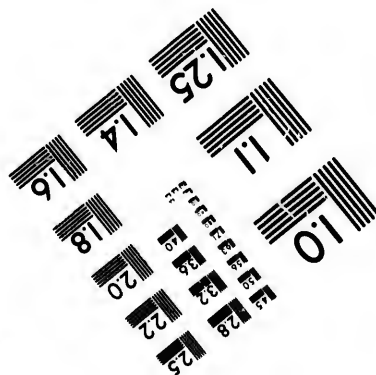
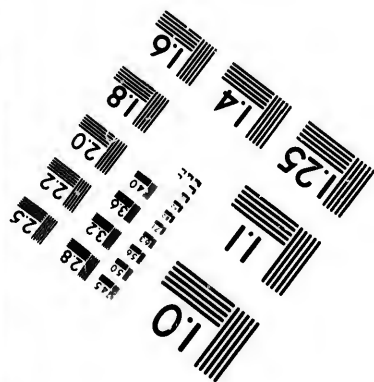
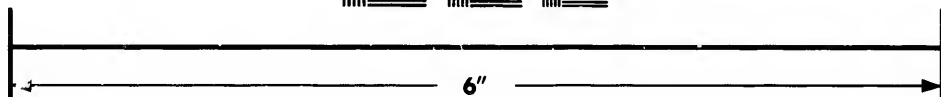
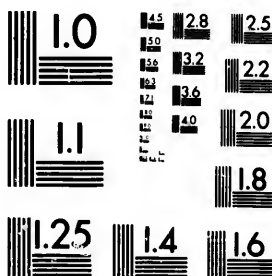


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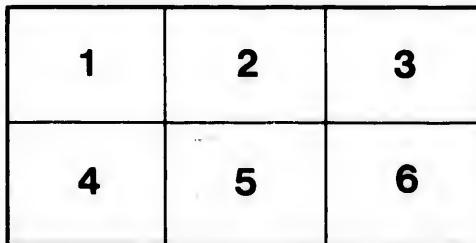
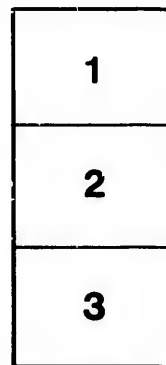
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DEPARTMENT OF AGRICULTURE



CENTRAL EXPERIMENTAL FARM

OTTAWA, CANADA

RESULTS OBTAINED IN 1898

FROM

TRIAL PLOTS

OF

GRAIN, FODDER CORN,

AND ROOTS,

BY

WM. SAUNDERS, LL.D.,  
*Director Experimental Farms.*



BULLETIN No. 32

DECEMBER, 1898

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

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OTTAWA

To the Honourable

The Minister of Agriculture.

SIR,—I beg to submit for your approval Bulletin No. 32 of the Experimental Farm series, prepared by myself. In this publication there will be found the results of a large number of experiments which have been carried on at all the experimental farms during the season of 1898, with oats, barley, spring wheat, pease, Indian corn, turnips, mangels, carrots and potatoes in uniform plots. The average results are also given of four years tests with uniform plots of oats, barley, spring wheat and potatoes, three and four years' experience with plots of Indian corn and turnips and three years' experience with varieties of pease, mangels and carrots.

This work has been undertaken with the object of gaining information as to the relative productiveness and earliness of the many varieties under test. The results show wide variations in the weight of the crops grown and point to the importance of greater care in choosing varieties of seed for sowing. It is hoped that the information given, covering the experience gained under many of the more important climatic variations found in the Dominion will be useful to farmers in every part of Canada.

I have the honour to be,

Your obedient servant,

WM. SAUNDERS,  
*Director Experimental Farms.*

OTTAWA, 12th December, 1898.



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## RESULTS OBTAINED IN 1898

FROM TRIAL PLOTS OF

# GRAIN, FODDER CORN, AND ROOTS

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

*Director Experimental Farms.*

An annual Bulletin has been published for the past three years giving particulars of the crops obtained from a large number of test plots of cereals, fodder corn, roots, &c., grown annually at each of the Experimental Farms. During the season of 1898 these several lines of work have been continued, the results of which will be found in the present bulletin. It is hoped that the prompt issue of the particulars as to relative yield and earliness of ripening of the different sorts under test, in a form convenient for reference, will be helpful to Canadian farmers, by giving information as to the most promising varieties for sowing during the coming season.

In conducting these experiments the several crops referred to have been grown on blocks of land as nearly uniform as possible in character, with an area sufficient in each case to include all the varieties of one sort of grain. The size of the plots has varied from one-tenth to one-fortieth of an acre, and all those of one group have usually been sown on the same day, or within two days, so that each variety might be grown under the same conditions. The seed used has been uniform in character and the quantity sown per acre and the manner of sowing or planting has been the same in each case.

These experiments have been undertaken for the purpose of gaining information as to the relative productiveness, when grown under similar conditions, of the many varieties under trial, of these important farm crops, also to ascertain their periods of ripening, in the different climates of this country.

Particulars are given of the crops produced at each of the Experimental Farms, from all the varieties sown, also the average yield obtained at all these farms. The different sorts are arranged in the order of their productiveness at the Central Experimental Farm at Ottawa, and the time required for their maturing is also given.

