								
Profanation of the Lord's Day.....						1	1	
Railway Acts, offences against.....								
Revenue Laws .....								
Seamen Acts .....								
Statute Labour, offences relating to.....								
Threats and abusive language.....	5		5		1		1	
Trespass.....						1	1	
Vagrancy .....	4		3	1	2			2
Drunkenness.....	37		24	13	248	3	251	
Indecent exposure.....					1		1	
Insulting, obscene and profane language.....	1		1		2		2	
Keeping, frequenting bawdy houses and inmates thereof.....								
Loose, idle, disorderly.....	2		2					
Weights and Measures Acts, offences against.....								
Insanity.....								
Totals.....	56		42	14	358	9	363	4

a 1, b 4, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE  
ET AUTRES JUGES DE PAIX.**

PROVINCE OF NOVA SCOTIA. PROVINCE DE LA NOUVELLE-ECOSSE.								OFFENSES
ANNAPOLIS.				ANTIGONISH.				
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			
	Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.	
M.   F.				M.   F.				
5	5			2	2			Falsification de substances alimentaires. Voies de fait. Perturbation de la paix. Port d'armes illégal. Mépris de cour. Cruauté envers les animaux. Perturbation de réunions religieuses et autres. Infractions aux lois des pêcheries. " " défendant le jeu. " " de chasse.
				3	3			Larcin. Vol de chiens, oiseaux, etc. " bois, arbres, fruits, etc.
4	4			11	11			Infractions aux lois des licences de boissons. Contraventions aux lois de tempérance du Canada. Vente de boissons durant les heures défendues sans licence. Contravention à la loi relative à la vente de boisson aux Sauvages. Domages malicieux à la propriété. Autres dommages à la propriété. Infractions aux lois concernant les maîtres et serviteurs. Inf. aux lois concernant la méd. et les dent. de la milice
				5	5			Divers petits délits. Contraventions aux lois municipales. Pratiquant divers états sans licence.
				6	6			Infractions aux lois sur l'hygiène publique Délits ayant rapport aux chemins publics. Négligence de pourvoir aux besoins de la famille. Infrac. aux lois concernant les pharmaciens. Profanation du dimanche. Infractions aux lois de chemins de fer. Délits contre le revenu de l'Etat. Infractions aux lois maritimes. Délits ayant rapport à la corvée. Menaces et langage injurieux. Empiètement. Vagabondage. Ivresse. Exposition indécente. Langage insultant, obscène, profane. Tenant, habitant et fréquentant des maisons de désordre. Conduite déréglée. Infraction aux lois des poids et mesures. Aliénation mentale.
3	2	1						
2	1	1		5	5			
				2	2			
				2	2			
14	12	2		36	36			Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NOVA SCOTIA—Continued.									
	CAPE BRETON.					COLCHESTER.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.				
		Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise etc.		
M.	F.			M.	F.					
Adulteration of food	4		3	1						
Assaults										
Breach of peace										
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts										
Game Laws										
Larceny										
“ of dogs, birds, &c.										
“ of timber, trees, fruits, &c.										
Liquor License Acts, offences against					1			1		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours										
“ without license.										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	1		1							
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of	1		1							
Exercising various callings without license.										
Health By-laws, offences against										
Highways, offences relating to	1						1			
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws										
Seamen Acts	2		1	1						
Statute Labour, offences relating to										
Threats and abusive language										
Trespass										
Vagrancy										
Drunkenness	53	1	51	2	1					
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting lawdy houses and inmates thereof.										
Loose, idle, disorderly	6		6							
Weights and Measures Acts, offences against										
Insanity										
Totals	68	1	63	4	2	1		1		

## Criminal Statistics

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE LA NOUVELLE-ÉCOSSE— <i>Suite.</i>										
CUMBERLAND.					DIGBY.					OFFENSES.
Con- vic- tions Total		Sentence.			Con- vic- tions Total		Sentence.			
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.			
M.	F.				M.	F.				
2		2			4	2	6			Falsification de substances alimentaire.
					1		1			Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										“ défendant le jeu.
										“ de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
					15		15			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Domages malicieux à la propriété.
										Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infrac. aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
										Menaces et langage injurieux.
										Empiètement.
										Vagabondage.
										Ivresse.
										Exposition indécente.
										Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
9	3	11			1	39	2	40		1
										..... Totaux.

*b* 2, *e* 6, *d* 1, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NOVA SCOTIA—Continued.								
	GUYSBOROUGH.				HALIFAX.				
	Con- victions Total	Sentence.			Con- victions Total	Sentence.			
		Op- tion of a fine.	Com- mitted without option	De- ferre &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise, etc.		
	M.	F.		M.	F.				
Adulteration of food .....									
Assaults .....	1		1		64	19	61	12	10
Breach of peace .....					40	23	43	11	9
Carrying fire-arms and unlawful weapons.					1		1		
Contempt of court .....									
Cruelty to animals .....					3		3		
Disturbing religious and like meetings.					2		2		
Fishery Acts, offences against.									
Gambling Acts .....									
Game Laws .....									
Larceny .....					5		5		
“ of dogs, birds, &c. ....									
“ of timber, trees, fruits, &c.									
Liquor License Acts, offences against					36	6	42		
Breach of Canada Temperance Act.					3	2	5		
Selling liquor during prohibited hours.									
“ without license .....									
Violation of Indian liquor law .....									
Malicious injury to property. .					16	3	18	1	
Other damage to property .....									
Master's and Servant's Acts, offences against.									
Medical and Dentistry Acts, offences against									
Militia Acts .....									
Miscellaneous minor offences .....									
Municipal Acts and By-laws, breaches of.					160	10	137	32	1
Exercising various callings without license					7		7		
Health By-laws, offences against.									
Highways, offences relating to.					2		2		
Neglecting to support family .....									
Pharmacy Acts, offences against.									
Profanation of the Lord's Day .....					7	1	8		
Railway Acts, offences against.					2		2		
Revenue Laws .....					1		1		
Seamen Acts .....					8			5	3
Statute Labour, offences relating to.									
Threats and abusive language .....					27	11	18		20
Trespass .....									
Vagrancy .....					12	2	14	6	
Drunkenness .....					892	130	1,003	19	
Indecent exposure .....					4		2	2	
Insulting, obscene and profane language.					162	38	197	3	
Keeping, frequenting bawdy houses and inmates thereof.					2	5	5	1	1
Loose, idle, disorderly .....					29	2	31		
Weights and Measures Acts, offences against.									
Insanity .....									
Totals .....	1		1		1485	252	1,601	92	44

c 5, d 7, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.



## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE LA NOUVELLE-ECOSSE— <i>Suite.</i>										
HANTS.					KING'S.					OFFENSES.
Con- victions Total Con- dam- na- tions.	Sentence.				Con- victions Total Con- dam- na- tions.	Sentence.				
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.	
	Sur option	Empri- sonnés sans option.	Re- mise, etc.	Re- mise, etc.		Sur option	Empri- sonnés sans option.	Re- mise, etc.	Re- mise, etc.	
M.   F.				M.   F.						
7	1	8			1	1				Falsification de substances alimentaires.
4		a4								Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
2		a2								Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										“ “ défendant le jeu.
										“ “ de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
3		3								Infractions aux lois des licences de boissons.
21		b21								Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Domages malicieux à la propriété.
2		a2			1	a1				Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
1		1			4	4				Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infractions aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1		1			1			1		Menaces et langage injurieux.
										Empiètement.
					2	2				Vagabondage.
4		a4			26	23		1	2	Ivresse.
										Exposition indécente.
1		1			1	1				Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
46	1	47			36	32		2	2	Totaux.

a 1, b 8, c2, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NOVA SCOTIA—Continued.									
	LUNENBURG.					PICTOU.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.				Con- vic- tions Total Con- dam- na- tions.	Sentence.			
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
		Sur- option	Empri- sonnés sans option.	Re- mise, etc.			Sur- option	Empri- sonnés sans option.	Re- mise, etc.	
M.	F.			M.	F.					
Adulteration of food .....										
Assaults .....	13		a12		1	11		10		1
Breach of peace .....	8		8			21		18		3
Carrying fire-arms and unlawful weapons .....						1		1		
Contempt of court .....										
Cruelty to animals .....						7		7		
Disturbing religious and like meetings .....	6		b6			9		9		
Fishery Acts, offences against .....										
Gambling Acts .....										
Game Laws .....										
Larceny .....	1		1							
“ of dogs, birds, &c. ....										
“ of timber, trees, fruits, &c. ....										
Liquor License Acts, offences against .....	5	2	b7			35	4	39		
Breach of Canada Temperance Act .....										
Selling liquor during prohibited hours .....										
“ without license .....	13		a13							
Violation of Indian liquor law .....										
Malicious injury to property .....										
Other damage to property .....	1		1							
Master's and Servant's Acts, offences against .....										
Medical and Dentistry Acts, offences against .....										
Militia Acts .....										
Miscellaneous minor offences .....	1		1							
Municipal Acts and By-laws, breaches of .....	17		13	1	3	2	1	3		
Exercising various callings without license .....										
Health By-laws, offences against .....										
Highways, offences relating to .....										
Neglecting to support family .....										
Pharmacy Acts, offences against .....										
Profanation of the Lord's Day .....										
Railway Acts, offences against .....										
Revenue Laws .....	3		3							
Seamen Acts .....						1		1		
Statute Labour, offences relating to .....										
Threats and abusive language .....	2		2			2				2
Trespass .....										
Vagrancy .....										
Drunkenness .....	3		3			64		c62		2
Indecent exposure .....	2		1	1						
Insulting, obscene and profane language .....	3		3							
Keeping, frequenting bawdy houses and inmates thereof .....										
Loose, idle, disorderly .....	1		1			11		11		
Weights and Measures Acts, offences against .....										
Insanity .....										
Totals .....	79	2	75	2	4	164	5	161	4	4

a 2, b 1, c 11, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE LA NOUVELLE-ECOSSE— <i>Suite.</i>										
QUEEN'S.					SHELburnE.					OFFENSES.
Con- vic- tions Total		Sentence.			Con- vic- tions Total		Sentence.			
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
Con- dam- na- tions.		— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.	Con- dam- na- tions.		— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.	
		M.	F.	M.			F.	M.	F.	
6	2	6		2	2	1			1	Falsification de substances alimentaires.
3		3								Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
1		1								Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
										“ défendant le jeu.
										“ de chasse.
1		1								Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
					3	63				Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du
										Canada.
										Vente de boissons durant les heures défendues.
										“ sans licence.
										Contravention à la loi relative à la vente de
										boisson aux Sauvages.
1		1								Dommages malicieux à la propriété.
1		1			1	1				Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et
										serveiteurs.
										Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
										Divers petits délits.
8		8								Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la
										famille.
										Infrac. aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
2			2							Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1		1								Menaces et langage injurieux.
										Empiètement.
1		1								Vagabondage.
40		39	1		1	1				Ivresse.
										Exposition indécente.
1		1								Langage insultant, obscène, profane.
2	2	4								
	2									Tenant, habitant et fréquentant des maisons
										de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
68	6	67	3	4	6	1	6		1	Totaux.

a 2, b 1, Committed in default to pay fine—Enprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NOVA SCOTIA— <i>Concluded.</i>								
	PROVINCE DE LA NOUVELLE-ECOSSE— <i>Fin.</i>								
	VICTORIA.				YARMOUTH.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			
Op- tion of a fine. — Sur- option		Com- mitted without option. — Em- pri- sonnés sans option.	De- ferred &c. — Re- mise. etc.	Op- tion of a fine. — Sur- option		Com- mitted without option. — Em- pri- sonnés sans option.	De- ferred &c. — Re- mise. etc.		
M.	F			M.	F				
Adulteration of food									
Assaults	1		1			8	1	7	2
Breach of peace						10		a7	3
Carrying fire-arms and unlawful weapons.									
Contempt of court.									
Cruelty to animals									
Disturbing religious and like meetings									
Fishery Acts, offences against									
Gambling Acts									
Game Laws									
Larceny									
“ of dogs, birds, &c.									
“ of timber, trees, fruits, &c.									
Liquor License Acts, offences against									
Breach of Canada Temperance Act	5	1	6			39	3	b42	
Selling liquor during prohibited hours									
“ without license.									
Violation of Indian liquor law.									
Malicious injury to property.									
Other damage to property									
Master's and Servant's Acts, offences against									
Medical and Dentistry Acts, offences against									
Militia Acts									
Miscellaneous minor offences									
Municipal Acts and By-Laws, breaches of...						2		2	
Exercising various callings without license						2		2	
Health By-laws, offences against									
Highways, offences relating to									
Neglecting to support family									
Pharmacy Acts, offences against									
Profanation of the Lord's Day									
Railway Acts, offences against									
Revenue Laws									
Seamen Acts						1		1	
Statute Labour, offences relating to									
Threats and abusive language						2		1	1
Trespass									
Vagrancy									
Drunkenness						21		a19	2
Indecent exposure						1		1	
Insulting, obscene and profane language						5	2	c7	
Keeping, frequenting bawdy houses and innates thereof.							9	7	2
Loose, idle, disorderly						1		1	
Weights and Measures Acts, offences against									
Insanity	1					1			
Totals	7	1	7			92	15	88	13

a 1, b 11, c 2, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE  
ET AUTRES JUGES DE PAIX.**

PROVINCE OF NEW BRUNSWICK.								OFFENSES.
PROVINCE DU NOUVEAU-BRUNSWICK.								
ALBERT.				CARLETON.				
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	
M.   F				M.   F				
2	2			1	1	2		Falsification de substances alimentaires.
4	4			3			3	Voies de fait.
								Perturbation de la paix.
								Port d'armes illégal.
								Mépris de cour.
1	1							Cruauté envers les animaux.
								Perturbation de réunions religieuses et autres.
								Infractions aux lois des pêcheries.
								"    défendant le jeu.
								"    de chasse.
								Larcin.
								Vol de chiens, oiseaux, etc.
								"    bois, arbres, fruits, etc.
								Infractions aux lois des licences de boissons.
8	4	a12		60	20	80		Contraventions aux lois de tempérance du Canada.
								Vente de boissons durant les heures défendues sans licence.
								Contravention relative à la loi concernant la vente de boissons aux Sauvages.
								Domages malicieux à la propriété.
								Autres domages à la propriété.
								Infractions aux lois concernant les maîtres et serviteurs.
								Inf. aux lois concernant la méd. et les dent.
								"    de la milice.
1	1			3		3		Divers petits délits.
								Contraventions aux lois municipales.
								Pratiquant divers états sans licence.
								Infractions aux lois sur l'hygiène publique.
								Délits ayant rapport aux chemins publics.
								Négligence de pourvoir aux besoins de la famille.
								Infractions aux lois concernant les pharmaciens.
								Profanation du dimanche.
								Infractions aux lois des chemins de fer.
								Délits contre le revenu de l'Etat.
								Infractions aux lois maritimes.
								Délits ayant rapport à la corvée.
								Menaces et langage injurieux.
								Empiètement.
3	3			18		17	4	Vagabondage.
							1	Ivresse.
								Exposition indécente.
								Langage insultant, obscène, profane.
								Tenant, habitant et fréquentant des maisons de désordre.
								Conduite déréglée.
								Infractions aux lois des poids et mesures.
								Aliénation mentale.
19	4	23		85	26	102	9	Totaux.

a 5, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NEW BRUNSWICK—Continued.							
	CHARLOTTE.				GLOUCESTER.			
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.		
		Op- tion of a fine.	Com- mit- ted with- out option.	De- ferred &c.		Op- tion of a fine.	Com- mit- ted with- out option.	De- ferred &c.
		Sur- option	Empri- sonnés sans option.	Re- mise, etc.		Sur- option	Empri- sonnés sans option.	Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food.....	1				11	2	10	3
Assaults.....	8	a8						
Breach of peace.....								
Carrying fire-arms and unlawful weapons.....								
Contempt of court.....								
Cruelty to animals.....								
Disturbing religious and like meetings.....								
Fishery Acts, offences against.....								
Gambling Acts.....								
Game Laws.....								
Larceny.....								
“ of dogs, birds, &c.....								
“ of timber, trees, fruits, &c.....								
Liquor License Acts, offences against.....								
Breach of Canada Temperance Act.....	37	b33	4					
Selling liquor during prohibited hours.....								
“ without license.....								
Violation of Indian liquor law.....								
Malicious injury to property.....								
Other damage to property.....	1	1			7		7	
Master's and Servant's Acts, offences against.....								
Medical and Dentistry Acts, offences against.....								
Militia Acts.....								
Miscellaneous minor offences.....								
Municipal Acts and By-Laws, breaches of.....								
Exercising various callings without license.....								
Health By-laws, offences against.....								
Highways, offences relating to.....	1	1						
Neglecting to support family.....								
Pharmacy Acts, offences against.....								
Profanation of the Lord's Day.....								
Railway Acts, offences against.....								
Revenue Laws.....								
Seamen Acts.....								
Statute Labour, offences relating to.....								
Threats and abusive language.....								
Trespass.....								
Vagrancy.....	1	1			4		4	
Drunkenness.....	84	c81	3		9		9	
Indecent exposure.....								
Insulting, obscene and profane language.....					2		2	
Keeping, frequenting bawdy houses and inmates thereof.....	1	1						
Loose, idle, disorderly.....	5	a5						
Weights and Measures Acts, offences against.....								
Insanity.....								
Totals.....	139	132	7		33	2	32	3

a 1, b 4, c 13, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DU NOUVEAU-BRUNSWICK— <i>Suite.</i>								OFFENSES.
KENT.				KING's.				
Con- vic- tions Total Con- dam- na- tions. M.   F	Sentence.			Con- vic- tions Total Con- dam- na- tions. M.   F	Sentence.			
	Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.	
8	2	10		4		4		Falsification de substances alimentaires. Voies de fait. Perturbation de la paix. Port d'armes illégal. Mépris de cour. Cruauté envers les animaux. Perturbation de réunions religieuses et autres. Infractions aux lois des pêcheries. " défendant le jeu. " de chasse. Larcin. Vol de chiens, oiseaux, etc. " bois, arbres, fruits, etc. Infractions aux lois des licences de boissons. Contraventions aux lois de tempérance du Canada. Vente de boissons durant les heures défendues sans licence. Contravention à la loi relative à la vente de boissons aux Sauvages. Dommages malicieux à la propriété. Autres dommages à la propriété. Infractions aux lois concernant les maîtres et serveurs. Inf. aux lois concernant la méd. et les dent. " la milice. Divers petits délits. Contraventions aux lois municipales. Pratiquant divers états sans licence. Infractions aux lois sur l'hygiène publique. Délits ayant rapport aux chemins publics. Négligence de pourvoir aux besoins de la famille. Infract. aux lois concernant les pharmaciens. Profanation du dimanche. Infractions aux lois des chemins de fer. Délits contre le revenu de l'Etat. Infractions aux lois maritimes. Délits ayant rapport à la corvée. Menaces et langage injurieux. Empiètement. Vagabondage. Ivresse. Exposition indécente. Langage insultant, obscène, profane. Tenant, habitant et fréquentant des maisons de désordre. <span style="border: 1px solid black; padding: 0 2px;">M I M</span> Conduite déréglée. <span style="border: 1px solid black; padding: 0 2px;">M I M</span> Infractions aux lois des poids et mesures. Aliénation mentale.
8	2	10		4		4		..... Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NEW BRUNSWICK—Continued.							
	NORTHUMBERLAND.				RESTIGOUCHE.			
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.		
		Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food	10	1	a9	2	11	1	10	2
Assaults	4		1	3	2		1	1
Breach of peace								
Carrying fire-arms and unlawful weapons.								
Contempt of court								
Cruelty to animals								
Disturbing religious and like meetings.								
Fishery Acts, offences against								
Gambling Acts								
Game laws								
Larceny								
“ of dogs, birds, &c.								
“ of timber, trees, fruits, &c.								
Liquor License Acts, offences against								
Breach of Canada Temperance Act	39	12	a47	4				
Selling liquor during prohibited hours								
“ without license								
Violation of Indian liquor law								
Malicious injury to property								
Other damage to property					3			3
Master's and Servant's Acts, offences against								
Medical and Dentistry Acts, offences against								
Militia Acts								
Miscellaneous minor offences.								
Municipal Acts and By-laws, breaches of	1		1		1		1	
Exercising various callings without license								
Health By-laws, offences against								
Highways, offences relating to	1		1					
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day								
Railway Acts, offences against								
Revenue Laws								
Seamen Acts	1							1
Statute Labour, offences relating to								
Threats and abusive language	3		3		4		3	1
Trespass								
Vagrancy								
Drunkenness	88		b87	1	1		1	
Indecent exposure								
Insulting, obscene and profane language.								
Keeping, frequenting bawdy houses and inmates thereof.								
Loose, idle, disorderly	1		1					
Weights and Measures Acts, offences against								
Insanity								
Totals	148	13	150	10	1	22	16	7

a 2, b 5, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende,



## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DU NOUVEAU-BRUNSWICK— <i>Suite.</i>										
ST. JOHN.					WESTMORELAND.					OFFENSES.
Con- vic- tions Total	Sentence.				Con- vic- tions Total	Sentence.				
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.	
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Re- mise, etc.	
M.	F				M.	F				
74	6	a78	1	1	30	2	i32			Falsification de substances alimentaires.
19	2	b21			10		h10			Voies de fait.
1		c1			1		1			Perturbation de la paix.
2	1	3			1		1			Port d'armes illégal.
5		5			2		2			Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										“ défendant le jeu.
										“ de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
14	9	e23			10		10			Infractions aux lois des licences de boissons.
					73	6	d79			Contraventions aux lois de tempérance du Canada.
5	1	6								Vente de boissons durant les heures défendues.
5	2	d7								“ sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
2		c2								Dommmages malicieux à la propriété.
2		c2			5		5			Autres dommmages à la propriété.
1			1							Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
22		e22			11		11			Divers petits délits.
4		4								Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
1		1			3		3			Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
9		c9								Infractions aux lois concernant les pharmaciens.
19		c19			1				1	Profanation du dimanche.
5			5							Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
5	4	d9			4		2		2	Infractions aux lois maritimes.
8	9	d5	12		10	1	k11			Délits ayant rapport à la corvée.
693	81	f761	13		156	12	c167		1	Menaces et langage injurieux.
					3		c3			Empiètement.
20	9	d28	1		2	1	3			Vagabondage.
22	26	h48			7	12	l19			Ivresse.
										Exposition indécente.
2		2			7		b7			Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
					3				3	Infractions aux lois des poids et mesures.
										Aliénation mentale.
940	150	1,056	33	1	339	34	366	1	6	..... Totaux.

a 52, b 5, c 1, d 3, e 8, f 389, g 18, h 2, i 4, k 7, l 5, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF NEW BRUNSWICK— <i>Concluded.</i>							
	PROVINCE DU NOUVEAU-BRUNSWICK— <i>Fin.</i>							
	YORK.				Totals of New Brunswick.			
	Sentence.				Sentence.			
	Con- vic- tions Total Con- dam- na- tions.	Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.	Con- vic- tions Total Con- dam- na- tions.	Op- tion of a fine. — Sur option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food								
Assaults	19	1	20					
Breach of peace				171	16	178	8	1
Carrying fire-arms and unlawful weapons	1		1	50	2	45	7	
Contempt of court				6	1	7		
Cruelty to animals				1		1		
Disturbing religious and like meetings	2		2	2		2		
Fishery Acts, offences against				5		5		
Gambling Acts	1		1	1		1		
Game Laws	2		2	2		2		
Larceny								
“ of dogs, birds, &c								
“ of timber, trees, fruits, &c								
Liquor License Acts, offences against				24	9	33		
Breach of Canada Temperance Act	55	2	56	272	44	307	9	
Selling liquor during prohibited hours				5	1	6		
“ without license				5	2	7		
Violation of Indian liquor law								
Malicious injury to property	5		5	7		7		
Other damage to property				18		15	3	
Master's and Servant's Acts, offences against				1			1	
Medical and Dentistry Acts, offences against								
Militia Acts								
Miscellaneous minor offences								
Municipal Acts and By-laws, breaches of	27		27	66		66		
Exercising various callings without license	2		2	6		6		
Health By-laws, offences against								
Highways, offences relating to				6		6		
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day				9		9		
Railway Acts, offences against				20		19		1
Revenue Laws								
Seamen Acts				6			5	1
Statute Labour, offences relating to								
Threats and abusive language	7	1	8	23	5	25	1	2
Trespass								
Vagrancy	4		1	3		3		
Drunkenness	146		125	21		21		
Indecent exposure	1		1		4	4		
Insulting, obscene and profane language	3	1	4		27	11	37	1
Keeping, frequenting bawdy houses and inmates thereof		1	1		30	40	69	1
Loose, idle, disorderly					15	15		
Weights and Measures Acts, offences against								
Insanity					3			3
Totals	275	6	256	25	2012	288	2147	95

a 25, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

# Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE QUÉBEC.										
ARTHABASKA.					BEAUCE.					OFFENSES.
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			Con- dam- na- tions.	De- ferred &c.	
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.	— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.	M.	F.	M.	F.	
M.	F.			M.	F.			M.	F.	
2		1								Falsification de substances alimentaires.
										Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										" défendant le jeu.
1		1		3				b3		" de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
7		7		1				1		Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues, sans licence.
10	2	a11		1	20			c20		Contravention à la loi relative à la vente de boissons aux Sauvages.
										Domages malicieux à la propriété.
										Autres domages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
4		3		1						Inf. aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infractions aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
										Menaces et langage injurieux.
										Empiètement.
										Vagabondage.
										Ivresse.
										Exposition indécente.
										Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
29	2	25	3	3	26			26		..... Totaux.

a 1, b 2, c 11, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m 2, Both jail and fine—Les deux: la prison et l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF QUEBEC—Continued.							
	BEAUHARNOIS.				BEDFORD.			
	Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.		
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.
		— Sur- option	Emprisonnés sans option.	Re- mise, etc.		— Sur- option	Emprisonnés sans option.	Re- mise etc.
M.	F.			M.	F.			
Adulteration of food								
Assaults	5	1	5	1	10		9	1
Breach of peace								
Carrying fire-arms and unlawful weapons								
Contempt of court								
Cruelty to animals	9		9					
Disturbing religious and like meetings								
Fishery Acts, offences against								
Gambling Acts					1		1	
Game Laws								
Larceny	4		4					
“ of dogs, birds, &c.								
“ of timber, trees, fruits, &c.								
Liquor License Acts, offences against	6	1	7		15	1	16	
Breach of Canada Temperance Act					6		6	
Selling liquor during prohibited hours								
“ without license	1		1		1		1	
Violation of Indian liquor law								
Malicious injury to property								
Other damage to property					1		1	
Master's and Servant's Acts, offences against								
Medical and Dentistry Acts, offences against								
Militia Acts								
Miscellaneous minor offences								
Municipal Acts and By-Laws, breaches of								
Exercising various callings without license					10		9	1
Health By-laws, offences against								
Highways, offences relating to								
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day								
Railway Acts, offences against								
Revenue Laws					1		1	
Seamen Acts								
Statute Labour, offences relating to								
Threats and abusive language	1				1			
Trespass								
Vagrancy					1			1
Drunkenness								
Indecent exposure								
Insulting, obscene and profane language								
Keeping, frequenting lawdy houses and inmates thereof								
Loose, idle, disorderly								
Weights and Measures Acts, offences against								
Insanity								
Totals	26	2	26	2	46	1	44	2

a 4, b 1, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE  
ET AUTRES JUGES DE PAIX.**

