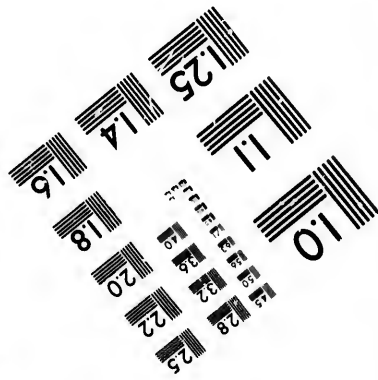
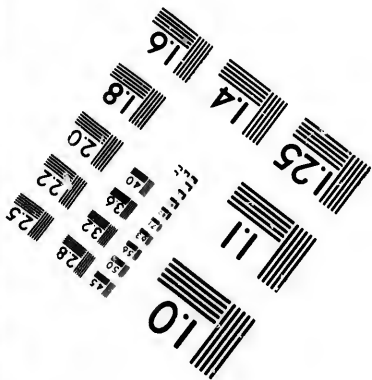
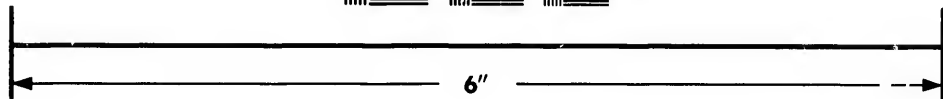
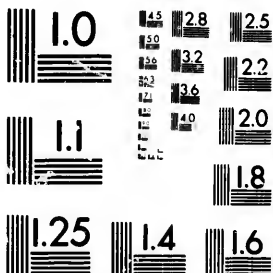


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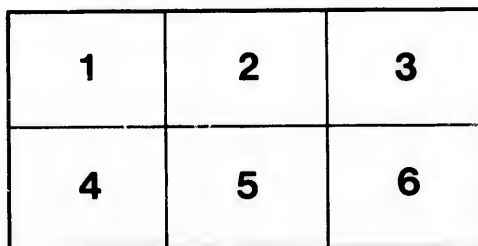
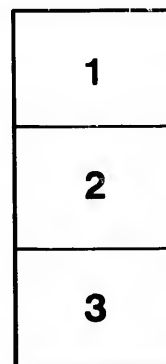
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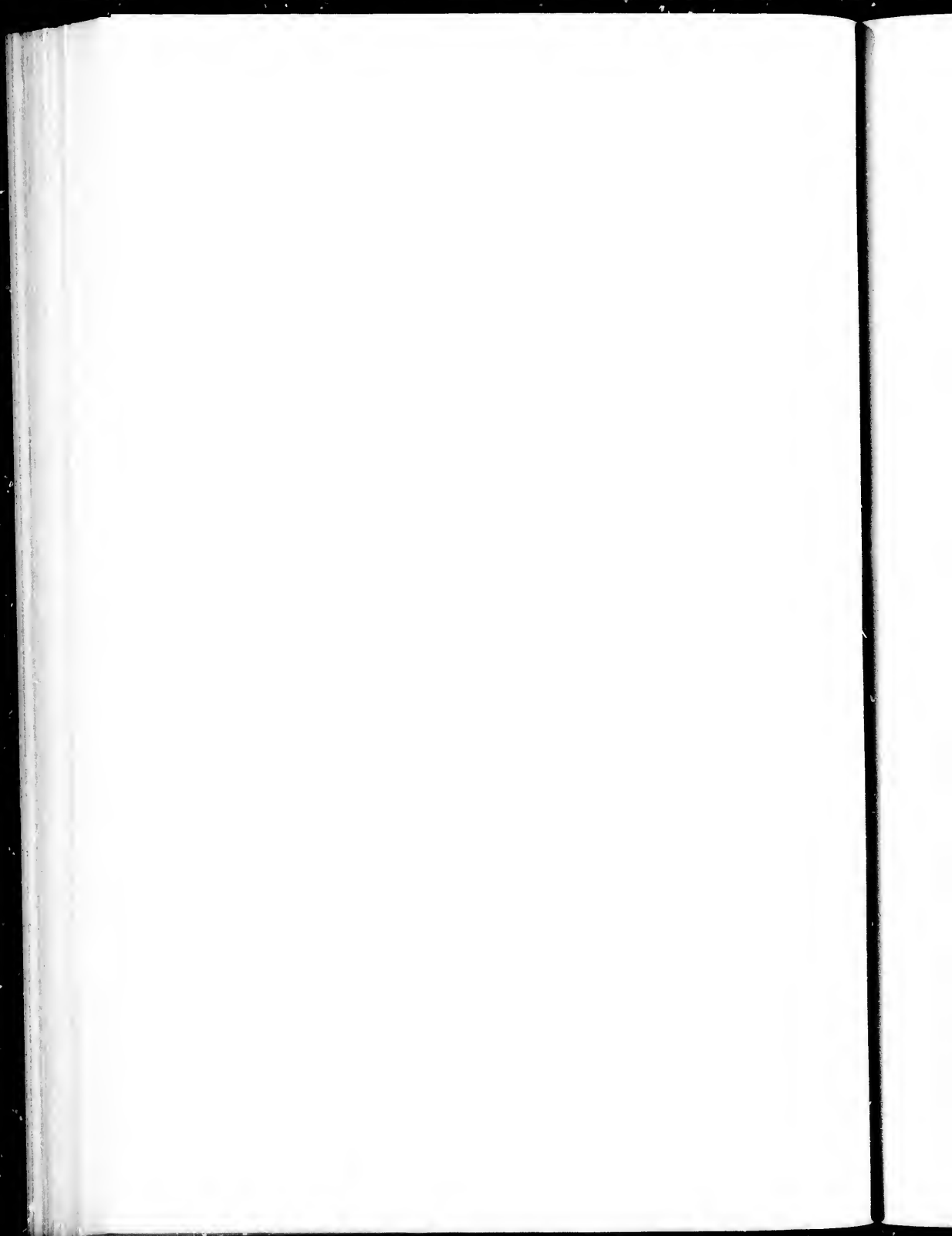
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DEPARTMENT OF AGRICULTURE

CENTRAL EXPERIMENTAL FARM
OTTAWA, CANADA

RESULTS OBTAINED IN 1899

FROM

Trial Plots of Grain, Fodder Corn, Field Roots and Potatoes



By Wm. SAUNDERS, LL.D.,
Director Experimental Farms

BULLETIN No. 34

DECEMBER, 1899

PUBLISHED BY DIRECTION OF THE HON. SYDNEY A. FISHER, MINISTER OF AGRICULTURE

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To the Honourable

The Minister of Agriculture.

SIR,—I beg to submit for your approval Bulletin No. 34 of the Experimental Farm series, prepared by myself. In this publication there are presented the results of a large number of experiments which have been conducted at all the experimental farms under your department during the season of 1899, with oats, barley, spring wheat, pease, Indian corn, turnips, mangels, carrots, sugar beets and potatoes in uniform plots. The average results are also given of five years' tests on such plots with varieties of oats, barley, spring wheat and potatoes, four and five years' experience with Indian corn, four years' with plots of pease, turnips, mangels and carrots and three years' experience with sugar beets.

This work of testing varieties is being conducted with the object of gaining information as to their relative productiveness and earliness in ripening. The results show wide variations in the weight of the crops grown and indicate the importance of the exercise of care in the choice of varieties of seed for sowing. It is hoped that the results presented, covering the experience gained under some of the most important climatic variations found in the Dominion will prove useful to farmers in every part of Canada.

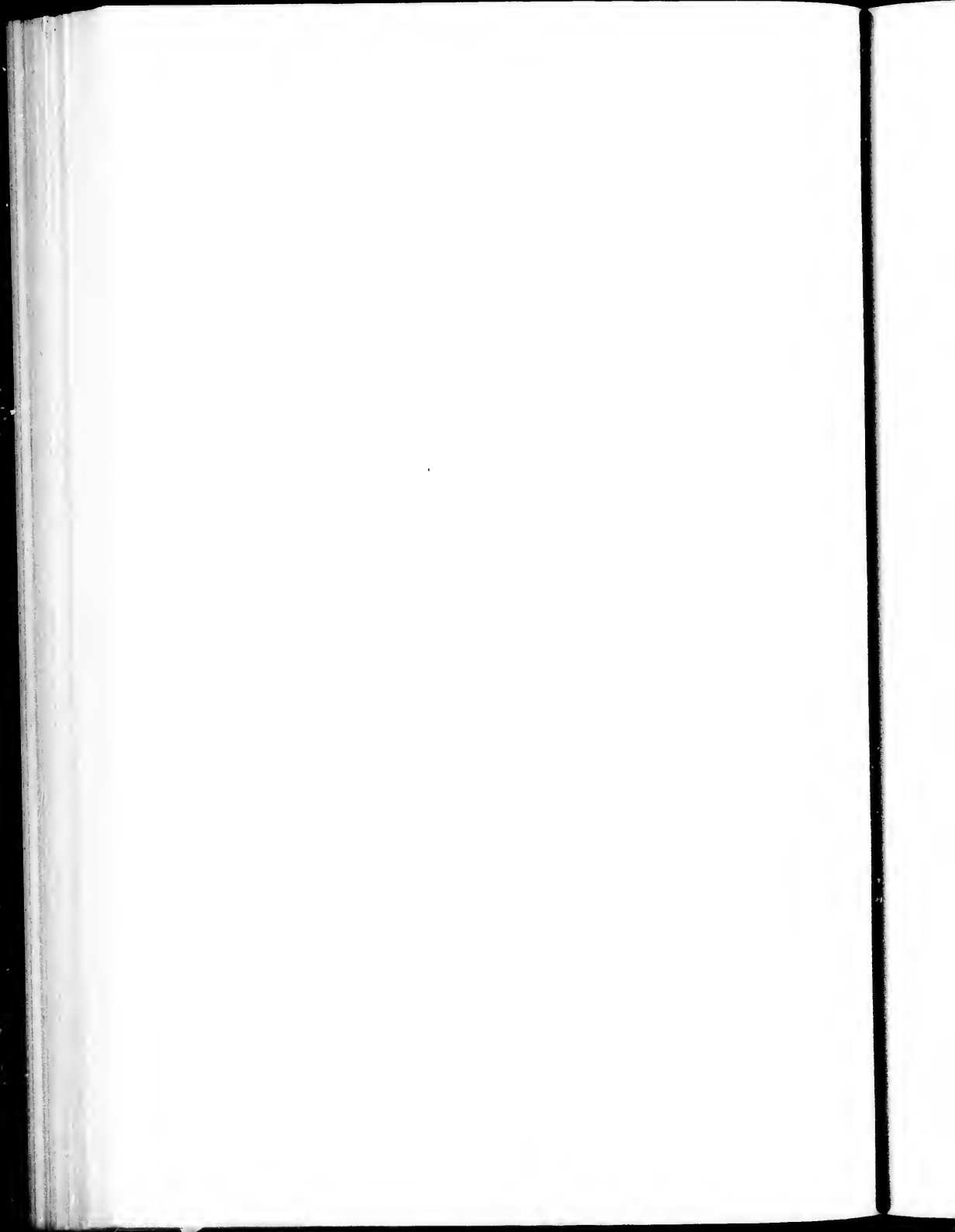
I have the honour to be,

Your obedient servant,

WM. SAUNDERS,

Director Experimental Farms.

OTTAWA, 29th December, 1899.



RESULTS OBTAINED IN 1899

FROM TRIAL PLOTS OF

GRAIN, FODDER CORN, FIELD ROOTS AND POTATOES

BY WILLIAM SAUNDERS, LL.D., F.R.S.C., F.L.S., &c.

Director Experimental Farms.

In this bulletin particulars are given of the results obtained from the uniform trial plots of grain, fodder corn, field roots and potatoes at each of the Dominion Experimental Farms during the year 1899, also the average results had during a series of years. While the crops grown on these plots during the season of 1898 were well above the average those of 1899 have been still more satisfactory. In grain the increase has been most marked. In oats the average yield of all the varieties tested at all the experimental farms has exceeded that of the previous year by 11 bushels 1 lb. per acre, two rowed barley by 7 bush. 17 lbs., six-rowed barley by 3 bush. 47 lbs. and spring wheat by 3 bush. 50 lbs. per acre. The excellent average crops of turnips, mangels and carrots had in 1898 were well maintained in 1899, there was an increase in the yield of potatoes at Ottawa and Nappan, but a decrease at Brandon, Indian Head and Agassiz. The season throughout the Dominion was less favourable for Indian corn and in this crop there was a falling off in yield.

In arranging these experiments the plan carried out during the past four years has been continued. The same varieties have been sown at each of the Experimental Farms, the land chosen for the plots has been as nearly uniform in character as could be had and was brought into a good condition of tilth. The seed has been sown early and has been well cleaned and screened before sowing so as to separate the smaller kernels, leaving only the plump and well-matured grain for seed. As far as practicable all the varieties of the same cereal have been sown on the same day or at most within two or three days so as to give to all an even start. Many new varieties of cereals which have been produced on the experimental farms by cross-fertilizing during the past ten years are included in these tests, a list of the names of these will be found in each case in the paragraph preceding the table of returns.

In presenting the information gained by the experience of 1899 the weight of crop obtained in each case is given and the varieties are placed in the order of their productiveness at the Central Experimental Farm at Ottawa. The number of days required for each sort from sowing to ripening is also added, and thus their relative earliness is shown.

In comparing the results of one single year with another the relative positions occupied by each variety in point of productiveness will often vary, arising from lack of uniformity in the soil, and other causes; but the average experience for four and five years given in the latter part of this bulletin affords satisfactory evidence bearing on the relative productiveness of each sort. The reader is referred to the summary at the end of the bulletin for particulars on this point.

By the issue of this bulletin early in the season, the information obtained is placed promptly in the hands of the farmers of Canada who are thus advised as to the results which have been had before making their selection of seed for sowing during the coming year.

TRIAL PLOTS OF OATS.

Seventy-one varieties of oats have been tested during the season of 1899. These include thirteen cross-bred sorts which have been produced at the Experimental Farms, namely, Olive, Oxford, Cromwell, Miller, Kendal, Medal, Milford, Russell, Master, Brandon, Holland, King and Pense. The size of the plots on which these oats were sown was one fortieth of an acre each at Ottawa, Ont., Nappan, N.S., and Agassiz, B.C., and one twentieth of an acre each at Brandon, Man., and Indian Head, N.W.T. The quantity of seed sown of each variety was in the proportion of two bushels per acre, and the dates of sowing were as follows:—At Ottawa, May 2; Nappan, May 8 and 9; Brandon, May 10; Indian Head, May 12; and at Agassiz, April 29 to 24.

Particulars as to the character of the land in each case, also the preparation and treatment it has had, will be found in the Annual Report of the Experimental Farms for 1899.