The season of 1898 was favourable in nearly all parts of the Dominion, and the crops obtained at all the Experimental Farms have, in nearly every instance, been above the average.

TRIAL PLOTS OF OATS.

Sixty-five varieties of oats have been tested during the season of 1898. These include eleven of the new cross-bred sorts, which have been produced at the Experimental Farms, namely, Brandon, Holland, Russell, King, Pense, Master, Oxford, Olive, Miller, Cromwell and Medal. The size of the plots on which the oats were grown, was one-twentieth of an acre at Brandon, Man., one-tenth of an acre at Indian Head, N. W. T., and one-fortieth of an acre each at Ottawa, Ont., Nappan, N. S., and Agassiz, B. C. 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, 15th and 16th April; Nappan, 11th May; Brandon, 30th April; Indian Head, 2nd May; and at Agassiz, 18th April.

Particulars as to the character of the land in each case, also its preparation and treatment will be found in the Annual Report of the Experimental Farms for 1898.

UNIFORM TEST PLOTS OF OATS.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1898.										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	Hazlett's Seizure	89	14 38 28	93	18 53 18 50	87	22 54 24 45	30 61	103	97	118	117	115	111					
2	Joanette	86	16 30 20	87	22 54 24 45	30 61	103	97	118	117	116	114	110	108					
3	Brandon	80	30 30 20	78	8 61 16 43	28 59	15	110	103	119	133	115	116	115					
4	Oderbruch	80	30 47 2	97	2 75	48	8 69 15	103	100	117	133	117	115	110					
5	Golden Beauty	80	20 35 10	93	18 65 20 59	14 66 30	106	101	111	117	115	110	108	107					
6	Black Mesdag	80	42 52	65	10 29 24 58	8 55 8	104	97	114	114	108	107	117	111					
7	Early Golden Prolific	79	14 35 10	97	22 70 20 48	18 65 30	105	100	116	117	117	111	116	110					
8	Improved Ligowo	78	32 25 10	87	2 51 26 54	14 59 17	106	97	116	115	116	110	114	115					
9	Holland	78	18 28 8	94	24 65 30 48	63 2	115	103	121	124	114	115	116	110					
10	Flying Scotchman	78	18 41 6	85	10 60 10 44	24 62	106	94	104	117	113	106	114	115					
11	Russell	78	8 28 8	86	16 61 16 50	20 61	110	103	116	133	114	115	116	110					
12	King	77	23 31 26	79	14 67 2 44	24 60 4	110	100	111	133	116	114	116	109					
13	Abundance	76	26 48 8	94	4 67 22 51	6 67 20	107	98	111	117	116	109	116	115					
14	Pense	76	26 22 12	106	16 66 26 47	63 29	110	101	117	133	116	115	116	110					
15	Banner	75	30 44 24	106	6 72 2 57	32 71 12	105	100	117	117	115	110	116	111					
16	Early Archangel	75	30 34 4	92	32 67 22 57	22 65 22	104	98	111	127	116	111	116	110					
17	White Giant	75	10 42 12	114	4 60 20 61	18 70 26	107	100	118	117	115	111	116	110					
18	Master	75	33 18 87	2 57 2 50	10 60 20	111	101	116	133	113	114	114	116	110					
19	American Triumph	74	4 31 26	105	30 68 18 64	4 68 30	104	102	117	126	114	112	116	110					
20	Columnus	73	28 48 8	91	6 76 16 56	69 5	103	98	116	127	114	111	116	110					
21	Newmarket	73	18 34 4	90	14 65 20 50	20 64 22	103	98	118	127	114	112	116	110					
22	Wallis	73	8 35 28	94	4 67 22 55	20 65 30	106	100	118	117	115	111	116	110					
23	Thousand Dollar	72	22 50	104	4 49 14 52	32 65 28	104	97	111	116	108	107	116	110					
24	White Schonen	72	12 45 10	104	4 63 28 50	15 67 7	103	100	119	117	116	111	116	110					
25	Mortgage Lifter	72	12 34 4	77	22 57 12 56	26 59 22	103	97	117	117	113	109	116	110					
26	Early Gothland	72	12 33 18	74	4 70 10 55	20 61 6	110	100	118	133	114	115	116	110					
27	Golden Giant	70	20 40	87	2 59 14 46	20 60 24	116	103	120	133	117	117	116	110					
28	Mennonite	70	20 42 12	108	28 56 6 57	2 67	106	101	117	117	113	110	116	110					
29	Bavarian	70	20 44 24	109	14 71 26 66	16 72 20	113	100	118	117	115	112	116	110					
30	Early Blossom	70	20 43 18	85	30 71 26 54	24 65 10	108	101	119	127	116	111	116	110					
31	Oxford	70	10 24 4	106	16 51 6 50	10 60 16	106	101	118	133	116	110	116	110					
32	Olive	68	8 27 22	98	28 65 30 51	16 62 14	106	97	117	133	116	113	116	110					
33	Miller	65	30 28 8	84	4 68 18 47	28 58 31	106	100	120	133	116	115	116	110					