PROVINCE DE QUÉBEC— <i>Suite.</i>										
CHICOUTIMI.					GASPÉ.					OFFENSES.
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c. — Re- mise, etc.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
	Sur option	Empri- sonnés sans option.	Re- mise, etc.		Sur option	Empri- sonnés sans option.	Re- mise, etc.			
M.	F.			M.	F.					
1		1				3	3			Falsification de substances alimentaire. Voies de fait. Perturbation de la paix. Port d'armes illégal. Mépris de cour. Cruauté envers les animaux. Perturbation de réunions religieuses et autres.
						3	3			Infractions aux lois des pêcheries. " défendant le jeu. " de chasse.
										Larcin. Vol de chiens, oiseaux, etc. " bois, arbres, fruits, etc.
										Infractions aux lois des licences de boissons. Contraventions aux lois de tempérance du Canada.
						2	2			Vente de boissons durant les heures défendues sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages. Dommages malicieux à la propriété. Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serveurs. Inf. aux lois concernant la méd. et les dent. " de la milice.
										Divers petits délits. Contraventions aux lois municipales. Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique. Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infrac. aux lois concernant les pharmaciens. Profanation du dimanche.
1		1								Infractions aux lois des chemins de fer. Délits contre le revenu de l'Etat. Infractions aux lois maritimes.
						1			1	Délits ayant rapport à la corvée. Menaces et langage injurieux.
6		5	1			1	1			Empiètement. Vagabondage. Ivresse.
										Exposition indécente. Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre. Conduite déréglée.
										Infractions aux lois des poids et mesures. Aliénation mentale.
8		7	1			10	9		1	..... Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF QUEBEC—Continued.									
	IBERVILLE.					JOLIETTE.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
M.	F.	Sur- option	Em- pris- sonnés sans option.	Rem- ise, etc.	M.	F.	Sur- option	Em- pris- sonnés sans option.	Rem- ise, etc.	
Adulteration of food										
Assaults	3	1	2	2						
Breach of peace										
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals	2		2							
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts										
Game Laws										
Larceny										
“ of dogs, birds, &c										
“ of timber, trees, fruits, &c										
Liquor License Acts, offences against	1		1							
Breach of Canada Temperance Act					2		2			
Selling liquor during prohibited hours										
“ without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property										
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of										
Exercising various callings without license	2		2							
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws	7		7							
Seamen Acts										
Statute Labour, offences relating to										
Threats and abusive language	1			1						
Trespass										
Vagrancy	6	2	c6	2						
Drunkenness					2		2			
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity					1					1
Totals	20	5	20	5	8		7			1

c 1, Committed in default to pay fine—Emprisonné à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE QUÉBEC— <i>Suite.</i>										
MONTMAGNY.					MONTREAL.					OFFENSES.
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c. — Re- mise, etc.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c. — Re- mise, etc.			
M.	F.	Sur- option	Empri- sonnés sans option.	M.	F.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.		
5	1	6		376	52	a385	17	26	Falsification de substances alimentaires.	
				86	6	b48	18	26	Voies de fait.	
				10	1	c2		9	Perturbation de la paix.	
									Port d'armes illégal.	
				88		d79	2	7	Mépris de cour.	
				35		e30		5	Cruauté envers les animaux.	
2		2		1		1			Perturbation de réunions religieuses et autres.	
				3		3			Infractions aux lois des pécheries.	
									“ défendant le jeu.	
									“ de chasse.	
				21	1	19		3	Larcin.	
				1		1			Vol de chiens, oiseaux, etc.	
									“ bois, arbres, fruits, etc.	
2		2		55	11	66			Infractions aux lois des licences de boissons.	
									Contraventions aux lois de tempérance du Canada.	
1		1		49	64	113			Vente de boissons durant les heures défendues.	
									“ sans licence.	
				125	27	f145	k1	6	Contravention à la loi relative à la vente de boisson aux Sauvages.	
				40	6	41		5	Domages malicieux à la propriété.	
				3		3			Autres dommages à la propriété.	
									Infractions aux lois concernant les maîtres et serveurs.	
				1		1			Inf. aux lois concernant la méd. et les dent.	
				1		1			“ la milice.	
				184	9	c185	1	7	Divers petits délits.	
2	3	5		25	7	29		3	Contraventions aux lois municipales.	
1		1		5		5			Pratiquant divers états sans licence.	
				11		11			Infractions aux lois sur l'hygiène publique.	
				5		4		1	Délits ayant rapport aux chemins publics.	
									Négligence de pourvoir aux besoins de la famille.	
									Infractions aux lois concernant les pharmaciens.	
				6		4		2	Profanation du dimanche.	
				15		14		1	Infractions aux lois des chemins de fer.	
				27		4		723	Délits contre le revenu de l'Etat.	
									Infractions aux lois maritimes.	
				18		2		16	Délits ayant rapport à la corvée.	
				14		13		1	Menaces et langage injurieux.	
				1157	314	g1054	m168	249	Empiètement.	
				2568	377	h2487	n134	324	Vagabondage.	
				8		7	k1		Ivresse.	
				75	222	j200	o36	61	Exposition indécente.	
									Langage insultant, obscène, profane.	
									Tenant, habitant et fréquentant des maisons de désordre.	
									Conduite déréglée.	
				1		1			Infractions aux lois des poids et mesures.	
									Aliénation mentale.	
13	4	17		5018	1097	4962	403	750	Totaux.	

a 74, b 12, c 1, d 2, e 9, f 59, g 466, h 978, i 3, j 83, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende. k 1, l 3, m 62, n 71, o 31, Both jail and fine—Les deux : la prison et l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF QUEBEC—Continued.							
	OTTAWA.				PONTIAC.			
	Con- victions Total	Sentence.			Con- victions Total	Sentence.		
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	
	M.	F.		M.	F.			
Adulteration of food.....								
Assaults.....	11		11		1		1	
Breach of peace.....								
Carrying fire-arms and unlawful weapons.....								
Contempt of court.....								
Cruelty to animals.....	1		1					
Disturbing religious and like meetings.....								
Fishery Acts, offences against.....								
Gambling Acts.....								
Game Laws.....								
Larceny.....								
“ of dogs, birds, &c.....								
“ of timber, trees, fruits, &c.....								
Liquor License Acts, offences against.....								
Breach of Canada Temperance Act.....								
Selling liquor during prohibited hours.....								
“ without license.....								
Violation of Indian liquor law.....								
Malicious injury to property.....								
Other damage to property.....	3		3					
Master's and Servant's Acts, offences against.....								
Medical and Dentistry Acts, offences against.....								
Militia Acts, offences against.....								
Miscellaneous minor offences.....								
Municipal Acts and By-laws, breaches of.....	36	1	36					
Exercising various callings without license.....	2			1				
Health By-laws, offences against.....								
Highways, offences relating to.....								
Neglecting to support family.....								
Pharmacy Acts, offences against.....								
Profanation of the Lord's Day.....								
Railway Acts, offences against.....								
Revenue Laws.....					1		1	
Seamen Acts.....								
Statute Labour, offences relating to.....								
Threats and abusive language.....	5	3	8					
Trespass.....					1		1	
Vagrancy.....	9	6	8	7	1		d1	
Drunkenness.....	108	7	c103	12				
Indecent exposure.....								
Insulting, obscene and profane language.....	2	2	3	1				
Keeping, frequenting bawdy houses and inmates thereof.....	5	8	10	3				
Loose, idle, disorderly.....	18	1	18	1				
Weights and Measures Acts, offences against.....								
Insanity.....	1							
Totals.....	201	28	201	27	1	4	4	

c 2, d 1, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.



## Criminal Statistics.

TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE  
ET AUTRES JUGES DE PAIX.

PROVINCE DE QUÉBEC—Suite.										OFFENSES.
QUÉBEC.					RICHELIEU.					
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			Con- dam- na- tions.	M.   F.	
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
	Sur- option	Empri- sonnés sans option.	Re- mise, etc.		Sur- option	Empri- sonnés sans option.	Re- mise, etc.			
52	3	a53	1	1	3	1	4			Falsification de substances alimentaires.
35	6	b41			31	1	32			Voies de fait.
2		c2								Perturbation de la paix.
1		1								Port d'armes illégal.
3		3								Mépris de cour.
1		1								Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										“ défendant le jeu.
										“ de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
88	23	111			17		17			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
1		1								Vente de boissons durant les heures défendues
					2	2	4			Vente de boissons sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
10		d10								Autres dommages à la propriété.
3		3			1		1			Infractions aux lois concernant les maîtres et serviteurs.
										Infrac. aux lois concernant la méd. et les dent.
										“ de la milice.
										Divers petits délits.
112		112			44		44			Contraventions aux lois municipales.
27	1	28			1		1			Pratiquant divers états sans licence.
2		2								Infractions aux lois sur l'hygiène publique.
6		e6								Délits ayant rapport aux chemins publics.
1		e1								Négligence de pourvoir aux besoins de la famille.
										Inf. aux lois concernant les pharmaciens.
1		1								Profanation du dimanche.
										Infractions aux lois des chemins de fer.
5		m5			1		1			Délits contre le revenu de l'Etat.
1		e1								Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
15	1				16					Menaces et langage injurieux.
					1		1			Empiètement.
59		e57			2	15	4	h19		Vagabondage.
520		f520								Ivresse.
7		d7								Exposition indécente.
18	1	19			2		e2			Langage insultant, obscène, profane.
3	30	e32		n1		5	d5			Tenant, habitant et fréquentant des maisons de désordre.
190		g190				1	1			Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
1163	65	1,202	7	19	118	14	132			Totaux.

a 10, b 4, e 1, d 2, e 37, f 191, g 40, h 14, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

m 5, n 11, Both jail and fine—Les deux : la prison et l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF QUEBEC—Continued.							
	RIMOUSKI.				SAGUENAY.			
	Con- vic- tions Total Con- dam- na- tions. M.   F	Sentence.			Con- vic- tions Total Con- dam- na- tions. M.   F	Sentence.		
		Op- tion of a fine. Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.
Adulteration of food								
Assaults	3	a3		1	1	b2		
Breach of peace				1				1
Carrying fire-arms and unlawful weapons	1			1				
Contempt of court								
Cruelty to animals								
Disturbing religious and like meetings								
Fishery Acts, offences against				3		c3		
Gambling Acts								
Game Laws								
Larceny								
“ of dogs, birds, &c.								
“ of timber, trees, fruits, &c								
Liquor License Acts, offences against	8	8		3		b3		
Breach of Canada Temperance Act								
Selling liquor during prohibited hours								
“ without license	10	1	11					
Violation of Indian liquor law								
Malicious injury to property								
Other damage to property	1	b1						
Master's and Servant's Acts, offences against	1		1					
Medical and Dentistry Acts, offences against								
Militia Acts								
Miscellaneous minor offences								
Municipal Acts and By-laws, breaches of								
Exercising various callings without license								
Health By-laws, offences against								
Highways, offences relating to								
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day								
Railway Acts, offences against								
Revenue Laws								
Seamen Acts								
Statute Labour, offences relating to								
Threats and abusive language								
Trespass	3	1		2				
Vagrancy	5	a3	2					
Drunkenness								
Indecent exposure								
Insulting, obscene and profane language								
Keeping, frequenting bawdy houses and inmates thereof								
Loose, idle, disorderly								
Weights and Measures Acts, offences against								
Insanity								
Totals	32	1	27	3	3	8	1	8

a 2, b 1, c 3, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE DE QUÉBEC— <i>Suite.</i>										
ST. FRANÇOIS.					ST. HYACINTHE.					OFFENSES.
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c. — Re- mise, etc.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
	Sur option	Empri- sonnés sans option.	Re- mise, etc.		Sur option	Empri- sonnés sans option.	Re- mise, etc.			
M.   F				M.   F						
25	1	25	1	3	11	9	2			Falsification de substances alimentaires.
9		6		3	5	2	6	1		Voies de fait.
1			1							Perturbation de la paix.
										Port d'armes illégal.
2		2								Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
	1	1			1		1			Infractions aux lois des pêcheries.
9		9								“ défendant le jeu.
										“ de chasse.
										Larcin.
										Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
33	10	42	1		1		1			Infractions aux lois des licences de boissons.
9		9								Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues.
2		2								“ sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
6		6								Dommages malicieux à la propriété.
	1	1			1			1		Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
										Divers petits délits.
3	1	2		2						Contraventions aux lois municipales.
1		1			1		1			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
2		2								Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infractions aux lois concernant les pharmaciens.
										Profanation du dimanche.
2		2			5			5		Infractions aux lois des chemins de fer.
12		12								Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
9				9						Menaces et langage injurieux.
					1		1			Empiètement.
15	1	6	8	2	13		2	11		Vagabondage.
152	5	135	5	17	6		5	1		Ivresse.
										Exposition indécente.
					1		1			Langage insultant, obscène, profane.
1			1		4		4			Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
18	1	11		8						Infractions aux lois des poids et mesures.
1				1	1					Aliénation mentale.
312	21	274	17	42	46	7	31	21	1	Totaux.

d12, Committed in default to pay fine—Enprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF QUEBEC— <i>Concluded—Fin.</i>									
	THREE RIVERS. — TROIS-RIVIÈRES.					Totals of Quebec. — Totaux de Québec.				
	Con- victions Total Con- dam- na- tions.	Sentence.				Con- victions Total Con- dam- na- tions.	Sentence.			
		Op- tion of a fine.	Com- mitted without option	De- ferre &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.
M.	F.				M.	F.				
Adulteration of food					4					
Assaults	4		4		519	61	527	24	29	
Breach of peace					167	15	133	19	30	
Carrying fire-arms and unlawful weapons					14	1	4	1	10	
Contempt of court					1		1			
Cruelty to animals	2		2		107		98	2	7	
Disturbing religious and like meetings					36		31		5	
Fishery Acts, offences against					9		9			
Gambling Acts					5	1	6			
Game Laws	5		5		18		18			
Larceny					25	1	23		3	
“ of dogs, birds, &c.					1		1			
“ of timber, trees, fruits, &c.										
Liquor License Acts, offences against	2		2		241	46	286	1		
Breach of Canada Temperance Act					15		15			
Selling liquor during prohibited hours					1		1			
“ without license	21	2	23		119	71	189		1	
Violation of Indian liquor law										
Malicious injury to property					131	27	151	1	6	
Other damage to property					56	7	57	1	5	
Master's and Servant's Acts, offences against					8		7	1		
Medical and Dentistry Acts, offences against										
Militia Acts					1		1			
Miscellaneous minor offences					1		1			
Municipal Acts and By-laws, breaches of	1		1		380	11	380	2	9	
Exercising various callings without license	6		6		79	13	85	2	5	
Health By-laws, offences against					8		8			
Highways, offences relating to					19		19			
Neglecting to support family					6		5		1	
Pharmacy Acts, offences against										
Profanation of the Lord's Day					1		1			
Railway Acts, offences against					14		7		7	
Revenue Laws	1		m1		47		38		8	1
Seamen Acts					28		5		23	
Statute Labour, offences relating to										
Threats and abusive language				1	50	5	10	2	43	
Trespass					20		17		3	
Vagrancy	5		d2	3	1296	327	1,166	203	254	
Drunkenness	27	1	28		3383	390	3,280	152	341	
Indecent exposure					15		14	1		
Insulting, obscene and profane language					22	4	25	1		
Keeping, frequenting bawdy houses and inmates thereof	3	4	5	m2	87	273	256	43	61	
Loose, idle, disorderly	2		2		228	3	222	1	8	
Weights and Measures Acts, offences against					1		1			
Insanity					4				4	
Totals	79	8	80	7	7167	223	7,102	495	826	

d 2, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m 1, Both jail and fine. Les deux: la prison et l'amende.

## Criminal Statistics.

**TABEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE  
ET AUTRES JUGES DE PAIX.**

PROVINCE OF ONTARIO.								OFFENSES.
PROVINCE D'ONTARIO.								
ALGOMA AND MANITOULIN.				BRANT.				
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
— Sur- dam- na- tions.	— Em- prie- sonnés sans option.	— Re- mise, etc.	— Em- prie- sonnés sans option.	— Sur- dam- na- tions.	— Em- prie- sonnés sans option.	— Re- mise, etc.	— Em- prie- sonnés sans option.	
M. F.				M. F.				
12	12			47	2	647	1	Falsification de substances alimentaires.
1			1	1		1		Voies de fait.
2	2							Perturbation de la paix.
								Port d'armes illégal.
1	1			14		14		Mépris de cour.
				3		3		Cruauté envers les animaux.
2	2							Perturbation de réunions religieuses et autres.
1	1			2		2		Infractions aux lois des pêcheries.
				1		61		“ défendant le jeu de chasse.
2	2							Larcin.
								Vol de chiens, oiseaux, etc.
3	3			19		19		“ bois, arbres, fruits, etc.
								Infractions aux lois des licences de boissons.
				1		1		Contraventions aux lois de tempérance du Canada.
3	2	1		2		2		Vente de boissons durant les heures défendues. “ sans licence.
1	61			3		63		Contravention à la loi relative à la vente de boisson aux Sauvages.
1	1			6		4	2	Dommages malicieux à la propriété.
4	4			6		6		Autres dommages à la propriété.
								Infractions aux lois concernant les maîtres et serviteurs.
								Inf. aux lois concernant la méd. et les dent. “ de la milice.
1	1			153	5	155	3	Divers petits délits.
								Contraventions aux lois municipales.
				1		1		Pratiquant divers états sans licence.
				1		1		Infractions aux lois sur l'hygiène publique.
				1	2	2		Délits ayant rapport aux chemins publics.
								*1 Négligence de pourvoir aux besoins de la famille.
3	63							Infractions aux lois concernant les pharmaciens.
								Profanation du dimanche.
2	2							Infractions aux lois des chemins de fer.
								Délits contre le revenu de l'Etat.
								Infractions aux lois maritimes.
2	2			6	1	64		Délits ayant rapport à la corvée.
				19		13	3	Menaces et langage injurieux.
				16	2	614	6	Empiètement.
								Vagabondage.
31	30	1		142	1	6139	4	Ivresse.
1	1							Exposition indécente.
2	2			13		613		Langage insultant, obscène, profane.
				1	3	4		Tenant, habitant et fréquentant des maisons de désordre.
1	1			61	1	662		Conduite déréglée.
								Infractions aux lois des poids et mesures.
				2			2	Aliénation mentale.
76	73	2	1	521	17	511	3	..... Totaux.

b 1, c 11, d 3, e 4. Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

\* 1, Ordered to pay \$1.50 per week—Condamné à payer \$1.50 par semaine.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	BRUCE.					CARLETON.				
	Total Con- dam- na- tions.	Sentence.			Total Con- dam- na- tions.	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
		Sur- option	Empri- sonnés sans option.	Re- mise. etc.		Sur- option	Empri- sonnés sans option.	Re- mise, etc.		
M.	F.			M.	F.			M.	F.	
Adulteration of food	1	1								
Assaults	57	3	a59		1			158	14	b171
Breach of peace	7		7					18	6	c24
Carrying fire-arms and unlawful weapons										
Contempt of court								1		1
Cruelty to animals	3		3					1		1
Disturbing religious and like meetings								1		1
Fishery Acts, offences against										
Gambling Acts								3		3
Game Laws	7		3							
Larceny	8		7							
“ of dogs, birds, &c.	1		1							
“ of timber, trees, fruits, &c.								2		2
Liquor License Acts, offences against	24	1	25					4	1	5
Breach of Canada Temperance Act										
Selling liquor during prohibited hours								14	3	17
“ without license.								1	4	a5
Violation of Indian liquor law	11	1	9							
Malicious injury to property										
Other damage to property	11		11					9	1	c10
Master's and Servant's Acts, offences against	12		12							
Medical and Dentistry Acts, offences against										
Militia Acts										
Miscellaneous minor offences	1		1							
Municipal Acts and By-Laws, breaches of	39	2	40					60	4	d64
Exercising various callings without license	8		8					7		7
Health By-laws, offences against	4		4							
Highways, offences relating to	6		6					8		8
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day	1		1					2		2
Railway Acts, offences against										
Revenue Laws										
Seamen Acts										
Statute Labour, offences relating to										
Threats and abusive language	1		1					6		d6
Trespass	2		2							
Vagrancy	37	1	7	30	1			7	1	1
Drunkenness	18		18					107	19	e126
Indecent exposure								6	1	f7
Insulting, obscene and profane language	20	1	21					25	15	a40
Keeping, frequenting bawdy houses and inmates thereof	1		1					1	1	1
Loose, idle, disorderly	54		53					76	15	g91
Weights and Measures Acts, offences against								5		5
Insanity	2									
Totals	335	10	301	33	11			522	85	597
										10

a 1, b 17, c 2, d 3, e 44, f 4, g 19. Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
DUFFERIN					ELGIN.					OFFENSES.
Con- victions Total Con- dam- na- tions.	Sentence.			Con- victions Total Con- dam- na- tions.	Sentence.			De- ferred &c. Re- mise, etc.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
	Sur- option	Emprisonnés sans option.	Re- mise, etc.		Sur- option	Emprisonnés sans option.	Re- mise, etc.			
M.	F.			M.	F.					
9		9		4		4			Falsification de substances alimentaires.	
				37		a37			Voies de fait.	
				1		1			Perturbation de la paix.	
									Port d'armes illégal.	
1		1							Mépris de cour.	
				1		1			Cruauté envers les animaux.	
1		1		1		1			Perturbation de réunions religieuses et autres	
				1					Infractions aux lois des pêcheries.	
							1		“ “ défendant le jeu.	
									“ “ de chasse.	
				1				1	Larcin.	
									Vol de chiens, oiseaux, etc.	
									“ bois, arbres, fruits, etc.	
6		6		1		1			Infractions aux lois des licences de boissons.	
									Contraventions aux lois de tempérance du	
									Canada.	
				6		6			Vente de boissons durant les heures défendues.	
				2		2			“ sans licence.	
									Contravention à la loi relative à la vente de	
									boisson aux Sauvages.	
				1	3	a4			Domages malicieux à la propriété.	
3	1	4		1		1			Autres dommages à la propriété.	
				2	1	3			Infractions aux lois concernant les maîtres et	
									serviteurs.	
1		1							Inf. aux lois concernant la méd. et les dent.	
									“ “ de la milice.	
									Divers petits délits.	
3		3		47	8	a53		2	Contraventions aux lois municipales.	
				3		3			Pratiquant divers états sans licence.	
1		1							Infractions aux lois sur l'hygiène publique.	
				8		8			Délits ayant rapport aux chemins publics.	
									Négligence de pourvoir aux besoins de la	
									famille.	
				3		3			Infrac. aux lois concernant les pharmaciens.	
									Profanation du dimanche.	
				4				4	Infractions aux lois des chemins de fer.	
									Délits contre le revenu de l'Etat.	
									Infractions aux lois maritimes.	
1		1		8		b5		3	Délits ayant rapport à la corvée.	
				18	1	c19			Menaces et langage injurieux.	
				7	1	c3		3	Empiètement.	
13	2		15	56		d51		3	Vagabondage.	
				1				4	Ivresse.	
1		1		1				1	Exposition indécente.	
				6	1	a7			Langage insultant, obscène, profane.	
									Tenant, habitant et fréquentant des maisons	
21		a21		25		20		5	de désordre.	
									Conduite déréglée.	
1									Infractions aux lois des poids et mesures.	
62	3	49	15	1	245	15	233	8	19	
									Totaux.	

a 1, b 2, c 3, d 7, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.							
	ESSEX.				FRONTENAC.			
	Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.		
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.
	Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food.....	1	1		7	7			
Assaults.....	58	a56		23	2	b24	1	
Breach of peace.....	8	b8		5		3	2	
Carrying fire-arms and unlawful weapons..	4	b3	1	1		1		
Contempt of court.....								
Cruelty to animals.....	5	5						
Disturbing religious and like meetings.....	1		1	2		2		
Fishery Acts, offences against.....				14		14		
Gambling Acts.....	6	6						
Game Laws.....	2	2		13		13		
Larceny.....	1	1		1		1		
“ of dogs, birds, &c.....	1	b1						
“ of timber, trees, fruits, &c.....	11	b11		1		1		
Liquor License Acts, offences against.....	11	1	12	7		7		
Breach of Canada Temperance Act.....	4		4					
Selling liquor during prohibited hours.....	8	1	9					
“ without license.....	11		11	3	1	4		
Violation of Indian liquor law.....								
Malicious injury to property.....				1		1		
Other damage to property.....	6		6					
Master's and Servant's Acts, offences against	5		5	1		1		
Medical and Dentistry Acts, offences against				1		1		
Militia Acts.....				2		2		
Miscellaneous minor offences.....								
Municipal Acts and By-Laws, breaches of..	21	1	22	8		7	1	
Exercising various callings without license.	6		6	1		1		
Health By-laws, offences against.....	2		2					
Highways, offences relating to.....	4		4					
Neglecting to support family.....								
Pharmacy Acts, offences against.....								
Profanation of the Lord's Day.....	1		1	3		3		
Railway Acts, offences against.....	3		3					
Revenue Laws.....	2	6	8					
Seamen Acts.....								
Statute Labour, offences relating to.....								
Threats and abusive language.....	8		b7	1		6	4	
Trespass.....	9		9			e4		
Vagrancy.....	29	4	c19	14		23	3	
Drunkenness.....	70	2	d72			f116	m1	
Indecent exposure.....	2		2				1	
Insulting, obscene and profane language..	27	1	b27	1		2		
Keeping, frequenting bawdy houses and inmates thereof.				1	2	1	m2	
Loose, idle, disorderly.....	22	3	25	6		5	1	
Weights and Measures Acts, offences against.	1		1					
Insanity.....								
Totals.....	350	19	349	16	4	252	11	
						229	28	
							6	

a 4, b 1, c 3, d 12, e 2, f 42, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

m 1, Both jail and fine—Les deux : la prison et l'amende.



## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>											
GREY.					HALDIMAND.					OFFENSES.	
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			Con- dam- na- tions.	De- ferred &c.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.				
Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.	M.	F.		
M.	F.			M.	F.						
39	2	a35	4	2	9	6	1	9		Falsification de substances alimentaires.	
7		5		2	4			a7		Voies de fait.	
					1			2		Perturbation de la paix.	
					1			1		Port d'armes illégal.	
2		2			1			1		Mépris de cour.	
9		b8	1		4			1		Cruauté envers les animaux.	
7		5	2					4		Perturbation de réunions religieuses et autres.	
										Infractions aux lois des pêcheries.	
										"    défendant le jeu.	
										"    de chasse.	
2		2								Larcin.	
2		2								Vol de chiens, oiseaux, etc.	
52		52			1			1		"    bois, arbres, fruits, etc.	
										Infractions aux lois des licences de boissons.	
										Contraventions aux lois de tempérance du Canada.	
1		1			1			1		Vente de boissons durant les heures défendues.	
2		2								"    sans licence.	
										Contravention relative à la loi concernant la vente de boisson aux Sauvages.	
										Domages malicieux à la propriété.	
3		3								Autres domages à la propriété.	
4		4								Infractions aux lois concernant les maîtres et serviteurs.	
										Inf. aux lois concernant la méd. et les dent.	
										"    de la milice.	
7		7			1			1		Divers petits délits.	
										Contraventions aux lois municipales.	
					1			1		Pratiquant divers états sans licence.	
										Infractions aux lois sur l'hygiène publique.	
										Délits ayant rapport aux chemins publics.	
										Négligence de pourvoir aux besoins de la famille.	
										Infract. aux lois concernant les pharmaciens.	
										Profanation du dimanche.	
										Infractions aux lois des chemins de fer.	
										Délits contre le revenu de l'Etat.	
										Infractions aux lois maritimes.	
3		2		1	1			a1		Délits ayant rapport à la corvée.	
4		4								Menaces et langage injurieux.	
80	1	a4	76	1	7			6		Empiècement.	
16		c16			6	2		6		1 Vagabondage.	
1		1								2 Ivresse.	
12		12			4			a4		Exposition indécente.	
										Langage insultant, obscène, profane.	
16	1	15		2						Tenant, habitant et fréquentant des maisons de désordre.	
										Conduite déréglée.	
	1			1						Infractions aux lois des poids et mesures.	
										Aliénation mentale.	
269	5	182	83	9	47	3		38	7	5	Totaux.

a 1, b 2, c 5, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	HALTON.					HASTINGS.				
	Con- victions Total	Sentence.			Con- victions Total	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
	Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise, etc.		
M.	F.			M.	F.					
Adulteration of food.....	21	2	a22							
Assaults.....	1		1		57	8	c64			1
Breach of peace.....										
Carrying fire-arms and unlawful weapons.....					1		1			
Contempt of court.....										
Cruelty to animals.....	2		2		1					1
Disturbing religious and like meetings.....					2		2			
Fishery Acts, offences against.....					2		2			
Gambling Acts.....					1		1			
Game laws.....					3		3			
Larceny.....					3		3			
“ of dogs, birds, &c.....										
“ of timber, trees, fruits, &c.....										
Liquor License Acts, offences against.....	4		4		26	1	27			
Breach of Canada Temperance Act.....										
Selling liquor during prohibited hours.....					6		6			
“ without license.....										
Violation of Indian liquor law.....										
Malicious injury to property.....	1		1							
Other damage to property.....	1		1		4	1	a5			
Master's and Servant's Acts, offences against.....	1		1		23	2	25			
Medical and Dentistry Acts, offences against.....										
Militia Acts.....										
Miscellaneous minor offences.....					2		2			
Municipal Acts and By-laws, breaches of.....	11		9		53	7	60			
Exercising various callings without license.....	1		1		9		9			
Health By-laws, offences against.....					4		4			
Highways, offences relating to.....					4		4			
Neglecting to support family.....										
Pharmacy Acts, offences against.....										
Profanation of the Lord's Day.....	1		1		1		1			
Railway Acts, offences against.....	1		a1		6					6
Revenue Laws.....										
Seamen Acts.....										
Statute Labour, offences relating to.....										
Threats and abusive language.....					20	4	a22			2
Trespass.....	17		1		18		14			4
Vagrancy.....	1		2		17		a1			6
Drunkenness.....	13		b13		15		15			5
Indecent exposure.....					55		d50			5
Insulting, obscene and profane language.....					3					3
Keeping, frequenting bawdy houses and inmates thereof.....					2		2			
Loose, idle, disorderly.....					2					2
Weights and Measures Acts, offences against.....					28		28			
Insanity.....					1		1			
					1	1				2
Totals.....	76	11	60	15	2	353	26	337	16	26

a 1, b 2, c 3, d 5, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
HURON.					KENT.					
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			OFFENSES		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
M.	F.	Sur- option	Empri- sonnés sans option.	Rem- ise, etc.	M.	F.	Sur- option	Empri- sonnés sans option.	Rem- ise, etc.	
1	1									Falsification de substances alimentaires.
12		a2			69	4	c70	2	1	Voies de fait.
		12			23		d23			Perturbation de la paix.
					3			3		Port d'armes illégal.
					9		9			Mépris de cour.
3		b3			4		4			Cruauté envers les animaux.
					1		1			Perturbation de réunions religieuses et autres.
3		3			3		3			Infractions aux lois des pêcheries.
1		1			3		3			"    défendant le jeu.
					1		1			"    de chasse.
					3		3			Larcin.
7		7			1		1			Vol de chiens, oiseaux, etc.
9		9			31		31			"    bois, arbres, fruits, etc.
					5		5			Infractions aux lois des licences de boissons.
8		8			2		1	1		Contraventions aux lois de tempérance du Canada.
1		1			1		1			Vente de boissons durant les heures défendues sans licence.
					10		9	1		Contravention à la loi relative à la vente de boisson aux Sauvages.
					15	1	16			Domages malicieux à la propriété.
										Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										"    "    de la milice.
8		8			29	1	30			Divers petits délits.
1		1			4		3	1		Contraventions aux lois municipales.
					5		5			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infrac. aux lois concernant les pharmaciens.
					2		2			Profanation du dimanche.
										Infractions aux lois de chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2		1		1	5		5			Menaces et langage injurieux.
					7		7			Empiètement.
2				2	9			9		Vagabondage.
2		2			46		e46			Ivresse.
1		1			5		5			Exposition indécente.
3		3			25	1	a26			Langage insultant, obscène, profane.
					2	5	1	6		Tenant, habitant et fréquentant des maisons de désordre.
3		3			34		a34			Conduite déréglée.
										Infraction aux lois des poids et mesures.
2				2	1				1	Aliénation mentale.
69	1	65	2	3	355	12	342	23	2	..... Totaux.

a 2, b 3, c 6, d 1, e 15, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	LAMBTON.					LANARK.				
	Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
		— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.		— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.		
Con- dam- na- tions.				Con- dam- na- tions.						
M.	F.			M.	F.					
Adulteration of food.....					1		1			
Assaults.....	27	1	25		3	19	2	21		
Breach of peace.....	9		9			7		7		
Carrying fire-arms and unlawful weapons.....										
Contempt of court.....										
Cruelty to animals.....	3		3			1		1		
Disturbing religious and like meetings.....	3		3			2		2		
Fishery Acts, offences against.....										
Gambling Acts.....	2		2							
Game Laws.....						1		1		
Larceny.....						1		1		
“ of dogs, birds, &c.....										
“ of timber, trees, fruits, &c.....										
Liquor License Acts, offences against.....	10	1	11			17	1	18		
Breach of Canada Temperance Act.....										
Selling liquor during prohibited hours.....	4	1	5			10		10		
“ without license.....										
Violation of Indian liquor law.....										
Malicious injury to property.....	1		1							
Other damage to property.....	8		7		1	2		2		
Master's and Servant's Acts, offences against.....	5		2		3	2		2		
Medical and Dentistry Acts, offences against.....						1			1	
Militia Acts, offences against.....										
Miscellaneous minor offences.....										
Municipal Acts and By-laws, breaches of.....	50		a48		2	34	1	35		
Exercising various callings without license.....						2		2		
Health By-laws, offences against.....						1		1		
Highways, offences relating to.....	4		4			4		4		
Neglecting to support family.....										
Pharmacy Acts, offences against.....										
Profanation of the Lord's Day.....										
Railway Acts, offences against.....										
Revenue Laws.....										
Seamen Acts.....										
Statute Labour, offences relating to.....										
Threats and abusive language.....	4		3		1	4		3		
Trespass.....	6		b6			35		e35		
Vagrancy.....	69	1	c54		16	39	8	f3	44	
Drunkenness.....	112	4	d94		22	14	1	g14	1	
Indecent exposure.....						2		2		
Insulting, obscene and profane language.....	8	1	a9			6	1	7		
Keeping, frequenting bawdy houses and inmates thereof.....										
Loose, idle, disorderly.....	12		b9		3	27	1	28		
Weights and Measures Acts, offences against.....										
Insanity.....						1			1	
Totals.....	337	9	295		51	233	15	200	46	
									2	

a 1, b 4, c 52, d 40, e 7, f 3, g 2, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
LEEDS AND GRENVILLE.					LENNOX AND ADDINGTON.					
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	OFFENSES.	
	Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.			
M.	F.			M.	F.					
1		1		4	1	5			Falsification de substances alimentaires.	
51	3	a48	2	4	12	2	13		Voies de fait.	
2		2							Perturbation de la paix.	
1		1							Port d'armes illégal.	
1		1							Mépris de cour.	
1		1							Cruauté envers les animaux.	
17		16		1	7	1	7		Perturbation de réunions religieuses et autres.	
					1	1			Infractions aux lois des pêcheries.	
1		1			3	3			“ défendant le jeu. “ de chasse.	
1		1							Larcin.	
2		b2			1	1			Vol de chiens, oiseaux, etc.	
27	1	28			10	2	a12		“ bois, arbres, fruits, etc.	
8		8							Infractions aux lois des licences de boissons.	
3	1	4			2	2			Contraventions aux lois de tempérance du Canada.	
									Vente de boissons durant les heures défendues. “ sans licence.	
9		9			2	2			Contravention à la loi relative à la vente de boisson aux Sauvages.	
9	1	10			2	2			Dommages malicieux à la propriété.	
2		2			1	1			Autres dommages à la propriété.	
									Infractions aux lois concernant les maîtres et serveurs.	
21		20		1	2	2			Inf. aux lois concernant la méd. et les dent. “ de la milice.	
2		2							Divers petits délits.	
									Contraventions aux lois municipales.	
									Pratiquant divers états sans licence.	
									Infractions aux lois sur l'hygiène publique.	
8		8			5	5			Délits ayant rapport aux chemins publics.	
2	1	1	1	*1					Négligence de pourvoir aux besoins de la famille.	
5		5							Infractions aux lois concernant les pharmaciens.	
									Profanation du dimanche.	
									Infractions aux lois des chemins de fer.	
									Délits contre le revenu de l'Etat.	
									Infractions aux lois maritimes.	
									Délits ayant rapport à la corvée.	
2		2			1	1			Menaces et langage injurieux.	
23		c23							Empiètement.	
11		a4	6	1	10	f9	1		Vagabondage.	
147	4	d145	6		30	1	g31		Ivresse.	
4		b3	1						Exposition indécente.	
27	5	c32			8	8			Langage insultant, obscène, profane.	
1	1	2							Tenant, habitant et fréquentant des maisons de désordre.	
49		a48		1					Conduite déréglée.	
									Infractions aux lois des poids et mesures.	
									Aliénation mentale.	
438	17	430	16	9	104	7	109	1	1	..... Totaux.

a 2, b 1, c 8, d 32, e 5, f 9, g 13, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

\* 1, Ordered to pay \$2.00 per week—Condamné à payer \$2.00 par semaine.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.							
	LINCOLN.				MIDDLESEX.			
	Con- victions Total	Sentence.			Con- victions Total	Sentence.		
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.
	Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food								
Assaults	19	3	22		46	4	644	1
Breach of peace	10		10		4		4	
Carrying fire-arms and unlawful weapons	1		1		1			1
Contempt of court							67	
Cruelty to animals	6	1	7		7			
Disturbing religious and like meetings					2			2
Fishery Acts, offences against	1		1					
Gambling Acts	1		1					
Game Laws	1				1		1	
Larceny					2		2	
“ of dogs, birds, &c.								
“ of timber, trees, fruits, &c.	5		5					
Liquor License Acts, offences against	9	2	11		13		13	
Breach of Canada Temperance Act.								
Selling liquor during prohibited hours	1		1					
“ without license					2	1	3	
Violation of Indian liquor law					1		1	
Malicious injury to property	2		2		2		2	
Other damage to property	5		5		1		1	
Master's and Servant's Acts, offences against	3		3		1		1	
Medical and Dentistry Acts, offences against								
Militia Acts					2		1	1
Miscellaneous minor offences								
Municipal Acts and By-laws, breaches of	60	6	66		164	1	151	14
Exercising various callings without license	1	2	3					
Health By-laws, offences against								
Highways, offences relating to					12		11	1
Neglecting to support family					13			13
Pharmacy Acts, offences against								
Profanation of the Lord's Day	3		3		4		4	
Railway Acts, offences against								
Revenue Laws	1		1					
Seamen Acts								
Statute Labour, offences relating to	1		1					
Threats and abusive language	5		5		12		10	2
Trespass	6		6		14		12	2
Vagrancy	1		1		45	12	11	43
Drunkenness	51	2	52	1	153	6	137	14
Indecent exposure	3	1	3	1	3		2	1
Insulting, obscene and profane language	6		6		9		9	
Keeping, frequenting bawdy houses and inmates thereof					4	7	1	5
Loose, idle, disorderly	3		3		40	1	28	13
Weights and Measures Acts, offences against								
Insanity								
Totals	204	17	218	3	558	32	456	64

6. c 1, d 2. e 56. Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
MUSKOKA AND PARRY SOUND					NIPISSING.					OFFENSES.
Con- vic- tions  Total  Con- dam- na- tions.	Sentence.				Con- vic- tions  Total  Con- dam- na- tions.	Sentence.				
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.	
	— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.	— Re- mise, etc.		— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.	— Re- mise, etc.	
M.   F.				M.   F.						
51	3	47		7	36	2	36	1	1	Falsification de substances alimentaires. Voies de fait. Perturbation de la paix. Port d'armes illégal. Mépris de cour. Cruauté envers les animaux. Perturbation de réunions religieuses et autres. Infractions aux lois des pêcheries. " " défendant le jeu. " " de chasse.
1				1	1			1		
3				3	6		6			
6		6								
10		a10			3		c3			
2		2			2		2			Larcin.
					2		2			Vol de chiens, oiseaux, etc.
1		1			8		8			" bois, arbres, fruits, etc.
										Infractions aux lois des licences de boissons.
5		5								Contraventions aux lois de tempérance du Canada.
4		2	2		1		1			Vente de boissons durant les heures défendues sans licence.
					1		1			Contravention à la loi relative à la vente de boisson aux Sauvages.
4		b4			1		1			Dommiages malicieux à la propriété.
4		4			1		1			Autres dommiages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent. de la milice.
										Divers petits délits.
21	1	21		1	7		7			Contraventions aux lois municipales.
1		1			1		1			Pratiquant divers états sans licence.
2		2			2		2			Infractions aux lois sur l'hygiène publique.
4		4			1		1			Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infractions aux lois concernant les pharmaciens.
6		6			1		1			Profanation du dimanche.
					1		1		1	Infractions aux lois des chemins de fer.
6		4	m2							Délits contre le revenu de l'Etat.
2		2								Infractions aux lois maritimes.
5		2	1	2	3		2		1	Délits ayant rapport à la corvée.
4		c4			4		2		2	Menaces et langage injurieux.
6	3	c3	6		3		2	1		Empiètement.
11	1	b12			46	2	44	1	3	Vagabondage.
2		2								Ivresse.
6		6			2		2			Exposition indécente.
1	1	1		1						Langage insultant, obscène, profane.
7	1	6		2	8		8			Tenant, habitant et fréquentant des maisons de désordre.
				1	1				1	Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
175	11	157	11	18	142	4	133	4	9	..... Totaux.

a 3, b 2, c 1, Committed in default to pay fine—Enprisonnés à défaut de payer l'amende.  
m 2, Both jail and fine—Les deux : la prison et l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	NORFOLK.					NORTHUMBERLAND AND DURHAM.				
	Convictions Total	Sentence.			Convictions Total	Sentence.				
		Option of a fine.	Com- mitted without option.	De- ferred &c.		Option of a fine.	Com- mitted without option.	De- ferred &c.		
		Sur- option	Empri- sonnés sans option.	Re- mise, etc.		Sur- option	Empri- sonnés sans option.	Re- mise, etc.		
M.	F.			M.	F.					
Adulteration of food.....	1		1		3		3			
Assaults.....	29	2	22	4	5	31	2	30	2	1
Breach of peace.....	2			2		3		2	1	
Carrying fire-arms and unlawful weapons.....						3		2		1
Contempt of court.....			a1			1		1		
Cruelty to animals.....	1		2			1		1		
Disturbing religious and like meetings.....	2									
Fishery Acts, offences against.....						1		1		
Gambling Acts.....						1		1		
Game laws.....						1				1
Larceny.....	1		1			3		d3		
“ of dogs, birds, &c.....						1				1
“ of timber, trees, fruits, &c.....						14	1	15		
Liquor License Acts, offences against.....										
Breach of Canada Temperance Act.....						1		1		
Selling liquor during prohibited hours.....						1		1		
“ without license.....	1		1							
Violation of Indian liquor law.....										
Malicious injury to property.....						2		2		
Other damage to property.....	5		2	1	2	1	1	2		
Master's and Servant's Acts, offences against.....	9		9			9		9		
Medical and Dentistry Acts, offences against.....	1		1			1		1		
Militia Acts.....	1		1			1		1		
Miscellaneous minor offences.....						1		1		
Municipal Acts and By-laws, breaches of.....	7		7			21		21		
Exercising various callings without license.....	4		4			5	1	6		
Health By-laws, offences against.....						11		11		
Highways, offences relating to.....						1				1
Neglecting to support family.....	1				1					
Pharmacy Acts, offences against.....						4		4		
Profanation of the Lord's Day.....	1		1							
Railway Acts, offences against.....										
Revenue Laws.....										
Seamen Acts.....										
Statute Labour, offences relating to.....						2	6	1	6	1
Threats and abusive language.....	1	1			2	6	1	6		1
Trespass.....	4		4			10		a9	1	
Vagrancy.....	5	1		2	4	58	12	e7	60	3
Drunkenness.....	27	1	b24	1	3	62	1	a54	8	1
Indecent exposure.....	1		1			1		1		
Insulting, obscene and profane language.....	6	1	c6		1	11		a11		
Keeping, frequenting bawdy houses and inmates thereof.....	1			1		3	2	d4	1	
Loose, idle, disorderly.....	2		a2			9		8	1	
Weights and Measures Acts, offences against.....					1	1	2			3
Insanity.....	1									
Totals.....	114	6	90	11	19	276	23	213	74	12

a 1, b 4, c 3, d 2, e 6, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.



## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>											
ONTARIO.					OXFORD.					OFFENSES.	
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c. — Re- mise, etc.			
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c. — Re- mise, etc.		Sur- option		Emprisonnés sans option.
35	35			41	4	42		3	Falsification de substances alimentaires.		
20	20			2		1	1		Voies de fait.		
									Perturbation de la paix.		
									Port d'armes illégal.		
3	3			2	1	a2		1	Mépris de cour.		
1	1								Cruauté envers les animaux.		
									Perturbation de réunions religieuses et autres		
				1		1			Infractions aux lois des pêcheries.		
									“ défendant le jeu.		
4	4								“ de chasse.		
2	2								Larcin.		
									Vol de chiens, oiseaux, etc.		
									“ bois, arbres, fruits, etc.		
7	1	8		9		9			Infractions aux lois des licences de boissons.		
									Contraventions aux lois de tempérance du		
									Canada.		
1	1			1		1			Vente de boissons durant les heures défendues.		
2	2			4		4			“ sans licence.		
									Contravention à la loi relative à la vente de		
									boisson aux Sauvages.		
3	3			2		1		1	1 Dommages malicieux à la propriété.		
3	3			7		5		2	2 Autres dommages à la propriété.		
1	1			16		*15		1	1 Infractions aux lois concernant les maîtres et		
									serviteurs.		
									Inf. aux lois concernant la méd. et les dent.		
									“ de la milice.		
									Divers petits délits.		
28	27		1	28	1	a20		9	9 Contraventions aux lois municipales.		
				2		2			Pratiquant divers états sans licence.		
1	1			1		1			Infractions aux lois sur l'hygiène publique.		
4	4			2		2			Délits ayant rapport aux chemins publics.		
				1				1	1 Négligence de pourvoir aux besoins de la		
									famille.		
									Infrac. aux lois concernant les pharmaciens.		
				1		1			Profanation du dimanche.		
				5			1	4	4 Infractions aux lois des chemins de fer.		
									Délits contre le revenu de l'Etat.		
									Infractions aux lois maritimes.		
									Délits ayant rapport à la corvée.		
1	1		1	11	1	9		2	2 Menaces et langage injurieux.		
1	1			19		9		10	10 Empiètement.		
22		22		156	3	b36		33	33 Vagabondage.		
19	16	3		80	1	c67		1	13 Ivresse.		
									Exposition indécente.		
5	5			19	2	19		2	2 Langage insultant, obscène, profane.		
									Tenant, habitant et fréquentant des maisons		
7	6	1		20		18		2	2 de désordre.		
2	2								Conduite déréglée.		
				7				7	7 Infractions aux lois des poids et mesures.		
172	2	146	26	2	438	13	266	38	147	Totaux.	

a 1, b 29, c 9, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
 \* 1 Ordered to pay, but no amount given—Ordre de payer, mais le montant n'est pas indiqué.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	PEEL.					PERTH.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.				Con- vic- tions Total Con- dam- na- tions.	Sentence.			
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	Em- pris- onnés sans option.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	Em- pris- onnés sans option.
M.	F.				M.	F.				
Adulteration of food.....	18	1	a19			33		31	2	
Assaults.....	3		3							
Breach of peace.....										
Carrying fire-arms and unlawful weapons.....						3		2	1	
Contempt of court.....										
Cruelty to animals.....	4		4			3		3		
Disturbing religious and like meetings.....										
Fishery Acts, offences against.....										
Gambling Acts.....	5		a5							
Game Laws.....										
Larceny.....						1				1
“ of dogs, birds, &c.....										
“ of timber, trees, fruits, &c.....	3		3							
Liquor License Acts, offences against.....	9		9			10		10		
Breach of Canada Temperance Act.....										
Selling liquor during prohibited hours.....	1		1			3		3		
“ without license.....										
Violation of Indian liquor law.....										
Malicious injury to property.....						4		4		
Other damage to property.....										
Master's and Servant's Acts, offences against.....						4		4		
Medical and Dentistry Acts, offences against.....						1		1		
Militia Acts.....										
Miscellaneous minor offences.....										
Municipal Acts and By-Laws, breaches of.....						39		39		
Exercising various callings without license.....						1		1		
Health By-Laws, offences against.....										
Highways, offences relating to.....										
Neglecting to support family.....						2		a2		
Pharmacy Acts, offences against.....										
Profanation of the Lord's Day.....										
Railway Acts, offences against.....	1		a1			10		b10		
Revenue Laws.....										
Seamen Acts.....										
Statute Labour, offences relating to.....										
Threats and abusive language.....	3		1			2		2		
Trespass.....						19		15	4	
Vagrancy.....	13	2		15		40		c24	14	2
Drunkenness.....	2		2			33		a30	3	
Indecent exposure.....	1		1							
Insulting, obscene and profane language.....	2		a2			5		5		
Keeping, frequenting bawdy houses and inmates thereof.....						5		4	1	
Loose, idle, disorderly.....	3		3			7		6	1	
Weights and Measures Acts, offences against.....										
Insanity.....										
Totals.....	68	3	54	15	2	220	5	196	26	3

a 1, b 5, c 9, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
 o 2, Condemned to pay fine and order made for support—Condamnés à payer l'amende avec ordre de soutenir la famille

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
PETERBOROUGH.					PRESCOTT AND RUSSELL.					OFFENSES.
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.					
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.			
M.	F.			M.	F.					
11	1	11	1	13	2	15	...	...	Falsification de substances alimentaires.	
9	1	8	1	10	1	11	...	...	Voies de fait.	
									Perturbation de la paix.	
									Port d'armes illégal.	
				1		1			Mépris de cour.	
4		3	1						Cruauté envers les animaux.	
1		1		1		1			Perturbation de réunions religieuses et autres.	
6		6							Infractions aux lois des pêcheries.	
3		3							" défendant le jeu.	
1		1		1		1			" de chasse.	
									Larcin.	
									" Vol de chiens, oiseaux, etc.	
									" bois, arbres, fruits, etc.	
9	1	10							Infractions aux lois des licences de boissons.	
									Contraventions aux lois de tempérance du Canada.	
1		1		7		7			Vente de boissons durant les heures défendues.	
				2		2			" sans licence.	
									Contravention relative à la loi concernant la vente de boisson aux Sauvages.	
2		2		6		6			Domages malicieux à la propriété.	
4	1	5		1		1			Autres dommages à la propriété.	
				1		1			Infractions aux lois concernant les maîtres et serviteurs.	
				1		1			Inf. aux lois concernant la méd. et les dent.	
3		3							" de la milice.	
14	2	16		2		2			Divers petits délits.	
									Contraventions aux lois municipales.	
3	1	4							" Pratiquant divers états sans licence.	
1		1							Infractions aux lois sur l'hygiène publique.	
3		3							Délits ayant rapport aux chemins publics.	
				1		*1			Négligence de pourvoir aux besoins de la famille.	
									Infractions aux lois concernant les pharmaciens.	
3		3							Profanation du dimanche.	
3		3							Infractions aux lois des chemins de fer.	
									Délits contre le revenu de l'Etat.	
									Infractions aux lois maritimes.	
13		13							Délits ayant rapport à la corvée.	
2		2		1	2	3			Menaces et langage injurieux.	
7		5		2					Empiètement.	
35	1		36						Vagabondage.	
19		19		2		2			Ivresse.	
									Exposition indécente.	
1		1		1		1			Langage insultant, obscène, profane.	
	5		5						Tenant, habitant et fréquentant des maisons de désordre.	
12	1	4		9					Conduite déréglée.	
2	2			4					Infractions aux lois des poids et mesures.	
									Aliénation mentale.	
172	16	128	44	16	51	54	56		Totaux.	