UNIFORM TEST PLOTS OF OATS.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms, Season of 1899.										Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.	Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Bus.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Days	Days	Days	Days	Days	Days
1	Thousand Dollar	74	81	6	78	8	61	4	62	1	94	112	98	105	119	105	9
2	Golden Giant	67	81	6	89	1	66	16	76	16	101	123	113	119	125	116	11
3	Holstein Prolific	67	82	12	92	2	97	2	73	3	97	117	104	116	121	109	10
4	Poland	67	76	16	105	20	86	15	58	8	97	106	97	102	120	103	10
5	New Zealand	66	91	26	83	28	95	10	83	4	105	119	115	120	113	114	10
6	Bamber	65	30	87	6	110	10	35	30	67	97	114	106	111	119	108	10
7	American Triumph	65	30	74	4	93	8	93	18	61	97	119	104	116	118	109	10
8	Danish Island	65	30	89	14	86	28	92	26	73	97	117	106	111	121	109	10
9	American Beauty	64	24	89	14	108	28	92	32	71	97	117	106	111	117	109	10
10	Columbus	64	24	81	6	88	28	92	26	71	97	113	100	111	120	107	10
11	White Giant	64	24	89	14	86	16	68	28	70	97	118	100	111	119	109	10
12	Prolific Blk. Tartarian	61	26	82	12	80	39	69	11	78	97	111	110	120	125	113	10
13	Memnonite	61	6	91	26	83	18	71	26	64	97	111	101	105	116	106	10
14	Abyssinia	60	91	26	96	10	71	6	75	33	97	113	106	111	126	110	10
15	Golden Tartarian	60	76	16	96	20	72	12	76	16	99	123	110	119	117	113	10
16	Odenbruch	59	14	98	28	96	10	64	4	67	97	114	106	112	117	109	10
17	Joanette	59	14	71	71	10	91	6	47	18	99	115	101	112	123	110	10
18	Lincoln	58	28	32	32	75	10	91	6	47	97	113	105	111	117	108	10
19	Olive	58	89	14	72	2	77	2	63	10	98	116	108	119	117	110	10
20	Bavarian	57	22	75	10	98	18	96	16	62	97	114	104	111	118	108	10
21	Winter Grey	57	64	21	91	6	80	20	67	18	93	115	97	102	121	101	10
22	Black Tartarian Imported 1899	55	10	94	4	82	32	88	28	78	99	116	116	119	110	110	10
23	Wallis	54	94	32	84	14	78	28	67	78	94	113	104	111	121	108	10
24	Improved Ligowo Imported 1899	52	32	83	18	100	20	55	10	60	96	118	106	110	111	108	10
25	Improved Ligowo Home Grown	52	12	76	16	84	24	64	24	58	96	119	100	102	123	108	10
26	Oxford	52	12	74	4	79	4	74	4	72	97	118	106	119	118	111	10
27	Wide Awake	52	12	90	20	103	28	90	60	30	97	113	102	110	125	109	10
28	Early Maine	51	36	83	18	107	22	81	26	70	99	118	105	113	121	111	10
29	Victoria Prize	51	6	80	36	26	87	22	58	16	94	113	92	102	123	104	10
30	Crownwell	51	6	69	14	72	12	70	20	60	98	116	104	119	124	112	10
31	Early Archangel	51	6	77	22	98	28	87	2	57	94	113	104	111	120	108	10
32	White-Russian	50	20	94	4	79	4	90	6	62	97	114	108	105	119	108	10
33	Early Golden Prolific	50	20	94	4	86	36	87	2	61	97	114	104	111	125	110	10
34	Early Gothland	50	20	83	18	93	18	78	28	65	97	114	103	119	117	110	10
35	Improved American	49	14	81	6	86	16	85	30	64	97	118	100	113	126	110	10
36	California Prof. Blk. Imported 1899	49	14	104	24	76	6	78	8	91	97	113	110	119	116	111	10
37	Newmarket	49	14	81	6	82	32	88	8	61	97	116	104	110	124	109	10
38	Hazlett's Scissors	48	8	74	4	106	16	60	60	10	97	114	104	105	119	107	10
39	Golden Beauty	48	8	81	6	102	12	97	12	52	96	114	105	110	125	110	10
40	Salines	48	8	91	26	94	24	78	8	83	98	118	111	119	113	111	10
41	Buckley's Illinois	47	22	74	4	109	24	88	8	60	100	116	109	110	119	110	10
42	Flying Scotchman	47	22	71	26	71	6	74	4	60	93	112	98	105	125	109	10
43	Miller	47	12	89	14	113	18	82	32	89	97	114	104	119	125	114	10
44	Kendal	47	12	89	14	71	26	79	14	63	97	118	110	119	115	111	10
45	Mohal	47	12	70	20	86	6	64	4	72	98	118	106	119	124	113	10
46	Siberian O. A. C.	47	12	96	16	86	26	92	12	58	98	118	102	119	126	112	10
47	California Prof. Blk.	45	30	69	14	80	8	87	22	72	97	113	110	120	120	112	10
48	White Schonen	45	10	81	6	92	12	87	22	68	98	114	102	111	117	108	10
49	Cream Egyptian	45	10	95	10	74	4	84	4	52	97	113	96	102	121	105	10
50	Rosendale	45	10	87	6	58	18	68	28	56	95	114	104	111	117	108	10
51	Milford	44	24	90	26	68	8	86	16	57	99	118	108	119	116	112	10
52	White Wonder	44	4	62	12	72	32	74	24	54	92	113	95	102	121	104	10

UNIFORM TEST PLOTS OF OATS *included.*

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms, Season of 1899.										Number of Days from Sowing to Harvesting.														
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	
53	Russell	43	18	71	26	92	88	22	72	12	74	4	70	26	98	118	105	119	124	112	98	116	101	119	115	110
54	Master	43	18	80	..	88	22	72	12	74	4	61	16	99	116	101	119	115	110	97	114	106	111	126	100	
55	Abundance	41	26	88	8	98	8	97	2	62	12	77	18	97	114	106	111	126	100	92	113	92	102	119	103	
56	Scottish Chief	41	26	67	2	71	26	88	8	70	30	67	32	92	113	92	102	119	103	93	114	96	102	121	105	
57	Bonanza	41	26	67	2	92	22	90	20	16	26	67	26	93	114	110	119	125	112	97	113	110	119	125	112	
58	Early Blossom	41	26	87	6	91	21	80	20	75	16	75	32	97	113	110	119	125	112	99	106	98	102	125	106	
59	Rennie's Prize White	40	20	88	8	76	16	83	18	43	28	66	18	99	123	113	119	120	114	97	118	106	119	125	113	
60	Brandon	40	20	65	30	79	21	71	6	44	4	60	10	97	118	106	119	125	113	97	113	113	119	120	114	
61	Holland	40	..	87	6	80	30	76	16	68	18	70	21	97	119	106	119	120	113	97	119	106	119	120	113	
62	King	39	14	75	10	105	20	90	..	78	14	77	25	97	119	106	119	120	113	93	112	98	105	124	106	
63	Early Dawson	39	14	71	26	65	20	68	8	49	14	58	30	93	112	98	105	124	106	93	107	92	105	118	103	
64	Black Mesdag	38	28	75	10	69	14	65	30	48	8	59	18	94	112	92	105	119	104	98	123	113	120	126	116	
65	Mortgage Lifter	38	28	71	26	72	22	68	8	65	30	43	16	94	112	92	105	119	104	98	123	113	120	126	116	
66	Columbiers	35	30	71	26	84	24	66	16	65	30	61	32	98	123	113	120	126	116	98	116	109	119	126	113	
67	Pense	35	10	85	30	78	8	70	20	71	26	68	12	98	116	109	119	126	113	92	113	96	102	125	105	
68	Welcome	35	10	81	6	86	26	88	8	55	10	69	12	92	113	96	102	125	105	92	106	99	102	116	103	
69	Imported Irish	34	24	82	12	84	11	86	16	51	16	67	30	92	106	99	102	116	103	91	107	96	102	121	105	
70	Prize Cluster	31	26	76	16	76	6	78	32	46	16	61	33	94	107	96	102	121	105	99	115	100	113	120	109	
71	Doncaster Prize	25	10	85	30	57	22	76	16	67	2	62	16	99	115	100	113	120	109							

The twelve varieties of oats which have produced the largest crops during 1899 at the several experimental farms are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Thousand Dollar	74	4	7. American Triumph	65	30
2. Golden Giant	68	8	8. Danish Island	65	30
3. Holstein Prolific	67	22	9. American Beauty	64	24
4. Poland	67	2	10. Columbus	61	24
5. New Zealand	66	16	11. White Giant	61	24
6. Banner	65	30	12. Prolific Black Tartarian	61	26

An average crop for the twelve sorts of 66 bushels 14 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. California Prolific Black, imported 1899	104	24	7. Black Tartarian, imported 1899	94	4
2. Oderbruch	98	28	8. Wallis	94	32
3. Siberian O. A. C.	96	16	9. Lincoln	92	32
4. Cream Egyptian	95	10	10. Abyssinia	91	26
5. White Russian	94	4	11. New Zealand	91	28
6. Early Golden Prolific	94	4	12. Salines (Vilmorin)	91	26

An average crop of 95 bushels 2 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Miller	113	18	8.	King	105	20
2.	Banner	110	10	9.	Wide Awake	103	28
3.	Buckbee's Illinois	109	24	10.	Golden Beauty	102	12
4.	American Beauty	108	28	11.	Improved Ligowo, imported 1899	100	20
5.	Early Maine	107	22	12.	Early Archangel	98	28
6.	Hazlett's Seizure	106	16				
7.	Poland	105	20				

An average crop of 106 bushels 3 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Golden Beauty	97	22	7.	American Triumph	93	18
2.	Abundance	97	2	8.	Jouette	91	6
3.	Holstein Prolific	97	2	9.	Black Beauty	90	20
4.	Bavarian	96	16	10.	King	90	..
5.	Banner	95	30	11.	Wide Awake	90	..
6.	New Zealand	95	10	12.	Columbus	88	28

An average crop of 93 bushels 21 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	California Prolific Black, imported 1899	91	6	7.	Prolific Blk. Tartarian	78	2
2.	Miller	89	14	8.	Golden Giant	76	16
3.	Salines	83	18	9.	Golden Tartarian	76	16
4.	New Zealand	82	1	10.	Abyssinia	75	33
5.	Blk. Tartarian, imported 1899	78	28	11.	Early Blossom	75	16
6.	King	78	14	12.	Russell	74	4

An average crop of 80 bushels 3 lbs. per acre.

The twelve varieties of oats which have produced the largest crops in 1899 taking the average results obtained on all the experimental farms are:

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	American Beauty	85	15	8.	California Prolific Blk., imported 1899	79	32
2.	Banner	85	11	9.	Wide Awake	79	18
3.	Miller	81	16	10.	Salines	79	10
4.	New Zealand	81	3	11.	Early Maine	79	2
5.	Holstein Prolific	82	17	12.	Poland	78	25
6.	Danish Island	81	18				
7.	Blk. Tartarian, imported 1899	80	..				

An average crop of 81 bushels 22 lbs. per acre.

The average crop of all the varieties of oats tested at each of the experimental farms in 1899 was as follows:—At Ottawa, 50 bushels 15 lbs. per acre; Nappan, 82 bushels 2 lbs.; Brandon, 86 bushels 2 lbs.; Indian Head, 80 bushels 7 lbs., and at Agassiz, 64 bushels 20 lbs. The average return given by the whole of the varieties of oats tested at all the farms was 72 bushels 23 lbs. per acre.

The six varieties of two-rowed barley which have given the largest crops at the several experimental farms during 1899, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Sidney.	50	4. Danish Chevalier.	47 4
2. Beaver.	49 8	5. Canadian Thorpe.	46 32
3. French Chevalier.	47 24	6. Fulton.	46 32

An average crop of 47 bushels 40 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. French Chevalier.	64 8	4. Harvey.	53 16
2. Newton.	57 24	5. Jarvis.	51 32
3. Beaver.	55 40	6. Nepean.	50 40

An average crop of 55 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Logan.	68 6	4. Bolton.	62 4
2. Harvey.	64 28	5. Fulton.	62 4
3. Dunham.	63 36	6. Newton.	61 2

An average crop of 63 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Danish Chevalier.	66 32	4. Canadian Thorpe.	58 36
2. French Chevalier.	65 40	5. Bolton.	58 16
3. Sidney.	63 36	6. Dunham.	57 4

An average crop of 61 bushels 35 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Newton.	30 8	4. Nepean.	35 10
2. Canadian Thorpe.	36 32	5. Jarvis.	35 10
3. Logan.	35 40	6. Harvey.	35 10

An average crop of 36 bushels 12 lbs. per acre.

The six varieties of two-rowed barley which have given the largest crops in 1899, taking the average of the results obtained on all the experimental farms, are:—

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. French Chevalier.	53 32	4. Dunham.	49 8
2. Danish Chevalier.	49 22	5. Beaver.	48 40
3. Sidney.	49 21	6. Canadian Thorpe.	48 26

An average crop of 49 bushels 41 lbs. per acre.

The average crop of all the varieties of two-rowed barley tested at each of the experimental farms in 1899 was as follows:—At Ottawa, 42 bushels 12 lbs. per acre; Nappan, 48 bushels 14 lbs.; Brandon, 56 bushels 19 lbs.; Indian head, 54 bushels 15 lbs.; and at Agassiz, 33 bushels 10 lbs. per acre. The average return given by the whole of the varieties at all the farms was 46 bushels 43 lbs. per acre.

UNIFORM TEST PLOTS OF SIX ROWED BARLEY.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1899.						Number of Days from Sowing to Harvesting.											
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Common	52	24 34	8 55	40 58	16 30	40 46	16					82	97	80	92	119	91	
2	Claude	52	45	40 67	4 69	8 32	34 53	17					88	97	94	99	113	99	
3	Pioneer	50	46 35	40 56	42 56	12 33	16 46	30					92	97	92	99	109	97	
4	Petschora	50	40 45	8 53	6 60	28 32	14 48	12					92	98	85	93	109	93	
5	Rennie's Improved	50	20 44	8 53	46 69	28 30	49 30						92	98	82	92	109	93	
6	Royal	50	36 32	61 42	60	34 28	48 30						92	98	83	93	106	92	
7	Nugent	50	45	61 32	55	40	50 14						92	98	83	93	113	97	
8	Trooper	49	8 38	16 65	10 69	8 32	44 51	4					95	102	90	94	122	97	
9	Oderbruch	49	8 43	16 55	40 58	36 40	20 49	24					95	102	85	93	109	95	
10	Summit	48	16 11	32 66	12 62	24 32	41 50	16					91	103	92	94	114	98	
11	Odessa	47	44 15	40 52	14 61	12 32	4 47	42					91	97	87	91	109	94	
12	Yale	47	24 50	40 53	16 58	36 35	10 49	6					91	102	94	99	109	99	
13	Vanguard	47	4 50	58 36	55	31	12 48	20					85	103	96	92	109	95	
14	Stella	46	32 45	56 42	61	12 35	20 49	2					84	103	88	94	114	96	
15	Hulless Black	46	32 40	40 44	8 44	40 29	8 14	6					84	99	88	93	109	94	
16	Argyle	46	12 59	8 63	36 68	36 37	14 55	8					87	97	86	91	109	94	
17	Blue Long-head	46	12 56	32 46	32 65	40 32	24 49	28					87	97	87	93	113	95	
18	Man-field	45	20 50	40 64	38 66	32 33	16 52	10					89	99	86	94	108	94	
19	Mensury	44	8 55	40 58	16 62	4 38	16 51	36					88	98	86	93	109	94	
20	Garfield	43	16 55	51 32	55	40 33	36 47	44					87	98	94	101	109	98	
21	Success	41	32 35	40 41	32 50	32	24 40	16					87	95	83	85	104	89	
22	Brome	41	12 50	48 16	57	21 34	8 46	12					94	103	94	105	114	101	
23	Champion	40	40 36	32 47	24 46	12 36	22 41	26					85	95	85	89	108	92	
24	Phoenix	40	35	40 53	26 60	20 35	30 45	4					87	97	82	82	111	91	
25	Baxter	38	16 55	40 53	26 63	36 40	40 50	22					86	97	89	93	113	94	
26	Excelsior	36	32 26	32 16	32 55	40 32	34 39	34					86	96	79	89	109	90	
27	Hulless White	35	40 35	34 8	40	20 16	32 32	20					85	96	88	92	119	96	
28	Empire	34	8 39	8 57	41 61	12 33	36 45	12					88	103	87	94	120	98	
29	Albert	34	8 14	8 48	16 50	40 40	30 43	30					88	99	86	99	107	95	
30	Surprise	30	40 12	24 58	26 56	12 34	18 14	38					88	103	88	93	115	97	

The six varieties of six rowed barley which have given the largest crops at the several experimental farms during 1899, are the following:

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Common	52	24	4. Petschora	50	40
2. Claude	52	—	5. Rennie's Improved	50	30
3. Pioneer	50	49	6. Royal	50	—

An average crop of 51 bushels 4 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Argyle	50	8	4. Baxter	55	40
2. Blue Long-head	56	32	5. Garfield	55	40
3. Mensury	55	40	6. Mansfield	59	40

An average crop of 55 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Claude.....	67 4	4. Mansfield.....	64 38
2. Summit.....	66 12	5. Argyle.....	63 36
3. Trooper.....	65 40	6. Royal.....	61 42

An average crop of 64 bushels 44 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Rennie's Improved.....	69 28	4. Argyle.....	68 36
2. Trooper.....	69 8	5. Mansfield.....	66 32
3. Claude.....	69 8	6. Blue Long-head.....	65 40

An average crop of 68 bushels 9 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Baxter.....	40 10	4. Nugent.....	40 —
2. Albert.....	40 30	5. Mensury.....	38 16
3. Oederbruch.....	40 20	6. Argyle.....	37 44

An average crop of 39 bushels 33 lbs. per acre.