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## UNIFORM TEST PLOTS OF OATS.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1898.						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.
34	Coulommiers.....	65	30 27	22	75	10 66	16 55	..	58	2	116	105	132	127	121	120	120	114	
35	Buckbee's Illinois.....	64	8 31	26	97	2 79	14 44	4 63	10	105	105	118	127	116	114	114	114	114	
36	Lincoln.....	63	28 48	8	94	4 69	4 59	4 66	30	104	98	116	117	115	110	110	110	110	
37	Improved American.....	63	18 31	6	98	28 72	22 50	30 63	14	104	100	118	127	116	113	113	113	113	
38	American Beauty.....	63	18 40	..	113	18 75	..	51 26	68 26	104	100	116	117	116	110	110	110	110	
39	Doncaster Prize.....	63	18 42	32	72	12 54	14 45	30 55	28	110	98	116	127	114	113	113	113	113	
40	Early Maine.....	62	32 40	..	84	24 75	10 54	4 63	14	106	97	120	126	113	112	112	112	112	
41	Victoria Prize.....	62	22 42	12	89	14 65	10 53	18 60	22	103	96	111	115	112	107	107	107	107	
42	Winter Gray.....	62	22 22	12	75	30 49	14 55	10 53	4	103	97	111	115	112	107	107	107	107	
43	California Prolific, Blk.....	62	22 38	28	110	..	71	6 58	28 68	10	109	98	117	126	111	113	113	113	
44	Bonanza.....	61	16 32	32	78	28 52	22 50	..	55 6	103	100	104	115	113	107	107	107	107	
45	White Russian.....	61	6 44	24	87	22 51	26 43	18 57	26	106	98	117	117	112	110	110	110	110	
46	Golden Tartarian.....	61	6 35	30	98	28 67	32 61	28 65	4	110	105	117	133	115	116	116	116	116	
47	Scottish Chief.....	60	20 35	10	77	22 45	10 52	12 54	8	103	100	104	117	108	106	106	106	106	
48	Holstein Prolific.....	60	10 27	22	93	18 65	20 60	22 61	18	105	101	120	117	116	111	111	111	111	
49	Imported Irish.....	60	..	38 8	83	18 56	26 72	38 62	11	103	94	107	115	113	106	106	106	106	
50	Early Dawson.....	60	..	29 14	88	8 44	4 42	32 52	32	102	130	111	117	112	108	108	108	108	
51	Wide Awake.....	58	28 40	..	82	32 66	6 57	22 61	4	105	100	111	117	117	110	110	110	110	
52	Cream Egyptian.....	57	32 48	8	84	24 45	..	57 12	58 22	103	96	111	115	113	107	107	107	107	
53	Poland.....	57	22 35	30	74	4 67	12 45	25 56	5	103	94	111	115	113	107	107	107	107	
54	White Wonder.....	53	8 38	28	61	26 51	6 56	21 52	11	103	96	104	115	113	106	106	106	106	
55	Siberian, O.A.C.....	52	22 42	12	88	8 69	24 48	28 60	12	104	101	120	133	116	114	114	114	114	
56	Black Beauty.....	51	6	..	91	26	..	57 12	66 26	104	..	117	..	112	111	111	111	111	
57	Cromwell.....	50	20 32	10	93	18 48	28 62	32 57	22	107	103	118	133	114	115	115	115	115	
58	Rosedale.....	50	10 33	18	82	32 76	26 53	8 59	12	106	98	111	124	114	110	110	110	110	
59	Welcome.....	50	..	35 10	92	32 52	2 46	28 55	14	104	98	111	115	115	108	108	108	108	
60	Prize Cluster.....	47	2 47	22	78	28 53	18 42	12 53	30	104	94	111	115	116	108	108	108	108	
61	Medal.....	47	2 26	16	77	2 58	28 51	6 52	4	106	101	120	133	115	115	115	115	115	
62	Rennie's Prize.....	46	26 40	..	65	10 52	12 52	32 51	16	103	94	116	115	113	108	108	108	108	
63	Abyssinia.....	46	26 45	30	92	32 75	30 52	22 62	28	105	96	118	127	116	112	112	112	112	
64	Prolific Black Tartarian.....	45	28 36	16	94	21 63	28 61	18 60	2	109	96	117	117	114	110	110	110	110	
65	Danish Island.....	42	12 39	14	99	14 57	2 85	10 64	24	100	100	117	123	117	111	111	111	111	

The twelve varieties of oats which have produced the largest crops during 1898, at the several Experimental Farms are the following:—

## CENTRAL EXPERIMENTAL FARM, OTTAWA.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Hazlett's Seizure.....	89	14	7. Early Golden Prolific.....	79	14
2. Joannette.....	86	16	8. Improved Ligowo.....	78	32
3. Brandon.....	80	30	9. Holland.....	78	18
4. Oderbruch.....	80	30	10. Russell.....	78	8
5. Golden Beauty.....	80	20	11. King.....	77	23
6. Black Mesdag.....	80	..	12. Abundance.....	76	26