\* Ordered to pay \$2.00 weekly—Devra payer \$2.00 par semaine.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.									
	PRINCE EDWARD.					RENFREW.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferre &c. — Re- mise, etc.	Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferre &c. — Re- mise, etc.
		Op- tion of a fine.	Com- mitted without option	De- ferre &c.			Op- tion of a fine.	Com- mitted without option.	De- ferre &c.	
		Sur- option	Empri- sonnés sans option.	Re- mise, etc.			Sur- option	Empri- sonnés sans option.	Re- mise, etc.	
M.	F.			M.	F.					
Adulteration of food .....	1		1		1		1			
Assaults .....	5		4	1	34	2	35		1	
Breach of peace .....	3		3		4		4			
Carrying fire-arms and unlawful weapons .....										
Contempt of court .....										
Cruelty to animals .....										
Disturbing religious and like meetings .....										
Fishery Acts, offences against .....	5		5							
Gambling Acts .....	2		2		1		1			
Game Laws .....					5		5			
Larceny .....					1		1			
“ of dogs, birds, &c. ....	2		2							
“ of timber, trees, fruits, &c. ....										
Liquor License Acts, offences against .....	2	1	3		4	1	5			
Breach of Canada Temperance Act .....										
Selling liquor during prohibited hours .....	1		1		16		16			
“ without license .....										
Violation of Indian liquor law .....										
Malicious injury to property .....					2		2			
Other damage to property .....										
Master's and Servant's Acts, offences against .....	1		1							
Medical and Dentistry Acts, offences against .....										
Militia Acts .....										
Miscellaneous minor offences .....										
Municipal Acts and By-laws, breaches of .....	6		6		14		14			
Exercising various callings without license .....	1		1		7		a7			
Health By-laws, offences against .....					1		1			
Highways, offences relating to .....	1		1		4		4			
Neglecting to support family .....					1					1
Pharmacy Acts, offences against .....										
Profanation of the Lord's Day .....										
Railway Acts, offences against .....					6		6			
Revenue Laws .....										
Seamen Acts .....										
Statute Labour, offences relating to .....										
Threats and abusive language .....					1		1			
Trespass .....					7		7			
Vagrancy .....					11	2	b3		m10	
Drunkenness .....	4	1	5		36		b36			
Indecent exposure .....					3		a3			
Insulting, obscene and profane language .....					16	1	17			
Keeping, frequenting bawdy houses and inmates thereof .....					1	3	a3			1
Loose, idle, disorderly .....	21		21		20		20			
Weights and Measures Acts, offences against .....										
Insanity .....					1					1
Totals .....	55	2	56	1	196	10	192	10		4

a 1, b 2, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m 1, Both jail and fine. Les deux : la prison et l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
SIMCOE.					STORMONT, DUNDAS AND GLENGARRY.					OFFENSES.
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.					
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.			
M.   F.				M.   F.						
60	1	a55	2	4	4	1	4		Falsification de substances alimentaires.	
2	1	2		23	1	d24			Voies de fait.	
3			2						Perturbation de la paix.	
2		2							Port d'armes illégal.	
1		1							Mépris de cour.	
4		4							Cruauté envers les animaux.	
11		11							Perturbation de réunions religieuses et autres.	
									Infractions aux lois des pêcheries.	
				2		2			"    défendant le jeu.	
	1	1							"    de chasse.	
									Larcin.	
11		9							Vol de chiens, oiseaux, etc.	
13		13		18	2	20			"    bois, arbres, fruits, etc.	
									Infractions aux lois des licences de boissons.	
4	3	7		10		10			Contraventions aux lois de tempérance du Canada.	
1		1		1	1	2			Vente de boissons durant les heures défendues.	
				2		2			Vente de boissons sans licence.	
				1		1			Contravention à la loi relative à la vente de boisson aux Sauvages.	
15	3	a13	1	4	1	1			Dommages malicieux à la propriété.	
9		*9		1		1			Autres dommages à la propriété.	
									Infractions aux lois concernant les maîtres et serviteurs.	
1		a1		1		1			Infrac. aux lois concernant la méd. et les dent.	
1				1					"    de la milice.	
34	4	38		37		e37			Divers petits délits.	
4		4		8	3	11			Contraventions aux lois municipales.	
1		1		2		2			Pratiquant divers états sans licence.	
7		7		2		2			Infractions aux lois sur l'hygiène publique.	
									Délits ayant rapport aux chemins publics.	
									Négligence de pourvoir aux besoins de la famille.	
1		1		10		10			Inf. aux lois concernant les pharmaciens.	
1		1		3		f3			Profanation du dimanche.	
				2		2			Infractions aux lois des chemins de fer.	
									Délits contre le revenu de l'Etat.	
									Infractions aux lois maritimes.	
16	1	14		1		1			Délits ayant rapport à la corvée.	
17	1	a18		3	3	3			Menaces et langage injurieux.	
45	4	b22	22	5	38	e11	29	3	Empiètement.	
53		c46	2	5	48	1 g47		2	Vagabondage.	
						a2			Ivresse.	
8		7		1	14	3 a17			Exposition indécente.	
				1					Langage insultant, obscène, profane.	
									Tenant, habitant et fréquentant des maisons de désordre.	
17	3	18	1	1	5	5			Conduite déréglée.	
									Infractions aux lois des poids et mesures.	
8	4			12					Aliénation mentale.	
350	261	306	30	40	238	20	222	29	7	..... Totaux.

a 1, b 19, c 8, d 2, e 4, f 3, g 24, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
 \* 4 Ordered to pay wages, but no amount given—Ordre de payer gages, mais le montant n'est pas indiqué.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO—Continued.											
	THUNDER BAY AND RAINY RIVER.						VICTORIA.					
	Con- vic- tions Total		Sentence.				Con- vic- tions Total		Sentence.			
			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise. etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	M.	F.	M.	F.	
M.	F.											
Adulteration of food					4			4				
Assaults	33	4	a35	1	1	30		29		1		
Breach of peace	2		2			9		69				
Carrying fire-arms and unlawful weapons.												
Contempt of court												
Cruelty to animals	4		b4									
Disturbing religious and like meetings	2		2			8		8				
Fishery Acts, offences against						1		1				
Gambling Acts	1		1									
Game Laws	1		1			3		3				
Larceny						3		3				
“ of dogs, birds, &c.												
“ of timber, trees, fruits, &c.												
Liquor License Acts, offences against	3	1	4			7		7				
Breach of Canada Temperance Act												
Selling liquor during prohibited hours	3		3			2		2				
“ without license		2	2			2		1		1		
Violation of Indian liquor law	9		b8	1								
Malicious injury to property												
Other damage to property	12	2	13	1		1		1				
Master's and Servant's Acts, offences against	61	2	63			3		3				
Medical and Dentistry Acts, offences against												
Militia Acts												
Miscellaneous minor offences												
Municipal Acts and By-Laws, breaches of	21		20		1	27	2	26			3	
Exercising various callings without license	1		1			7		7				
Health By-laws, offences against	3		3									
Highways, offences relating to	5		5			1		1				
Neglecting to support family	1		o1									
Pharmacy Acts, offences against						2		2				
Profanation of the Lord's Day												
Railway Acts, offences against												
Revenue Laws	1			1		1				m1		
Seamen Acts												
Statute Labour, offences relating to												
Threats and abusive language	5		b5			2	3	5				
Trespass	7		7			1		1				
Vagrancy	29	1	c7	4	19	22	2			24		
Drunkenness	129	3	d119	8	5	22	2	f22		1	1	
Indecent exposure	3		3									
Insulting, obscene and profane language	1		1			3	1	4				
Keeping, frequenting bawdy houses and inmates thereof	27	60	b83		4							
Loose, idle, disorderly	15		e14		1	21	1	b22				
Weights and Measures Acts, offences against												
Insanity	4	1			5	6	3				9	
Totals	383	76	407	16	36	188	14	161		28	13	

a 2, b 1, c 4, d 28, e 3, f 7, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
 o 1, Ordered to pay \$5.00 per month—Ordre de payer \$5.00 par mois. m Both Jail and fine—Les deux la prison et l'amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Suite.</i>										
WATERLOO.					WELLAND.					OFFENSES.
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			De- ferred &c.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
Con- dam- na- tions.	Sur- option	Emprisonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Emprisonnés sans option.	Re- mise, etc.	M.	F	
M.	F			M.	F					
32	1	a32	1	4	1	5	2	2		Falsification de substances alimentaire.
				21		e17				Voies de fait.
				2		2				Perturbation de la paix.
				2		b1				Port d'armes illégal.
5		5								Mépris de cour.
2		2		1		1				Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
1		1								“ défendant le jeu.
										“ de chasse.
				3		3				Larcin.
										Vol de chiens, oiseaux, etc.
				1		1				“ bois, arbres, fruits, etc.
18		18		1		1				Infractions aux lois des licences de boissons.
				1		1				Contraventions aux lois de tempérance du Canada.
17		17		4		4				Vente de boissons durant les heures défendues sans licence.
4		4		1		1				Contravention à la loi relative à la vente de boisson aux Sauvages.
				4		a3	1			Domages malicieux à la propriété.
11		11		9		b8				Autres dommages à la propriété.
				7		7				Infractions aux lois concernant les maîtres et serviteurs.
				1		1				Inf. aux lois concernant la méd. et les dent.
				3						“ de la milice.
										Divers petits délits.
32	1	33		33	5	35				Contraventions aux lois municipales.
4		4		1		1				Pratiquant divers états sans licence.
6		6		3		2				Infractions aux lois sur l'hygiène publique.
8		8		2		2				Délits ayant rapport aux chemins publics.
				2		o1				Négligence de pourvoir aux besoins de la famille.
1		1								Infractions aux lois concernant les pharmaciens.
										Profanation du dimanche.
2		b1	1	15		f11	2			Infractions aux lois des chemins de fer.
				4	2	6				Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
2	1	3		13	1	12				Délits ayant rapport à la corvée.
9		b9		7	1	7	1			Menaces et langage injurieux.
36	4	c32	m8	97	1	o41	56			Empiètement.
17		16	1	27		h20	3			Vagabondage.
5		b4	1	1		b1				Ivresse.
11	7	18								Exposition indécente.
1		1			2					Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
30		d30		4	1	3				Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
254	14	256	12	273	15	197	65	26		Totaux.

a 2, b 1, c 28, d 5, e 4, f 7, g 32, h 8, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m 2 Both jail and fine—Les deux : la prison et l'amende. o 1, ordered to pay \$2.00 weekly—Ordre de payer \$2.00 par semaine.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF ONTARIO— <i>Concluded.</i>									
	WELLINGTON.					WENTWORTH.				
	Con- vic- tions Total	Sentence.				Con- vic- tions Total	Sentence.			
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.
Con- dam- na- tions.	— Sur- option	— Em- prison- nés sans option.	— Re- mise, etc.	Con- dam- na- tions.	— Sur- option	— Em- prison- nés sans option.	— Re- mise etc.	Con- dam- na- tions.	— Sur- option	— Em- prison- nés sans option.
M.	F.				M.	F.				
Adulteration of food	1		1							
Assaults	37		a32	1	4	104	10	e105	8	1
Breach of peace						4		4		
Carrying fire-arms and unlawful weapons						4		1	1	2
Contempt of court										
Cruelty to animals	2		2			25		a25		
Disturbing religious and like meetings										
Fishery Acts, offences against						2		2		
Gambling Acts						8		3		5
Game Laws	1		1							
Larceny	3		2		1	1				1
“ of dogs, birds, &c										
“ of timber, trees, fruits, &c	2		2			12		7	1	4
Liquor License Acts, offences against	7		7			18	2	20		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	1		1			2		2		
“ without license						1		1		
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	8		8			35	4	*439		
Master's and Servant's Acts, offences against	4		*4			2		2		
Medical and Dentistry Acts, offences against										
Militia Acts						8		8		
Miscellaneous minor offences						1		1		
Municipal Acts and By-Laws, breaches of	46	1	b47			131	8	e138		1
Exercising various callings without license	8		8			1	2	3		
Health By-laws, offences against										
Highways, offences relating to	1		1			1		1		
Neglecting to support family						1		1		
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws	1		1							
Seamen Acts										
Statute Labour, offences relating to						2		2		
Threats and abusive language	3	1	3	1		1	1	2		
Trespass	2		2			41		f37		4
Vagrancy	7	1		8		83	14	g85	12	
Drunkenness	22	2	24			95	3	h96	2	
Indecent exposure										
Insulting, obscene and profane language	10		10			2	1	3		
Keeping, frequenting bawdy houses and inmates thereof						1	15	b11	1	4
Loose, idle, disorderly	19	1	a20			182	10	i181	3	8
Weights and Measures Acts, offences against										
Insanity										
Totals	185	6	176	10	5	768	70	780	32	26

a 1, b 3, c 15, d 9, e 2, f 18, g 55, h 39, i 17, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende. 1 \* Ordered to pay, but no amount given—Condamné à payer l'amende, mais le montant non indiqué. † Damage paid, amount not given—Dommiage payé, le montant non indiqué.



## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE D'ONTARIO— <i>Fin.</i>										OFFENSES.	
YORK.					Totals of Ontario. Totaux d'Ontario.						
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c.			
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.				
M.	F.	Sur- option	Emprisonnés sans option.	Re- mise, etc.	M.	F.	Sur- option	Emprisonnés sans option.	Re- mise, etc.		
177	16	a119	20	48	1630	97	1569	57	101	Falsification de substances alimentaires.	
8		2		6	177	8	166	4	15	Voies de fait.	
5		a5		6	38		23	10	5	Perturbation de la paix.	
					5		3	1	1	Port d'armes illégal.	
52		52			173	2	172	1	2	Mépris de cour.	
2				2	66		57	1	8	Cruauté envers les animaux.	
1		1			84		81	2	1	Perturbation de réunions religieuses et autres.	
1		1			42		36		6	Infractions aux lois des pêcheries.	
2		2			72		68		4	"    défendant le jeu.	
3				3	43	1	35		9	"    de chasse.	
4		4			20		20			Larcin.	
4		3		1	66		57	1	8	Vol de chiens, oiseaux, etc.	
78	8	84		2	519	29	546		2	"    bois, arbres, fruits, etc.	
					5		5			Infractions aux lois des licences de boissons.	
					154	8	162			Contraventions aux lois de tempérance du	
1		1			53	10	60	3		Canada.	
					28	1	23	6		Vente de boissons durant les heures défendues.	
										"    sans licence.	
51	1	31		21	89	4	70	1	22	Contravention à la loi relative à la vente de	
					199	19	196	6	10	boissons aux Sauvages.	
51	7	58			280	15	291		4	Domnages malicieux à la propriété.	
										Autres dommages à la propriété.	
3	1	4			14	1	14	1		Infractions aux lois concernant les maîtres et	
3				3	23		16		7	serviteurs.	
1				1	7		5		2	Inf. aux lois concernant la méd. et les dent.	
1009	12	a769		252	2329	73	2194	1	297	"    de la milice.	
21	2	22		1	127	11	136	1	1	Divers petits délits.	
2		2			37		36		1	Contraventions aux lois municipales.	
8		7		1	134		132		2	Praticquens divers états sans licence.	
1	1			2	28	4	9	1	22	Inf. aux lois sur l'hygiène publique.	
					6		6			Délits ayant rapport aux chemins publics.	
37	2	25		14	88	2	76		14	Négligence de pourvoir aux besoins de la	
17		b11		6	80		53	8	19	famille.	
7	2	8		1	27	10	32	4	1	Infractions aux lois concernant les pharmaciens.	
					19		19			Profanation du dimanche.	
17	1	3		15	192	24	165	5	46	Infractions aux lois des chemins de fer.	
143	5	c104		44	471	8	399	14	66	Délits contre le revenu de l'Etat.	
270	34	d155	116	33	1415	126	564	782	195	Infractions aux lois maritimes.	
322	197	e512	2	5	2260	260	2371	61	88	Délits ayant rapport à la corvée.	
5		5			57	2	50	4	5	Menaces et langage injurieux.	
5	3	4		4	334	45	370		9	Vagabondage.	
17	45	23	18	21	63	160	141	43	39	Empiètement.	
										195	Vagabondage.
422	57	f294	3	182	1309	97	1163	13	230	88	Ivresse.
					9		9			5	Exposition indécente.
3				3	43	18				9	Langage insultant, obscène, profane.
										39	Tenant, habitant et fréquentant des maisons
											de désordre.
											Conduite déréglée.
											Infractions aux lois des poids et mesures.
											Aliénation mentale.
2753	388	2311	159	671	12877	1801	11577	1031	1303	.....Totaux.	

a 1, b 2, c 6, d 57, e 44, f 31, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF MANITOBA.							
	PROVINCE DU MANITOBA.							
	CENTRAL—CENTRE.				EASTERN—EST.			
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.		
		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.
M.	F.			M.	F.			
Adulteration of food								
Assaults	14		a12	2	24	1	c23	1
Breach of peace					1		1	
Carrying fire-arms and unlawful weapons	1		1		4		1	2
Contempt of court								
Cruelty to animals	1		1					
Disturbing religious and like meetings					3		d2	1
Fishery Acts, offences against					1		1	
Gambling Acts					8		8	
Game Laws					2		2	
Larceny								
“ of dogs, birds, &c.								
“ of timber, trees, fruits, &c.								
Liquor License Acts, offences against	3		2	1	2		2	
Breach of Canada Temperance Act								
Selling liquor during prohibited hours					7	1	8	
“ without license	1		1		10	4	14	
Violation of Indian liquor law	3		1	2	5		b3	2
Malicious injury to property								
Other damage to property					2	1	b3	
Master's and Servant's Acts, offences against	10	1	11		45	7	52	
Medical and Dentistry Acts, offences against								
Militia Acts								
Miscellaneous minor offences								
Municipal Acts and By-laws, breaches of	23		23		91	6	95	2
Exercising various callings without license	1		1		5		5	
Health By-laws, offences against	1		1		5		5	
Highways, offences relating to	1				5		5	
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day					1		1	
Railway Acts, offences against					10		e10	
Revenue Laws								
Seamen Acts								
Statute Labour, offences relating to								
Threats and abusive language					7	2	3	6
Trespass	4		4		18	1	f15	4
Vagrancy	11	2		13	26	5		20
Drunkenness	53	4	b53	3	1	431	85	g488
Indecent exposure								1
Insulting, obscene and profane language								27
Keeping, frequenting bawdy houses and inmates thereof					45	32	h77	
Loose, idle, disorderly					52	15	e62	5
Weights and Measures Acts, offences against								
Insanity								
Totals	126	7	111	21	1	810	190	886
								26
								58

a 1, b 3, c 4, d 2, e 10, f 6, g 157, h 44, Committed in default to pay fine—Emprisonnés à défaut de payer amende.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE OF MANITOBA— <i>Concluded.</i>				PROVINCE DU MANITOBA— <i>Fin.</i>				OFFENSES.	
WESTERN—OUEST.				Totals of Manitoba. Totaux de Manitoba.					
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.				
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
M.   F.	— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.	M.   F.	— Sur- option	— Empri- sonnés sans option.	— Re- mise, etc.		
11		11		49	1	46	3	1	Falsification de substances alimentaires.
				1		1			Voies de fait.
				5		2	2	1	Perturbation de la paix.
									Port d'armes illégal.
1		1		2		2			Mépris de cour.
1		1		4		3		1	Cruauté envers les animaux.
				1		1			Perturbation de réunions religieuses et autres
				8		8			Infractions aux lois des pêcheries.
				2		2			“ défendant le jeu.
									“ de chasse.
									Larcin.
									Vol de chiens, oiseaux, etc.
									“ bois, arbres, fruits, etc.
				5		4	1		Infractions aux lois des licences de boissons.
									Contraventions aux lois de tempérance du
				7	1	8			Canada.
				11	4	15			Vente de boissons durant les heures défendues.
				8		4	4		“ sans licence.
									Contravention à la loi relative à la vente de
									boisson aux Sauvages.
1	1	2		3	2	5			Domages malicieux à la propriété.
				55	8	63			Autres dommages à la propriété.
									Infractions aux lois concernant les maîtres et
									serviteurs.
									Inf. aux lois concernant la méd. et les dent.
									“ “ de la milice.
1		1		115	6	119		2	Divers petits délits.
				6		6			Contraventions aux lois municipales.
				6		6			Pratiquant divers états sans licence.
				5		5			Infractions aux lois sur l'hygiène publique.
									Délits ayant rapport aux chemins publics.
									Négligence de pourvoir aux besoins de la
									famille.
				1		1			Infrac. aux lois concernant les pharmaciens.
				10		10			Profanation du dimanche.
									Infractions aux lois des chemins de fer.
									Délits contre le revenu de l'Etat.
									Infractions aux lois maritimes.
									Délits ayant rapport à la corvée.
				7	2	3		6	Menaces et langage injurieux.
				22	1	19		4	Empiètement.
7	2		9	44	9		42	11	Vagabondage.
				484	89	541	4	28	Ivresse.
									Exposition indécente.
									Langage insultant, obscène, profane.
				45	32	77			Tenant, habitant et fréquentant des maisons
									de désordre.
				52	15	62		5	Conduite déréglée.
									Infractions aux lois des poids et mesures.
22	3	16	9	958	174	1,013	56	59	Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	PROVINCE OF BRITISH COLUMBIA.								
	PROVINCE DE LA COLOMBIE-BRITANNIQUE.								
	CLINTON.				VICTORIA.				
	Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			
		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.	
M.	F.			M.	F.				
Adulteration of food.....									
Assaults.....	6		6		25	1	20	m5	1
Breach of peace.....	2		2		4		2		2
Carrying fire-arms and unlawful weapons.....					2		a2		
Contempt of court.....									
Cruelty to animals.....					5		a3		2
Disturbing religious and like meetings.....					3		3		
Fishery Acts, offences against.....									
Gambling Acts.....									
Game Laws.....									
Larceny.....	1		1						
" of dogs, birds, &c.....									
" of timber, trees, fruits, &c.....									
Liquor License Acts, offences against.....					5		5		
Breach of Canada Temperance Act.....									
Selling liquor during prohibited hours.....									
without license.....					1		1		
Violation of Indian liquor law.....	18	1	5	13	1	23	3	b24	2
Malicious injury to property.....	1		1		3		3		
Other damage to property.....	1		1		4		4		
Master's and Servant's Acts, offences against.....									
Medical and Dentistry Acts, offences against.....									
Militia Acts.....									
Miscellaneous minor offences.....					5		5		
Municipal Acts and By-Laws, breaches of.....					52	4	a52		4
Exercising various callings without license.....					3		3		
Health By-laws, offences against.....					1	1	2		
Highways, offences relating to.....	1		1		1		1		
Neglecting to support family.....					2				2
Pharmacy Acts, offences against.....									
Profanation of the Lord's Day.....									
Railway Acts, offences against.....									
Revenue Laws.....					1		1		
Seamen Acts.....					9				1
Statute Labour, offences relating to.....									8
Threats and abusive language.....	2			2	3		2		1
Trespass.....									
Vagrancy.....	8		3	5	11				10
Drunkenness.....	60	6	44	21	1	189	22	c140	71
Indecent exposure.....	1		1		12	3	a10		1
Insulting, obscene and profane language.....									
Keeping, frequenting bawdy houses and inmates thereof.....						3	d2		1
Loose, idle, disorderly.....	1			1					
Weights and Measures Acts, offences against.....					2		2		
Insanity.....									
Totals.....	102	7	65	40	4	366	37	287	20

a 1, b 8, c 38, d 2, Committed in default to pay fine—Enprisonnés à défaut de payer l'amende.

m 1, Both jail and fine—Les deux : la prison et l'amende.

# Criminal Statistics.

**TABEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

PROVINCE OF BRITISH COLUMBIA— <i>Concluded.</i>											
PROVINCE DE LA COLOMBIE-BRITANNIQUE— <i>Fin.</i>											
WESTMINSTER.				Totals of British Columbia. Totaux de la C.-Britannique.							
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	OFFENSES		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.				
M.   F.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.	M.   F.	Sur- option	Em- pri- sonnés sans option.	Re- mise, etc.				
59	4	e59	3	1	90	5	85	8	2	Falsification de substances alimentaires.	
29		25	1	3	35		29	1	5	Voies de fait.	
8		7		1	10		9		1	Perturbation de la paix.	
1		1			1		1		1	Port d'armes illégal.	
4		3		1	9		6		3	Mépris de cour.	
1		1			4		4			Cruauté envers les animaux.	
12		12			12		12			Perturbation de réunions religieuses et autres.	
2		2			3		3			Infractions aux lois des pêcheries.	
1	19	20			6	19	25			"    défendant le jeu. "    de chasse.	
1				1	1				1	Larcin.	
21		f18	3		22		19	3		Vol de chiens, oiseaux, etc.	
36	1	f29	5	3	77	5	58	20	4	"    bois, arbres, fruits, etc.	
4		4			8		8			Infractions aux lois des licences de boissons.	
2		2			7		7			Contraventions aux lois de tempérance du Canada.	
										1	Vente de boissons durant les heures défendues sans licence.
										4	Contravention à la loi relative à la vente de boisson aux Sauvages.
											Donnages malicieux à la propriété.
											Autres dommages à la propriété.
											Infractions aux lois concernant les maîtres et serviteurs.
											Inf. aux lois concernant la méd. et les dent.
											"    "    de la milice.
141	17	87	2	69	193	21	139	2	73	Divers petits délits.	
14		12		2	17		15		2	Contraventions aux lois municipales.	
					1	1	2			Praticien divers états sans licence.	
					2		2			Infractions aux lois sur l'hygiène publique.	
					2				2	Délits ayant rapport aux chemins publics.	
										Négligence de pourvoir aux besoins de la famille.	
4		4			4		4			Infrac. aux lois concernant les pharmaciens.	
3		g3			4		4			Profanation du dimanche.	
43		e10	4	29	52		10	5	37	Infractions aux lois de chemins de fer.	
17	3	9	1	10	22	3	11	2	12	Délits contre le revenu de l'Etat.	
9			9		9		9		9	Infractions aux lois maritimes.	
146	7	g6	63	84	165	7	9	78	85	Délits ayant rapport à la corvée.	
636	52	h597	48	43	885	80	781	69	115	Menaces et langage injurieux.	
3		3			16	3	14	1	4	Empiètement.	
16		e13		3	16		13		3	Vagabondage.	
25	102	i118	2	7	25	105	120	2	8	Ivresse.	
4	1	4		1	5	1	4	1	1	Exposition indécente.	
					2		2			Langage insultant, obscène, profane.	
										Tenant, habitant et fréquentant des maisons de désordre.	
										Conduite déréglée.	
										Infraction aux lois des poids et mesures.	
										Aliénation mentale.	
1242	209	1049	141	258	1710	250	1401	201	358	Totaux.	

e 1, f 6, g 2, h 50, i 17, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	THE TERRITORIES.									
	Alberta, Northern—Nord.					Alberta, Southern—Sud.				
	Con- victions Total	Sentence.			Con- victions Total	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.		
M.	F.			M.	F.					
Adulteration of food										
Assaults	27	3	a20	5	5	39	c21	11	7	
Breach of peace	6		1	3	2	8		8		
Carrying fire-arms and unlawful weapons	5		3	1	1	4		2	2	
Contempt of court										
Cruelty to animals	1				1	1		1		
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts						2		1	1	
Game Laws	2		2			1		1		
Larceny	3		3			4		3	1	
“ of dogs, birds, &c.										
“ of timber, trees, fruits, &c	3		3							
Liquor License Acts, offences against	5			2	3	10	1	a5	5	
Breach of Canada Temperance Act.									1	
Selling liquor during prohibited hours						3		2	1	
“ without license	1		1			5		5		
Violation of Indian liquor law	13		5	8		16		d9	m6	
Malicious injury to property										
Other damage to property	1		1			3		2	1	
Master's and Servant's Acts, offences against	5		5			25		25		
Medical and Dentistry Acts, offences against										
Militia Acts										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	37		28	4	5	8		7	1	
Exercising various callings without license						1		1		
Health By-laws, offences against	2		2			10		7	3	
Highways, offences relating to	1			1						
Neglecting to support family						1		a1		
Pharmacy Acts, offences against	1		1							
Profanation of the Lord's Day						1		1		
Railway Acts, offences against	73		a20	48	5	28		e12	16	
Revenue Laws										
Seamen Acts										
Statute Labour, offences relating to	1		1							
Threats and abusive language	2		1	1		2		1	1	
Trespass	1			1						
Vagrancy	71	2	b25	43	5	15		b2	6	
Drunkenness	57	3	c31	28	1	219	9	f163	46	
Indecent exposure						5		1	4	
Insulting, obscene and profane language	2		2			2		2		
Keeping, frequenting bawdy houses and inmates thereof	4	21	25			14	21	e29	4	
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity	11	3			14	5			5	
Totals	335	32	180	145	42	432	31	312	102	
									49	

a 1, b 2, c 3, d 5, e 7, f 25, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m 3, Both jail and fine—Les deux : la prison et l'amendé.