The six varieties of six-rowed barley which have given the largest crops in 1899, taking the average of the results obtained on all the experimental farms are:—

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Argyle.....	55 8	4. Mensury.....	51 36
2. Claude.....	53 17	5. Trooper.....	51 4
3. Mansfield.....	52 10	6. Baxter.....	50 22

An average crop of 52 bushels 16 lbs. per acre.

The average crop of all the varieties of six-rowed barley tested at each of the experimental farms in 1899, was as follows: at Ottawa, 44 bushels 29 lbs. per acre; Nappan, 44 bushels 2 lbs.; Brandon, 54 bushels 30 lbs.; Indian Head, 58 bushels 34 lbs.; and at Agassiz 34 bushels 3 lbs. The average return given by the whole of the varieties at all the farms was 47 bushels 10 lbs. per acre.

TRIAL PLOTS OF SPRING WHEAT.

Fifty-two varieties of spring wheat have been grown on the uniform test plots for 1899. Among these there are thirty cross-bred sorts which have been produced at the experimental farms. These are Preston, Laurel, Vernon, Captor, Stanley, Percy, Rideau, Admiral, Beauty, Progress, Weldon, Crown, Harold, Huron, Blenheim, Alpha, Clyde, Countess, Fraser, Ebert, Crawford, Advance, Dufferin, Blair, Mason, Plumper, Early Riga, Dawn, Byron and Norval. The size of the plots in each case was the same as those of the oats, and the quantity of seed sown was in the proportion of one and one-half bushels per acre. The dates of sowing were as follows:— At Ottawa April 28 and 29; Nappan May 6; Brandon April 29 to May 1; Indian Head April 27; and at Agassiz April 15.

UNIFORM TEST PLOTS OF SPRING WHEAT.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1899.										Number of Days from Sowing to Harvesting.							
		Ottawa, Ont.		Nappan, N. S.		Brandon, Man.		Indian Head, N. W. T.		Agassiz, B. C.		Average of all Farms.		Ottawa, Ont.	Nappan, N. S.	Brandon, Man.	Indian Head, N. W. T.	Agassiz, B. C.	Average of all Farms.
		Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.
1	Preston.	33	20 37	20 38	40 33	20 31	10 34	46	98	119	112	131	129	117					
2	Wellman's Fife	32	40 45	40	10 36	20 29	20 36	42	102	122	120	133	129	121					
3	Hungarian.	31	20 48	40 37	30 34	40 31	36 38	99	119	118	131	129	119						
4	Emporium.	31	31	20 35	10 30	24	40 30	26	101	119	119	131	126	119					
5	Romanian	30	40 48	40 34	20 34	20 30	40 39	44	106	121	121	129	125	120					
6	Rio Grande	29	40	39	40 34	20 28	40 34	20	101	118	118	129	125	118					
7	Colorado	28	20 39	20 32	40 26	20 26	10 30	34	99	117	113	132	126	115					
8	Laurel.	28	20 44	40 44	29	40 21	30 33	38	102	121	121	132	126	120					
9	Pringle's Champlain	28	40	40 41	33	20 27	34	101	119	118	127	129	118						
10	Monarch	27	38	40 39	40 34	20 34	20 34	48	102	122	121	131	129	121					
11	White Connell.	27	41	20 38	30 32	24	10 32	36	103	119	121	134	129	121					
12	White Fife	27	44	40 39	33	40 24	33	40	102	122	121	134	129	121					
13	White Russian.	26	40 40	39	40 32	26	20 32	56	101	122	121	134	129	121					
14	Vernon	26	42	32	50 17	40 24	40 28	38	98	114	115	122	125	114					
15	Capor	25	40 38	40 37	29	40 20	50 30	22	162	119	113	129	126	117					
16	Stanley	25	20 32	40 36	20 33	20 28	20 31	12	99	119	113	131	126	117					
17	Red Fern	25	20 30	35	38	20 31	20 32	108	120	118	131	129	121						
18	Percy	25	20 38	40 34	20 33	25	20 31	20	100	118	109	131	125	116					
19	Rideau	25	20 27	20 34	40 29	30 24	40 28	16	95	118	112	130	126	116					
20	Admiral	25	35	20 37	10 30	40 26	40 30	58	103	117	113	127	126	117					
21	Beauty	24	40 32	40 34	40 29	40 23	20 29	101	119	119	129	126	118						
22	Goose.	24	20 44	50	20 31	40 31	36	16	106	118	122	131	126	120					
23	Dion's	24	20 36	40 38	35	30	10 32	50	108	118	118	131	126	120					
24	Progress	24	20 35	20 36	20 32	40 27	40 31	16	96	118	112	131	129	117					
25	Weldon	24	20 33	20 36	37	20 30	30	12	102	120	111	127	129	117					
26	Crown.	24	34	45	40 30	20 26	32	101	118	112	129	126	117						
27	Harold	24	31	20 37	20 19	24	27	8	91	118	105	115	118	109					
28	Huron.	23	20 44	42	20 35	31	20 35	48	98	118	112	130	125	116					
29	Blenheim	23	40	40 35	33	40 26	20 31	44	101	118	113	131	129	118					
30	White Chaff, Campbell's	22	40 32	40 35	20 20	40 26	27	28	103	119	112	122	129	117					
31	Ladoga.	22	40 25	20 33	26	40 25	20 26	36	95	112	110	122	126	113					
32	Alpha	22	40 36	40 36	38	20 25	40 31	52	101	118	111	127	129	117					
33	Clyde	22	42	36	29	40 30	50 32	6	102	118	119	131	126	119					
34	Countess	20	40 31	26 41	40 31	20 28	30	36	96	119	113	122	126	115					
35	Fraser	19	40 33	20 38	40 24	20 21	40 27	32	95	120	105	115	119	110					
36	Red Swedish	19	20 34	30	20 24	20 28	40 27	20	99	120	120	131	126	119					
37	Red Fife	18	40 37	20 38	30 39	40 31	30 33	8	102	119	121	131	129	120					
38	Ebert	18	40 34	37	20 24	40 27	50 27	54	96	120	108	117	126	113					
39	Crawford	18	20 34	40 39	29	40 26	50 29	42	102	121	110	117	118	113					
40	Beauty	17	20 40	29	40 30	20 25	28	28	101	118	108	131	129	117					
41	Advance	17	39	20 40	30 29	20 27	30	38	101	119	113	131	129	118					
42	Dufferin	16	40 33	20 37	30 25	20 26	30 27	52	95	117	113	122	119	113					
43	Blair	16	20 34	37	20 33	20 27	50 29	46	100	118	111	117	126	114					
44	Harrison Bearded	16	41	32	50 26	40 29	29	42	101	118	118	127	126	114					
45	Black Sea	16	32	34	40 22	20 28	50 26	46	95	112	109	131	125	114					
46	Mason	16	34	37	32	40 26	20 29	12	100	119	111	117	125	114					
47	Plumper	15	40	40 35	20 24	20 23	20 27	44	99	118	109	117	126	113					
48	Early Riga	15	34	40 37	20 20	20 24	20 26	20	92	114	105	115	118	108					
49	Dawn	15	34	40 43	27	40 28	30 29	46	98	118	107	122	129	114					
50	Byron	14	40 38	40 41	20 22	20 27	40 28	56	98	117	109	117	119	112					
51	Norval	11	20 37	20 37	10 23	27	40 27	24	101	117	109	117	119	112					
52	Golden Drop	9	20 38	40 33	40 24	40 25	40 26	24	98	117	112	122	125	114					

The twelve varieties of spring wheat which have given the largest crops at the several experimental farms during 1899, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Preston.....	33	20	7. Laurel ..	28	20
2. Wellman's Fife.....	32	40	8. Colorado ..	28	20
3. Hungarian.....	31	20	9. Pringle's Champlain.....	28	—
4. Emporium.....	31	—	10. White Fife.....	27	—
5. Roumanian.....	30	40	11. White Connell.....	27	—
6. Rio Grande.....	29	—	12. Monarch.....	27	—

An average crop of 29 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Hungarian.....	48	40	7. Goose.....	44	—
2. Roumanian.....	48	40	8. Herisson Bearded.....	44	—
3. Wellman's Fife.....	45	—	9. Vernon.....	42	—
4. White Fife.....	44	40	10. Clyde.....	42	—
5. Laurel.....	44	40	11. White Connell.....	41	20
6. Huron.....	44	—	12. Blenheim.....	40	40

An average crop of 44 bushels 8 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Roumanian.....	54	20	7. Countess.....	41	40
2. Goose.....	50	20	8. Byron.....	41	20
3. Crown.....	45	40	9. Advance.....	40	30
4. Laurel.....	44	—	10. Wellman's Fife.....	40	10
5. Dawn.....	43	—	11. White Russian.....	39	40
6. Huron.....	42	20	12. Rio Grande.....	39	40

An average crop of 43 bushels 33 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Red Fife.....	39	40	7. Monarch.....	34	20
2. Alpha.....	38	20	8. Rio Grande.....	34	20
3. Red Fern.....	38	20	9. Roumanian.....	34	20
4. Huron.....	35	—	10. White Fife.....	33	40
5. Dion's.....	35	—	11. Blenheim.....	33	40
6. Hungarian.....	34	40	12. Preston.....	33	20

An average crop of 35 bushels 23 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Monarch.....	34	20	7. Goose.....	31	—
2. Huron.....	34	20	8. Clyde.....	30	50
3. Red Fife.....	31	30	9. Roumanian.....	30	40
4. Red Fern.....	31	20	10. Dion's ..	30	10
5. Preston.....	31	10	11. Weldon's ..	30	—
6. Hungarian.....	31	—	12. Wellman's Fife.....	29	20

An average crop of 31 bushels 18 lbs. per acre.

The twelve varieties of spring wheat which have given the largest crops in 1899; taking the average of the results obtained on all the experimental farms are—

	Per acre.			Per acre.	
	Bush. Lbs.			Bush. Lbs.	
1. Roumanian	39	44	7. Preston	34	46
2. Wellman's Fife	36	42	8. Rio Grande	34	20
3. Hungarian	36	38	9. Pringle's Champlain	34	-
4. Goose	36	16	10. White Fife	33	46
5. Huron	35	48	11. Laurel	33	38
6. Mouch	34	48	12. Red Fife	33	8

An average crop of 35 bushels 17 lbs. per acre.

The average crop of all the varieties of spring wheat tested at each of the experimental farms in 1899, was as follows: At Ottawa 22 bushels 36 lbs. per acre; Nappan, 37 bushels 18 lbs.; Brandon 37 bushels 49 lbs.; Indian Head, 29 bushels 45 lbs.; and at Agassiz, 27 bushels 11 lbs. The average return given by the whole of the varieties of spring wheat at all the farms was 30 bushels 56 lbs. per acre.

TRIAL PLOTS OF PEASE.

Fifty-six varieties of pease have been tested in the uniform trial plots during 1899. Among these there were thirty of the cross-bred sorts which have been originated at the experimental farms. These are Nelson, Vincent, Arthur, Agnes, Archer, Carleton, Alma, Duke, Prince, Fenton, Pearl, Kent, Lanark, Pieton, King, Mackay, Bruce, Dover, Ceoper, Perth, Macoun, Gregory, Herald, Elder, Elliott, Fergus, Bright, Bedford, Trilby and Chelsea. These were sown at Ottawa, Nappan and Agassiz in plots of one-fortieth acre each, and at Brandon and Indian Head in plots of one-twentieth acre, and the quantity of seed used per acre has varied from two to three bushels, depending on the size of the pea. The dates of sowing were as follows:—At Ottawa May 3; Nappan, May 10; Brandon, May 8 to 11; Indian Head, May 10; and at Agassiz, on April 17.

No returns can be given of the crops of pease on the plots at Ottawa on account of an unfortunate occurrence. On the 21st of August when a large proportion of the varieties were cut and nearly ready to bring in, a sudden storm arose with a violent wind and before it was possible to rescue them, they were all blown to the opposite end of the field where they were so mixed that it was impossible to separate them.