An average crop for the twelve sorts of 80 bushels 22 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Thousand Dollar.....	50	..	7. Oderbruch.....	47	2
2. Cream Egyptian.....	48	8	8. Abyssinia.....	45	30
3. Abundance.....	48	8	9. White Schonen.....	45	10
4. Columbus.....	48	8	10. Banner.....	44	21
5. Lincoln.....	48	8	11. Bavarian.....	44	21
6. Prize Cluster.....	47	22	12. White Russian.....	44	21

An average crop of 46 bushels 31 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Giant.....	114	4	7. Pense.....	106	16
2. American Beauty.....	113	18	8. Banner.....	106	6
3. California Prolific Black.....	110	—	9. American Triumph.....	105	30
4. Bavarian.....	109	14	10. Thousand Dollar.....	101	4
5. Mennonite.....	108	28	11. White Schonen.....	104	4
6. Oxford.....	106	16	12. Newmarket.....	99	14

An average crop of 107 bushels 13 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Buckbee's Illinois.....	79	14	7. Oderbruch.....	75	—
2. Rosedale.....	76	25	8. Improved American.....	72	22
3. Columbus.....	76	16	9. Banner.....	72	2
4. Abyssinia.....	75	30	10. Early Blossom.....	71	26
5. Early Maine.....	75	10	11. Bavarian.....	71	26
6. American Beauty.....	75	—	12. California Prolific Black.....	71	6

An average crop of 74 bushels 15 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Danish Island.....	85	10	7. White Giant.....	61	18
2. Imported Irish.....	72	38	8. Prolific Blk. Tartarian.....	61	18
3. Bavarian.....	66	16	9. Holstein Prolific.....	60	22
4. American Triumph.....	64	4	10. Golden Beauty.....	59	14
5. Cronwell.....	62	32	11. Lincoln.....	59	4
6. Golden Tartarian.....	61	28	12. California Prolific Black.....	58	28

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

The twelve varieties which have produced the largest crops in 1898 taking the average results obtained on all the experimental farms are:—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Bavarian.....	72	23	7. American Beauty.....	68	26
2. Banner.....	71	12	8. California Prolific Black.....	68	10
3. White Giant.....	70	26	9. Abundance.....	67	20
4. Oderbruch.....	69	15	10. White Schonen.....	67	7
5. Columbus.....	69	5	11. Mennonite.....	67	—
6. American Triumph.....	68	30	12. Golden Beauty.....	66	39

An average crop of 69 bushels per acre.

The average crop of all the varieties of oats tested at each of the Experimental Farms in 1898 was as follows:—At Ottawa, 66 bushels 11 lbs. per acre; Nappan, 37 bushels; Brandon, 90 bushels 8 lbs.; Indian Head, 61 bushels 30 lbs., and at Agassiz, 52 bushels 29 lbs. The average return given by the whole of the varieties tested at all the farms was 61 bushels 22 lbs. per acre.

### TRIAL PLOTS OF BARLEY.

Forty-one varieties of barley have been included in the trial plots during 1898, eighteen different sorts of two-rowed barley and twenty-three of six-rowed. Among the two-rowed sorts are included eleven hybrid varieties which have been produced at the Experimental Farms namely:—Beaver, Dunham, Leslie, Bolton, Victor, Nepean, Logan, Sidney, Paecer, Kirby and Monck. Among the six-rowed sorts there are twelve of these hybrids, namely:—Pioneer, Royal, Mansfield, Empire, Argyle, Stella, Phoenix, Surprise, Nugent, Summit, Trooper and Vanguard.

The barley plots were of the same size as those sown with oats. The quantity of seed used in each case was at the rate of two bushels per acre, and the dates of sowing were as follows:—At Ottawa, 16th to 18th April; Nappan, 10th May; Brandon, 13th May; Indian Head, 4th May, and at Agassiz, on the 21st of April.

### UNIFORM TEST PLOTS OF TWO-ROWED BARLEY.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1898.										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	Beaver.....	55	20	40	40	57	41	37	4	39	8	46	4	191	91	102	121	103	104
2	Danish Chevalier.....	50	..	33	16	37	4	57	44	33	16	42	16	101	97	107	121	106	106
3	Canadian Thorpe.....	47	14	27	24	45	20	50	10	27	44	39	32	103	94	107	125	106	107
4	Dunham.....	46	2	32	21	62	24	43	36	29	8	42	38	103	94	105	120	103	105
5	Leslie.....	45	40	26	32	57	41	40	..	30	..	40	4	103	91	101	115	103	103
6	Prize Prolific.....	43	16	27	24	46	12	53	36	36	12	41	20	101	97	105	121	104	106
7	Bolton.....	43	6	35	..	45	40	41	12	31	12	39	14	98	94	99	120	103	102
8	Victor.....	39	8	29	8	46	32	37	24	29	8	36	16	98	91	99	120	103	102
9	Kinver Chevalier.....	38	16	25	40	49	28	53	16	40	..	41	20	101	97	113	121	106	108
10	Thauret.....	38	6	24	8	56	32	51	18	22	44	39	12	101	97	107	121	106	107
11	Nepean.....	37	34	28	16	55	20	41	32	25	..	37	30	99	94	101	121	103	103
12	French Chevalier.....	36	42	30	..	57	44	53	6	31	32	41	44	101	97	107	121	106	106
13	Newton.....	36	32	33	16	53	36	53	26	33	16	42	6	103	94	107	119	103	105
14	Logan.....	35	20	25	40	54	8	39	28	29	8	36	40	100	94	104	115	103	103
15	Sidney.....	33	36	32	24	47	24	50	..	30	40	38	44	98	97	99	121	104	103
16	Paecer.....	33	6	25	40	45	40	35	30	34	8	31	44	101	91	101	121	103	104
17	Kirby.....	31	10	28	16	65	20	44	28	25	40	39	3	100	94	103	115	103	103
18	Monck.....	27	34	25	..	45	20	36	22	25	40	32	14	103	97	103	121	106	103