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

LES TERRITOIRES.										OFFENSES.
Assiniboia, Eastern—Est.					Assiniboia, Western—Ouest					
Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.			De- ferred &c.		
	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.			
Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.			
M.   F.				M.   F.						
49		47	1	1	18	a17		1	Falsification de substances alimentaires.	
2		2							Voies de fait.	
6		3	3		2		2		Perturbation de la paix.	
1		1							Port d'armes illégal.	
4		4							Mépris de cour.	
					2	2			Cruauté envers les animaux.	
									Perturbation de réunions religieuses et autres.	
									Infractions aux lois des pêcheries.	
2		2							"    défendant le jeu.	
8		8			7	6		1	"    de chasse.	
6		4		2	8	8			Larcin.	
3		3			2	2			"    Vol de chiens, oiseaux, etc.	
									"    bois, arbres, fruits, etc.	
									Infractions aux lois des licences de boissons.	
									Contraventions aux lois de tempérance du	
1		1							Canada.	
6		6							Vente de boissons durant les heures défendues.	
4		4			16	13	3		"    sans licence.	
									Contravention à la loi relative à la vente de	
									boisson aux Sauvages.	
5	1	6			9	9			Dommmages malicieux à la propriété.	
27	3	27	1	2	11	9		2	Autres dommmages à la propriété.	
									Infractions aux lois concernant les maîtres et	
1		1							serveurs.	
6		6							Infractions aux lois concernant la méd. et les dent.	
53		b53			2	2			"    de la milice.	
8	2	9	1						Divers petits délits.	
1		1							Contraventions aux lois municipales.	
3		3							Pratiquant divers états sans licence.	
									Infractions aux lois sur l'hygiène publique.	
									Délits ayant rapport aux chemins publics.	
									Négligence de pourvoir aux besoins de la	
									famille.	
2		2							Infractions aux lois concernant les pharmaciens.	
18		b7	10	1	27	a14	13		Profanation du dimanche.	
8		8							Infractions aux lois des chemins de fer.	
									Délits contre le revenu de l'Etat.	
1		1							Infractions aux lois maritimes.	
5		a4	1		1	1			Délits ayant rapport à la corvée.	
2		2			1	1			Menaces et langage injurieux.	
27	1	1	26	1	34	a6	28		Empiètement.	
75	3	c69	8	1	36	a23	13		Vagabondage.	
									Ivresse.	
									Exposition indécente.	
									Langage insultant, obscène, profane.	
									Tenant, habitant et fréquentant des maisons	
									de désordre.	
									Conduite déréglée.	
12	2			14	2	2			Infractions aux lois des poids et mesures.	
									Aliénation mentale.	
346	12	285	51	22	179	2	114	59	8	Totaux.

a 1, b 2, c 3, Committed in default to pay fine—Enprisonnés à défaut de payer l'amende.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	THE TERRITORIES— <i>Concluded.</i>							
	LES TERRITOIRES— <i>Fin</i>							
	SASKATCHEWAN.				YUKON.			
	Con- vic- tions Total	Sentence.			Con- vic- tions Total	Sentence.		
Op- tion of a fine.		Com- mitted without option.	De- ferred &c.	Op- tion of a fine.		Com- mitted without option.	De- ferred &c.	
Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise. etc.	Con- dam- na- tions.	Sur option	Empri- sonnés sans option.	Re- mise. etc.	
M.	F.			M.	F.			
Adulteration of food								
Assaults	7	1	7				1	25
Breach of peace	2		1				1	13
Carrying fire-arms and unlawful weapons								12
Contempt of court								1
Cruelty to animals								1
Disturbing religious and like meetings								1
Fishery Acts, offences against								
Gambling Acts								
Game Laws	1		1					
Larceny	1		1					3
“ of dogs, birds, &c.								3
“ of timber, trees, fruits, &c.								2
Liquor License Acts, offences against	3		3					11
Breach of Canada Temperance Act								11
Selling liquor during prohibited hours								
“ without license								
Violation of Indian liquor law	3		2	1				4
Malicious injury to property								3
Other damage to property	1		1					5
Master's and Servant's Acts, offences against								2
Medical and Dentistry Acts, offences against								25
Militia Acts								5
Miscellaneous minor offences								5
Municipal Acts and By-Laws, breaches of	1		1					18
Exercising various callings without license								14
Health By-laws, offences against	5		5					
Highways, offences relating to								
Neglecting to support family								
Pharmacy Acts, offences against								
Profanation of the Lord's Day								2
Railway Acts, offences against								2
Revenue Laws								
Seamen Acts								
Statute Labour, offences relating to								
Threats and abusive language								2
Trespass	3		3					
Vagrancy	5		a2	3				85
Drunkenness	19	1	18	2				158
Indecent exposure								2
Insulting, obscene and profane language								2
Keeping, frequenting bawdy houses and inmates thereof								27
Loose, idle, disorderly	5			5				59
Weights and Measures Acts, offences against								1
Insanity	1							2
Totals	57	2	45	11	3	395	61	432
								7
								17

a 1, b 10, c 17, d 48, Committed in default to pay fine—Emprisonnés à défaut de payer l'amende.  
m, Both jail and fine—Les deux: la prison et l'amende.



## Criminal Statistics.

TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.

GRAND TOTALS—GRANDS TOTAUX.										
PRINCE EDWARD ISLAND. — ILE DU PRINCE-EDOUARD.					NOVA SCOTIA. — NOUVELLE-ECOSSE.					
		Sentence.					Sentence.			
Con- vic- tions Total	Con- dam- na- tions.	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	Con- vic- tions Total	Con- dam- na- tions.	Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
		— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.			— Sur option	— Empri- sonnés sans option.	— Re- mise, etc.	
M.	F.				M.	F.				
26	2	26	2		131	25	126	16	14	Falsification de substances alimentaires.
3		3			87	23	84	14	12	Voies de fait.
4		4			2		2			Perturbation de la paix.
1		1								Port d'armes illégal.
					11		11			Mépris de cour.
21		21			19		19			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										“ défendant le jeu.
										“ de chasse.
					7		7			Larcin.
					3		3			Vol de chiens, oiseaux, etc.
16	1	17			45	8	53			“ bois, arbres, fruits, etc.
13	1	14			125	10	135			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du
										Canada.
					24		24			Vente de boissons durant les heures défendues.
										“ sans licence.
										Contravention relative à la loi concernant la
										vente de boisson aux Sauvages.
6		6			1		1			Domages malicieux à la propriété.
1		1			22	3	24	1		Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et
										serveurs.
1		1								Inf. aux lois concernant la méd. et les dent.
										“ de la milice.
					1		1			Divers petits délits.
17		17			195	11	169	33	4	Contraventions aux lois municipales.
					9		9			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
2		2			14		13		1	Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la
										famille.
										Infractions aux lois concernant les pharmaciens.
	1	1			7	1	8			Profanation du dimanche.
					2		2			Infractions aux lois des chemins de fer.
					4		4			Délits contre le revenu de l'Etat.
					14		2	9	3	Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
6		6			36	11	23	1	23	Menaces et langage injurieux.
	1	1								Empiètement.
6		3	3		19	2	13	7	1	Vagabondage.
285	3	275	13		1133	135	1237	26	5	Ivresse.
1		1			7		3	4		Exposition indécente.
3		3			176	40	213	3		Langage insultant, obscène, profane.
					4	16	9	8	3	Tenant, habitant et fréquentant des maisons
										de désordre.
2		2			51	4	53		2	Conduite déréglée.
										Infractions aux lois des poids et mesures.
					2				2	Aliénation mentale.
414	9	405	18		2151	289	2248	122	70	Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	GRAND TOTALS—Continued.									
	NEW BRUNSWICK. — NOUVEAU-BRUNSWICK.					QUEBEC.				
	Con- victions Total	Sentence.				Con- victions Total	Sentence.			
		Op- tion of a fine.	Com- mitted without option	De- ferre &c.			Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	
		Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.		Con- dam- na- tions.	Sur- option	Empri- sonnés sans option.	Re- mise, etc.
M.	F.			M.	F.					
Adulteration of food										
Assaults	171	16	178	8	1	519	61	527	24	29
Breach of peace	50	2	45	7		167	15	133	19	30
Carrying fire-arms and unlawful weapons.	6	1	7			14	1	4	1	10
Contempt of court						1		1		
Cruelty to animals	1		1			107		98	2	7
Disturbing religious and like meetings.	2		2			36		31		5
Fishery Acts, offences against.	5		5			9		9		
Gambling Acts	1		1			5	1	6		
Game Laws	2		2			18		18		
Larceny						25	1	23		3
“ of dogs, birds, &c.						1		1		
“ of timber, trees, fruits, &c.										
Liquor License Acts, offences against	24	9	33			241	46	286	1	
Breach of Canada Temperance Act.	272	44	307	9		15		15		
Selling liquor during prohibited hours	5	1	6			1		1		
“ without license	5	2	7			119	71	189		1
Violation of Indian liquor law										
Malicious injury to property.	7		7			131	27	151	1	6
Other damage to property	18		15	3		56	7	57	1	5
Master's and Servant's Acts, offences against.	1			1		8		7	1	
Medical and Dentistry Acts, offences against										
Militia Acts						1		1		
Miscellaneous minor offences						1		1		
Municipal Acts and By-laws, breaches of.	66		66			380	11	380	2	9
Exercising various callings without license	6		6			79	13	85	2	5
Health By-laws, offences against.						8		8		
Highways, offences relating to.	6		6			19		19		
Neglecting to support family						6		5		1
Pharmacy Acts, offences against.										
Profanation of the Lord's Day	9		9			1		1		
Railway Acts, offences against.	20		19		1	14		7	7	
Revenue Laws						47		38	8	1
Seamen Acts	6			5	1	28		5	23	
Statute Labour, offences relating to.										
Threats and abusive language	23	5	25	1	2	50	5	10	2	43
Trespass						20		17		3
Vagrancy	30	14	25	19		1296	327	1,166	203	254
Drunkenness	1197	93	1,250	40		3383	390	3,280	152	341
Indecent exposure.	4		4			15		14	1	
Insulting, obscene and profane language.	27	11	37	1		22	4	25	1	
Keeping, frequenting bawdy houses and inmates thereof.	30	40	69	1		87	273	256	43	61
Loose, idle, disorderly	15		15			228	3	222	1	8
Weights and Measures Acts, offences against.						1		1		
Insanity	3				3	4				4
Totals	2012	328	2,147	95	8	7167	826	7,102	495	826

## Criminal Statistics.

**TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.**

GRANDS TOTAUX— <i>Suite.</i>										OFFENSES.
ONTARIO.					MANITOBA.					
Con- vic- tions Total Con- dam- na- tions.	Sentence.			Con- vic- tions Total Con- dam- na- tions.	Sentence.			De- ferred &c.	De- ferred &c.	
	Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.		Op- tion of a fine. — Sur- option	Com- mitted without option. — Empri- sonnés sans option.	De- ferred &c. — Re- mise, etc.			
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
62	5	67		101	49	1	46	3	1	Falsification de substances alimentaires.
1630	97	1,569	57	15	1		1			Voies de fait.
177	8	166	4	5	5		2	2	1	Perturbation de la paix.
38		23	10	5	5		2	2	1	Port d'armes illégal.
5		3	1	1	1					Mépris de cour.
173	2	172	1	2	2		2			Cruauté envers les animaux.
66		57	1	8	4		3		1	Perturbation de réunions religieuses et autres.
84		81	2	1	1		1			Infractions aux lois des pêcheries.
42		36		6	8		8			“ défendant le jeu.
72		68		4	2		2			“ de chasse.
43	1	35		9						Larcin.
20		20								Vol de chiens, oiseaux, etc.
66		57	1	8						“ bois, arbres, fruits, etc.
519	29	546		2	5		4	1		Infractions aux lois des licences de boissons.
5		5								Contraventions aux lois de tempérance du Canada.
154	8	162			7	1	8			Vente de boissons durant les heures défendues.
53	10	60	3		11	4	15			“ sans licence.
28	1	23	6		8		4	4		Contravention à la loi relative à la vente de boisson aux Sauvages.
89	4	70	1	22						Dommages malicieux à la propriété.
199	13	196	6	10	3	2	5			Autres dommages à la propriété.
280	15	291		4	55	8	63			Infractions aux lois concernant les maîtres et serviteurs.
14	1	14	1							Inf. aux lois concernant la méd. et les dent. de la milice.
23		16		7						
7		5		2						
2329	73	2,104	1	297	115	6	119		2	Divers petits délits.
127	11	136	1	1	6		6			Contraventions aux lois municipales.
37		36		2	6		6			Pratiquant divers états sans licence.
134		132		1	5		5			Infractions aux lois sur l'hygiène publique.
28	4	9	1	22						Délits ayant rapport aux chemins publics.
6		6								Négligence de pourvoir aux besoins de la famille.
88	2	76		14	1		1			Infractions aux lois concernant les pharmaciens.
80		53	8	19	10		10			Profanation du dimanche.
27	10	32	4	1						Infractions aux lois des chemins de fer.
19		19								Délits contre le revenu de l'Etat.
192	24	165	5	46	7	2	3		6	Infractions aux lois maritimes.
471	8	399	14	66	22	1	19		4	Délits ayant rapport à la corvée.
1415	126	564	782	195	44	9		42	11	Menaces et langage injurieux.
2260	260	2,371	61	88	484	89	541	4	28	Empiètement.
57	2	50	4	5						Vagabondage.
334	45	370		9						Ivresse.
63	160	141	43	39	45	32	77			Exposition indécente.
1309	97	1,163	13	230	52	15	62		5	Langage insultant, obscène, profane.
9		9								Tenant, habitant et fréquentant des maisons de désordre.
43	18			61						Conduite déréglée.
12,877		11,577	1,031	1,303	958	170	1,013	56	59	Infractions aux lois des poids et mesures.
1084										Aliénation mentale.
										..... Totaux.

TABLE III.—SUMMARY CONVICTIONS BY POLICE MAGISTRATES AND OTHER JUSTICES.

OFFENCES.	GRAND TOTALS— <i>Concluded.</i>										
	BRITISH COLUMBIA. — COLOMBIE-BRITANNIQUE.						THE TERRITORIES. — LES TERRITOIRES.				
	Con- victions Total	Sentence.				Con- victions Total	Sentence.				
		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.	De- ferred &c.		Op- tion of a fine.	Com- mitted without option.	De- ferred &c.		
	Con- dam- na- tions.	Sur- option	Em- prien- nés sans option.	Re- mise, etc.	Con- dam- na- tions.	Sur- option	Em- prien- nés sans option.	Re- mise, etc.			
M.	F.			M.	F.						
Adulteration of food.....											
Assaults.....	90	5	85	8	2	165	4	135	17	17	
Breach of peace.....	35		29	1	5	31		24	3	4	
Carrying fire-arms and unlawful weapons.....	10		9		1	17		8	8	1	
Contempt of court.....	1		1			2		1	1		
Cruelty to animals.....	9		6		3	7		6		1	
Disturbing religious and like meetings.....	4		4			2		2			
Fishery Acts, offences against.....											
Gambling Acts.....	12		12			2		1		1	
Game laws.....						6		6			
Larceny.....	3		3			26		23		3	
“ of dogs, birds, &c.....						3		2		1	
“ of timber, trees, fruits, &c.....						17		15		2	
Liquor License Acts, offences against.....	6	19	25			34	1	24	7	4	
Breach of Canada Temperance Act.....											
Selling liquor during prohibited hours.....	1				1	4		3		1	
“ without license.....	22		19	3		12		12			
Violation of Indian liquor law.....	77	5	58	20	4	56		36	19	1	
Malicious injury to property.....	8		8								
Other damage to property.....	7		7			24	1	21	1	3	
Master's and Servant's Acts, offences against.....						93	3	90	2	4	
Medical and Dentistry Acts, offences against.....						6		6			
Militia Acts.....											
Miscellaneous minor offences.....	5		5			6		6			
Municipal Acts and By-laws, breaches of.....	193	21	139	2	73	119		105	4	10	
Exercising various callings without license.....	17		15		2	9	2	10	1		
Health By-laws, offences against.....	1	1	2			18		15		3	
Highways, offences relating to.....	2		2			4		3	1		
Neglecting to support family.....	2				2	1		1			
Pharmacy Acts, offences against.....						1		1			
Profanation of the Lord's Day.....	4		4			5		5			
Railway Acts, offences against.....						146		53	87	6	
Revenue Laws.....	4		4			8		8			
Seamen Acts.....	52		10	5	37						
Statute Labour, offences relating to.....						2		2			
Threats and abusive language.....	22	3	11	2	12	12		7	3	2	
Trespass.....	9			9		7		6	1		
Vagrancy.....	165	7	9	78	85	237	3	120	107	13	
Drunkenness.....	885	80	781	69	115	564	18	460	99	23	
Indecent exposure.....	16	3	14	1	4	7		3	4		
Insulting, obscene and profane language.....	16		13		3	6		6			
Keeping, frequenting bawdy houses and inmates thereof.....	25	105	120	2	8	45	101	140	4	2	
Loose, idle, disorderly.....	5	1	4	1	1	6		1	5		
Weights and Measures Acts, offences against.....	2		2			1		1			
Insanity.....						33	7			40	
Totals.....	1710	250	1401	201	358	1744	140	1368	375	141	

## Criminal Statistics.

TABLEAU III.—CONDAMNATIONS SOMMAIRES PAR MAGISTRATS DE POLICE ET AUTRES JUGES DE PAIX.

GRANDS TOTAUX—Fin.					OFFENSES.
CANADA.					
Convictions.		SENTENCE.			
Total. Condamnations.		Option of a fine. — Sur option.	Committed without option. — Emprison- nés sans option.	Deferred, &c. — Remise, etc.	
M.	F.				
66	5	71			Falsification de substances alimentaires.
2,781	211	2,692	135	165	Voies de fait.
551	48	485	48	66	Perturbation de la paix.
96	2	59	21	18	Port d'armes illégal.
10		7	2	1	Mépris de cour.
310	2	296	3	13	Cruauté envers les animaux.
133		118	1	14	Perturbation de réunions religieuses et autres.
120		117	2	1	Infractions aux lois des pêcheries.
70	1	64		7	“ défendant le jeu.
100		96		4	de chasse.
104	2	91		15	Larcin.
24		23		1	Vol de chiens, oiseaux, etc.
86		75	1	10	“ bois, arbres, fruits, etc.
890	113	988	9	6	Infractions aux lois des licences de boissons.
430	55	476	9	9	Contraventions aux lois de tempérance du Canada.
172	10	180	1	1	Vente de boissons durant les heures défendues sans licence.
246	87	326	6	1	“
169	6	121	49	5	Contravention à la loi relative à la vente de boissons aux Sauvages.
242	31	243	2	28	Domnages malicieux à la propriété.
330	26	326	12	18	Autres dommages à la propriété.
437	26	451	4	8	Infractions aux lois concernant les maîtres et serviteurs.
20	1	20	1	1	Inf. aux lois concernant la méd. et les dent.
25		18		7	“ la milice.
20		18		2	Divers petits délits.
3,414	122	3,099	42	395	Contraventions aux lois municipales.
253	26	267	4	8	Pratiquant divers états sans licence.
70	1	67		4	Infractions aux lois sur l'hygiène publique.
186		182	1	3	Délits ayant rapport aux chemins publics.
37	4	15	1	25	Négligence de pourvoir aux besoins de la famille.
7		7		1	Infractions aux lois concernant les pharmaciens.
115	4	105		14	Profanation du dimanche.
272		144	102	26	Infractions aux lois des chemins de fer.
90	10	86	12	2	Délits contre le revenu de l'Etat.
100		17	42	41	Infractions aux lois maritimes.
21		21		1	Délits ayant rapport à la corvée.
348	50	250	14	134	Menaces et langage injurieux.
529	10	442	24	73	Empiètement.
3,212	488	1,900	1,241	559	Vagabondage.
10,191	1,068	10,195	464	600	Ivresse.
107	5	89	14	9	Exposition indécente.
584	100	667	5	12	Langage insultant, obscène, profane.
299	727	812	101	113	Tenant, habitant et fréquentant des maisons de désordre.
1,668	120	1,522	20	246	Conduite déréglée.
13		13		1	Infractions aux lois des poids et mesures
85	25			110	Aliénation mentale.
29,033	3,386	27,261	2,393	2,765	..... Totaux.



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TABLE IV.

NUMBER OF PERSONS FINED AND AMOUNTS OF FINES.

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TABLEAU IV.

NOMBRE DE PERSONNES MISES À L'AMENDE ET MONTANTS  
DES AMENDES.

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TABLE IV.—NUMBER OF PERSONS FINED AND AMOUNTS OF FINES.

OFFENCES.	PRINCE EDWARD ISLAND. — ILE DU PRINCE-EDOUARD.					NOVA SCOTIA. — NOUVELLE-ECOSSE.				
	No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fines.	Amount of fines, costs or damages.		No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fines.	Amount of fines, costs or damages.	
				— Montant des amendes, frais ou dommages.					— Montant des amendes, frais ou dommages.	
	— Nombre de personnes mises à l'amende	— Montants des amendes, frais ou dommages.	— Nomb. de pers. mises en prison à défaut de payer l'am.	Paid.	Not paid.	— Nombre de personnes mises à l'amende	— Montants des amendes, frais ou dommages.	— Nomb. de pers. mises en prison à défaut de payer l'am.	Paid.	Not paid.
— Payé.				— Non payé.	— Payé.				— Non payé.	
Adulteration of food		\$		\$	\$		\$		\$	\$
Assaults	26	113	1	103	10	126	715	3	705	10
Breach of peace	3	7		7		84	330	2	310	20
Carry'g fire-arms & unlawf. weapons	4	45		45		2	30		30	
Contempt of court	1	6		6						
Cruelty to animals						11	32		32	
Disturb'g religious & like meetings						19	84	2	58	26
Fishery Acts, offences against	21	390		390						
Gambling Acts										
Game Laws										
Larceny						7	24		24	
“ of dogs, birds, etc.										
“ of timber, trees, fruits, &c.						3	3		3	
Liq. License Acts, offences against	17	295		295		53	1,383	1	1,333	50
Breach of Canada Temperance Act	14	1,400		1,400		135	5,980	22	4,723	1,257
Selling liq. during prohib'd hours without license						24	1,100	2	1,000	100
Violation of Indian liquor law										
Mahcious injury to property	6	53		53		1	8		8	
Other damage to property	1	1		1		25	127	2	112	15
Master's and Servant's Acts, offences against.										
Medical & Dent'y Acts, off. against										
Militia Acts, offences against	1	5		5						
Miscellaneous minor offences						1	5		5	
Munic. Acts & By-laws, breaches of	17	30		30		172	354		354	
Exerc'g various callings with't lic.						9	257		257	
Health By-laws, offences against.										
Highways, offences relating to	2	8		8		13	49		49	
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day	1	25		25		8	26		26	
Railway Acts, offences against						2	8		8	
Revenue Laws						4	375		375	
Seamen Acts						2	6		6	
Statute Labour, offences relating to										
Threats and abusive language	6	20		20		23	73		73	
Trespass	1	2		2						
Vagrancy	3	8		8		13	40	1	38	2
Drunkenness	275	2,370	4	2,305	65	1,233	3,770	26	3,609	161
Indecent exposure	1	2		2		3	33		33	
Insulting, obscene and profane language.	3	20		20		213	469	3	453	16
Keeping, frequenting bawdy houses and inmates thereof.						9	178		178	
Loose, idle, disorderly	2	4		4		53	219		219	
Weights & Meas. Acts, offic. ag'st										
Totals	405	4,804	5	4,729	75	2,248	15,678	64	14,021	1,657



## Criminal Statistics.

**TABLEAU IV.—NOMBRE DE PERSONNES MISES A L'AMENDE ET MONTANTS DES AMENDES.**

NEW BRUNSWICK, NOUVEAU-BRUNSWICK.					QUEBEC.					OFFENSES.
No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fines.	Amount of fines, costs or damages.		No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fines.	Amount of fines, costs or damages.		
			Montant des amendes, frais ou dommages.	—				Montant des amendes, frais ou dommages.	—	
Nomb. de personnes mises à l'amende	Montants des amendes, frais ou dommages.	Nomb. de pers. mises en prison à défaut de payer l'am.	Paid.	Not paid.	Nomb. de personnes mises à l'amende	Montants des amendes, frais ou dommages	Nomb. de pers. mises en prison à défaut de payer l'am.	Paid.	Not paid.	
	\$		\$	\$		\$		\$	\$	
178	1,103	58	628	475	4	34		34		Falsification de subst. alimentaires.
45	316	8	211	105	527	2,860	87	2,118	742	Voies de fait.
3	35	1	10	25	133	452	16	315	137	Perturbation de la paix.
					4	22	2	14	8	Port d'armes illégal.
5	134		134		1	5		5		Mépris de cour.
4	23		23		98	293	2	291	2	Cruauté envers les animaux.
5	10		10		31	112	9	72	40	Perturb. de réunions relig. et autres.
1	20		20		9	22	3	15	7	Infractions aux lois des pêcheries.
2	100		100		6	223		223		“ défendant le jeu.
					18	566	2	466	100	de chasse.
					23	101		101		Larcin.
					1	2		2		Vol de chiens, oiseaux, etc.
										“ bois, arbres, fruits, etc.
33	1,085	1	1,035	50	286	24,699	5	24,209	490	Infrac. aux lois des liv. de boissons.
307	16,221	14	15,488	733	15	750	1	700	50	Contravention aux lois de tempérance du Canada.
6	525		525		1	56		56		Vente de boiss. dur les heures déf.
7	575	3	325	250	189	24,030	12	22,520	1,510	Vente de boisson sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
7	37		37		151	970	59	575	395	Dommages malicieux à la propriété.
15	101	1	81	20	57	158	3	134	24	Autres dommages à la propriété.
					7	45		45		Infractions aux lois concernant les maîtres et serviteurs.
					1	1		1		Inf. aux lois conc. la méd. et les dents.
					1	25		25		Infractions aux lois de la milice.
										Divers petits délits.
66	288	8	170	118	380	845	1	840	5	Contravention aux lois municipales.
6	50		50		85	1,678		1,678		Pratiq. divers état sans licence.
					8	35		35		Inf. aux lois sur l'hygiène pub.
6	27		27		19	93	1	86	7	Délits ayant rap. aux chem. pub.
					5	34	1	11	23	Négligence de pourvoir aux besoins de la famille.
										Inf. aux lois conc. les pharmaciens.
9	32	1	24	8	7	6		6		Profanation du dimanche.
19	126	1	106	20	1	107		107		Infrac. aux lois des chemins de fer.
					338	3,480		3,480		Délits contre le revenu de l'Etat.
					45	35		35		Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
25	116	3	92	24	10	30		30		Menaces et langage injurieux.
					17	39		39		Empiètement.
25	192	10	56	136	71,166	3,906	522	1,785	2,121	Vagabondage.
1,248	6,159	433	3,590	2,569	3280	10,205	1,183	5,571	4,634	Ivresse.
4	27	1	17	10	14	346	5	187	159	Exposition indécente.
37	278	18	126	152	25	128	1	123	5	Langage insultant, obscène et profane.
69	2,495	17	1,980	515	256	7,551	86	4,324	3,227	Tenant, habitant et fréquentant des maisons de désordre.
15	69	6	36	33	222	1,402	40	996	406	Conduite déréglée.
					1	10		10		Inf. aux lois des poids et mesures.
2,147	30,144	584	24,901	5,243	7,102	85,365	2,019	71,273	14,092	Totaux.