UNIFORM TEST PLOTS OF PEASE.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms Season of 1899.					Number of Days from Sowing to Harvesting.										
		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.	Agassiz, B.C.		Average of all Farms.	Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.	Agassiz, B.C.		Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.
1	Nelson	35	20 45	25	40 32	50 34	42	120	103	116	119	114					
2	English Grey	34	40 35	10 26	40 36	20 33	12	121	118	107	115	115					
3	Centennial	30	40 36	20 24	20 40	32	50	123	107	118	121	117					
4	Early Britain	29	20 41	20 26	40 38	20 34	40	121	110	104	113	112					
5	Oldfellow	29	20 32	20 19	40 32	30 28	27	120	130	118	122	122					
6	German White	28	40 43	10 33	40 43	30 37	15	120	111	109	119	114					
7	Canadian Beauty	28	40 42	50 17	20 37	10 31	30	121	130	121	116	118					
8	Vincent	28	38	23	40 32	10 30	27	130	109	108	116	115					
9	French Camer	28	37	10 24	20 40	32	30	120	103	107	111	111					
10	Arthur	27	20 42	40 26	20 35	40 33	30	120	106	109	116	112					
11	Agnes	27	20 37	20 32	40 33	40 32	45	121	110	115	119	116					
12	Chancellor	27	20 43	31	40 37	40 34	55	120	102	107	121	113					
13	New Potter	27	45	20 20	35	31	50	122	126	112	113	118					
14	Arclet	26	40 51	30 34	20 32	36	6	122	111	120	119	118					
15	Carleton	26	49	20 34	40 35	30 36	22	123	111	116	121	117					
16	Pride	25	20 43	30 26	40	20 33	47	119	103	108	119	112					
17	Alma	25	20 42	20 14	40 34	29	5	126	123	120	116	122					
18	Duke	25	20 42	25	40 39	33	7	131	124	115	122	123					
19	Elephant Blue	25	20 37	40 22	40 31	20 29	15	128	112	119	117	119					
20	Prince	24	40 32	20 27	41	10 31	15	131	121	109	121	120					
21	Fenton	24	40 35	40 23	36	10 29	52	119	114	119	119	117					
22	Pearl	24	40 48	50 27	20 42	20 33	17	131	126	119	119	123					
23	Crown	24	40 15	20 35	40 33	31	40	119	109	114	115	113					
24	Kent	24	44	40 22	33	20 31	11	131	121	114	121	121					
25	Lanark	23	20 35	50 29	40 39	10 32	11	119	111	109	120	114					
26	Mummy	23	20 48	50 27	41	20 32	12	120	111	108	113	113					
27	Pictou	23	20 46	50 38	39	30 36	55	121	111	121	114	116					
28	King	23	20 41	10 26	45	40 31	47	131	126	117	120	123					
29	White Wonder	22	40 51	30 30	20 40	40 36	17	120	116	109	112	114					
30	Paragon	22	40 46	40 24	20 38	10 32	57	131	101	113	118	115					
31	Mackay	22	47	19	31	50 29	57	131	120	116	115	120					
32	Daniel O'Rourke	22	42	40 26	31	40 31	20	119	109	110	112	112					
33	Black-eyed Marrowfat	22	45	30 21	20 39	20 32	2	121	114	116	120	117					
34	Large White Marrowfat	21	20 38	30 22	40 38	40 30	17	128	129	120	122	124					
35	Bruce	20	40 44	20 23	40 39	50 32	7	128	120	115	120	120					
36	Dover	20	40 42	31	10 40	10 34	15	131	117	120	121	122					
37	Cooper	20	37	40 25	20 28	27	45	120	130	117	117	121					
38	Prussian Blue	20	49	40 30	36	40 34	5	118	111	119	119	116					
39	Victoria	20	51	22	40 47	20 35	15	128	121	121	121	122					
40	Perth	18	40 42	40 22	20 28	27	55	118	112	108	120	114					
41	Maccom	18	40 49	40 34	20 39	50 35	37	126	123	118	121	123					
42	Gregory	18	40 38	20 31	44	20 33	5	122	114	121	120	119					
43	Herald	18	40 51	29	10 39	40 34	37	131	121	119	110	120					
44	Prince Albert	18	42	50 25	40 38	20 31	27	122	114	118	118	118					
45	Elder	18	58	30 29	20 45	20 37	47	126	119	120	119	121					
46	Elliott	17	40 45	30 28	20 41	40 33	12	128	120	115	119	120					
47	Multiplier	17	20 46	20 22	20 43	32	15	119	116	117	115	116					
48	Fergus	16	40 45	40 32	20 42	31	10	123	114	122	121	120					
49	Bright	16	40 36	30 18	40 38	30 27	35	128	129	118	124	123					
50	Bedford	16	40 46	27	43	20 33	15	131	126	115	123	123					
51	Harrison's Glory	16	40 34	25	40 32	27	5	123	104	119	113	114					
52	Tilby	16	40 47	34	38	33	55	126	129	118	120	123					
53	Golden Vine	16	48	50 26	20 42	40 33	27	122	110	110	113	113					
54	Creeper	13	20 39	40 30	20 41	31	5	123	106	109	114	113					
55	Chelsea	13	20 56	35	36	40 35	15	120	119	120	120	119					
56	Wisconsin Blue	13	20 52	34	40 38	34	30	122	123	120	124	124					

The twelve varieties of pease which have given the largest crops at the several experimental farms, omitting Ottawa, during 1899 are the following :—

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Nelson	35	20	7. German White	28	40
2. English Grey	34	40	8. French Canner	28	40
3. Centennial	30	40	9. Vincent	28	40
4. Early Britain	29	20	10. Arthur	27	20
5. Oldfellow	29	20	11. Agnes	27	20
6. Canadian Beauty	28	40	12. Chancellor	27	20

An average crop of 29 bushels 33 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Elder	58	30	7. Victoria	51	40
2. Chelsea	56	40	8. Macoun	49	40
3. Wisconsin Blue	52	40	9. Prussian Blue	49	40
4. Archer	51	30	10. Carleton	49	20
5. White Wonder	51	30	11. Pearl	48	50
6. Herald	51	30	12. Mummy	48	50

An average crop of 51 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Pieton	38	40	7. Dover	34	40
2. Crown	35	40	8. Trilby	34	40
3. Chelsea	35	40	9. German White	33	40
4. Carleton	34	40	10. Agnes	32	40
5. Macoun	34	20	11. Fergus	32	20
6. Archer	34	20	12. Chancellor	31	40

An average crop of 34 bushels 12 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Victoria	47	20	7. Multiplier	43	40
2. King	45	50	8. Golden Vine	42	40
3. Elder	45	20	9. Pearl	42	20
4. Gregory	41	20	10. Fergus	42	40
5. German White	43	30	11. Elliott	41	40
6. Bedford	43	20	12. Mummy	41	20

An average crop of 43 bushels 32 lbs. per acre.

The twelve varieties of pease which have given the largest crops in 1899, taking the average results obtained on all the experimental farms are the following :—

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Elder	37	47	7. Macoun	35	37
2. German White	37	15	8. Chelsea	35	15
3. Pieton	36	55	9. Victoria	35	15
4. Carleton	36	22	10. Chancellor	31	55
5. White Wonder	36	17	11. King	31	47
6. Archer	36	7	12. Nelson	34	42

An average crop of 35 bushels 56 lbs. per acre.

The average crop of all the varieties of pease tested at each of the experimental farms in 1899 was as follows :—At Nappan, 22 bushels 41 lbs.

per acre: Brandon, 43 bushels 43 lbs.; Indian Head, 26 bushels 58 lbs.; and at Agassiz, 37 bushels 58 lbs. The average return given by the whole of the varieties at all the farms, omitting Ottawa, was 32 bushels 50 lbs. per acre.

TRIAL PLOTS OF INDIAN CORN.

Thirty-one varieties of Indian corn have been tested during 1899. These were planted on fairly uniform soil, in rows three feet apart, and the plants thinned out to six or eight inches apart in the rows. The dates of planting were as follows: at Ottawa, May 25; Nappan, May 31; Brandon, May 26; Indian Head, May 29 and at Agassiz on May 20.

All the plots were cut green and put into the silo for the winter feeding of stock. The dates of cutting were: at Ottawa, September 14; Nappan, September 26; Brandon, September 3; Indian Head, September 9 and at Agassiz on October 10. The yield per acre has been calculated in each case from the weight obtained from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF INDIAN CORN.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms, Season of 1899.					
		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.
1	Angel of Midnight...	25 600	12 1,300	17 1,860	9 1,030	21 1,450	17 848
2	Red Cob Ensilage...	24 1,720	19 1,050	18 1,400	10 900	31 1,110	21 42
3	Early Mastodon...	21 1,500	14 50	20 10	12 200	16 1,930	17 1,156
4	Extra Early Szekely	22 1,980	9 1,800	19 1,820	8 720	10 570	14 578
5	White Cap Yellow Dent	22 1,320	12 200	14 1,920	6 1,750	21 760	15 1,190
6	Canada White Flint...	22 1,100	14 1,700	17 1,200	12 420	17 540	16 1,792
7	Sanford...	20 700	14 50	16 560	9 1,250	22 1,560	16 1,224
8	Iowa Silver Mine	20 260	11 600	17 1,610	6 1,750	17 320	15 514
9	Champion White Pearl	19 1,600	10 900	26 1,900	9 1,800	27 1,000	18 1,840
10	Country Gentleman...	19 1,160	9 1,250	18 1,400	5 1,000	20 920	14 1,546
11	Selected Leaning...	19 610	12 750	17 1,200	9 370	21 1,120	16 40
12	Early Butler	19 500	10 1,450	11 1,040	11 770	23 1,520	15 1,856
13	Cloud's Early Yellow	18 1,400	10 350	19 1,600	10 1,450	26 1,790	17 518
14	Evergreen Sugar	18 960	12 200	18 300	10 900	17 210	15 514
15	Compton's Early	18 300	11 1,650	19 500	8 1,820	26 250	17 504
16	Iowa Gold Mine	18 300	9 1,800	15 1,240	.....	16 1,220	15 110
17	Giant Prof. Ensilage	17 100	14 600	16 780	10 350	21 1,780	15 1,922
18	Rural Thoroughbred White Flint	16 1,000	11 1,100	17 100	10 350	17 1,200	11 1,150
19	Mammoth Cuban	15 1,900	11 1,650	20 920	9 1,250	21 1,450	15 1,534
20	Pride of the North...	15 1,900	13 950	12 1,300	9 700	26 580	15 1,086
21	Pearce's Prolific	15 800	9 1,250	17 1,860	10 570	23 1,300	15 756
22	Kendall's Early Giant	15 360	11	15 1,240	8 1,380	16 1,440	13 1,684
23	North Dakota White	15 250	11 1,100	16 1,000	10 1,350	21 900	15 120
24	Mammoth 8 rowed Flint	14 1,700	9 1,250	18 300	11 220	22 1,050	15 624
25	Ruby Mexican	14 270	11 1,100	15 1,680	9 480	17 1,090	13 1,324
26	Longfellow	13 1,500	11 550	21 620	8 1,330	20 1,690	15 1,658
27	King of the Earliest	13 400	12 750	19 500	9 810	22 1,400	15 712
28	Extra Early Huron	12 1,300	11	11 220	6 1,200	.....	10 680
29	Early Yellow Long Eared	12 1,300	6 1,200	12 640	8 1,600	9 1,140	9 1,776
30	Yellow Six Weeks	12 290	6 1,750	12 1,740	6 320	8 280	9 458
31	Mitchell's Extra Early	9 1,800	11	15 580	7 740	.....	10 1,780

The six varieties of Indian corn which have given the heaviest crops at the several experimental farms during 1899, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Angel of Midnight	25	600	4.	Extra Early Szekely	22	1,980
2.	Red Cob Ensilage	24	1,720	5.	White Cap Yellow Dent	22	1,320
3.	Early Mastodon	24	1,500	6.	Canada White Flint	22	1,100

An average crop of 23 tons 1,703 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Red Cob Ensilage	19	1,050	4.	Canada White Flint	14	1,700
2.	King of the Earliest	16	450	5.	Rural Thoroughbred White Flint	14	1,150
3.	North Dakota White	15	800	6.	Giant Prolific Ensilage	14	600

An average crop of 15 tons 1,625 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Champion White Pearl	26	1,900	4.	Early Mastodon	20	40
2.	Longfellow	21	620	5.	Extra Early Szekely	19	1,820
3.	Mammoth Cuban	20	920	6.	Cloud's Early Yellow	19	1,600

An average crop of 21 tons 1,816 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Canada White Flint	12	420	4.	Mammoth 8-rowed Flint	11	220
2.	Early Mastodon	12	200	5.	Cloud's Early Yellow	10	1,450
3.	Early Butler	11	770	6.	North Dakota White	10	1,350

An average crop of 11 tons 735 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Red Cob Ensilage	31	1,140	4.	Pride of the North	26	580
2.	Champion White Pearl	27	1,000	5.	Compton's Early	26	250
3.	Cloud's Early Yellow	26	1,799	6.	Early Butler	23	1,520

An average crop of 27 tons 46 lbs. per acre.

The six varieties of Indian Corn which have given the heaviest crops in 1899, taking the average of the results obtained on all the experimental farms, are as follows :—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Red Cob Ensilage	21	42	4.	Angel of Midnight	17	848
2.	Champion White Pearl	18	1,840	5.	Cloud's Early Yellow	17	518
3.	Early Mastodon	17	1,156	6.	Compton's Early	17	504

An average crop of 18 tons 484 lbs. per acre.

The average weight, cut green, of all the varieties of Indian Corn tested at each of the experimental farms in 1899, was as follows :—At Ottawa, 17 tons 1,444 lbs. per acre ; Nappan, 11 tons 1,366 lbs. ; Brandon, 17 tons 809 lbs. ; Indian Head, 9 tons 579 lbs. ; and at Agassiz, 20 tons 757 lbs. The average return given by the whole of the varieties at all the farms was 15 tons 591 lbs. per acre.



Fig. 1. Experimental plots of grain and roots at Brandon, Manitoba.

TRIAL PLOTS OF TURNIPS.

Twenty-five varieties of turnips were tested during 1899, sown on drills or on the flat in rows $2\frac{1}{2}$ feet apart. Two sowings were made at each farm, the second two weeks later than the first. The dates of sowing in each case will be found in the accompanying table, the dates on which the roots were pulled were as follows :—At Ottawa, October 14 ; Nappan, October 25 ; Brandon, October 13 ; Indian Head, October 5 ; and at Agassiz, on October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF TURNIPS.

Number	NAME OF VARIETY.	OTTAWA, ONT.		NAPAN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.	
		Sown May 12.	Sown May 26.	Sown May 23.	Sown June 7.	Sown May 20.	Sown June 3.	Sown May 23.	Sown May 29.	Sown May 13.	Sown May 29.	Per acre, First Sowing.	Per acre, Second Sowing.
		Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.
1	Purple Top Swede.	34 1,300	30 1,050	33 1,650	27 450	15 1,020	14 50	25 1,315	18 735	51 135	51 650	32 264	26 705
2	Demipink Purple Top	31 1,310	31 970	27 1,510	30 800	11 1,100	12 750	25 1,000	19 1,105	41 1,710	43 1,780	27 1,704	24 1,401
3	Bangholm Selected	33 1,380	26 1,400	33 825	30 1,050	17 1,310	13 750	23 905	21 1,800	58 1,615	45 420	34 1,333	27 1,110
4	Scarwings.	33 1,380	30 1,710	30 1,035	29 200	17 1,080	15 690	23 530	30 500	14 915	42 975	29 1,798	27 1,233
5	Prize Winner	33 1,485	26 1,250	32 1,065	29 105	11 1,700	13 1,720	19 1,620	21 1,560	51 1,225	50 320	30 1,048	28 690
6	Champion Purple Top	33 1,320	27 1,440	27 1,675	26 800	15 1,530	16 1,350	21 1,540	16 1,455	27 1,770	27 615	27 1,275	21 81
7	Imperial Champion	33 1,000	27 1,200	33 825	28 1,200	15 1,050	14 1,350	23 1,025	22 1,870	53 1,110	48 855	30 1,700	28 67
8	Selected Swede.	33 665	24 510	36 1,735	28 1,750	15 1,680	15 1,020	18 795	17 1,570	50 390	48 30	31 436	26 1,127
9	Hardy Goliath	33 660	27 110	31 700	28 305	10 750	11 770	23 1,085	16 1,000	38 725	37 580	27 312	24 345
10	Amble.	33 165	30 750	32 845	30 225	13 730	12 1,740	18 300	21 1,725	35 1,250	31 370	36 1,064	25 506
11	West Norfolk Red Top	33 165	30 1,050	37 250	25 1,050	16 1,500	12 1,740	27 285	21 240	50 1,040	48 1,080	32 1,368	27 1,332
12	Halewood's Bronze Top	33 165	30 1,050	37 250	25 1,050	16 1,500	12 1,740	27 285	21 240	50 1,040	48 1,080	32 1,368	27 1,332
13	Hall's Westbury	33 800	33 1,600	33 1,600	28 1,750	23 1,850	20 500	22 1,705	20 1,250	39 870	37 250	27 1,015	27 186
14	Mammouth Clyde.	33 680	21 510	33 825	30 225	17 320	11 320	20 1,085	21 1,500	52 610	47 1,040	31 304	27 87
15	East Lothian	32 680	27 1,020	33 1,570	25 1,050	17 1,970	14 50	19 1,000	20 1,085	44 780	39 540	29 1,336	25 929
16	Shanock Purple Top	30 1,380	28 1,760	37 250	30 1,875	15 300	20 1,250	24 1,005	24 1,830	58 1,575	51 735	33 304	31 702
17	Perfection Swede.	30 1,050	24 1,500	46 105	31 370	17 1,310	17 650	23 1,335	21 735	52 1,000	50 1,640	32 284	29 1,770
18	Prize Purple Top.	30 60	25 820	31 1,525	30 225	13 400	9 1,800	18 1,290	16 1,000	50 320	42 1,305	28 1,585	24 1,830
19	New Arctic.	29 1,400	24 900	32 850	26 225	9 480	12 420	20 1,450	16 1,350	46 1,720	40 1,840	28 298	23 1,454
20	Marcus of Lorne	26 690	24 1,000	30 535	30 225	15 1,570	12 750	16 1,495	16 1,000	44 448	28 448	28 496	25 1,184
21	Monarch.	24 840	24 900	36 105	31 1,195	18 1,550	10 1,450	15 1,835	17 1,310	34 1,620	41 370	26 272	26 1,045
22	Champion	21 1,890	21 900	30 625	25 1,975	13 1,790	9 1,800	15 1,515	22 1,640	46 805	55 880	26 1,262	26 1,260
23	Grant King	21 1,130	18 1,450	26 1,625	25 625	10 790	9 1,800	15 1,515	22 1,640	46 1,190	46 1,555	26 1,470	24 1,533
24	Sturton's Champion	18 630	19 1,690	33 825	27 1,065	22 880	18 1,290	21 1,560	21 1,065	45 50	43 1,450	28 397	26 602

The crops from the two sowings of turnips at the experimental farms in 1899, have averaged per acre as follows:—

	Tons.	Lbs.
Central Experimental Farm, first sowing	30	1,497
" " second sowing	25	1,925
Experimental Farm, Nappan, first sowing	32	1,160
" " second sowing	28	836
" " Brandon, first sowing	16	637
" " second sowing	14	23
" " Indian Head, first sowing	21	1,665
" " second sowing	15	1,898
" " Agassiz, first sowing	48	1,416
" " second sowing	41	169

Average crop from all the plots at all the farms, first sowing, 30 tons 74 lbs.; second sowing, 25 tons 1,370 lbs. per acre.