The six varieties of two-rowed barley, which have given the largest crops at the several experimental farms during 1898, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Beaver.....	55 20	4. Dunham.....	46 2
2. Danish Chevalier.....	50 ..	5. Leslie.....	45 49
3. Canadian Thorpe.....	47 14	6. Prize Prolific.....	43 16

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

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

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Beaver.....	40 40	4. Danish Chevalier.....	33 16
2. Bolton.....	35 ..	5. Dunham.....	32 24
3. Newton.....	33 16	6. Sidney.....	32 24

An average crop of 34 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Kirby.....	65 20	4. Beaver.....	57 44
2. Dunham.....	62 24	5. Leslie.....	57 4
3. French Chevalier.....	57 44	6. Thanet.....	56 32

An average crop of 59 bushels 28 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.....	57 44	4. Newton.....	53 26
2. Thanet.....	54 18	5. Kinver Chevalier.....	53 16
3. Prize Prolific.....	53 36	6. French Chevalier.....	53 6

An average crop of 54 bushels 16 lbs. per acre.

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

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Kinver Chevalier.....	40 ..	4. Pacer.....	34 8
2. Beaver.....	39 8	5. Danish Chevalier.....	33 16
3. Prize Prolific.....	36 12	6. Newton.....	33 16

An average crop of 36 bushels 2 lbs. per acre.

The six varieties of two-rowed barley, which have given the largest crops in 1898, taking the average of the results obtained on all the experimental farms are :—

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Beaver.....	46 4	4. Newton.....	42 6
2. Dunham.....	42 38	5. French Chevalier.....	41 44
3. Danish Chevalier.....	42 16	6. Prize Prolific.....	41 20

An average crop of 42 bushels 29 lbs. per acre.

The average crop of all the varieties of two-rowed barley tested at each of the experimental farms in 1898, was as follows :—At Ottawa, 39 bushels 46 lbs. per acre; at Nappan, 29 bushels 23 lbs.; Brandon, 51 bushels 35 lbs.; Indian Head, 45 bushels 37 lbs., and at Agassiz, 29 bushels 40 lbs.

The average return given by the whole of the varieties at all the farms was 39 bushels 26 lbs. per acre.

UNIFORM TESTS OF SIX-ROWED BARLEY.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1898.						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	Odessa	58	16	40	40	53	36	53	6	34	8	48	2	97	90	96	104	102	97½
2	Pioneer	57	4	50	..	63	16	47	24	35	20	50	32	101	91	98	115	100	101
3	Mensury	55	..	37	24	55	40	47	24	37	24	46	34	100	88	94	107	100	97½
4	Royal	52	34	33	16	55	20	45	30	38	16	45	4	97	90	94	107	100	97½
5	Mansfield	51	32	33	16	60	40	43	16	34	28	44	36	100	93	95	115	102	101
6	Blue Barley	50	6	33	16	35	20	42	24	26	32	37	29	103	91	97	101	103	99
7	Empire	49	28	34	8	55	20	37	24	36	12	42	28	100	94	98	115	102	101½
8	Argyle	49	8	32	24	62	24	47	44	36	32	45	36	95	91	98	115	102	100
9	Stella	47	4	46	32	68	16	47	14	34	8	48	34	100	97	103	114	103	103½
10	Oderbruch	46	42	45	40	62	4	44	38	29	28	45	40	96	90	94	107	100	97½
11	Phoenix	45	..	34	8	55	20	50	20	40	..	45	..	96	91	94	107	102	98
12	Surprise	44	38	29	8	58	16	37	24	25	..	38	46	100	97	103	114	103	103½
13	Nugent	41	22	34	8	51	32	47	24	23	16	40	30	100	91	98	112	102	100½
14	Rennie's Improved	41	12	34	8	59	8	56	32	27	44	43	40	91	90	94	107	102	96½
15	Summit	40	20	36	32	57	24	46	2	35	40	43	14	100	97	93	114	103	102½
16	Common	40	20	37	24	62	44	48	46	34	8	44	38	101	90	95	111	104	100
17	Trooper	38	36	40	40	62	44	51	22	35	..	45	38	97	91	102	115	102	101½
18	Success	37	24	36	32	44	8	42	4	32	44	38	28	87	88	95	96	97	92½
19	Petschora	37	24	29	8	54	8	54	38	28	36	40	42	96	91	94	107	100	97½
20	Vanguard	36	32	38	16	46	32	30	20	31	32	36	36	91	90	94	104	100	95½
21	Excelsior	36	2	33	16	46	12	46	12	34	28	39	14	96	88	93	101	97	95
22	Baxter	35	..	41	32	63	36	52	14	34	28	45	22	97	88	95	107	100	97½
23	Champion	33	16	25	..	37	24	46	22	35	20	35	26	96	88	92	103	97	95½

The six varieties of six-rowed barley, which have given the largest crops at the several experimental farms during 1898, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Odessa	58	16	4. Royal	52	34
2. Pioneer	57	4	5. Mansfield	51	32
3. Mensury	55	..	6. Blue barley	50	6

An average crop of 54 bushels 7 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Pioneer	50	..	4. Odessa	41	32
2. Stella	46	32	5. Trooper	40	40
3. Oderbruch	45	40	6. Vanguard	40	40

An average crop of 44 bushels 15 lbs. per acre.



## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Stella .....	68	16	4. Trooper.....	62	44
2. Baxter.....	63	36	5. Common.....	62	4
3. Pioneer.....	63	16	6. Argyle.....	62	24

An average crop of 63 bushels 46 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 .....	56	32	4. Baxter .....	52	14
2. Petschora.....	54	38	5. Trooper .....	51	22
3. Odessa.....	53	6	6. Phoenix .....	50	20

An average crop of 53 bushels 6 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Phoenix.....	40	..	4. Argyle .....	36	32
2. Royal.....	38	16	5. Empire.....	36	12
3. Mensury.....	37	24	6. Summit .....	35	40

An average crop of 37 bushels 21 lbs. per acre.

The six varieties of six-rowed barley, which have given the largest crops in 1898, taking the average of the results obtained on all the experimental farms, are :

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Pioneer.....	50	32	4. Mensury.....	46	34
2. Stella.....	48	34	5. Oderbruch.....	45	40
3. Odessa .....	48	2	6. Trooper.....	45	38

An average crop of 47 bushels 30 lbs. per acre.

The average crop of all the varieties of six-rowed barley, tested at each of the experimental farms in 1898, was as follows : At Ottawa, 44 bushels 28 lbs. per acre ; Nappan, 36 bushels 21 lbs. ; Brandon, 55 bushels 17 lbs. ; Indian Head, 46 bushels 20 lbs., and at Agassiz, 33 bushels 17 lbs. The average return given by the whole of the varieties, at all the farms, was 43 bushels 11 lbs. per acre.

## TRIAL PLOTS OF SPRING WHEAT.

The uniform test plots of spring wheat for 1898, have included forty-two varieties. There were among these, twenty-one cross-bred sorts, which have been produced at the experimental farms. These are Plumper, Blair, Preston, Rideau, Vernon, Stanley, Percy, Countess, Huron, Progress, Harold, Captor, Crown, Blenheim, Mason, Dawn, Advance, Dufferin, Alpha, Admiral and Beauty. 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 bushel per acre. The dates of sowing were as follows : At Ottawa, 20th to 22nd April ; Nappan, 9th May ; Brandon, 20th April ; Indian Head, 21st April, and at Agassiz, 15th April.