*i 1, j 8, k 3, l 62, m 71, n 33, Committed to jail and fined—Emprisonnés et mis à l'amende.*

TABLE IV.—NUMBER OF PERSONS FINED AND AMOUNTS OF FINES.

OFFENCES.	ONTARIO.					MANITOBA.				
	No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fine.	Amount of fines, costs or damages.		No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default to pay fine.	Amount of fines, costs or damages.	
				— Montant des amendes, frais ou dommages.					— Montant des amendes, frais ou dommages.	
	Nomb. de personnes mises à l'amende	Montants des amendes, frais ou dommages.	Nomb. de per. mises en prison à défaut de payer l'am.	Paid.	Not paid.	Nomb. de personnes mises à l'amende	Montants des amendes, frais ou dommages.	Nomb. de per. mises en prison à défaut de payer l'am.	Paid.	Not paid.
— Payé.				— Non payé.	— Payé.				— Non payé.	
Adulteration of food.....	67	\$ 1,017	2	\$ 1,002	\$ 15					
Assaults.....	1,569	5,930	74	5,352	578	46	228	5	197	31
Breach of peace.....	166	589	5	556	33	1	4		4	
Carry'g fire-arms & unlawf. weapons.....	22	279	2	254	25	2	17		17	
Contempt of court.....	3			3						
Cruelty to animals.....	173	590	5	542	48	2	5		5	
Disturb'g religious & like meetings.....	57	240	5	221	19	3	15	2	5	10
Fishery Acts, offences against.....	81	495		495		1	7		7	
Gambling Acts.....	36	559	1	534	25	8	201		201	
Game Laws.....	68	1,095	4	940	155	2	37		37	
Larceny.....	35	89	1	84	5					
" of dogs, birds, &c.....	20	80	3	63	17					
" of timber, trees, fruits, &c.....	57	176	2	144	32					
Liq. License Acts, offences against.....	546	11,901	2	11,851	50	4	134		134	
Breach of Canada Temperance Act.....	5	115		115						
Selling liq. during prohib'd hours without license.....	162	3,801		3,801		8	514		514	
" without license.....	59	2,833		2,833		15	828		828	
Violation to Indian liquor law.....	24	919	2	819	100	4	206	3	50	156
Malicious injury to property.....	69	284	5	236	48					
Other damage to property.....	196	1,008	16	895	113	5	23	2	11	12
Master's and Servant's Acts, offences against.....	*291	3,361		3,361		63	1,215		1,215	
Medical & Dent'y Acts, off. against.....	14	345	1	320	25					
Militia Acts, offences against.....	16	72		72						
Miscellaneous minor offences.....	5	17		17						
Munic. Acts & By-laws, breaches of.....	2,103	4,491	15	5,425	66	119	380		380	
Exerc'g various callings with't lic.....	136	1,259	1	1,249	10	6	20		20	
Health By-laws, offences against.....	36	123		123		6	22		22	
Highways, offences relating to.....	132	259		259		5	21		21	
Neglecting to support family.....	9	33		33						
Pharmacy Acts, offences against.....	6	128		128						
Profanation of the Lord's Day.....	76	261	1	251	10	1	7		7	
Railway Acts, offences against.....	53	182	20	102	80	10	61	10		61
Revenue Laws.....	m32	1,755		1,755						
Seamen Acts.....										
Statute Labour, offences relating to.....	19	51		51						
Threats and abusive language.....	165	543	13	443	100	3	11		11	
Trespass.....	399	1,032	54	864	168	19	61	6	39	22
Vagrancy.....	m54	2,018	333	694	1,324					
Drunkenness.....	m2,373	6,501	467	4,701	1,800	541	1,739	160	1,075	664
Indecent exposure.....	50	535	10	302	233					
Insulting, obscene and profane language.....	370	844	19	785	59					
Keeping, frequenting bawdy houses and inmates thereof.....	n141	2,369	8	2,094	275	77	907	44	419	488
Loose, idle, disorderly.....	1,163	3,167	92	2,618	549	62	231	10	191	40
Weights & Meas. Acts, offen. ag'st.....	9	64		64						
Totals.....	11,577	61,413	1,163	55,451	5,962	1,013	6,894	242	5,410	1,484

m 3, n 1.—Committed to jail and fined—Emprisonnés et mis à l'amende.

\* 6—Ordered to pay, but no amount given—Ordre de payer, mais le montant n'est pas donné.

## Criminal Statistics.

TABLEAU IV.—NOMBRE DE PERSONNES MISES À L'AMENDE ET MONTANTS DES AMENDES.

BRITISH COLUMBIA. COLOMBIE-BRITANNIQUE.					NORTH-WEST TERRITORIES. TERRITOIRES DU NORD-OUEST.					OFFENSES.
No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default fine.	Amount of fines, costs or damages.		No. of persons fined.	Am't of fines, costs or damage.	No. of pers. com. to jail in default fine.	Amount of fines, costs or damages.		
			— Montant des amendes, frais ou dommages.	— —				— Montant des amendes, frais ou dommages.	— —	
—	—	—	Paid.	Not paid.	—	—	Paid.	Not paid.		
Nombre de personnes mises à l'amende	Montants des amendes, frais ou dommages.	Nomb. de pers. mises en prison à défaut de payer l'am.	— Payé.	— Non payé.	Nombre de personnes mises à l'amende	Montants des amendes, frais ou dommages.	Nomb. de pers. mises en prison à défaut de payer l'am.	— Payé.	— Non payé.	
	\$		\$	\$		\$		\$	\$	
285	935	1	930	15	135	1,176	5	1,109	67	Falsificat. des subst. alimentaires.
29	209		209		24	186		186		Voies de fait.
9	165	1	115	50	8	70		70		Perturbation de la paix.
1	2		2		1	2		2		Port d'armes illégal.
6	104	1	74	30	6	29		29		Mépris de cour.
4	45		45		2	10		10		Cruauté envers les animaux.
12	250		250		1	10		10		Perturb. de réunions relig. et autres.
3	31		31		6	59		59		Infractions aux lois des pêcheries.
					23	195		195		“ défendant le jeu de chasse.
					2	40		40		Larcin.
25	730		730		15	73		73		Vol de chien, oiseaux, etc.
					24	1,025	1	975	50	“ bois, arbres, fruits, etc.
					3	170		170		Infractions aux lois de lic. de boissons.
19	2,885	6	2,275	610	12	1,463		1,463		Contravention aux lois de tempérance du Canada.
58	2,266	14	1,827	379	m36	2,865	5	2,615	250	Vente de bois. dur. les heures déf. sans licence.
8	122		122							Contravention à la loi relative à la vente de boisson aux Sauvages.
7	38		38		n21	1,602		1,602		Domages malicieux à la propriété.
					o90	4,413		4,413		Autres dommages à propriété.
					6	132		132		Infractions aux lois concernant les maîtres et serviteurs.
5	19		19							Inf. aux lois conc. la méd. et les dent. milice.
139	688	1	683	5	6	24		24		Divers petits délits.
15	261		261		105	1,209	2	1,164	45	Contravent. aux lois municipales.
2	57		57		10	77		77		Pratiqu. divers états sans licence.
2	18		18		15	328		328		Inf. aux lois sur l'hygiène publ.
					3	5		5		Délits ayant rap. aux chem. pub.
					1	20	1	20		Négligence de pourvoir aux besoins de la famille.
					1	15		15		Inf. aux lois conc. les pharmaciens.
4	14		14		5	10		10		Profanation du dimanche.
					53	175	11	137	38	Infractions aux lois des chemins de fer.
4	235	2	35	200	8	38		38		Délits contre le revenu de l'Etat.
10	90	1	88	2						Infractions aux lois maritimes.
					2	8		8		Délits ayant rapport à la corvée.
11	89		89		7	72	1	42	30	Menaces et langage injurieux.
					6	39		39		Empiètement.
9	107	2	97	10	120	4,341	54	1,914	2,427	Vagabondage.
781	4,708	88	4,091	617	460	3,031	49	2,490	541	Ivresse.
14	282	1	232	50	3	60	1	10	50	Exposition indécente.
13	100	1	90	10	6	43		43		Langage insultant, obscène et profane.
120	2,818	19	2,368	450	140	4,713	13	4,178	535	Tenant, halitant et fréquentant des maisons de désordre.
4	33		33		1	10		10		Conduite déréglée.
2	50		50		1	1		1		Inf. aux lois des poids et mesures.
1,401	17,291	138	14,863	2,428	1,368	27,739	143	23,686	4,053	Totaux.

m 4, 71. Committed to jail and fined—Emprisonnés et mis à l'amende.

o 7. Ordered to pay, but no amount given—Ordre de payer, mais le montant n'est pas donné.

TABLE IV.—NUMBER OF PERSONS FINED AND AMOUNTS OF FINES.

OFFENCES.	CANADA.				
	Number of persons fined.	Total amount of fines, costs or damages.	Number of persons committed to jail in default to pay fines.	Amount of fines, costs or damages.	
				Montant des amendes, frais ou dommages.	
	Nombre de personnes mises à l'amende.	Montant total des amendes, frais ou dommages.	Nombre de personnes mises en prison à défaut de payer l'amende.	Paid.	Not paid.
Payé.				Non payé.	
		\$		\$	\$
Adulteration of food .....	71	1,051	2	1,036	15
Assaults .....	2,692	13,060	234	11,132	1,928
Breach of peace .....	485	2,093	31	1,798	295
Carrying fire-arms and unlawful weapons .....	54	663	6	555	108
Contempt of court .....	7	18	.....	18	.....
Cruelty to animals .....	301	1,187	8	1,107	80
Disturbing religious and like meetings .....	120	529	18	434	95
Fishery Acts, offences against .....	117	924	3	917	7
Gambling Acts .....	64	1,263	1	1,238	25
Game Laws " .....	96	1,857	6	1,602	255
Larceny .....	91	440	1	435	5
" of dogs, birds, &c. ....	23	122	3	105	17
" of timber, trees, fruits, &c. ....	75	252	2	220	32
Liquor License Acts, offences against .....	988	41,252	10	40,562	690
Breach of Canada Temperance Act .....	476	24,466	37	22,426	2,040
Selling liquor during prohibited hours .....	180	5,066	.....	5,066	.....
" without license .....	325	33,714	23	31,244	2,470
Violation of Indian liquor law .....	122	6,196	24	5,311	885
Malicious injury to property .....	242	1,474	64	1,031	443
Other damage to property .....	327	3,058	24	2,874	184
Master's and Servant's Acts, offences against .....	451	9,034	.....	9,034	.....
Medical and Dentistry Acts, offences against .....	20	477	1	452	25
Militia Acts, offences against .....	18	78	.....	78	.....
Miscellaneous minor offences .....	18	90	.....	90	.....
Municipal Acts and By-laws, breaches of .....	3,101	8,285	27	8,046	239
Exercising various callings without license .....	267	3,602	1	3,592	10
Health By-laws, offences against .....	67	565	.....	565	.....
Highways, offences relating to .....	182	480	1	473	7
Neglecting to support family .....	15	87	2	44	43
Pharmacy Acts, offences against .....	7	143	.....	143	.....
Profanation of the Lord's Day .....	105	381	2	363	18
Railway Acts, offences against .....	144	659	42	460	199
Revenue Laws .....	86	5,883	2	5,683	200
Seamen Acts .....	17	131	1	129	2
Statute Labour, offences relating to .....	21	59	.....	59	.....
Threats and abusive language .....	250	963	17	809	154
Trespasses .....	442	1,173	60	983	190
Vagrancy .....	1,900	10,612	922	4,592	6,020
Drunkenness .....	10,191	38,483	2,410	27,432	11,051
Indecent exposure .....	89	1,285	18	783	502
Insulting, obscene and profane language .....	667	1,882	42	1,640	242
Keeping, frequenting bawdy houses and inmates thereof .....	812	21,031	187	15,541	5,490
Loose, idle, disorderly .....	1,522	5,135	148	4,107	1,028
Weights and Measures Acts, offences against .....	13	125	.....	125	.....
Totals .....	27,261	249,328	4,380	214,334	34,994

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TABLE V.

SUMMARY CONVICTIONS AND CASES SUBJECT TO BE  
TRIED BY JURY.

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TABLEAU V.

CONDAMNATIONS SOMMAIRES ET CAUSES DE LA  
COMPÉTENCE D'UN JURÉ.

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TABLE V.—SUMMARY CONVICTIONS AND CASES SUBJECT TO TRIAL BY JURY.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions.			CASES SUBJECT TO BE TRIED BY JURY BUT TRIED SUMMARILY BY CONSENT. CAUSES DE LA COMPÉTENCE D'UN JURÉ MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
	Condamnations sommaires.			By Police or other Magistrate. Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. En vertu de l'Acte des procès expéditifs.					
	M.	F.	Totals. — Totaux.	Con- victions		Ac- quittals.		Totals.		Con- victions		Ac- quittals.		Totals.	
				Con- damna- tions.	Ac- quitte- ments.	Con- damna- tions.	Ac- quitte- ments.	Con- damna- tions.	Ac- quitte- ments.	Con- damna- tions.	Ac- quitte- ments.	Con- damna- tions.	Ac- quitte- ments.	Con- damna- tions.	Ac- quitte- ments.
	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.
King's, P.E.I.—I. du P.-E.	56		56												
Prince, P.E.I.—I. du P.-E.	358	9	367	20		14		34							
Queen's, P.E.I.—I. du P.-E.															
Totals of P.E. Island. }	414	9	423	20		14		34							
Totaux de l'I. du P.-E. }															
PROVINCE OF ONTARIO.															
Algoma and Manitoulin	76		76	6		1		7		11		7		18	
Brant	521	17	538	76	5	32	3	108	8	12		5		17	
Bruce	335	10	345	4				4		7	3	5	1	12	4
Carleton	522	85	607	131	11	65	6	196	17	27		8	1	35	1
Dufferin	62	3	65	3	1			3	1	1				1	
Elgin	245	15	260	23	2	12	1	35	3	25		14	1	39	1
Essex	350	19	369	68	6	9	1	77	7	13		9		22	
Frontenac	252	11	263	35	5			35	5	5		4		9	
Grey	269	5	274	29	2	9		38	2	13		4		17	
Haldimand	47	3	50	2				2		19		6		25	
Halton	76	1	77	3	3			3	3	11				11	
Hastings	353	26	379	60	1	11		71	1	25	2	3	2	28	4
Huron	69	1	70	1				1		10		2		12	
Kent	355	12	367	36	3	21	4	57	7	26	2	7		33	2
Lambton	337	9	346	4				4		44	2	10		54	2
Lanark	233	15	248	1	1			1	1	15	1	4		19	1
Leeds and Grenville	438	17	445	20		1		21		23		6	1	29	1
Lennox and Addington	104	7	111	23	3			23	3	1				1	
Lincoln	204	17	221	14	1	9		23	1	21		2		23	
Middlesex	558	32	590	63	3	39	1	102	4	47	1	10		57	1
Muskoka and Parry Sound	175	11	186	16				16		7		1		8	
Nipissing	142	4	146	17				17		7		3		10	
Norfolk	114	6	120	13	3	1		14	3	8	1	6		14	1
Northumberland & Durham	276	23	299	36		17		53		23		24	2	47	2
Ontario	172	2	174	10		1		11		9		1	1	10	1
Oxford	438	13	451	34	8	11		45	8	13		4	1	17	1
Peel	68	3	71	2				2		15		4		19	
Perth	220	5	225	40	1	16		56	1	5		1		6	
Peterborough	172	16	188	47	2	19	1	66	3	4		7	1	11	1
Prescott and Russell	51	5	56			1		1		1				1	
Prince Edward	55	2	57	12				12		8		1		9	
Renfrew	196	10	206	21		3		24		29	2	3		32	2
Simcoe	350	26	376	39	4	10	2	49	6	37		16		53	
Storm't, D'das and Gleng'ry	238	20	258	8				8		11		1		12	
Thunder Bay & Rainy River	383	76	459	26	1	3		29	1	1				1	
Victoria	188	14	202	26		9	1	35	1	3		1		4	
Waterloo	254	14	268	3				3		18	1	6		24	1
Welland	273	15	288	57				57		5		1		6	
Wellington	185	6	191	11		7	2	18	2	43	1	2		45	1
Wentworth	768	70	838	141	11	137	9	278	20	28	3	15	1	43	4
York	2753	388	3141	721	69	449	60	1170	129	14	2	16	3	30	5
Totals of Ontario	12877	1034	13911	1882	146	893	91	2775	237	645	21	219	15	864	36
Totaux d'Ontario															

## Criminal Statistics.

TABLEAU V.—CONDAMNATIONS SOMMAIRES ET CAUSES DE LA COMPÉTENCE D'UN JURÉ.

CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTALS DES DÉLITS SUJETS À POURSUITE.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRANDS TOTALS DES DÉLITS SUJETS À POURSUITE ET DES CONDAMNATIONS SOMMAIRES.						Grand Totals of all offences. —											
Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.			Grands Totaux de toutes les of- fences.										
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.												
2	7	8	17	2	4	7	12	23	2	7	28	2	18	46	2	63	386	9	18	404	9	4	63	413					
17				6				23				37			20			57			451	9	20		471	9	480		
<b>PROVINCE D'ONTARIO.</b>																													
4				1				5				21			9			30			1	97			9	1	106	1	107
				5				5				88	5	42	3			130	8		4	609	22	42	3	651	25	676	
				6				6				11	3	11	1			22	4		4	346	13	11	1	357	14	371	
6				9				15				164	11	82	7			246	18		18	686	96	82	7	768	103	871	
								4				4	1					4	1		1	66	4			66	4	70	
9				5				14				57	2	31	2			88	4		4	302	17	31	2	333	19	352	
3				3				6				84	6	21	2			105	8		8	434	25	21	2	455	27	482	
11								11				51	5	4				55	5		5	303	16	4		307	16	323	
10				1				2				52	3	15				67	3		3	321	8	15		336	8	344	
								2				21		8				29	1		1	68	3	8	1	76	4	80	
								14				14	3					14	3		3	90	4			90	4	94	
2				1				2				87	4	16	3			103	7		7	440	30	16	3	456	33	489	
9				2				5				20		7				27				89	1	7		96	1	97	
6								6				68	5	34	6			102	11		11	423	17	34	6	457	23	480	
								6				48	2	16				64	2		2	385	11	16		401	11	412	
1								1				17	2	4				21	2		2	250	17	4		254	17	271	
2				1				2				45	1	9	2			54	3		3	483	18	9	2	492	20	512	
								2				24	3	2				26	3		3	128	10	2		130	10	140	
1								2				24	3	2				26	3		3	128	10	2		130	10	140	
9								2				36	1	13				49	1		1	240	18	13		253	18	271	
19				1				6				119	4	51	2			170	6		6	677	36	51	2	728	38	766	
								25				42	1	7	2			49	3		3	217	12	7	2	224	14	238	
								3				24		3				27				166	4	3		169	4	173	
3								3				24	4	10	1			34	5		5	138	10	10	1	148	11	159	
2								3				61		44	2			105	2		2	337	23	44	2	381	25	406	
2								4				21		4	1			25	1		1	193	2	4	1	197	3	200	
5								7				52	8	17	2			69	10		10	490	21	17	2	507	23	530	
8								9				25		5				30				93	3	5		98	3	101	
3								6				48	1	20				68	1		1	268	6	20		288	6	294	
5								7				56	2	28	2			84	4		4	228	18	28	2	256	20	276	
								1				1		1				2				52	5	1		53	5	58	
								1				20	1	2				22	1		1	75	3	2		77	3	80	
4								4				54	2	6				60	2		2	250	12	6		256	12	268	
3								4				7	1	7				109	7		7	429	31	30	2	459	33	492	
2								3				21		2				23				259	20	2		261	20	281	
4								5				31	1	4				35	1		1	414	77	4		418	77	496	
4								9				33		19	1			52	1		1	221	14	19	1	240	15	255	
2								2				23	1	6				29	1		1	277	15	6		283	15	298	
2								2				64		3				67				337	15	3		340	15	355	
6								7				60	1	10				70	3		3	245	7	10	2	255	9	264	
6								6				175	14	152	2			327	24		24	943	84	152	10	1095	94	1189	
38				9			59	6		97	15	773	80	524	69			1297	149		149	3526	468	524	69	4050	537	4587	
191				15			160	18		351	33	2718	182	1272	124			3990	306		306	15595	1216	1272	124	16887	1340	18207	

TABLE V.—SUMMARY CONVICTIONS AND CASES SUBJECT TO TRIAL BY JURY.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions.		CASES SUBJECT TO BE TRIED BY JURY BUT TRIED SUMMARILY BY CONSENT. CAUSES DE LA COMPÉTENCE D'UN JURÉ MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
	Condamnations sommaires.		By Police or other Magistrate. Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. En vertu de l'Acte des procès expéditifs.					
	M.	F.	Totals. — Totaux.	Con- victions.	Ac- quittals.	Totals.	Con- victions.	Ac- quittals.	Totals.	Con- victions.	Ac- quittals.	Totals.		
				Con- damna- tions.	Ac- quitte- ments.	Totaux.	Con- damna- tions.	Ac- quitte- ments.	Totaux.					
	M.	F.	Totals. — Totaux.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.
PROVINCE OF QUÉBEC.														
Arthabaska.....	29	2	31						10					10
Beauce.....	26		26											
Beauharnois.....	26	2	28	2		3		6	5					5
Bedford.....	46	1	47	4		3		7	28		1			29
Chicoutimi.....	8		8											
Gaspé.....	10		10	3				3	1					1
Iberville.....	20	5	25						9		7			16
Joliette.....	8		8						12	1				12
Kamouraska.....									8					8
Montmagny.....	13	4	17						10	1				10
Montreal.....	5,018	1,097	6,115	823	81	10	1	833	82	156	7	32		188
Ottawa.....	201	23	229	10	1			10	1	22	2	15	3	37
Pontiac.....	4		4						6	1				6
Quebec.....	1,163	65	1,228	115	11	1		116	11	33	3			33
Richelieu.....	118	14	132	22	1			22	1	15				15
Rimouski.....	32	1	33	3			1	3	1	6		5		11
Saguenay.....	8		8	1				1		1				1
St. Francis.....	312	21	333	47	1	24		71	1					
St. Hyacinthe.....	46	7	53	9	1	1		10	1	11				11
Terrebonne.....														
Three Rivers.....	79	8	87	17		2		19		13		3		16
Totals of Quebec Totaux de Québec.....	7,167	1,256	8,423	1055	96	44	2	1099	98	346	15	63	3	409
PROVINCE OF NEW BRUNSWICK.														
Albert.....	19	4	23							1				1
Carleton.....	85	26	111	6				6		1	2			2
Charlotte.....	139		139	1				1		2				2
Gloucester.....	33	2	35							1				1
Kent.....	8	2	10				1		1					
King's.....	4		4											
Madawaska.....												1		1
Northumberland.....	148	13	161	5	2	3		8	2	1				1
Queen's.....														
Restigouche.....	22	1	23							3				3
St. John.....	940	150	1,090	26		51	6	77	6					
Sunbury.....										1				1
Victoria.....										1				1
Westmoreland.....	339	34	373	12	3	12		24	3	7		1		8
York.....	275	6	281	5		1		6		5		2		7
Totals of New Brunswick Totaux du N.-Brunswick.....	2,012	238	2,250	55	5	67	7	122	12	22	1	6		28



## Criminal Statistics.

TABLEAU V.—CONDAMNATIONS SOMMAIRES ET CAUSES DE LA COMPÉTENCE D'UN JURÉ.																							
CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTALS DES DÉLITS SUJETS A POURSUITE.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRAND TOTAUX DES DÉLITS SUJETS A POURSUITE ET DES CONDAMNATIONS SOMMAIRES.				Grand Totals of all offences. —							
Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.			Totals. — Totaux.		Grands Totaux de toutes les of- fences.				
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.						
<b>PROVINCE DE QUÉBEC.</b>																							
						10						10				39	2		39	2	41		
						7		3				10				26			26		26		
						32		4				36				78	1	4	82	1	83		
						4						4				8			8		8		
						9		7				16				14			14		14		
6			3	1	9	18	1	3	1			21	2			29	5	7	36	5	41		
						8						8				26	1	3	29	2	31		
						10		1				10				8			8		8		
67	2		51	2	118	4	1046	90	93	3		1,139	93			23	5		23	5	28		
4			5		9		36	3	20	3		56	6			6,064	1187	93	3	6,157	1190	7,347	
						6		1				6				237	31	20	3	257	34	291	
4			4		8		152	14	5			157	14			10	1		10	1	11		
						37		1				37	1			1,315	79	5		1,320	79	1,399	
						9			5	1		14	1			155	15			155	15	170	
						1						1				41	1	5	1	46	2	48	
4	1		4		8	1	51	2	28			79	2			9	1		9	1	10		
1			1		2		21	1	2			23	1			363	23	28		391	23	414	
2			5		7		2		5			7				67	8	2		69	8	77	
						30			5			35				2		5		7		7	
									5			35				109	8	5		114	8	122	
88	3		73	3	161	6	1489	114	180	8		1,669	122			8,656	1370		8	8,836	1378	10,214	
<b>PROVINCE DU NOUVEAU-BRUNSWICK.</b>																							
3					3		4		2			4				23	4		23	4	27		
5				1	5	1	11	1	2			13	2			96	27	2	1	98	28	126	
	1		1	1	2		3	1	1	1		4	2			4	2	1	1	143	2	145	
							1					1				34	2			34	2	36	
1					1		1					1	1			9	2		1	9	3	12	
2			1		3		2		1			3				6			1	7		7	
												1				9				1		1	
							6	2	3			9	2			154	15	3		157	15	172	
							3		1			4				25	1	1		26	1	27	
3			2		5		29		53	6		82	6			969	150	53	6	1,022	156	1,178	
							1					1				1				1		1	
2					2		3					3				3				3		3	
3					3		22	3	13			35	3			361	37	13		374	37	411	
1					1		11		3			14				286	6	3		289	6	295	
20	1		5	2	25	3	97	7	78	9		175	16			2,109	245		78	9	2,187	254	2,441