The six varieties of turnips which have given the heaviest crops at the several experimental farms during the season of 1899, are the following. (Where not otherwise stated, the quantities given are all from the early sown plots):—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Purple Top Swede	34 1,300	4. Skirving's	33 1,980
2. Drummond Purple Top	34 310	5. Prize Winner	33 1,984
3. Bangholm Selected	33 1,980	6. Champion Purple Top	33 1,485

An average crop of 34 tons 172 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Halewood's Bronze Top	37 250	4. Prize Purple Top	36 105
2. Perfection Swede	37 250	5. Monarch	36 105
3. Harly Goliath	36 1,753	6. Hall's Westbury	34 1,300

An average crop of 36 tons 627 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Mammoth Clyde	23 1,850	4. Carter's Elephant	21 570
2. Hartley's Bronze	22 880	5. Perfection Swede (2nd sowing)	20 1,250
3. Champion Purple Top	21 1,230	6. Monarch	18 1,950

An average crop of 21 tons 988 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Bangholm Selected	29 905	4. Mammoth Clyde	25 1,150
2. Halewood's Bronze Top	27 285	5. Drummond Purple Top	25 490
3. Purple Top Swede	25 1,315	6. Perfection Swede	24 1,830

An average crop of 26 tons 662 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Perfection Swede	58 1,975	4. Giant King (2nd sowing)	55 880
2. Bangholm Selected	58 1,645	5. Selected Champion	53 1,910
3. Sutton's Champion	56 1,190	6. Prize Purple Top	52 1,600

An average crop of 56 tons 200 lbs. per acre.

The six varieties of turnips which have produced the heaviest crops, in 1899, taking the average of the results obtained on all the experimental farms, are the following :—

		Per acre.			Per acre.		
		Tons. Lbs.			Tons. Lbs.		
1.	Bangholm Selected	31	1,333	4.	Mammoth Clyde	32	1,010
2.	Perfection Swede	33	594	5.	Prize Purple Top	32	284
3.	Halewood's Bronze Top	32	1,968	6.	Purple Top Swede	32	261

An average crop of 32 tons 1,909 lbs. per acre.

The early sown plots have given this year the larger crops at all the experimental farms. The average results from all the farms show a difference of 4 tons 704 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF MANGELS.

Twenty varieties of mangels have been under test during 1899, all sown on drills or on the flat, in rows, $2\frac{1}{2}$ feet apart. Two sowings were made at each of the experimental farms, the second sowing two weeks later than the first, excepting that at Brandon where only one sowing was made. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were the following: at Ottawa, October 13; Nappan, October 10 and 11; Brandon, October 13; Indian Head, October 4 and at Agassiz on October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows, each 66 feet long.

The six varieties of mangels which have produced the heaviest crops at the several experimental farms during 1899 are the following. (Unless otherwise stated the yields given are all from the earliest sown plots.)

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Gate Post	31	640	4. Selected Mamm. Long Red..	33	330
2. Mammoth Long Red	33	1,980	5. Giant Yellow Globe	32	350
3. Canadian Giant	33	330	6. Yellow Intermediate	31	370

An average crop of 33 tons per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Giant Yellow Intermediate..	30	1,878	4. Lion Yellow Intermediate..	30	225
2. Gate Post	30	555	5. Ward's Large Oval Shaped..	30	225
3. Yellow Intermediate	30	225	6. Norbiton Giant	29	1,400

An average crop of 30 tons 418 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Norbiton Giant	35	620	4. Lion Yellow Intermediate..	31	640
2. Yellow Intermediate	35	620	5. Giant Yellow Intermediate..	33	1,650
3. Mammoth Long Red	31	1,630	6. Ward's Large Oval Shaped..	33	1,320

An average crop of 34 tons 1,080 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Gate Post (2nd sowing)...	38	1,715	4. Norbiton Giant (2nd sowing)	31	535
2. Yellow Intermediate	35	1,940	5. Yellow Fleshed Tankard	30	885
3. Champion Yellow Globe	32	1,340	6. Ward's Large Oval Shaped..	30	720

An average crop of 33 tons 532 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate	66	1,750	4. Lion Yellow Intermediate..	31	300
2. Ward's Large Oval Shaped..	53	1,185	5. Giant Yellow Intermediate..	49	1,165
3. Giant Yellow Half Long	51	1,125	6. Mamm. Long Red	48	1,925

An average crop of 53 tons 1,241 lbs. per acre.

The six varieties of mangels which have produced the heaviest crops in 1899 taking the average of the results obtained on all the experimental farms are

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate	39	1,781	4. Giant Yellow Half Long	32	1,406
2. Ward's Large Oval Shaped..	35	145	5. Gate Post (2nd sowing)	32	1,272
3. Giant Yellow Intermediate..	33	1,386	7. Lion Yellow Intermediate..	32	614

An average crop of 34 tons 767 lbs. per acre.

The early sown plots of mangels have given larger crops than those later sown at all the experimental farms excepting at Nappan where the advantage has been with the second sowing to the extent of 1 ton 855 lbs. per acre. The average results from all the farms show a difference of 3 tons 904 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF CARROTS.

Twenty varieties of carrots were under test during 1899 all sown in drills or on the flat in rows two feet apart. Two sowings were made in each case, the second sowing two weeks later than the first. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were the following: At Ottawa, October 13; Nappan, October 11; Brandon, October 13; Indian Head, October 4, and at Agassiz on October 21. The yield per acre in each case has been calculated from the weight of roots gathered from two rows each 66 feet long.

UNIFORM TEST PLOTS OF CARROTS.

Number.	NAME OF VARIETY.	OTTAWA, ONT.		NAPLAIN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.	
		Sown May 11.	Sown May 25.	Sown May 23.	Sown June 7.	Sown May 25.	Sown June 3.	Sown May 29.	Sown May 29.	Sown May 27.	Sown May 12.	First Sowing.	Second Sowing.
		Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.	Per acre, Tons, Lbs.
1	Iverson's Champion	33 660	33 1,725	17 1,805	17 980	17 1,370	19 610	15 690	29 1,400	29 1,400	24 675	24 1,467	
2	Giant White Vosges	33 330	31 1,500	18 735	17 1,640	15 750	17 1,555	12 420	33 1,620	33 1,550	24 1,500	20 1,459	
3	Improved Short White	33 330	31 700	17 1,375	17 650	15 390	15 1,270	15 650	33 229	25 1,700	24 1,415	20 1,096	
4	Mamm. White Intermediate	32 1,310	32 50	16 1,705	17 610	13 1,320	11 1,255	14 710	33 310	29 1,600	24 1,459	21 1,094	
5	New White Intermediate	32 680	38 1,420	17 1,375	17 1,040	16 1,080	16 1,000	15 1,060	29 300	33 440	23 1,369	20 1,701	
6	Green Top White Orthie	28 1,750	24 1,830	17 650	16 1,330	12 1,080	16 835	14 59	27 1,220	26 1,570	21 757	18 1,575	
7	Long Yellow Stamp rooted	28 1,420	27 430	16 1,000	13 1,845	16 1,660	13 730	14 1,335	10 1,436	22 390	18 1,390	19 1,721	
8	Ontario Champion	28 1,690	22 880	17 1,475	13 1,225	19 283	11 710	16 1,495	14 1,370	28 1,290	31 1,896	22 308	
9	White Belgian	28 760	24 510	13 400	12 1,740	10 295	12 1,740	10 130	14 380	12 420	29 1,840	19 1,424	
10	Half Long White	27 1,770	22 550	17 1,805	18 390	10 1,780	18 390	17 1,970	31 1,540	32 1,840	24 1,983	20 1,682	
11	Guerrande or Ox Heart	26 1,957	25 1,130	12 1,575	16 1,000	13 1,060	11 1,100	25 160	22 1,650	22 660	17 1,926	16 296	
12	Early Gem	25 820	20 520	12 1,575	16 1,000	13 1,060	11 1,100	25 160	22 1,650	22 660	17 1,926	16 296	
13	Half Long Chantenay	25 820	20 580	11 1,000	13 400	13 70	10 1,120	11 665	8 500	22 770	22 550	16 1,832	
14	Yellow Intermediate	24 1,170	23 1,190	11 275	10 955	15 30	11 1,100	16 1,490	14 710	22 1,706	19 1,910	18 1,433	
15	White Vosges Large Short	22 385	20 1,250	11 275	12 1,245	12 1,710	9 480	15 1,350	12 253	22 530	22 1,100	16 1,660	
16	Scarlet Intermediate	19 940	15 360	10 625	9 1,365	11 770	9 1,140	9 1,365	7 1,310	17 1,440	18 1,400	13 1,016	
17	Carrier's Orange Giant	18 1,950	18 300	11 1,925	11 665	13 400	8 1,490	11 110	9 480	17 320	13 950	14 941	
18	Long Orange or Surrey	17 1,310	16 1,990	11 1,000	10 1,945	12 750	10 1,450	9 1,635	25 160	17 650	15 571	13 367	
19	Scarlet Nantes	16 1,000	12 1,245	10 1,450	9 1,365	8 1,820	6 1,800	8 500	3 1,329	11 110	10 1,340	11 176	
20	Long Scarlet Altringham	14 380	13 70	12 1,575	10 295	6 1,860	5 1,220	10 160	8 747	18 1,400	16 1,290	12 1,135	

The crops from the two sowings of carrots at the experimental farms in 1899 have averaged as follows:—

Central Experimental Farm, first sowing	25 tons 1,826 lbs.	Experimental Farm, Indian Head, first sowing	14 tons 916 lbs.
" " " " second sowing	22 " 1,746 "	" " " " second sowing	11 " 1,386 "
Experimental Farm, Naplain, first sowing	15 " 1,746 "	" " " " second sowing	25 " 952 "
" " " " second sowing	14 " 291 "	" " " " second sowing	23 " 1,669 "
" " " " first sowing	14 " 1,337 "	Average crop from all the farms, first sowing	19 tons 555 lbs.
" " " " second sowing	11 " 423 "	" " " " second sowing	16 tons 1,543 lbs.

The six varieties of carrots which have produced the heaviest crops at the several experimental farms during 1899 are the following, (unless otherwise stated the yields given are all from the earliest sown plots).

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Iverson's Champion.....	33	660	4.	Mamm. White Intermediate.	32	1,310
2.	Giant White Vosges.....	33	330	5.	New White Intermediate....	32	680
3.	Improved Short White.....	33		6.	Green Top White Orthe....	28	1,750

An average crop of 32 tons 46 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Half Long White.....	25	1,025	4.	Iverson's Champion.....	21	1,725
2.	Improved Short White.....	22	1,375	5.	Giant White Vosges.....	21	1,725
3.	New White Intermediate....	22	1,375	6.	Mamm. White Intermediate.	21	900

An average crop of 22 tons 1,354 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Mamm. White Intermediate.	19	610	4.	Giant White Vosges.....	17	1,640
2.	Ontario Champion.....	19	280	5.	New White Intermediate....	17	1,640
3.	Half Long White.....	18	300	6.	Iverson's Champion.....	17	980

An average crop of 18 tons 575 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Improved Short White.....	19	1,270	4.	Giant White Vosges.....	17	155
2.	Iverson's Champion.....	19	610	5.	Yellow Intermediate.....	16	1,900
3.	Half Long White.....	18	300	6.	Ontario Champion.....	16	1,495

An average crop of 17 tons 1,970 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Half Long White.....	34	1,520	5.	Improved Short White.....	33	220
2.	Giant White Vosges.....	33	1,650	6.	Ontario Champion, 2nd sowing.....	31	1,800
3.	Mamm. White Intermediate.	33	440				
4.	New White Intermediate, 2nd sowing.....	33	440				

An average crop of 33 tons 678 lbs. per acre.

The six varieties of carrots which have produced the heaviest crops in 1899 taking the average of the results obtained on all the experimental farms are the following:—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Half Long White.....	24	1,983	4.	Iverson's Champion.....	24	675
2.	Giant White Vosges.....	24	1,500	5.	Mamm. White Intermediate	24	499
3.	Improved Short White.....	24	1,445	5.	New White Intermediate....	23	1,399

An average crop of 24 tons 917 lbs. per acre.

The early sown plots of carrots have given larger crops than those later sown at all the experimental farms. The average results from all the farms show a difference in the crops of 1899 of 2 tons 1,012 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF SUGAR BEETS.

Six varieties of sugar beets have been tested during 1899, sown in drills or on the flat in rows two feet apart. Two sowings were made in each case, the second about two weeks later than the first. The dates of sowing will be found in the accompanying table. The following are the dates on which the roots were pulled:—At Ottawa, October 13; Nappan, October 10 and 11; Indian Head, October 4, and at Agassiz on October 24. The yield per acre in each instance has been calculated from the weight of roots gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF SUGAR BEETS.

Number	NAME OF VARIETY.	OTTAWA, ONT.		NAPLAIN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.													
		Sown May 11.	Sown May 25.	Sown May 23.	Sown June 7.	No. n May 29.	Sown June 3.	Sown May 25.	Sown June 2.	Sown April 23.	Sown May 31.	First Sowing.	Second Sowing.												
1	Wanzleben	28	1,585	18	1,450	19	1,600	21	77	15	1,845	14	710	25	160	24	1,500	24	1,754	19	1,559				
2	Improved Imperial	27	450	18	1,950	18	1,125	17	157	26	1,130	20	920	12	1,740	13	1,060	28	210	25	1,370	22	1,331	19	291
3	Vilmorin's Improved	26	800	15	690	22	555	17	1,475	26	1,460	15	690	13	235	15	690	26	250	25	1,480	22	1,860	17	1,865
4	Danish Improved	21	1,230	16	1,390	17	1,475	18	1,125	34	970	20	590	22	550	20	920	29	960	29	310	25	237	21	187
5	Danish Red Top	19	1,270	19	1,270	26	800	25	325	30	1,710	27	1,770	13	1,225	12	420	33	110	28	1,860	24	1,425	22	1,529
6	Red Top Sugar	18	1,290	16	1,660	24	1,500	23	1,355	25	1,810	22	220	10	625	11	1,100	18	1,860	23	1,080	19	1,417	19	1,063

*This sowing at Brandon was omitted.