UNIFORM TEST PLOTS OF SPRING WHEAT.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms for Season of 1898.										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	Plumper	31	15	18	40	20	..	21	40	22	20	23	59	190	102	117	125	113	111
2	Rio Grande	30	50	20	..	30	..	36	20	27	30	23	56	104	107	127	123	116	116
3	Empirium	30	40	21	20	26	20	38	50	25	30	23	32	104	106	127	127	115	115
4	Weilman's Fife	30	..	25	20	37	..	43	10	23	..	32	42	106	107	125	133	116	114
5	Blair	29	30	15	20	24	40	30	..	26	20	25	10	103	102	131	125	113	114
6	Preston	28	50	17	20	32	20	42	10	28	49	29	52	100	101	125	127	115	113
7	Colorado	28	20	20	40	26	40	27	..	28	..	26	8	101	101	125	127	115	113
8	Goose	28	10	17	20	45	20	34	20	26	40	30	22	103	102	128	127	119	115
9	Rideau	27	20	18	40	24	40	34	..	27	45	26	5	101	102	124	127	112	113
10	Baudry	27	20	19	20	25	..	35	50	29	..	27	18	99	102	122	127	115	113
11	Vernon	27	10	17	20	31	..	34	30	28	40	27	44	101	102	125	136	115	115
12	Red Fern	27	10	18	..	31	..	56	20	26	..	27	42	104	101	124	136	116	116
13	Black Sea	27	10	14	40	21	..	36	40	29	40	25	50	102	101	125	124	113	113
14	Stanley	26	50	17	20	33	40	43	10	23	30	28	54	101	107	126	124	113	114
15	Percy	26	40	17	20	33	40	45	20	23	30	29	18	99	105	120	124	113	112
16	Dion's	26	40	15	20	27	20	39	40	27	..	27	12	104	105	124	136	119	117
17	Pringle's Champlain	26	..	24	40	32	..	31	50	26	..	28	6	99	101	126	124	115	113
18	Countess	25	30	20	40	25	40	32	40	27	50	26	28	102	102	124	124	112	112
19	Monarch	25	20	20	..	42	40	43	20	29	20	32	8	104	108	126	127	119	116
20	Huron	24	10	21	20	33	40	32	30	30	..	28	20	104	106	125	126	115	115
21	Progress	24	..	22	40	32	..	40	20	29	..	29	36	102	102	120	124	115	112
22	White Chaff, Campbell's	23	40	16	..	31	20	30	40	27	..	27	31	101	102	125	126	115	113
23	Harold	23	..	18	40	18	40	26	40	23	40	22	8	95	102	120	117	106	108
24	Golden Drop	22	40	16	..	29	20	33	30	27	20	25	46	103	101	125	126	113	113
25	Captor	22	22	18	..	22	20	42	39	24	..	25	50	102	106	130	127	113	115
26	Hungarian	22	20	22	..	35	..	34	40	27	40	28	20	101	106	125	124	113	112
27	Crown	22	..	16	..	38	20	11	20	23	..	28	8	104	107	125	126	113	115
28	Herisson Bearded	21	40	20	..	27	..	28	50	25	10	24	32	106	102	126	127	115	115
29	White Fife	21	30	17	20	40	..	45	30	26	10	30	6	106	105	126	133	116	117
30	White Connell	21	30	22	..	37	20	42	30	31	20	30	56	107	106	126	133	116	117
31	Red Fife	21	20	19	20	36	20	14	20	28	20	29	56	110	106	127	133	115	118
32	Benheim	21	..	20	..	30	..	37	20	27	35	27	11	107	106	126	127	119	117
33	Mason	20	45	12	40	20	..	27	20	25	..	21	9	103	102	125	120	112	112
34	Dawn	20	..	14	..	25	40	35	30	25	40	24	10	106	101	120	124	108	111
35	Advance	18	40	17	20	23	40	38	40	25	10	24	42	106	107	126	127	116	116
36	Dufferin	17	15	16	40	34	..	35	..	26	20	25	51	106	101	122	127	112	113
37	Ladoga	17	..	15	20	20	20	23	40	27	10	20	42	103	101	124	125	113	113
38	Alpha	16	30	22	40	27	20	31	..	27	35	25	1	107	105	126	124	115	115
39	Old Red River	16	10	18	40	33	..	36	10	27	40	26	20	106	107	126	126	119	116
40	Admiral	15	20	22	..	31	..	34	20	28	..	26	8	103	105	126	126	115	115
41	Beauty	15	20	23	20	30	20	38	40	25	40	26	40	107	106	125	126	115	115
42	White Russian	15	..	13	20	33	40	42	30	28	30	26	12	104	102	125	134	116	116

The twelve varieties of spring wheat which have given the largest crops at the several experimental farms during 1898, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Laurel.....	32	30	7. Preston.....	28	50
2. Plumper.....	31	15	8. Colorado.....	28	20
3. Rio Grande.....	30	50	9. Goose.....	28	10
4. Emporium.....	30	40	10. Fraser.....	28	10
5. Wellman's Fife.....	30	..	11. Rideau.....	27	20
6. Blair.....	29	30	12. Beaudry.....	27	20

An average crop of 29 bushels 19 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Wellman's Fife.....	25	20	7. Hungarian.....	22	..
2. Pringle's Champain.....	24	40	8. White Connell.....	22	..
3. Beauty.....	23	20	9. Emporium.....	21	20
4. Progress.....	22	40	10. Huron.....	21	20
5. Alpha.....	22	40	11. Countess.....	20	40
6. Admiral.....	22	..	12. Colorado.....	20	40

An average crop of 22 bushels 23 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Goose.....	45	20	7. Red Fife.....	36	20
2. Monarch.....	42	40	8. Hungarian.....	35	..
3. White Fife.....	40	..	9. Dufferin.....	34	..
4. Crown.....	38	20	10. Percy.....	33	40
5. White Connell.....	37	20	11. Stanley.....	33	40
6. Wellman's Fife.....	37	..	12. Huron.....	33	40

An average crop of 37 bushels 15 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Fife.....	45	30	7. Captor.....	42	30
2. Percy.....	45	20	8. White Connell.....	42	30
3. Red Fife.....	44	20	9. White Russian.....	42	20
4. Monarch.....	43	20	10. Preston.....	42	10
5. Stanley.....	43	19	11. Crown.....	41	20
6. Wellman's Fife.....	43	10	12. Progress.....	40	20

An average crop of 43 bushels per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Connell.....	31	20	7. Preston.....	28	40
2. Huron.....	30	..	8. Vernon.....	28	40
3. Black Sea.....	29	40	9. White Russian.....	28	30
4. Monarch.....	29	20	10. Plumper.....	28	20
5. Progress.....	29	..	11. Red Fife.....	28	20
6. Beaudry.....	29	..	12. Wellman's Fife.....	28	..

An average crop of 29 bushels 4 lbs. per acre.

The twelve varieties of spring wheat which have given the largest crops, in 1898, taking the average of the results obtained on all the experimental farms are :—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Wellman's Fife.....	32	42	7. Preston .....	29	52
2. Monarch.....	32	8	8. Progress.....	29	36
3. White Connell .....	30	56	9. Percy.....	29	18
4. Goose .....	30	22	10. Rio Grande .....	28	56
5. White Fife .....	30	6	11. Stanley.....	28	54
6. Red Fife .....	29	56	12. Emporium.....	28	32

An average crop of 30 bushels 6 lbs. per acre.