TABLE V.—SUMMARY CONVICTIONS AND CASES SUBJECT TO TRIAL BY JURY.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions.			CASES SUBJECT TO BE TRIED BY JURY BUT TRIED SUMMARILY BY CONSENT. CAUSES DE LA COMPÉTENCE D'UN JURE MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
	Condamnations sommaires.			By Police or other Magistrate. Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. En vertu de l'Acte des procès expéditifs.					
	M.	F.	Totals. — Totaux.	Con- victions.	Ac- quittals.	Totals.	Con- victions.	Ac- quittals.	Totals.	Con- victions.	Ac- quittals.	Totals.			
				Con- damna- tions.	Ac- quitte- ments.	Totaux.	Con- damna- tions.	Ac- quitte- ments.	Totaux.	Con- damna- tions.	Ac- quitte- ments.	Totaux.			
	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.			
<b>PROVINCE OF NOVA SCOTIA.</b>															
Annapolis	14		14	1					2		1	3			
Antigonish	36		36	1				1							
Cape Breton	68	1	69		1			1	6	1		6			
Colchester	1		1						4		2	6			
Cumberland	9	3	12	2		2		4	4	1		4			
Digby	39	2	41						1			1			
Guysborough	1		1												
Halifax	1485	252	1737	85	9			85	9	39	6	14			
Hants	46	1	47						3			3			
Inverness															
King's	36		36			3		3	5		2	7			
Lunenburg	79	2	81	3	1	1		4	1	3		3			
Pictou	164	5	169	4				4	1			1			
Queen's	68	6	74	1				1	4		2	6			
Richmond															
Shelburne	6	1	7						4			4			
Victoria	7	1	8			5		5							
Yarmouth	92	15	107	4	3	7		11	3	1		1			
Totals of Nova Scotia. Totaux de la N.-Ecosse }	2151	289	2440	101	14	18		119	14	77	8	21			
												1			
												98			
												9			
Central Manitoba—Centre..	126	7	133	8		4		1	12	1		21			
Eastern Manitoba—Est....	810	160	970	76	4	27	3	103	7	38		5			
Western Manitoba—Ouest..	22	3	25	29				29		14		4			
Totals of Manitoba.....	958	170	1128	113	4	31	4	144	8	73		9			
Totaux de Manitoba ... }												82			
Cariboo, B.C.—C.-B. ....										16					
Clinton, B.C.—C.-B. ....	102	7	109	1				1	1	15					
Victoria, B.C.—C.-B. ....	366	37	403	106	4	3		109	4	39		3			
Westminster, B.C.—C.-B. }	1242	206	1448	278	6	159	14	437	20	10		1			
Totals of B. Columbia. }	1710	250	1960	385	11	162	14	547	25	80		4			
Totaux de la Col.-Brit. }												1			
Alberta N.—N., N.W.T. ...	335	32	367	28	1	57		85	1						
Alberta S.—Sud, N.W.T. ...	432	31	463	25		47	1	72	1						
Assiniboia E.—E., N.W.T. }	346	12	358	22		42	1	64	1						
Assiniboia W.—O., N.W.T. }	179	2	181	14		12	1	26	1						
Saskatchewan, N.W.T. ....	57	2	59	9	1	14		23	1						
Yukon .....	395	61	456	34		37	2	71	2						
Totals of the Territories }	1744	140	1884	132	2	209	5	341	7						
Totaux des Territoires. }															
Totals of Canada.....	29033	3386	32419	3743	278	1438	123	5181	401	1243	45	322			
Totaux du Canada .....												20			
												1565			
												65			

## Criminal Statistics.

TABLEAU V.—CONDAMNATIONS SOMMAIRES ET CAUSES DE LA COMPÉTENCE D'UN JURÉ.

CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTALS DES DÉLITS SUJETS A POURSUITE.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRAND TOTALS DES DÉLITS SUJETS A POURSUITE ET DES CONDAMNATIONS SOMMAIRES.						Grand Totals of all offences. — Grands Totaux de toutes les offences.
Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		Con- victions. — Con- damna- tions.		Ac- quittals. — Ac- quitte- ments.		Totals. — Totaux.		
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	
<b>PROVINCE DE LA NOUVELLE-ECOSSE.</b>																		
1				1		4		1		5		18		1		19		19
1				3		2		2		4		38		2		40		40
3				6		9	2	3		12	2	77	3	3		80	3	83
6				9		10		5		15		11		5		16		16
						6	1	2		8	1	15	4	2		17	4	21
2				3	2	3		1	2	4	2	42	2	1	2	43	4	47
1				1		1				1		2				2		2
1				4		125	15	17	1	142	16	1610	267	17	1	1627	268	1895
						3				3		49	1			49	1	50
1				4		6		8		14		42		8		50		50
4				4		10	1	1		11	1	89	3	1		90	3	93
9				12	1	14		3	1	17	1	178	5	3	1	181	6	187
2				3		7		3		10		75	6	3		78	6	84
				1				1		1				1		1		1
						4				4		10	1			10	1	11
								5		5		7	1	5		12	1	13
6	3			6	3	11	6	7		18	6	103	21	7		110	21	131
37	3	20	3	57	6	215	25	59	4	274	29	2366	314	59	4	2425	318	2743
10				1		29		5	1	34	1	155	7	5	1	160	8	168
				13		124	4	35	3	159	7	934	164	35	3	969	167	1136
				5	1	43		9	1	52		65	3	9	1	74	4	78
10				9	1	196	4	49	5	245	9	1154	174	49	5	1203	179	1382
8				8		16				16		16				16		16
11	2			12	2	24	1	6		24	1	126	8			126	8	134
16				25		156	6	7	1	163	7	522	43	7	1	529	44	573
				9		304	6	169	14	473	20	1546	212	169	14	1715	226	1941
35	2	10		45	2	500	13	176	15	676	28	2210	263	176	15	2386	278	2664
13				28		41	1	72		113	1	376	33	72		448	33	481
20				29		45		56	1	101	1	477	31	56	1	533	32	565
13				13		35		42	1	77	1	381	12	42	1	423	13	436
9				16	1	23		19	2	42	2	202	2	19	2	221	4	225
1				3		10	1	16		26	1	67	3	16		83	3	86
						34		37	2	71	2	429	61	37	2	466	63	529
56				89	1	188	2	242	6	430	8	1932	142	242	6	2174	148	2322
454	24	316	28	770	52	5440	347	2076	171	7516	518	34473	3732	2076	171	36549	3904	40453



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TABLE VI.

PARDONS AND COMMUTATIONS.

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TABLEAU VI.

PARDONS ET COMMUTATIONS.

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TABLE VI.—Cases in which the Prerogative of Mercy has been exercised during the Year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.

(Province of Ontario.)							PROVINCIAL PENITENTIARY—KINGSTON.	
CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex.		By what Court tried.	
		Sentence or Committal.	Pardon or Commuta- tion.		M	F		
Attempt to murder...	6 yrs.	Nov. 7, '95	June 27, '98	* .....	33		Assizes, Cayuga, Ont.	
Carnally knowing a girl under the age of 14 years.	5 "	Sept. 27 '94	Dec. 10, '97	* .....	19		" Woodstock.	
"	5 "	Mar. 17 '96	Feb. 8, '98	* .....	61		" Guelph.	
Wounding with intent	4 "	Oct. 31 '94	Oct. 9, '97	When with remission he shall have served 3 years and 8 m'ths	46		" Barrie.	
Indecent assault— (3 charges).....	a	Feb. 16, '97	Oct. 29, '97	* .....	76		County, Woodstock.	
Abduction .....	3 yrs.	Jan. 25 '96	Feb. 28, '98	* .....	37		" Chatham.	
Attempt at abortion...	2½ "	May 8, '97	Jan. 17, '98	When with remission he shall have served 15 months .....	31		Assizes, Toronto.	
"	2½ "	May 8, '97	Jan. 17, '98	" .....	31		" "	
Obstructing railway	7 "	July 16 '95	June 30, '98	When he shall have served 3 years and 6 months with re- mission.....	21		Police, Barrie.	
Assault .....	3 "	Oct. 31, '93	.....	Restoration of thirty days lost remission	31		Assizes, Simcoe.	
Attempt to escape ...	3 m's.	Jan. 30, '95	Aug. 24, '98	* .....	31		Sessions, Toronto.	
Arson .....	7 yrs.	Sept. 23 '95	May 5, '98	* .....	76		County, Owen Sound.	
Housebreaking and larceny.	7 "	Mar. 21, '95	June 30, '98	* .....	25		Police, Port Arthur.	
"	5 "	July 4, '95	Nov. 15, '97	* .....	24		Sessions, Montreal, Que.	
"	5 "	Nov. 28 '93	July 4, '98	Remission of 1 month	39		Police, Hamilton, Ont.	
"	2½ "	Apr. 21, '96	June 24, '98	Restoration of tw'ty days lost remission	25		" London.	
Housebreaking and horse stealing.	2 " & 1 day.	Oct. 24, '96	Apr. 7, '98	To be released on 1st of May, 1898.....	18		County, Barrie.	
Forgery .....	10 yrs.	Apr. 17, '91	May 14, '98	* .....	34		Assizes, Belleville.	
"	5 "	Dec. 29, '94	Nov. 5, '97	* .....	51		County, Berlin.	
Uttering forge paper...	10 "	Oct. 29 '89	Mar. 4, '98	* .....	65		Assizes, Winnipeg, Man.	
Carrying explosives...	14 "	Apr. 12, '88	July 26, '98	* .....	51		" Chatham. Ont.	
Conspiracy to defraud	7 "	Mar. 20, '97	Nov. 1, '97	* .....	44		" Whitby.	
Larceny .....	3 "	Oct. 15, '95	Oct. 9, '97	When with remission he shall have served 2 years & 6 months	36		County, Hamilton.	
"	3 "	May 2, '95	Oct. 22, '97	* .....	50		Police, Niagara Falls.	
"	3 "	June 8, '95	Dec. 5, '97	* .....	47		Sessions, Pembroke.	
"	3 "	Oct. 15, '95	Mar. 2, '98	* .....	44		Assizes, Hamilton.	
"	3 "	July 3, '96	Mar. 9, '98	* .....	21		Police, Peterborough.	
"	2 "	May 6, '97	July 4, '98	* .....	29		" Pembroke.	
Stealing bicycles.....	b	Oct. 3, '93	July 27, '98	* .....	20		" Peterborough.	

a Two years on each charge, sentence to run concurrently.

b Indefinite period not to exceed 5 years—was first confined in Reformatory, but afterwards transferred to Kingston Penitentiary.

\* No reason given for pardon or commutation.

## Criminal Statistics.

**TABLEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.**

(Province d'Ontario.) PÉNITENCIER PROVINCIAL—KINGSTON.							
CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe.		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Pardon ou commuta- tion.		H	F	
Tentative de meurtre.	6 ans	7 nov. '95	27 juin '98	* .....	33		Assises, Cayuga, Ont.
Commerce charnel av. une fille au-dessous de 14 ans.	5 "	27 sept. '94	10 déc. '97	* .....	19		" Woodstock.
" "	5 "	17 mars '96	8 fév. '98	* .....	64		" Guelph.
Blessures avec inten- tion.	4 "	31 oct. '94	9 oct. '97	A être libéré après avoir servi 3 ans et 8 mois avec rémission	46		" Barrie.
Attentat à la pudeur— (3 indictements)....	a .....	16 fév. '97	29 oct. '97	* .....	76		Comté, Woodstock.
Enlèvement	3 ans	25 janv. '96	28 fév. '98	* .....	37		" Chatham.
Tentative d'avorte- ment.	2½ "	8 mai '97	17 janv. '98	A être libéré après avoir servi 15 mois avec rémission	31		Assises, Toronto.
" "	2½ "	8 mai '97	17 janv. '98	* .....	31		" "
Obstruant la voie fer- rée.	7 "	16 juil. '95	30 juin '98	A être libéré après avoir servi 3 ans et 6 mois avec rémission	21		Police, Barrie. Assises, Simcoe.
Voies de fait. .... et	3 "	31 oct. '93	.....	Restauration de 30 jours de rémission perdus. ....	31		Sessions, Toronto. Comté, Owen-Sound.
Tentative d'évasion ..	3 m's	30 janv. '95	24 août '98	* .....	76		Police, Port-Arthur.
Incehdie .....	7 ans	23 sept. '95	5 mai '98	* .....	25		Sessions, Montréal, Qué. Police, Hamilton, Ont.
Bris de maison et lar- cin.	7 "	21 mars '96	30 juin '98	* .....	39		" London.
" "	5 "	4 juil. '95	15 nov. '97	* .....	25		Comté, Barrie.
" "	5 "	28 nov. '93	4 juil. '98	Un mois remis	39		Assises, Belleville.
" "	2½ "	21 avril '96	24 juin '98	Restaur. de 20 jours de rémission perdus	51		Comté, Berlin.
Bris de maison et vol de cheval.	2 et 1 jr	24 oct. '96	7 avril '98	A être libéré le 1er de mai 1898. ....	25		Assises, Winnipeg, Man.
Faux .....	10 ans	17 avril '91	14 mai '98	* .....	18		Comté, Barrie.
" .....	5 "	29 déc. '94	5 nov. '97	* .....	34		Assises, Belleville.
Circulation de faux papiers.	10 "	29 oct. '89	4 mars '98	* .....	51		Comté, Berlin.
Portant des matières explosives.	14 "	12 avril '88	26 juil. '98	* .....	65		Assises, Winnipeg, Man.
Conspiration de fraude	7 "	20 mars '97	1er nov. '97	* .....	51		" Chatham, Ont.
Larcin .....	3 "	15 oct. '95	9 oct. '97	A être libéré après avoir servi 2 ans et 6 mois avec rémission	44		" Whitby.
" "	3 "	2 mai '95	22 oct. '97	* .....	36		Comté, Hamilton.
" "	3 "	8 juin '95	5 déc. '97	* .....	50		Police, Niagara-Falls.
" "	3 "	15 oct. '95	2 mars '98	* .....	47		Sessions, Pembroke.
" "	3 "	3 juil. '96	9 mars '98	* .....	44		Assises, Hamilton.
" "	3 "	6 mai '97	4 juil. '98	* .....	21		Police, Peterborough.
Vol de bicycle . . . .	6 .....	3 oct. '93	27 juil. '98	* .....	29		" Pembroke.
					20		" Peterborough.

a Deux ans pour chaque indictement, les sentences devant courir concurremment.  
 b Période indéfinie ne devant pas excéder 5 ans—ayant été emprisonné en premier lieu dans une école de réforme, il fut ensuite transféré au pénitencier de Kingston.

\* Aucune raison donnée pour le pardon ou la commutation.

TABLE VI.—Cases in which the Prerogative of Mercy has been exercised during the Year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.

<i>(Province of Ontario.)</i> PROVINCIAL REFORMATORY—PENETANGUISENE.							
CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex.		By what Court tried.
		Sentence or Committal.	Pardon or Commuta- tion.		M	F	
Warehouse breaking and larceny.	3 yrs.	Nov. 5, '96	Mar. 18, '98	*	16	..	Police, Owen Sound.
Housebreaking and larceny.	3 "	Feb. 20, '97	May 16, '98	*	17	..	" Welland.
"	a.....	Mar. 15, '95	Nov. 1, '97	*	18	..	" Brantford.
Larceny	5 yrs.	July 17, '94	July 2, '98	*	18	..	" Port Hope.
"	3 "	Feb. 10, '96	Nov. 1, '97	*	16	..	" Owen Sound.
"	3 "	" 10, '96	" 1, '97	*	15	..	" "
"	3 "	Mar. 30, '96	May 16, '98	*	16	..	" Toronto.
"	3 "	Aug. 17, '96	Sept. 7, '98	*	16	..	" "
"	2 "	Jan. 28, '97	May 16, '98	*	16	..	" "
"	62 "	Dec. 19, '94	Jan. 26, '98	*	18	..	" Brantford.
"	62 "	May 21, '96	Apr. 28, '98	When he shall have served the fix term of his sentence, viz.: 2 years.	13	..	County, Berlin.
"	62 "	Dec. 19, '94	May 16, '98	*	19	..	Police, St. Catharines.
"	66 m's	Feb. 17, '97	Feb. 24, '98	*	16	..	" London.
"	61 "	Dec. 31, '94	May 16, '98	*	20	..	" Guelph.

<i>(Province of Ontario.)</i> CENTRAL PRISON—TORONTO.							
Stabbing and wound- ing with intent.	18 m's	Jan. 18, '97	Dec. 31, '97	When he shall have served 12 months.	52	..	J. P.'s, London.
Shooting with intent..	12 "	Nov. 10, '97	June 27, '98	To be released on 9th July, 1898.	40	..	Assizes, Toronto.
Assault with intent to do grievous bodily harms (2 indict- ments).	c.....	Mar. 23, '95	Mar. 18, '98	*	25	..	" Woodstock. County "
Refusing to support wife and family.	22 m's	May 25, '98	Aug. 19, '98	*	25	..	Police, Lindsay.
Forgery.....	c.....	July 13, '96	Mar. 30, '98	*	35	..	" Toronto.
Larceny.....	c.....	Oct. 28, '96	Sept. 7, '98	*	27	..	" Peterborough.
"	23 m's	Mar. 5, '97	Oct. 30, '97	*	47	..	County, Cornwall.
"	23 "	Feb. 18, '96	Jan. 10, '98	*	19	..	Police, Windsor.
Receiving stolen goods	12 "	Apr. 29, '98	Aug. 24, '98	Sentence reduced to 6 months.	42	..	" Hamilton.
Stealing bicycle.....	9 "	Nov. 15, '97	May 12, '98	*	27	..	" Toronto.

<i>(Province of Ontario.)</i> ONTARIO BOY'S REFORMATORY.							
Larceny.....	62 yrs.	May 20, '96	May 17, '98	*	15	..	Police, Kingston.
"	d.....	Nov. 6, '96	Feb. 28, '98	*	19	..	" Brantford.

a Indefinite period not to exceed 5 years.  
 b And an ind. " "  
 c Two years less one day.  
 d Indefinite term, but not to exceed beyond April 1st, 1898.  
 \* No reason given for pardon or commutation.



## Criminal Statistics.

**TABLEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.**

(Province d'Ontario) ÉCOLE DE RÉFORME—PÉNÉTANGUISENE.

CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe.		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Pardon ou commuta- tion.		H	F	
Bris d'entrepôts et lar- cin.	3 ans	5 nov. '96	18 mars '98	*	16		Police, Owen Sound.
Bris de maison et lar- cin.	3 "	20 fév. '97	16 mai '98	*	17		" Welland.
"	a.....	15 mars '95	1 nov. '97	*	18		" Brantford.
Larcin.....	5 ans	17 juil. '94	2 juil. '98	*	18		" Port Hope.
"	3 "	10 fév. '96	1 nov. '97	*	16		" Owen Sound.
"	3 "	10 " '96	1 " '97	*	15		" "
"	3 "	30 mars '96	16 mai '98	*	16		" Toronto.
"	3 "	17 août '96	7 sept. '98	*	16		" "
"	2 "	28 jan. '97	16 mai '98	*	16		" "
"	b2 "	19 déc. '94	26 janv. '98	*	18		" Brantford.
"	b2 "	21 mai '96	28 avril '98	A être libéré après avoir servi le temps fixe de sa sentence, savoir, 2 ans.	13		Comté, Berlin.
"	b2 "	19 déc. '94	16 mai '98	*	19		Police, Ste-Catherine.
"	b6 m's	17 fév. '97	24 fév. '98	*	16		" London.
"	b1 "	31 déc. '94	16 mai '98	*	20		" Guelph.

(Province d'Ontario.) PRISON CENTRALE—TORONTO.

Usage d'armes et bles- sures avec intention.	18 m's	18 janv. '97	31 déc. '97	A être libéré après avoir servi 12 mois.	52		J. de P., London.
Usage d'armes avec in- tention.	12 "	10 nov. '97	27 juin '98	A être libéré le 9 juillet 1898.	40		Assises, Toronto.
Voies de fait avec int. d'infliger des bless. corporelles graves (2 indictements).	c.....	23 mars '95 1 avril '95	18 mars '98	*	25		" Woodstock. Comté "
Refus de pourvoir aux besoins de sa famille.	22 m's	25 mai '98	19 août '98	*	25		Police, Lindsay.
Faux.....	c.....	13 juill. '96	30 mars '98	*	35		" Toronto.
Larcin.....	c.....	28 oct. '96	7 sept. '98	*	27		" Peterborough.
"	23 m's	5 mars '97	30 oct. '97	*	47		Comté, Cornwall.
"	23 "	18 fév. '96	10 janv. '98	*	19		Police, Windsor.
Recel d'effets volés....	12 "	29 avril '98	24 août '98	Sentence réduite à 6 mois.	42		" Hamilton.
Vol de bicycle.....	9 "	15 nov. '97	12 mai '98	*	27		" Toronto.

(Province d'Ontario.) MAISON DE RÉFORME D'ONTARIO POUR LES GARÇONS.

Larcin.....	b2 ans	20 mai '96	17 mai '98	*	15		Police, Kingston.
"	d.....	6 nov. '96	28 fév. '98	*	19		" Brantford.

a Période indéfinie ne devant pas excéder 5 ans.

b Et une période " "

c Deux ans moins un jour.

d Terme indéfinie mais ne devant pas excéder le 1er avril 1898.

\* Aucune raison donnée pour le pardon ou la commutation.

TABLE VI.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.

		COMMON JAILS.					
		(Province of Ontario.)					
CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex	By what Court tried.	
		Sentence or Committal.	Pardon or Commuta- tion.				M
<i>Belleville Jail—</i> Bigamy.....	2 yrs.	Mar. 2, '98	Aug. 19, '98	*	40	Police, Bancroft.	
<i>Berlin Jail—</i> Vagrancy.....	30 dys	Aug. 31, '98	Sept. 21, '98	*	40	" Berlin.	
<i>Cobourg Jail—</i> Vagrancy.....	5 m's	June 11, '97	Nov. 1, '97	*	40	J.P.'s, Grafton.	
<i>Hamilton Jail—</i> Horse stealing.....	9 "	Sept. 27, '97	Mar. 25, '98	*	22	Police, Hamilton.	
<i>Lindsay Jail—</i> Vagrancy.....	6 "	Mar. 2, '98	May 13, '98	*	74	" Lindsay.	
<i>London Jail—</i> Assault.....	3 "	Nov. 10, '97	Dec. 8, '97	*	50	County, London.	
Larceny.....	12 "	Feb. 19, '98	Aug. 25, '98	4 months remitted	36	" "	
Vagrancy.....	6 "	Nov. 22, '97	Feb. 26, '98	*	20	Police "	
<i>Milton Jail—</i> Vagrancy.....	2 "	Dec. 16, '97	Jan. 25, '98	*	73	" Milton.	
<i>Ottawa Jail—</i> Shopbreaking.....	3 "	Mar. 14, '98	Apr. 13, '98	) When they shall have served 1 m'th	17	" Ottawa.	
"	3 "	" 14, '98	" 13, '98		17	" "	
<i>Parry Sound Jail—</i> Having worm and pipe connection in possession.	a 1 "	June 27, '98	Sept. 9, '98	*	28	" Parry Sound.	
<i>Perth Jail—</i> Vagrancy.....	4 "	Nov. 27, '97	Dec. 23, '97	*	24	J.P.'s, Perth.	
"	4 "	" 23, '97	" 27, '97	*	35	" "	
"	4 "	Dec. 20, '97	" 31, '97	With a view to his removal to a hospi- tal for treatment..	75	" Almonte.	
<i>Peterborough Jail—</i> Vagrancy.....	3 "	Mar. 26, '98	Apr. 16, '98	*	63	Police, Peterborough.	
"	3 "	July 2, '98	Aug. 19, '98	*	17	" "	
<i>Pictou Jail—</i> Shooting with in- tent.	6 "	June 15, '98	" 19, '98	*	32	Sessions, Pictou.	
Larceny.....	12 "	Mar. 2, '98	May 13, '98	*	33	County	
<i>Rat Portage Jail—</i> Assault.....	6 "	June 29, '98	Aug. 25, '98	When she shall have served 2 months..	26	Assizes, Rat Portage.	
<i>Sarnia Jail—</i> Drnk and disor- derly.	6 "	July 19, '97	Dec. 24, '97	*	65	J.P.'s, Petrolia.	
<i>Toronto Jail—</i> Theft.....	2 "	Sept. 8, '97	Oct. 9, '97	*	35	Police, Toronto.	
"	1 "	July 11, '98	July 26, '98	*	22	" "	
<i>Walkerton Jail—</i> Theft.....	1 "	Sept. 6, '98	Sept. 30, '98	*	10	" Warton.	
"	1 "	" 6, '98	" 30, '98	*	12	" "	
"	1 "	" 6, '98	" 30, '98	*	12	" "	

a And a fine of \$100 with costs, and in default of payment 6 additional months.  
\* No reason given for pardon or commutation.