The crops from the two sowings of sugar beets at the experimental farms have averaged as follows:—

	tons.	lbs.
Central Experimental Farm, first sowing	23	1,437
" " second sowing	17	1,585
Experimental Farm, Naplain, first sowing	21	1,175
" " second sowing	20	1,085
Experimental Farm, Brandon, first sowing	29	285
" " second sowing	21	438
Experimental Farm, Indian Head, first sowing	14	1,370
Experimental Farm, Agassiz, first sowing	14	1,150
" " second sowing	26	1,591
" " second sowing	26	600

Average crop from all the plots at all the farms: first sowing, 23 tons 371 lbs.; second sowing, 20 tons 171 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops at the several experimental farms in 1899 are the following. (Unless otherwise stated, the yields given are all from the earliest sown plots):—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Wanzleben	28 1,585	3. Vilmorin's Improved	26 800
2. Improved Imperial	27 450	4. Danish Improved	21 1,230

An average crop of 26 tons 16 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Danish Red Top	26 800	3. Vilmorin's Improved	22 555
2. Red Top Sugar	21 1,500	4. Wanzleben, 2nd sowing	21 75

An average crop of 23 tons 1,232 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Wanzleben	31 1,630	3. Danish Red Top	30 1,710
2. Danish Improved	34 970	4. Vilmorin's Improved	26 1,160

An average crop of 31 tons 961 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Danish Improved	22 550	3. Vilmorin's Improved, 2nd sowing	15 690
2. Wanzleben	15 1,845	4. Danish Red Top	13 1,225

An average crop of 16 tons 1,577 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Danish Red Top	33 110	3. Improved Imperial	28 210
2. Danish Improved	29 960	4. Vilmorin's Improved	26 250

An average crop of 29 tons 382 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops in 1899, taking the average of the results obtained at all the experimental farms, are the following:—

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Danish Improved	25 237	3. Danish Red Top	24 1,423
2. Wanzleben	24 1,761	4. Vilmorin's Improved	22 1,890

An average crop of 24 tons 821 lbs. per acre.

The early sown plots of sugar beets have given larger crops than those later sown at all the experimental farms. The average results from all the farms show a difference in the crops of 1899 of 3 tons 200 lbs. per acre in favour of the early sowing.

TRIAL PLOTS OF POTATOES.

One hundred and six varieties of potatoes have been under trial in uniform test plots during 1899. The potatoes for planting were cut into pieces with two or three eyes in each, and these were planted in rows 2½ feet apart, the sets being placed a foot apart in the rows. The following were the dates of planting and digging:—At Ottawa, planted on May 22 and 23, dug October 5 to 7; Nappan, planted May 25, dug September 22 to 25; Brandon, planted, May 23, dug October 2; Indian Head, planted May 25, dug September 28; and at Agassiz, planted from May 13 to 22, dug September 28 to October 4. The yield per acre has been calculated in each case from the weight of tubers gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF POTATOES.

Number.	Name of Variety.	YIELD AT THE SEVERAL EXPERIMENTAL FARMS, SEASON OF 1899.					
		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Per acre, Bush. Lbs.	Per acre, Bush. Lbs.	Per acre, Bush. Lbs.	Per acre, Bush. Lbs.	Per acre, Bush. Lbs.	Per acre, Bush. Lbs.
1	American Wonder.	640 12	391 36	*	453 45	228 48	428 35
2	Holborn Abundance.	609 24	473 ..	319 ..	233 45	330 ..	393 10
3	Everett.	574 12	484 ..	275 ..	261 15	369 36	392 48
4	Carman No. 1.	541 12	420 12	330 ..	346 30	243 38	376 18
5	Maggie Murphy.	541 12	261 48	333 40	154 45	363 44	330 53
6	White Beauty.	534 36	250 48	289 40	321 45	372 30	353 52
7	Hale's Champion.	532 24	473 ..	287 50	126 30	365 12	356 59
8	Vanicr.	530 12	473 ..	333 40	302 30	291 52	386 15
9	Seattle.	528 ..	492 36	*	288 45	291 8	377 35
10	New Queen.	521 24	288 12	275 ..	251 45	278 42	323 4
11	Wonder of the World.	514 48	371 48	309 ..	242 ..	353 28	338 12
12	Lizzie's Pride.	506 ..	411 24	320 ..	247 30	321 12	363 13
13	Empire State.	500 30	448 48	*	225 30	362 16	384 16
14	Beauty of Hobron.	500 24	286 ..	242 ..	330 ..	180 24	307 15
15	Seedling No. 230.	495 ..	530 ..	293 20	280 30	368 8	397 23
16	Early Sunrise.	492 48	396 ..	194 20	354 45	289 20	345 26
17	State of Maine.	488 24	330 ..	320 50	269 30	282 20	338 13
18	Early Rose.	484 ..	424 36	282 20	233 45	237 36	332 27
19	Ideal.	484 48	341 ..	*	220 ..	.....	347 36
20	Lightning Express.	479 36	360 48	293 20	198 ..	277 12	321 47
21	Early White Prize.	475 12	323 24	245 40	261 15	266 10	314 20
22	Brown's Rot Proof.	473 ..	327 48	293 20	.....	384 16	369 36
23	Monroe County.	473 ..	259 36	*	167 45	359 20	314 55
24	Burnaby Seedling.	468 36	409 12	370 20	412 30	334 24	399 ..
25	Polaris.	464 12	380 36	*	250 15	397 16	373 5
26	Chicago Market.	459 48	275 ..	293 20	228 30	286 ..	308 31
27	Vick's Extra Early.	457 36	347 36	190 40	275 ..	264 ..	306 52
28	Earliest of All.	455 24	492 36	242 ..	250 15	356 14	341 18
29	Seedling No. 7.	453 12	354 12	275 ..	137 30	225 52	289 9
30	Good News.	453 12	492 36	311 40	228 15	319 44	343 5
31	American Giant.	453 12	534 36	326 20	338 15	215 36	373 36
32	Early Northern.	453 12	376 12	*	.....	265 30	364 58
33	Penn. Manor.	453 12	477 24	377 40	220 ..	288 50	363 25
34	Columbus.	451 ..	435 24	*	324 30	295 20	359 4
35	Ohio Junior.	451 ..	319 ..	242 ..	151 15	375 28	307 45
36	Thorburn.	448 48	264 ..	253 ..	222 45	388 40	315 27
37	Northern Spy.	448 48	369 36	311 40	206 15	315 20	333 20
38	Sir Walter Raleigh.	448 48	363 ..	282 20	200 45	190 40	297 7
39	Great Divide.	442 12	492 48	300 40	187 ..	251 16	331 47
40	Sharpe's Seedling.	441 6	248 36	201 40	288 45	493 20	316 41
41	Satisfaction.	440 ..	343 12	322 40	225 30	312 24	328 45
42	Early Harvest.	437 48	451 ..	117 20	302 30	305 4	322 44
43	Peerless Junior.	437 48	299 12	278 40	275 ..	231 18	304 24
44	Orphans.	437 48	360 48	*	206 15	271 20	319 3
45	Honey Rose.	437 48	250 48	.....	143 ..	295 32	281 45
46	General Gordon.	433 24	453 12	344 40	233 45	308 44	354 45

Injured from flooding.

UNIFORM TEST PLOTS OF POTATOES.

YIELD AT THE SEVERAL EXPERIMENTAL FARMS, SEASON OF 1890

Number.	NAME OF VARIETY.	Ottawa, Ont.	Nappan, N.S.	Braintree, Man.	Indian Head N.W.T.	Agassiz, B.C.	Average of all Farms						
		Per acre, Bush, Lbs.	Per acre, Bush, Lbs.	Per acre, Bush, Lbs.	Per acre, Bush, Lbs.	Per acre, Bush, Lbs.							
47	Burpee's Extra Early	431	12	400	24	220	305	15	311	28	337	40	
48	King of the Roses	431	12	290	24	275	258	30	265	..	304	1	
49	Rochester Rose	431	12	367	24	..	343	45	285	20	356	55	
50	Clay Rose	429	..	457	36	381	20	275	15	266	22	361	52
51	Hopeful	426	48	420	12	311	40	129	15	330	48	329	45
52	Early Ohio	426	48	380	36	190	40	206	15	266	14	291	13
53	Duce's Standard	424	36	332	12	355	40	247	30	351	56	342	59
54	Mamie's Throughbred	422	24	211	12	377	40	173	15	314	20	305	46
55	Seedling No. 230	418	12	..	..	..	280	30	368	..	355	31	
56	Pride of the Table	418	..	184	18	..	261	15	265	..	282	16	
57	Green Mountain	418	..	380	36	340	..	200	15	322	40	330	24
58	Dakota Red	415	48	336	36	315	20	214	30	371	48	330	48
59	Uncle Sam	411	24	325	36	260	20	302	30	349	1	329	47
60	Delaware	411	24	325	36	103	20	192	30	242	40	369	6
61	London	409	12	334	24	242	..	206	15	350	32	308	29
62	Stourbridge Glory	409	12	334	24	183	20	250	15	346	8	304	10
63	Rural Blush	409	12	380	36	330	..	247	30	310	56	335	39
64	Prize Taker	407	..	264	..	205	20	316	15	234	40	285	27
65	L. X. L.	404	48	409	12	293	20	280	30	244	12	326	24
66	Reeves' Rose	404	48	433	24	322	40	269	30	245	36	329	12
67	Freeman	400	24	367	24	333	40	249	..	298	28	323	47
68	New Variety No. 1	396	..	418	..	264	..	293	30	387	12	331	44
69	Troy Seedling	396	..	467	..	388	40	233	45	327	6	359	30
70	Crown Jewel	393	48	321	12	256	40	302	30	341	44	323	11
71	Clarke's No. 1	391	56	407	..	349	..	269	30	303	36	338	12
72	Rose No. 9	391	36	336	36	187	..	275	..	371	1	312	15
73	Flemish Beauty	391	36	462	..	330	..	294	15	250	48	345	15
74	Pearce's Extra Early	389	24	283	48	..	..	247	30	176	..	274	11
75	Money Maker	389	24	308	..	293	20	192	30	283	18	293	24
76	Late Puritan	389	24	321	12	349	..	288	45	294	1	322	29
77	Rural No. 2	387	12	272	48	234	40	206	15	231	40	266	31
78	Boyer	385	..	534	36	256	40	390	30	343	12	382	..
79	Early Gem	382	48	387	12	311	40	217	15	181	52	296	9
80	Irish Coddler	382	48	501	36	201	40	211	45	233	56	306	24
81	Carnan No. 3	380	36	220	..	344	40	302	30	222	56	287	32
82	Pearce's Prize-Winner	377	18	345	24	297	..	302	30	177	28	299	56
83	Early Puritan	369	36	312	24	330	..	244	45	387	12	328	47
84	Daisy	365	12	259	36	132	..	244	45	283	..	256	51
85	McKenzie	358	36	453	12	330	..	293	30	297	44	328	36
86	Cambridge Russet	358	36	316	48	183	20	187	..	269	30	263	3
87	World's Fair	343	12	325	36	..	..	247	30	269	52	296	33
88	Irish Daisy	334	24	429	..	388	40	236	30	428	16	363	22
89	Early Six Weeks	327	48	433	24	297	..	247	30	242	40	303	44
90	Charles Downing	327	48	281	36	275	..	123	45	462	..	293	62
91	Hanfanger	319	..	365	12	264	..	195	15	281	30	284	59
92	Reading Giant	316	48	424	36	245	40	206	15	356	14	309	55
93	Lee's Favourite	316	48	349	48	282	20	228	15	363	..	308	2
94	Country Gentleman	314	36	565	24	165	..	..	..	294	28	334	52
95	Bill Nye	310	12	385	..	333	40	371	15	337	20	347	29
96	Table King	292	36	294	48	121	..	206	15	218	32	226	38
97	Queen of the Valley	290	24	253	..	275	..	280	30	284	30	276	41
98	Quaker City	283	48	413	36	311	40	172	15	242	..	304	49
99	Algona No. 1	283	48	402	36	..	..	270	30	249	20	276	34
100	Victor Rose	259	36	374	..	260	20	302	30	277	56	291	52
101	Fillbasket	246	24	211	12	..	..	192	20	179	18	207	21
102	Pride of the Market	235	24	506	..	275	..	302	30	381	20	340	3
103	Early Market	224	24	235	34	198	..	167	45	280	..	221	9
104	Brownell's Winner	220	..	325	36	320	..	352	..	266	10	298	45
105	Seedling No. 214	209	..	314	36	128	20	220	..	265	40	227	31
106	Houlton Rose	204	36	323	24	..	..	244	45	296	16	267	15

* Injured from flooding.

The twelve varieties of potatoes which have produced the largest crops at the several experimental farms are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Wonder.....	640	12	7. Hale's Champion.....	532	24
2. Holborn Abundance.....	609	24	8. Vanier.....	530	12
3. Everett.....	574	12	9. Seattle.....	528	..
4. Carman No. 1.....	541	12	10. New Queen.....	524	24
5. Maggie Murphy.....	541	12	11. Wonder of the World.....	514	48
6. White Beauty.....	534	36	12. Lizzie's Pride.....	506	..

An average crop of 547 bushels 17 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling No. 239.....	550	..	7. American Beauty.....	492	48
2. American Giant.....	534	36	8. Everett.....	484	..
3. Bevoe.....	534	36	9. Holborn Abundance.....	473	..
4. Pride of the Market.....	506	..	10. Hale's Champion.....	473	..
5. Irish Cobbler.....	501	36	11. Vanier.....	473	..
6. Great Divide.....	492	48	12. Flemish Beauty.....	462	..

An average crop of 498 bushels 7 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Delaware.....	403	20	7. Dyer's Standard.....	355	40
2. Irish Daisy.....	388	40	8. General Gordon.....	344	40
3. Troy Seedling.....	388	40	9. Vanier.....	333	40
4. Clay Rose.....	387	20	10. Maggie Murphy.....	333	40
5. Mauld's Thoroughbred.....	377	40	11. Freeman.....	333	40
6. Burnaby Seedling.....	370	20	12. Bill Nye.....	333	40

An average crop of 362 bushels 35 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Wonder.....	453	45	7. Carman No. 1.....	346	30
2. Burnaby Seedling.....	412	30	8. Rochester Rose.....	343	45
3. Bevoe.....	390	30	9. American Giant.....	338	15
4. Bill Nye.....	371	15	10. Beauty of Hebron.....	330	..
5. Early Sunrise.....	354	45	11. Columbus.....	324	30
6. Brownell's Winner.....	352	..	12. White Beauty.....	321	45

An average crop of 361 bushels 37 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Charles Downing.....	462	..	7. New Variety No. 1.....	387	12
2. Irish Daisy.....	428	16	8. Brown's Rot Proof.....	384	16
3. Sharpe's Seedling.....	403	20	9. Pride of the Market.....	381	20
4. Polarisk.....	397	16	10. Ohio Junior.....	375	28
5. Thorburn.....	388	40	11. White Beauty.....	372	30
6. Early Puritan.....	387	12	12. Dakota Red.....	371	48

An average crop of 394 bushels 56 lbs per acre.

The twelve varieties of potatoes which have produced the largest crops in 1899, taking the average of the results obtained at all the experimental farms, are the following:—

	Per acre.			Per acre.	
	Bush.	Lbs		Bush.	Lbs
1. American Wonder.	428	35	7. Empire State.....	384	16
2. Burnaby Seedling.	399	..	8. Boyce.....	382	..
3. Seedling No. 230	397	21	9. Seattle.....	377	35
4. Holborn Abundance.....	393	10	10. Carman No. 1.....	376	18
5. Everett.....	392	48	11. American Giant.....	373	36
6. Vanier.....	386	15	12. Polaris.....	373	5

An average crop of 386 bushels 40 lbs. per acre.