## Criminal Statistics.

**TABLEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.**

(Province d'Ontario.) PRISONS COMMUNES.							
CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe.		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Sentence ou commu- tation.		H	F	
<i>Prison de Belleville—</i> Bigamie .....	2 ans	2 mars '98	19 avril '98 *	.....	40		Police, Bancroft.
<i>Prison de Berlin—</i> Vagabondage .....	30 jrs.	31 août '98	21 sept. '98 *	.....	40		" Berlin.
<i>Prison de Cobourg—</i> Vagabondage .....	5 m <sup>e</sup>	11 juin '97	1er nov. '97 *	.....	40		J. de P., Grafton.
<i>Prison d'Hamilton—</i> Vol de chevaux .....	9 "	27 sept. '97	25 mars '98 *	.....	22		Police, Hamilton.
<i>Prison de Lindsay—</i> Vagabondage .....	6 "	2 mars '98	13 mai '98 *	.....	74		" Lindsay.
<i>Prison de London—</i> Voies de fait .....	3 "	10 nov. '97	8 déc. '97 *	.....	50		Comté, London.
Larcin .....	12 "	19 fév. '98	25 août '98	4 mois remis .....	36		" "
Vagabondage .....	6 "	22 nov. '97	26 fév. '98 *	.....	20		Police "
<i>Prison de Milton—</i> Vagabondage .....	2 "	16 déc. '97	25 janv. '98 *	.....	73		" Milton.
<i>Prison d'Ottawa—</i> Bris de magasin .....	3 "	14 mars '98	13 avril '98	A être libérés après	17		" Ottawa.
" .....	3 "	14 " '98	13 " '98	qu'ils auront servi	17		" "
" .....	"	"	"	un mois.	"		" "
<i>Prison de Parry Sound</i> Ayant en sa posses- sion un alambic et des tuyaux de con- nection.	1 "	27 juin '98	9 sept. '98 *	.....	28		" Parry-Sound.
<i>Prison de Perth—</i> Vagabondage .....	4 "	27 nov. '97	23 déc. '97 *	.....	24		J. de P., Perth.
" .....	4 "	23 " '97	27 " '97 *	.....	35		" "
" .....	4 "	20 déc. '97	31 " '97	Avec entente qu'il sera transféré dans un hôpital pour y subir un traitement	75		" Almonte.
<i>Prison de Peterborough</i> Vagabondage .....	3 "	26 mars '98	16 avril '98 *	.....	63		Police, Peterborough.
" .....	3 "	2 juil. '98	19 août '98 *	.....	17		" "
<i>Prison de Picton—</i> Usage d'arme à feu avec intention.	6 "	15 juin '98	19 " '98 *	.....	32		Sessions, Picton.
Larcin .....	12 "	2 mars '98	13 mai '98 *	.....	33		Comté "
<i>Prison de Rat Portage</i> Voies de fait .....	6 "	29 juin '98	25 août '98	A être libérée après qu'elle aura servi 2 mois .....	26		Assises, Rat-Portage.
<i>Prison de Sarnia—</i> Ivresse et désordre.	6 "	19 juil. '97	24 déc. '97 *	.....	63		J. de P., Petrolia.
<i>Prison de Toronto—</i> Larcin .....	2 "	8 sept. '97	9 oct. '97 *	.....	35		Police, Toronto.
" .....	1 "	11 juil. '98	26 juil. '98 *	.....	22		" "
<i>Prison de Walkerton—</i> Larcin .....	1 "	6 sept. '98	30 sept. '98 *	.....	10		" Warton.
" .....	1 "	6 " '98	30 " '98 *	.....	12		" "
" .....	1 "	6 " '98	30 " '98 *	.....	12		" "

a Et une amende de \$100 avec les frais, et à défaut de paiement 6 autres mois.

\* Aucune raison donnée pour le pardon ou la commutation.

TABLE VI—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.

(Province of Quebec.) PROVINCIAL PENITENTIARY—ST. VINCENT DE PAUL.							
CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex.		By what Court tried.
		Sentence or Commuta- tal.	Pardon or Commuta- tion.		M	F	
Rape .....	Life..	Oct. 14, '78	Sept. 9, '98 *		55		Q. Bench, Montreal.
Shopbreaking .....	14 yrs.	Jan. 23, '90	Oct. 9, '97	Remission of 3 m'ths.	26		Sessions "
" .....	5 "	Nov. 20, '94	Feb. 12, '98	To be released after 1st April, 1898.	27		" "
Housebreaking .....	4 "	Mar. 25, '95	Oct. 9, '97 *		24		Dist. Mag., Rimouski.
Forgery .....	4 "	June 11, '95	Nov. 1, '97	6 months remitted.	36		Sessions, Montreal.
" .....	3 "	Oct. 14, '95	Feb. 3, '98 *		36		Q. Bench "
Burglary .....	5 "	Aug. 30, '95	June 30, '98 *		24		Dist. Mag., St. John, Que.
" .....	5 "	" 3, '95	Sept. 7, '98 *		21		" St. Hyacinthe.
Stealing from the per- son.	3 "	Mar. 26, '97	Oct. 9, '97	When he shall have served 2 years with remission.	19		Q. Bench, Montréal.
" .....	3 "	July 16, '95	Nov. 1, '97 *		31		Sessions "
" .....	2 "	Mar. 26, '97	May 5, '98 *		43		Q. Bench "
Attempt to commit theft with violence	5 "	Dec. 31, '96	Dec. 31, '97 *		32		Sessions "
Warehouse breaking..	2 "	Oct. 11, '97	Mar. 2, '98 *		51		Q. Bench "
Stealing a post letter..	3 "	Dec. 9, '96	Aug. 25, '98 *		23		Sessions, Sweetzburg.
Entering a railway freight shed and stealing.	3 "	Nov. 23, '97	May 11, '98	To be released on May 23, 1898.	18		Dist. Mag., Montmagny.
Horse stealing .....	2 "	Feb. 3, '97	June 21, '98	To be released on August 2, 1898.	25		" Sorel.
Theft.....	5 "	Dec. 15, '95	July 1, '98 *		19		Sessions, Montréal.
" .....	4 "	Mar. 4, '95	Oct. 9, '97	When with remission he shall have served 3 yrs and 9 m'ths.	17		" "
" .....	4 "	Sept. 10, '95	Apr. 30, '98 *		22		" Québec.
" .....	3 "	Mar. 26, '97	Sept. 9, '98 *		29		Q. Bench, Montreal.
" .....	3 "	Feb. 23, '97	Apr. 28, '98 *		21		Sessions "
" .....	3 "	July 14, '96	Mar. 31, '98 *		21		" "
" .....	3 "	Oct. 14, '95	Nov. 15, '97 *		41		Q. Bench "
Attempt to escape....	1 "	Aug. 8, '98	Aug. 25, '98	Prisoner was serving a sentence of im- prisonment in the penitentiary.	27		" "
(Province of Quebec.) COMMON JAILS.							
<i>Arthabaskaville Jail—</i>							
(1) Having illicit al m's still in his posses- sion.							
(2) Having spirits b..... unlawfully manu- factured.		Oct. 28, '97	Dec. 31, '97	Remission of remain- ing portion of im- prisonment impos- ed in default of payment of \$50 and costs.	55		Dist. Mag., Arthabaska- ville.
<i>Bryson Jail—</i>							
Violation of Inland c1 m's Revenue Act.		Mar. 23, '98	May 28, '98 *		34		J. P's., Bryson.

a And \$100 or an additional month if not paid.

b \$50 and costs or one month if not paid.

c And \$100 or, in default of payment of fine, an additional 6 months in jail.

\* No reason given for pardon or commutation.

## Criminal Statistics.

**TABLEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.**

(Province de Québec.) PENITENCIER PROVINCIAL—SAINT-VINCENT DE PAUL.							
CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe.		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Pardon ou commuta- tion.		H	F	
Viol .....	A vie.	14 oct. '78	9 sept. '98*		55		Banc Reine, Montréal.
Bris de magasin.....	14 ans	23 janv. '90	9 oct. '97	Trois mois de remis- sion.	26		Sessions "
" .....	5 "	20 nov. '94	12 fév. '98	A être libéré après le 1er avril 1898.	27		" "
Bris de maison. ....	4 "	25 mars '95	9 oct. '97	*	24		Mag. de Dist., Rimouski.
Faux .....	4 "	11 juin '95	1 nov. '97	Six mois remis.....	36		Sessions, Montréal.
" .....	3 "	14 oct. '95	3 fév. '98*		36		Banc Reine "
Vol de nuit.....	5 "	30 août '95	30 juin '98*		24		Mag. de D., St-Jean, Qué.
" .....	5 "	3 " '95	7 sept. '98*		21		" St. Hyacinthe.
Vol sur la personne...	3 "	26 mars '97	9 oct. '97	A être libéré après avoir servi 2 ans avec rémission.	19		Banc R., Montréal.
" .....	3 "	16 juil. '95	1 nov. '97*		31		Sessions "
" .....	2 "	26 mars '97	5 mai '98*		43		Banc Reine "
Tentative de vol avec violence.	5 "	31 déc. '96	31 déc. '97*		32		Sessions "
Bris d'entrepôt.	2 "	11 oct. '97	2 mars '98*		51		Banc Reine "
Vol d'une lettre char- gée.	3 "	9 déc. '96	25 août '98*		23		Sessions, Sweetsburg.
Entrée et vol dans un hangar à fret du che- min de fer.	3 "	23 nov. '97	11 mai '98	A être libéré le 23 mai 1898.	18		Mag. du D., Montma- gny.
Vol de chevaux .....	2 "	3 fév. '97	21 juin '98	A être libéré le 22 d'août 1898.	25		Mag. du Dist., Sorel.
Larcin.....	5 "	15 déc. '95	1 juil. '98*		19		Sessions, Montréal.
" .....	4 "	4 mars '95	9 oct. '97	A être libéré après avoir servi 3 ans et 9 mois avec remis- sion.	17		" "
" .....	4 "	10 sept. '95	30 avril '98*		22		" Québec.
" .....	3 "	26 mars '97	9 sept. '98*		29		Banc Reine, Montréal.
" .....	3 "	23 fév. '97	28 avril '98*		21		Sessions "
" .....	3 "	14 juil. '96	31 mars '98*		21		" "
" .....	3 "	14 oct. '95	15 nov. '97*		41		Banc R. "
Tentative d'évasion ..	1 "	8 août '98	25 août '98	Le prisonnier servant une sentence d'em- prisonnement au pénitencier.	27		" "
(Province de Québec.) PRISONS COMMUNES.							
<i>Prison d'Arthabaska-</i>							
<i>ville—</i>							
(1) Ayant un alam- bic en sa posses- sion.	a 1 m's						
(2) Ayant de la bois- son manufacturée illégalement.	b.....	28 oct. '97	31 déc. '97	Rémission du reste de son emprisonne- ment imposé à dé- faut de payer \$50 et les frais.	55		Mag. du Dist., Arthabas- kaville.
<i>Prison de Bryson—</i>							
<i>Infraction à l'Acte</i>							
<i>du Revenu.</i>							
	c 1 m's	23 mars '98	28 mai '98	*	34		J. de P., Bryson.

a Et \$100 ou un autre mois à défaut de paiement.

b \$50 et les frais ou un mois " "

c Et \$100 ou, à défaut du paiement de l'amende, 6 autre mois.

\* Aucune raison donnée pour le pardon ou la commutation.

TABLE VI.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.

(Province of Quebec.)

## COMMON JAILS—Concluded.

CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex.		By what Court tried.
		Sentence or Commit- tal.	Pardon or Commuta- tion.		M	F	
<i>Fraserville Jail—</i> Indecent assault on school boy.	23 m's	Oct. 5, '96	Aug. 19, '98 *		28		Dist. Mag., Fraserville.
<i>Joliette Jail—</i> Theft	12 "	Dec. 21, '97	June 1, '98	6 months remitted	35		Q. Bench, Joliette.
<i>Montmagny Jail—</i> Having an illicit still in his posses- sion.	a 1 "	Apr. 24, '98	May 28, '98	Fine remitted and also costs of prose- cution and to be re- leased after 1 m'th imprisonment.	33		Dist. Mag., Montmagny.
"	"	Apr. 24, '98	" 28, '98	"	38		" "
<i>Montreal Jail—</i> Libel	b 6 "	Oct. 14, '97	Nov. 17, '97 *		34		Q. Bench, Montreal.
Housebreaking and larceny.	23 "	Apr. 15, '97	July 18, '98 *		24		Sessions "
Theft	18 "	Mar. 12, '97	Oct. 22, '97 *		16		" "
"	9 "	Jan. 12, '98	May 5, '98 *		28		J. P.'s "
"	9 "	" 12, '98	Aug. 24, '98 *		28		Police "
"	3 "	May 20, '98	July 26, '98 *		23		" "
Having an illicit still in his possession.	c	July 30, '97	Dec. 17, '97 *		56		" "
<i>St. John Jail—</i> Vagrancy	6 m's	" 28, '97	Nov. 1, '97 *		45		J. P., St. John.
<i>St. Scholastique Jail—</i> Forgery	23 "	June 29, '97	Aug. 19, '98 *		29		Dist. Mag., St. Scholas- tique.
<i>Sherbrooke Jail—</i> Violation of Inland Revenue Act.	d	Jan. 18, '98	Mar. 18, '98 *		22		Dist. Mag., Sherbrooke.
<i>Sorel Jail—</i> Aggravated assault.	12 m's	Mar. 2, '98	June 30, '98 *		33		" Sorel.
<i>Not imprisoned—</i> Violation of Inland Revenue Act.	e 1 "	Not given.	Feb. 19, '98 *		30		Superior, St. François.

(Nova Scotia and New Brunswick.) PROVINCIAL PENITENTIARY—DORCHESTER.

Murder	f Life.	Oct. 29, '86	May 11, '98 *		39		Sup., Port Hood, N.S.
Manslaughter	15 yrs.	" 3, '88	June 20, '98	Both to be released	31		County, Andover, N.B.
"	15 "	" 3, '88	" 20, '98	on June 30th, '98	33		" "
Housebreaking and larceny.	5 "	" 31, '95	Feb. 8, '98	When with remission he shall have served 3 years	20		" Halifax, N.S.
Larceny, breaking jail and burglary.	2 "	June 4, '94					
	6 "	Nov. 28, '94	Jan. 6, '98 *		24		Police, St. John, N.B.

a And a fine of \$100 and costs or 6 additional months.

b And when released to give bail himself for \$500 and two securities of \$250 to keep the peace for 2 years.

c Fine of \$500 or six months in jail.

d Fine of \$50 and costs or 3 months imprisonment.

e And fine of \$100 and costs. Imprisonment having been suspended.

f Sentence of death commuted to life imprisonment on 30th of June, 1887.

## Criminal Statistics.

TABLEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.

(Province de Québec.) PRISONS COMMUNES—Fin.							
CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe.		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Pardon ou commuta- tion.		H	F	
<i>Prison de Fraserville—</i> Voies de fait indé- cent sur un écolier	23 m's	5 oct. '96	19 août '98 *	.....	28	..	Mag. du D., Fraserville.
<i>Prison de Joliette—</i> Larcin	12 "	21 déc. '97	1er juin '98	6 mois remis	35	..	Banc Reine, Joliette.
<i>Pris. de Montmagny—</i> Ayant en sa posses- sion un alambic.	a1 "	24 avril '98	28 mai '98	Amende et les frais de poursuite remis et à être libéré après 1 mois d'em- prisonnement	33	..	Mag. du D., Montmagny.
" " "	a1 "	24 " '98	28 " '98	" "	38	..	" "
<i>Prison de Montréal—</i> Libelle	b6	14 oct. '97	17 nov. '97 *	.....	34	..	Banc Reine, Montréal.
Bris de maison et lar- cain.	23 "	15 avril, '97	18 juil. '98 *	.....	24	..	Sessions "
Larcin	18 "	12 mars '97	22 oct. '97 *	.....	16	..	" "
"	9 "	12 janv. '98	5 mai '98 *	.....	28	..	J. de P. "
"	9 "	12 " '98	24 août '98 *	.....	28	..	Police "
"	3 "	20 mai '98	26 juil. '98 *	.....	23	..	" "
Ayant en sa posses- sion un alambic.	c	30 juil. '97	17 déc. '97 *	.....	56	..	" "
<i>Prison de St-Jean—</i> Vagabondage	6 m's	28 " '97	1er nov. '97 *	.....	45	..	J. de P., St-Jean.
<i>P. de Ste-Scholastique—</i> Faux	23 "	29 juin '97	19 août '98 *	.....	29	..	Mag. du D., Ste-Scholas- tique.
<i>Prison de Sherbrooke—</i> Contravent. à l'Acte du Revenu de l'In- térieur.	d	18 janv. '98	18 mars '98 *	.....	22	..	Mag. du D., Sherbrooke.
<i>Prison de Sorel—</i> Voies de fait graves	12 m's	2 mars '98	30 juin '98 *	.....	33	..	" Sorel.
<i>Non emprisonné—</i> Contravent. à l'Acte du Revenu de l'In- térieur.	e1	Non donné	19 fév. '98 *	.....	30	..	Supérieure, St-François.
(Nouvelle-Ecosse, Nour.-Brunswick) PÉNITENCIER PROVINCIAL—DORCHESTER.							
Meurtre	fA	vie	29 oct. '86	11 mai '98 *	39	..	Sup., Port-Hood, N.-E.
Homicide non prém.	15 ans	3 "	'88	20 juin '98	31	..	Comté, Andover, N.-B.
" " "	15 "	3 "	'88	20 " '98	33	..	" "
Bris de maison et lar- cain.	5 "	31 " '95	8 fév. '98	A être libéré après avoir servi 3 ans avec rémission	20	..	" Halifax, N.-E.
Larcin, bris de prison et vol de nuit	2 "	4 juin '94	6 janv. '98 *	.....	24	..	Police, St-Jean, N.-B.

a Et une amende de \$100 et les frais ou 6 autres mois.

b Et quand libéré à donner lui-même \$500 de caution et deux garanties de \$250 qu'il gardera la paix pendant 2 ans.

c \$500 d'amende ou 6 mois de prison.

d \$50 et les frais ou 3 mois de prison.

e Et \$100 et les frais. L'emprisonnement ayant été suspendu.

f La sentence de mort ayant été commuée en emprisonnement à vie le 30 juin 1887.

**TABLE VI.—Cases in which the Prerogative of Mercy has been exercised during the Year ended the 30th September, 1898, in favour of Prisoners committed to the following Prisons.**

(Prince Edward Island, Nova Scotia and New Brunswick.) PROVINCIAL PENITENTIARY—DORCHESTER—Concluded.						
CRIME.	Sen- tence.	DATE OF		Conditions upon which Pardon or Commutation was granted.	Age and Sex.  M F	By what Court tried.
		Sentence or Committal.	Pardon or Commuta- tion.			
Escaping from prison and while at large committing three burglaries.	7 yrs.	Nov. 28, '94	Mar. 22, '98 *		27	County, Dorchester, N.B.
Killing a horse.....	5 "	June 9, '95	Feb. 24, '98 *		24	Supr., Inverness, N.S.
Horse stealing.....	2 "	Oct. 26, '96	Dec. 9, '97 *		43	" Pictou, N.S.
Cattle ".....	3 "	Jan. 20, '97	Aug. 24, '98	} When they shall have served 2 yrs with remission.	19	County, Yarmouth, N.S.
" ".....	3 "	" 20, '97	" 24, '98		25	
" ".....	3 "	" 20, '97	" 24, '98		25	
Larceny.....	4 "	Dec. 21, '96	July 4, '98 *		36	" Halifax, N.S.
<i>Halifax Jail—</i> Assault causing ac- tual bodily harm.	6 m's	May 5, '98	June 28, '98 *		57	County, Halifax, N.S.
<i>Lunenburg Jail—</i> Aggravated assault.	1 yrs.	June 6, '98	Sept. 7, '98 *		65	Supr., Lunenburg, N.S.
<i>Pictou Jail—</i> Vio. of Can. Temp. Act.	a	Aug. 8, '98	" 20, '98 *		43	Stip. Mag., New Glas- gow, N.S.
<i>Victoria Jail—</i> Assault.	6 m's	Mar. 3, '98	Aug. 8, '98 *		27	Assizes, Andover, N.B.
(Province of Manitoba.) MANITOBA PENITENTIARY.						
Manslaughter.....	15 yrs.	Mar. 19, '89	Oct. 9, '97 *		40	Assizes, Winnipeg, Man.
Carnally knowing a girl under 14 years.	b 10 "	June 2, '91	Aug. 19, '98 *		30	" Nanaimo, B.C.
Arson.....	15 "	Aug. 2, '90	Jan. 7, '98 *		31	Supr., Moosomin, NWT.
Embezzlement.....	7 "	Nov. 1, '94	Nov. 15, '97 *		48	" Regina "
Housebreak'g & burg'y	10 "	Oct. 8, '91	July 4, '98	To be released on 31st Dec. '98.	25	" Calgary "
" & larceny	2 "	June 19, '97	Sept. 9, '98 *		21	" Moosomin "
(Province of British Columbia.) NEW WESTMINSTER PENITENTIARY.						
Arson.....	3 yrs.	Apr. 17, '96	Sept. 12, '98	Restoration of 30 dys	34	County, B. Col.
Gross indecency.....	c 3 "	Jan. 13, '96	June 24, '98	15 lashes remitted.	40	" Nanaimo, B.C.
Theft.....	4 "	Mar. 19, '96	May 6, '98 *		41	" N. Westminster.
"	4 "	Nov. 15, '95	Oct. 22, '97 *		52	Supr., Victoria, B.C.
<i>N. Westminster Jail—</i> Theft.....	1 yr.	May 11, '97	Mar. 2, '98 *		44	Assizes, N. Westminster.
<i>Victoria Jail—</i> Theft.....	3 m's	Dec. 19, '97	" 11, '98 *		25	Police, Victoria, B.C.
<i>Guard room, Leth. bridge—</i> Assault.....	d 2 "	Oct. 17, '91	June 10, '98 *		41	J. P's, Lethbridge, NWT.
<i>Lock-up, Lake Bennett</i> Theft.....	1 yr.	June 16, '98	July 26, '98 *		24	Stip. Mag., Lake Bennett.
DEATH SENTENCES COMMUTED DURING THE YEAR ENDED 30TH SEPTEMBER, 1898.						
Murder.....	Death	May 11, '97	Jan. 6, '98	Life imprisonment.	30	Assizes, Napanee, Ont.
"	"	Dec. 10, '97	Feb. 24, '98	Death sent. rem. and prisoner disc. from furth'r custody.	17	Supreme, Truro, N.S.
"	"	July 11, '98	Sept. 23, '98	Life imprisonment.	18	Q. B., St. Hyacinthe, Q.
"	"	" 29, '98	" 23, '98	" "	M.	Supr., Dawson, Yukon.

a \$100 fine, on default of payment 89 days in jail.

b And 13 lashes. c. and 30 lashes.

d Prisoner was tried *ex parte* and sentenced to two months imprisonment. He left for the United States after the summons has been served upon him; upon his return to the North West he was arrested upon the conviction made in 1891.



## Criminal Statistics.

**TABEAU VI.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1898, en faveur des prisonniers envoyés aux prisons suivantes.**

(Ile du Prince-Edouard, Nouvelle-Ecosse et Nouv.-Brunswick.) PÉNITENCIER PROVINCIAL—DORCHESTER—Fin.							
CRIME.	Sen- tence.	DATE DE		Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe		Par quelle cour mis en jugement.
		Sentence ou emprison- nement.	Pardon ou commuta- tion.		H	F	
Evasion de prison et pendant sa liberté commettant trois vol de nuit.	7 ans	28 nov. '94	22 mars '98 *		27		Comté, Dorchester, N.-B.
Tuant un cheval	5 "	9 juin '95	24 fév. '98 *		24		Supr., Inverness, N.-E.
Vol de chevaux	2 "	26 oct. '96	9 déc. '97 *		43		" Pictou, N.-E.
" bestiaux	3 "	20 janv '97	24 août '98	} A être libérés après qu'ils auront servi 3 ans avec rémis.	19		Comté, Yarmouth, N.-E.
" "	3 "	20 " '97	24 " '98		25		" "
" "	3 "	20 " '97	24 " '98		25		" "
Larcin	4 "	21 déc. '96	4 juil. '98 *		36		" Halifax, N.-E.
<i>Prison d'Halifax—</i> Voies de fait acc. des bless. corp. graves	6 m's	5 mai '98	28 juin '98 *		57		Comté, Halifax, N.-E.
<i>Pris. de Lunenburg—</i> Voies de fait graves.	1 an.	6 juin '98	7 sept. '98 *		65		Supr., Lunenburg, N.-E.
<i>Prison de Pictou—</i> Cont. à l'Acte de Temp. du Can.		8 août '98	20 " '98 *		43		Mag. Stip., New-Glasgow, N.-E.
<i>Prison de Victoria—</i> Voies de fait.	6 m's	3 mars '98	8 août '98 *		27		Assises, Andover, N.-B.
PÉNITENCIER DE MANITOBA							
(Province de Manitoba.) Homicide non préin.	15 ans	19 mars '89	9 oct. '97 *		40		Assises, Winnipeg, Man.
Com. ch. avec une fille au-dessous de 14 ans.	10 "	2 juin '91	19 août '98 *		30		" Nanaïmo, Col.-B.
Incendie	15 "	2 août '90	7 janv. '98 *		31		Supr., Moosomin, T.N-O
Détournement	7 "	1 nov. '94	15 nov. '97 *		48		" Régina "
Br. de m. et vol de nuit	10 "	8 oct. '91	4 juil. '98	A être libéré le 31 déc. '98.	25		" Calgary "
" larcin	2 "	19 juin '97	9 sept. '98 *		21		" Moosomin "
PÉNITENCIER DE NEW-WESTMINSTER.							
(Prov. de la Col.-Britannique.) Incendie	3 ans	17 avril '96	12 sept. '98	30 jrs de remis.	34		Comté, Col.-B.
Grosse indécence	3 "	13 janv. '96	24 juin '98	15 coups de fouet rem.	40		" Nanaïmo, C.-B.
Larcin	4 "	19 mars '96	6 mai '98 *		41		" N.-Westminster.
"	4 "	15 nov. '95	22 oct. '97 *		52		Supr., Victoria, C.-B.
<i>Pr. de N.-Westminster</i> Larcin	1 an.	11 mai '97	2 mars '98 *		44		Assises, N.-Westminster.
<i>Prison de Victoria—</i> Larcin	3 m's	15 déc. '97	11 " '98 *		25		Police, Victoria.
<i>Poste de police, Leth. bridge.</i> Voies de fait	42 "	17 oct. '91	10 juin '98 *		41		J. de P., Lethbridge.
<i>Salle de p., lac Bennett</i> Larcin	1 an.	16 juin '98	26 juil. '98 *		24		Mag. Stip., Lac Bennett.
SENTENCES DE MORT COMMUEES DURANT L'ANNÉE FINISSANT LE 30 SEPT. 1898.							
Meurtre	Mort.	11 mai '97	6 janv. '98	Emprisonnem. à vie.	30		Assises, Napanee, Ont.
"	"	10 déc. '97	24 fév. '98	Sentence de mort re- mise et le prison. remis en liberté.	17		Suprême, Truro, N.-E.
"	"	11 juil. '98	23 sept. '98	Emprisonnem. à vie.	18		B. R., St-Hyacinthe, Qué.
"	"	29 " '98	23 " '98	"	H		Supr., Dawson, Yukon.

a \$100 d'amende, à défaut de paiement 89 jours de prison.

b Et 13 coups de fouet. c. Et 30 coups de fouet.

d Le prisonnier a été condamné *ex parte* et a reçu une sentence de 2 mois d'emprisonnement. Il partit pour les Etats-Unis après que la sommation lui fut servie, à son retour au Nord-Ouest il fut arrêté sur la condamnation de 1891.

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