The average crop of all the varieties of potatoes tested at each of the experimental farms was as follows:— At Ottawa, 414 bushels 33 lbs. per acre: Nappan, 363 bushels 22 lbs.; Brandon, 279 bushels 48 lbs.; Indian Head, 250 bushels 55 lbs.; and at Agassiz, 298 bushels 5 lbs. The average return given by the whole of the varieties at all the farms was 321 bushels 20 lbs. per acre.

AVERAGE OF CROPS FOR THE PAST FOUR AND FIVE YEARS.

The results of experiments with varieties of grain to ascertain their relative productiveness become much more reliable and conclusive when the average experience of a series of years can be given. In this way slight variations arising from inequality of soil are to a large extent equalized, and the conclusions reached become a much more valuable guide to the farmer in his selection of seed. The longer the experiments are continued the more accurate are the indications given. The experiences here recorded with most of the more important cereals now cover a period of five years.



Fig. 2. Experimental plots *o.* Oats at Ottawa, Ont.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF OATS.

The twelve varieties of oats which have averaged the heaviest crops at the several experimental farms during the past five years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Banner.	69	23	7.	Joanette	63	4
2.	American Triumph	67	7	8.	American Beauty	63	2
3.	Columbus.	66	31	9.	Holstein Prolific	62	7
4.	Golden Giant	65	28	10.	Abundance	61	31
5.	Golden Beauty	65	1	11.	Bavarian	61	15
6.	Improved Ligowo	63	5	12.	White Russian	61	12

An average crop of 64 bushels 8 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Russian	72	4	7. Early Blossom	67	14
2. Wallis	71	23	8. Lincoln	67	6
3. Odebrnoch	70	16	9. American Beauty	67	2
4. Banner	69	6	10. Pense	67	2
5. Abyssinia	68	..	11. Cream Egyptian	66	20
6. Columbus	67	30	12. Wide Awake	65	30

An average crop of 68 bushels 13 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Beauty	99	9	7. White Schonen	83	1
2. Banner	94	6	8. Golden Beauty	82	26
3. Bavarian	93	25	9. American Triumph	81	11
4. Early Golden Prolific	88	22	10. Abundance	77	1
5. Golden Giant	85	25	11. California Prolific Black	77	30
6. Holstein Prolific	83	26	12. Columbus	77	..

An average crop of 85 bushels 16 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Columbus	88	20	7. Bavarian	81	22
2. Holstein Prolific	87	8	8. White Schonen	81	17
3. American Beauty	86	31	9. Early Golden Prolific	81	16
4. Abundance	85	1	10. Early Avchangel	80	32
5. Golden Beauty	83	21	11. American Triumph	80	30
6. Wide Awake	82	..	12. Banner	80	27

An average crop of 83 bushels 13 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Golden Giant	70	28	7. American Beauty	58	9
2. Banner	65	21	8. Prolific Black Tartarian	58	8
3. Lincoln	61	7	9. Columbus	58	..
4. Bavarian	61	6	10. Early Maine	57	21
5. Early Gothland	60	32	11. Odebrnoch	56	30
6. Early Blossom	60	10	12. Holstein Prolific	56	26

An average crop of 62 bushels 2 lbs. per acre.

The twelve varieties of oats which have produced the largest average crops for the past five years on all the experimental farms, and hence may perhaps be regarded as worthy of being placed at the head of the list for general cultivation, are the following:—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Banner	75	30	7. Holstein Prolific	69	23
2. American Beauty	74	31	8. Early Golden Prolific	69	1
3. Columbus	71	23	9. American Triumph	67	24
4. Golden Giant	71	12	10. Abundance	67	24
5. Bavarian	71	9	11. White Schonen	67	24
6. Golden Beauty	70	2	12. Wallis	67	23

An average crop of 70 bushels 13 lbs. per acre.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF BARLEY.

TWO-ROWED BARLEY.

The six varieties of two-rowed barley which have averaged the heaviest crops at the several experimental farms during the past five years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Sidney	41	40	4.	Bolton	39	44
2.	Danish Chevalier	41	40	5.	Victor	39	34
3.	Canadian Thorpe	41	28	6.	Nepean	39	29

An average crop of 40 bushels 36 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Nepean	40	25	4.	Beaver	38	26
2.	Newton	39	30	5.	Danish Chevalier	38	12
3.	French Chevalier	38	40	6.	Canadian Thorpe	36	32

An average crop of 38 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	French Chevalier	51	4	4.	Newton	47	12
2.	Sidney	49	30	5.	Bolton	47	4
3.	Nepean	47	24	6.	Victor	45	10

An average crop of 47 bushels 16 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	French Chevalier	60	12	4.	Prize Prolific	54	11
2.	Danish Chevalier	58	24	5.	Beaver	52	36
3.	Canadian Thorpe	55	21	6.	Sidney	52	32

An average crop of 55 bushels 31 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AOASSIZ, B.C.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Canadian Thorpe	37	8	4.	Kinver Chevalier	35	18
2.	French Chevalier	36	12	5.	Beaver	34	22
3.	Danish Chevalier	35	28	6.	Newton	33	..

An average crop of 35 bushels 14 lbs. per acre.

The six varieties of two-rowed barley which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms, are:—

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	French Chevalier	44	40	4.	Canadian Thorpe	42	26
2.	Danish Chevalier	42	41	5.	Sidney	42	16
3.	Beaver	42	39	6.	Newton	41	23

An average crop of 42 bushels 39 lbs. per acre.

SIX-ROWED BARLEY.

The six varieties of six-rowed barley which have averaged the heaviest crops at the several experimental farms for the past five years are the following :

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Odessa.....	55 19	4. Pioneer.....	51 30
2. Mensury.....	53 26	5. Trooper.....	48 25
3. Royal.....	52 20	6. Stella.....	48 3

An average crop of 51 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Mensury.....	50 16	4. Trooper.....	42 1
2. Oderbruch.....	43	5. Surprise.....	42 11
3. Vanguard.....	42 24	6. Odessa.....	41 28

An average crop of 43 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Trooper.....	57 9	4. Nugent.....	53 30
2. Common.....	56 4	5. Summit.....	52 26
3. Mensury.....	55 8	6. Surprise.....	51 46

An average crop of 54 bushels 20 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Rennie's Improved.....	62 10	4. Trooper.....	58 16
2. Odessa.....	59 14	5. Common.....	57 35
3. Mensury.....	58 20	6. Baxter.....	57 30

An average crop of 59 bushels 2 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Oderbruch.....	35 3	4. Odessa.....	32 36
2. Mensury.....	34 1	5. Common.....	32 6
3. Royal.....	32 14	6. Trooper.....	31 19

An average crop of 33 bushels 2 lbs. per acre.

The six varieties of six-rowed barley which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms are :

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Mensury.....	50 15	4. Oderbruch.....	45 38
2. Trooper.....	47 24	5. Common.....	45 35
3. Odessa.....	47 24	6. Royal.....	45 34

An average crop of 47 bushels 4 lbs. per acre.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF SPRING WHEAT.

The twelve varieties of spring wheat which have averaged the heaviest crops at the several experimental farms during the past five years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Preston.....	27	24	7. Pringle's Champlain.....	23	40
2. Wellman's Fife.....	25	23	8. Stanley.....	23	16
3. Colorado.....	24	51	9. Huron.....	22	38
4. Rio Grande.....	24	42	10. Emporium.....	22	8
5. Monarch.....	24	7	11. Rideau.....	22	5
6. Goose.....	23	57	12. Percy.....	21	55

An average crop of 23 bushels 51 lbs. per acre

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Wellman's Fife.....	35	12	7. Stanley.....	31	24
2. Monarch.....	34	10	8. White Russian.....	31	16
3. White Connell.....	33	7	9. Rio Grande.....	31	12
4. Huron.....	32	56	10. Advance.....	30	44
5. Goose.....	32	10	11. Red Fern.....	30	28
6. Preston.....	32	4	12. Blenheim.....	30	16

An average crop of 32 bushels 9 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Goose.....	40	34	7. Pringle's Champlain.....	35	58
2. White Fife.....	39	1	8. White Connell.....	35	40
3. Crown.....	37	30	9. Rio Grande.....	35	30
4. Red Fife.....	37	10	10. White Russian.....	34	22
5. Monarch.....	37	1	11. Wellman's Fife.....	33	58
6. Preston.....	36	37	12. Advance.....	33	46

An average crop of 36 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Red Fife.....	44	38	7. White Fife.....	39	34
2. Wellman's Fife.....	40	21	8. Beaudry.....	39	30
3. Huron.....	40	6	9. Percy.....	39	22
4. Red Fern.....	39	50	10. Crown.....	38	46
5. Preston.....	39	48	11. Alpha.....	38	36
6. Emporium.....	39	38	12. Monarch.....	38	2

An average crop of 39 bushels 43 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Preston.....	27	26	7. Red Fife.....	26	3
2. Monarch.....	26	40	8. White Fife.....	26	1
3. Herisson Bearded.....	26	38	9. White Connell.....	25	54
4. Rio Grande.....	26	24	10. Colorado.....	25	50
5. White Russian.....	26	20	11. Huron.....	25	30
6. Wellman's Fife.....	26	1	12. Red Fern.....	25	28

An average crop of 26 bushels 11 lbs. per acre.

The twelve varieties of spring wheat which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms, are:—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Preston	32	40	7. White Connell	30	46
2. Wellman's Fife	32	12	8. Red Fife	30	42
3. Monarch	32	6	9. Huron	30	31
4. Goose	31	14	10. White Russian	30	28
5. White Fife	31		11. Pringle's Champlain	30	1
6. Rio Grande	30	53	12. Red Fern	29	50

An average crop of 31 bushels 7 lbs. per acre.

THREE AND FOUR YEARS' EXPERIENCE WITH VARIETIES OF PEASE.

The twelve varieties of pease which have averaged the heaviest crops at the several experimental farms for the past three or four years are the following. On account of the mixing of the crop by the wind storm at Ottawa in 1899, the average of three years only can be given for this farm. Those varieties on the other farms which have been tested only three years are so marked

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Arthur	41	22	7. Canadian Beauty	35	30
2. Macoun	39	10	8. Bedford	35	27
3. Kent	37	23	9. Creeper	35	22
4. Agnes	36	26	10. Duke	35	17
5. Mackay	36	15	11. Crown	35	15
6. Black-eyed Marrowfat	36	12	12. Paragon	31	17

An average crop of 36 bushels 32 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Crown	41	25	7. Carleton	30	46
2. Centennial	35		8. Prince	29	40
3. Pride	33	15	9. Lige-White Marrowfat, 3 yrs	29	10
4. New Potter	32	55	10. Canadian Beauty	28	35
5. Black-eyed Marrowfat	32	50	11. Prince Albert	28	10
6. Duke	30	16	12. Paragon	28	6

An average crop of 32 bushels per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Pride	50	46	7. Kent	45	25
2. Mummy	48	36	8. Crown	45	20
3. New Potter	47	52	9. Trilby	44	35
4. Carleton	47	15	10. Black-eyed Marrowfat	41	18
5. White Wonder, 3 yrs	45	43	11. King, 3 yrs	43	10
6. Mackay	45	25	12. Golden Vine, 3 yrs	43	5

An average crop of 45 bushels 55 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Trilby	40	40	7. Prince Albert	34	57
2. Carleton	39	2	8. Centennial	34	5
3. Paragon	38	37	9. Porth, 3 yrs	33	46
4. Crown	38	30	10. Macoun	33	45
5. Archer, 3 yrs	35	36	11. Creeper	33	40
6. Duke	35	22	12. White Wonder, 3 yrs	33	36

An average crop of 35 bushels 58 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. King, 3 yrs.	38	40	7. Arthur	29	35
2. Victoria, 3 yrs.	31	46	8. Prussian Blue, 3 yrs.	30	26
3. White Wonder, 3 yrs.	34	26	9. Archer, 3 yrs.	30	16
4. Bright, 3 yrs.	33	23	10. Perth, 3 yrs.	29	40
5. Vincent, 3 yrs.	31	..	11. Creeper	25	40
6. Early Britain, 3 yrs.	30	36	12. Bedford	29	25

An average crop of 31 bushels 54 lbs. per acre.

The twelve varieties of pease which have produced the largest crops for the past three or four years, taking the average of the results obtained at all the experimental farms, are :—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Crown	36	56	7. Mummy	33	22
2. Carleton	35	43	8. Archer, 3 yrs.	33	13
3. Pride	34	43	9. Tribby	33	10
4. New Potter	34	16	10. Duke	33	9
5. King, 3 yrs.	34	6	11. Prince Albert	33	9
6. Paragon	33	26	12. Centennial	33	6

An average crop of 34 bushels 2 lbs. per acre.

FOUR AND FIVE YEARS' EXPERIENCE WITH VARIETIES OF INDIAN CORN.

(Where not otherwise marked, the figures given are the results of five years' tests.)

The six varieties of Indian corn which have averaged the heaviest crops at the several experimental farms during the past four or five years are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Red Cob Ensilage	24	1,691	4. Thoroughbred White Flint	24	15
2. Giant Prolific Ensilage	24	1,493	5. Champion White Pearl	20	1,369
3. Selected Leaming, 4 yrs.	24	1,194	6. Sanford	20	310

An average crop of 23 tons 2 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Thoroughbred White Flint	15	1,914	4. Canada White Flint	14	842
2. Red Cob Ensilage	15	688	5. Selected Leaming, 4 yrs.	14	737
3. Sanford	15	588	6. Angel of Midnight	14	633

An average crop of 14 tons 1,905 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Angel of Midnight	21	1,626	4. Red Cob Ensilage	19	1,178
2. Longfellow	20	480	5. Champion White Pearl	19	742
3. Thoroughbred White Flint	19	1,838	6. Selected Leaming, 4 yrs.	18	1,290

An average crop of 19 tons 1,859 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Giant Prolific Ensilage	11 1,138	4. Mammoth Eight-Rowed Flint	10 1,605
2. Sanford	11 411	5. Selected Learning, 4 yrs.	10 1,466
3. Red Cob Ensilage	11 128	6. Champion White Pearl	10 1,382

An average crop of 11 tons 27 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Red Cob Ensilage	21 1,529	4. Giant Prolific Ensilage	21 721
2. Selected Learning, 4 yrs.	21 1,110	5. Pride of the North	20 617
3. King of the Earliest	21 1,052	6. Angel of Midnight	19 1,751

An average crop of 22 tons 131 lbs. per acre.

The six varieties of Indian corn which have produced the largest crops for the past four or five years, taking the average of the results obtained on all the experimental farms, are:—

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Red Cob Ensilage	19 243	4. Giant Prolific Ensilage	17 751
2. Selected Learning, 4 yrs.	18 959	5. Angel of Midnight	16 1,695
3. Thoroughbred White Flint	17 1,511	6. Champion White Pearl	16 1,158

An average crop of 17 tons 1,392 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF TURNIPS.

The six varieties of turnips which have averaged the heaviest crops at the several experimental farms during the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Selected Purple Top	37 703	4. Jumbo	33 1,292
2. Perfection Swede	35 1	5. Prize Winner	33 632
3. Mammoth Clyde	31 860	6. Carter's Elephant	33 550

An average crop of 34 tons 1,006 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Perfection Swede	33 1,641	4. Mammoth Clyde	31 292
2. Hartley's Bronze	32 937	5. Champion Purple Top	31 147
3. Selected Purple Top	32 886	6. Carter's Elephant	31 87

An average crop of 31 tons 1,983 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Selected Purple Top	27 1,506	4. Champion Purple Top	21 1,212
2. Hartley's Bronze	26 563	5. East Lothian	21 807
3. Perfection Swede	25 1,711	6. Skirving's	24 612

An average crop of 25 tons 1,068 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Hartley's Bronze.....	20	557	4. Skirving's.....	19	890
2. Selected Purple Top.....	20	284	5. Champion Purple Top.....	19	775
3. Perfection Swede.....	19	1,905	6. Mammoth Clyde.....	19	758

An average crop of 19 tons 1,528 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Bangholm Selected.....	51	369	4. East Lothian.....	43	1,114
2. Selected Purple Top.....	45	987	5. Giant King.....	42	1,807
3. Jumbo.....	43	1,615	6. Prize Winner.....	41	1,678

An average crop of 44 tons 1,595 lbs. per acre.

The six varieties of turnips which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past four years, are:—

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Selected Purple Top.....	32	1,272	4. East Lothian.....	29	1,847
2. Perfection Swede.....	31	526	5. Hartley's Bronze.....	29	995
3. Bangholm Selected.....	30	1,606	6. Jumbo.....	29	382

An average crop of 30 tons 1,104 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF MANGELS.

The six varieties of mangels which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Gate Post.....	38	615	4. Yellow Intermediate.....	33	1,223
2. Giant Yellow Intermediate.....	35	97	5. Giant Yellow Globe.....	33	288
3. Mammoth Long Red.....	34	887	6. Canadian Giant.....	31	1,930

An average crop of 34 tons 810 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Giant Yellow Intermediate.....	31	213	4. Gate Post.....	27	1,615
2. Yellow Intermediate.....	30	926	5. Warden Orange Globe.....	26	153
3. Giant Yellow Globe.....	28	1,113	6. Mammoth Long Red.....	25	1,820

An average crop of 28 tons 640 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate.....	39	677	4. Gate Post.....	37	1,817
2. Giant Yellow Intermediate.....	39	160	5. Giant Yellow Globe.....	35	636
3. Prize Mammoth Long Red.....	37	1,834	6. Mammoth Long Red.....	35	141

An average crop of 37 tons 877 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate.....	24	312	4. Gate Post.....	21	1,249
2. Champion Yellow Globe.....	21	1,560	5. Golden Fleshed Tankard.....	20	1,122
3. Giant Yellow Globe.....	21	1,461	6. Giant Yellow Intermediate.....	20	1,411

An average crop of 21 tons 1,357 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate	46	41	4. Giant Yellow Intermediate	34	1,138
2. Mammoth Long Red	36	361	5. Prize Mammoth Long Red	32	1,733
3. Gate Post	34	1,668	6. Canadian Giant	30	808

An average crop of 35 tons 1,625 lbs. per acre.

The six varieties of mangels which have produced the largest crops, taking the average of the results obtained at all the experimental farms, are:—

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Yellow Intermediate	34	1,438	4. Mammoth Long Red	30	431
2. Gate Post	32	493	5. Giant Yellow Globe	29	526
3. Giant Yellow Intermediate	32	10	6. Prize Mammoth Long Red	28	1,961

An average crop of 31 tons 427 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF CARROTS.

The six varieties of carrots which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mammoth White Intermediate	28	400	4. Iverson's Champion	25	470
2. Giant White Vosges	26	1,028	5. Half Long White	24	1,348
3. Improved Short White	26	1,975	6. White Belgian	24	730

An average crop of 26 tons 137 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, SAPPAN, N.S.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Half Long White	19	555	4. Improved Short White	18	1,222
2. Mammoth White Intermediate	18	1,594	5. Giant White Vosges	18	821
3. Iverson's Champion	18	1,461	6. Guerande or Oxheart	15	997

An average crop of 18 tons 441 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Iverson's Champion	15	440	4. Mammoth White Intermediate	14	1,177
2. Half Long White	14	1,645	5. Early Gem	14	655
3. Giant White Vosges	14	1,535	6. White Belgian	12	1,960

An average crop of 14 tons 852 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Half Long White	11	605	4. Mammoth White Intermediate	10	72
2. Improved Short White	11	291	5. Giant White Vosges	9	1,791
3. Iverson's Champion	10	1,927	6. White Belgian	9	1,239

An average crop of 10 tons 987 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Improved Short White	33	1,680	4. Yellow Intermediate	31	571
2. Half Long White	31	1,555	5. White Belgian	29	483
3. Giant White Vosges	31	1,060	6. Mammoth White Intermediate	28	1,967

An average crop of 31 tons 219 lbs. per acre.

The six varieties of carrots which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past four years, are:—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Improved Short White	20	1,058	4.	Mamm, White Intermediate	20	181
2.	Half Long White	20	741	5.	Iverson's Champion	19	1,955
3.	Giant White Vosges	20	461	6.	White Belgian	18	352

An average crop of 19 tons 1,791 lbs. per acre.

THREE YEARS' EXPERIENCE WITH VARIETIES OF SUGAR BEETS.

The four varieties of sugar beets which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Improved Imperial	21	1,688	3.	Danish Improved	19	1,178
2.	Wanzleben	21	393	4.	Vilmorin's Improved	17	925

An average crop of 20 tons 26 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Red Top Sugar	21	133	3.	Improved Imperial	20	313
2.	Danish Improved	21	975	4.	Wanzleben	19	1,021

An average crop of 21 tons 610 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Danish Improved	31	502	3.	Red Top Sugar	27	1,638
2.	Wanzleben	28	1,970	4.	Vilmorin's Improved	26	392

An average crop of 28 tons 1,125 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Wanzleben	14	1,535	3.	Red Top Sugar	13	1,731
2.	Danish Improved	14	495	4.	Improved Imperial	12	1,872

An average crop of 13 tons 1,908 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Improved Imperial	24	40	3.	Red Top Sugar	23	705
2.	Danish Improved	23	392	4.	Vilmorin's Improved	22	1,604

An average crop of 23 tons 858 lbs. per acre.

The four varieties of sugar beets which have produced the largest crops, taking the average of the results obtained at all the experimental farms, are:—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Danish Improved	22	28	3.	Wanzleben	20	1,975
2.	Red Top Sugar	21	593	4.	Improved Imperial	20	1,848

An average crop of 21 tons 611 lbs. per acre.

The Vilmorin's Improved, the only other variety which has been tested for three years, has given an average crop of 19 tons 460 lbs.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF POTATOES.

The twelve varieties of potatoes which have averaged the heaviest crops at the several experimental farms during the past five years are the following. (A few of the varieties which have been only four years under trial are so marked.)

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Holborn Abundance	414	55	7. Carman No. 1	343	50
2. American Wonder	396	39	8. Early White Prize	342	3
3. Late Puritan	369	6	9. State of Maine	338	41
4. Everett	364	45	10. Early Northern	338	20
5. Empire State	349	56	11. Seattle, 4 yrs.	336	26
6. Seedling No. 230, 4 yrs.	319	48	12. Rochester Rose	335	48

An average crop of 356 bushels 41 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling No. 230, 4 yrs.	663	84	7. Pearce's Prize Winner	370	22
2. Irish Daisy	401	59	8. I. X. 1	366	30
3. Holborn Abundance	338	52	9. Great Divide	362	47
4. Reading Giant	333	4	10. Vamer	358	33
5. Carman No. 1	301	27	11. Clarke's No. 1	357	25
6. Pride of the Market	378	20	12. Dreeer's Standard	353	29

An average crop of 383 bushels 6 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Irish Daisy	411	35	7. Chicago Market	378	35
2. Pearce's Prize Winner	387	45	8. Carman No. 1	375	28
3. Delaware	385	55	9. Great Divide	372	32
4. Late Puritan	385	44	10. Clarke's No. 1	370	20
5. Dreeer's Standard	383	32	11. Empire State	369	25
6. Early Northern, 4 yrs.	380	25	12. State of Maine	367	2

An average crop of 380 bushels 41 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Giant	428	18	7. New Variety No. 1	366	1
2. Lee's Favourite	403	36	8. Northern Spy	365	43
3. American Wonder	389	4	9. Seedling No. 230, 4 yrs.	362	58
4. Lizzie's Pride	368	48	10. Early Sunrise	360	30
5. Rochester Rose	368	22	11. Early White Prize	360	22
6. Brownell's Winner	367	..	12. Late Puritan	349	25

An average crop of 374 bushels 10 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Dakota Red.....	383	52	7. Troy Seedling.....	346	22
2. Clay Rose.....	376	42	8. New Variety No. 1.....	343	34
3. Brownell's Winner.....	372	40	9. Lee's Favourite.....	337	26
4. Seedling No. 230, 4 yrs.....	367	45	10. Late Puritan.....	336	6
5. Irish Daisy.....	362	4	11. Empire State.....	325	..
6. Reading Giant.....	354	36	12. Rural Bush.....	322	..

An average crop of 352 bushels 18 lbs. per acre.

The twelve varieties of potatoes which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past five years, are:—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling No. 230, 4 yrs.....	368	58	7. Carman No. 1.....	339	39
2. Irish Daisy.....	365	45	8. State of Maine.....	336	23
3. American Giant.....	364	45	9. Clark's No. 1.....	335	14
4. American Wonder.....	359	57	10. Clay Rose.....	334	21
5. Late Puritan.....	349	59	11. New Variety No. 1.....	333	48
6. Empire State.....	345	46	12. Dreeer's Standard.....	333	45

An average crop of 347 bushels 21 lbs. per acre.

SUMMARY.

Amid the multitude of details given in this bulletin bearing on the relative productiveness of varieties, it is not practicable to summarize more than a few examples. No satisfactory conclusions on this subject can be reached from comparisons of the crops of varieties grown on the different experimental farms in any one year nor from comparisons of any one year with another, partly on account of the great differences in climate, the variations in season from year to year, and still further because many new varieties are introduced from time to time, all of which from the outset are placed in competition in the annual tests. It is only from results covering a series of years, with the *same varieties* under trial, that useful inferences can be drawn.

The average crops of oats and wheat for five years are taken as illustrations here, for the reason that they are the most important grain crops grown in Canada, and also because the list of varieties under test in both cases is large, thus affording greater opportunity for change in the relative position of the several sorts as to weight of crop from year to year. The number of varieties of oats which have been under test at all the experimental farms for five consecutive years is 41 and of spring wheat 31, and the results given in this bulletin as to the 12 sorts which have given the largest average crops for the five years are necessarily limited to these examples. The average crop of the five sorts for three years was given in 1897, for four years in 1898, and the results for five years will be found in the present issue. The twelve varieties of oats which have given the largest average crops for the periods named are here placed side by side, the different sorts being arranged in the order in which they have appeared each year, with the average yield in each case.

VARIETIES OF OATS TESTED FOR A SERIES OF YEARS.

Name of Variety.	1899. Average for 5 years.		Name of Variety.	1898. Average for 4 years.		Name of Variety.	1897. Average for 3 years.	
	Bush.	℔		Bush.	℔		Bush.	℔
Banner	75	30	Banner	71	17	American Beauty	72	10
American Beauty	74	31	American Beauty	71	16	Banner	72	7
Columbus	71	23	Columbus	70	5	Columbus	70	15
Golden Giant	71	12	Golden Beauty	67	17	Golden Beauty	69	1
Bavarian	71	9	Bavarian	66	33	White Schonen	68	7
Golden Beauty	70	2	Holstein Prolific	66	18	Early Golden Prolific	67	26
Holstein Prolific	69	23	White Schonen	65	29	Holstein Prolific	67	18
Early Golden Prolific	69	4	Early Golden Prolific	65	27	Improved Ligowo	66	18
American Triumph	67	24	Wallis	65	16	White Russian	65	25
Abundance	67	24	Abundance	65	9	Wallis	65	18
White Schonen	67	24	Golden Giant	64	19	Bavarian	64	33
Wallis	67	23	White Rus	64	11	Early Gothland	64	22
Average yield	70	13	Average yield	67	4	Average yield	67	32

From these figures it will be seen that of the forty-one varieties of oats which have been tested for five consecutive years only *fifteen* of these have appeared among the best 12, either in the averages of 3, 4 or 5 years. *Nine* of the varieties have appeared each time in the best 12, and *seven* of those which appeared in the list for 1898 appear also in that for 1899. Taking the list of 1899 and comparing it with 1898, the names are the same in both, with the single exception of American Triumph, which has replaced the White Russian. Comparing the list of the best 12 sorts in 1899 with those of 1897, in addition to the change referred to, there are two others. Golden Giant has taken the place of Improved Ligowo and Abundance that of Early Gothland.

These three varieties which have thus fallen out of the list of the best twelve within the three years named have not, however, lost much ground. They stand in the records of the average yields for five years in the following order:—

Early Gothland	66 bush, 26 lbs. per acre.
White Russian	66 " 2 " "
Improved Ligowo	64 " 30 " "

The lowest of the three is only 1 bush, 27 lbs. less in average yield than the 12th in the present select list.

A comparison of the 31 varieties of spring wheat grown for five years shows very similar average results.

VARIETIES OF SPRING WHEAT TESTED FOR A SERIES OF YEARS.

Name of Variety.	1899. Average for 5 years.		Name of Variety.	1898. Average for 4 years.		Name of Variety.	1897. Average for 3 years.	
	Bush.	Lbs.		Bush.	Lbs.		Bush.	Lbs.
Preston	32	40	Preston	32	17	Preston	33	4
Wellman's Fife	32	12	Wellman's Fife	31	..	Monarch	31	2
Monarch	32	6	Monarch	30	58	Wellman's Fife	30	36
Goose	31	14	Percy	30	24	White Fife	30	25
White Fife	31	..	Red Fife	30	23	Rio Grande	30	23
Rio Grande	30	53	White Fife	30	20	Old Red River	30	17
White Connell	30	16	White Connell	30	19	Red Fife	30	9
Red Fife	30	42	Rio Grande	30	1	White Connell	30	6
Huron	30	31	Goose	29	58	Advance	30	..
White Russian	30	28	Red Fern	29	17	Goose	29	51
Pringle's Champlain	30	1	Old Red River	29	17	Red Fern	29	49
Red Fern	29	50	Advance	29	8	Alpha	29	37
Average yield	31	7	Average yield	30	17	Average yield	30	26

These figures show that of the 31 varieties of spring wheat tested for five consecutive years, *sixteen* have appeared in the lists of the best twelve in the averages of 3, 4 and 5 years. *Nine* of the varieties have appeared each time in the best 12. Comparing the list for 1899 with that for 1898 it will be seen that Huron, White Russian and Pringle's Champlain have replaced Percy, Advance and Old Red River, while a comparison of the results of 1899 with 1897 show that the varieties replaced that year were Advance, Old Red River and Alpha. Since Old Red River was dropped from the list in 1899 for several reasons, the present standing of the other varieties is all that can be given:—

Average Yields for Five Years.

Alpha	29 bush, 9 lbs. per acre.
Advance	29 " 4 " "
Percy	28 " 52 " "

These have maintained their relative position fairly well, the lowest being only 58 lbs. per acre in average yield below the 12th in the select list.

In arranging these numerous plots each season no effort is made to give to any variety a specially good location, and since at several of the experimental farms the land often varies much in different parts of the same field, it seems quite remarkable that the results covering so long a period from tests of the same varieties in different climates have been so uniform in

character. The facts submitted appear to the writer to furnish very strong evidence in proof of the inherent productiveness of varieties. Further evidence of a similar character could be gathered from the results reported with other agricultural products, did space permit.

It is hoped that the facts which have been submitted here and elsewhere, will induce farmers everywhere to follow the example and teaching of the experimental farms. Pay increased attention to the choosing of the most promising sorts of seeds for sowing ; to the selection of the very best quality of seed, remembering the great law in nature that "like produces like." To these precautions add a judicious rotation of crops, with periodical manuring and the ploughing under of green clover, a careful preparation of the soil and early sowing. With these duties faithfully discharged, the farmer may confidently anticipate good crops, provided the season is reasonably favourable. Were such practice to become general an era of unprecedented prosperity in agriculture might be confidently predicted.

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