The average crop of all the varieties of spring wheat tested at each of the experimental farms in 1898, was as follows : at Ottawa, 23 bushels 39 lbs. per acre ; Nappan, 18 bushels 40 lbs. ; Brandon, 30 bushels ; Indian Head, 36 bushels 10 lbs. and at Agassiz 27 bushels. The average return given by the whole of the varieties of spring wheat at all the farms was 27 bushels 6 lbs. per acre.

#### TRIAL PLOTS OF PEASE.

Forty-seven varieties of pease have been tested in the uniform trial plots during the past season. Among these there were twenty-five of the cross-bred sorts which have been originated at the experimental farms. These are, Arthur, Macoun, Picton, Perth, Lanark, Archer, Vincent, Mackay, Bright, Bedford, Nelson, Fergus, Carleton, Cooper, Duke, Bruce, Victoria, Agnes, Gregory, Fenton, Alma, King, Kent, Trilby and Prince. These were sown in plots of one-tenth acre each at Brandon and Indian Head and one-fortieth acre each at Ottawa, and Agassiz, 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, 18th to 20th April ; Brandon, 24th to 29th April ; Indian Head, 5th and 6th May, and at Agassiz, 14th April.

No returns are given of the plots of pease at Nappan for the reason that the seed was unfortunately sown on a piece of land which was afterwards found to be very badly infested with a weed known as spurrey, *Spergula arvensis* L. This weed came up so thickly and grew so rapidly that the pease were nearly smothered and on this account a large proportion of them were cut green and fed to cattle.

This crop was also subject to an unfortunate accident at Ottawa. On the 5th of August when the varieties numbered in the list from 37 to 48 inclusive were cut and drying in the field a violent storm of wind suddenly arose which carried them all to the other end of the field and the different sorts were so mixed that it was impossible to separate them. On this account the crop of these varieties can only be given for three of the farms.

UNIFORM TEST PLOTS OF PEASE.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms, for Season of 1898.										Number of Days from Sowing to Harvesting.				
		Ottawa, Ont.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of four Farms.		Ottawa, Ont.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of four Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.
1	Arthur	46	50	46	..	28	50	31	..	38	10	102	127	127	111	116
2	Elephant Blue	45	20	39	..	43	10	36	..	40	52	105	120	125	113	115
3	Macoun	40	..	39	..	28	20	36	20	35	55	112	131	128	116	121
4	Picton	40	..	43	40	36	40	34	20	38	40	105	123	131	115	118
5	Pride	40	..	54	40	44	50	32	40	43	42	101	120	121	112	114
6	Prussian Blue	40	..	42	..	35	20	30	..	36	50	106	121	125	112	116
7	Perth	39	30	55	40	49	30	28	..	43	12	104	127	129	113	116
8	Crown	39	10	28	40	45	30	35	..	37	5	101	111	122	110	111
9	Multiplier	38	40	39	..	29	40	34	..	35	20	108	130	129	117	121
10	Lanark	38	30	45	..	31	40	32	20	46	52	104	125	123	111	115
11	Black-eyed Marrowfat	38	20	48	..	33	10	25	..	36	105	105	128	129	113	115
12	Centennial	38	..	31	20	36	20	32	..	34	25	105	124	129	115	118
13	Archer	38	..	30	..	38	50	29	10	36	15	108	130	127	113	119
14	Large White Marrowfat	37	30	39	20	35	..	28	..	34	57	111	133	129	115	122
15	Vincent	37	20	49	..	40	..	32	10	39	37	107	123	124	110	116
16	Odd-fellow	36	40	24	..	37	30	26	20	31	7	106	118	123	111	114
17	German White	35	50	47	20	37	46	33	20	38	32	101	123	116	110	112
18	Mackay	35	40	39	..	38	20	27	40	35	10	107	132	123	115	119
19	Chancellor	35	40	40	20	38	30	29	40	36	10	100	111	114	117	110
20	Bright	34	10	36	20	40	..	31	20	35	27	108	131	125	117	121
21	Bedford	33	20	33	20	31	40	30	20	32	10	109	132	126	116	120
22	Nelson	33	20	44	20	35	30	23	20	33	37	104	115	116	111	114
23	Mummy	33	10	47	40	30	50	37	..	37	10	104	123	124	115	116
24	Creper	32	40	23	20	43	..	33	40	33	10	105	122	131	109	116
25	Paragon	31	20	34	20	57	50	29	30	38	12	107	134	125	116	120
26	New Potter	31	10	48	..	43	20	32	..	38	37	106	124	116	113	114
27	Fergus	30	50	35	..	30	..	33	50	32	25	107	134	127	116	121
28	Carleton	30	40	41	..	34	10	30	50	34	10	106	125	126	116	115
29	Cooper	30	30	39	..	35	40	34	30	34	53	108	123	131	111	118
30	Duke	30	20	34	..	44	30	27	50	34	10	105	131	124	115	118
31	Prince Albert	30	20	36	..	39	30	35	20	35	17	112	135	127	113	121
32	Bruce	30	..	45	40	49	30	28	40	38	27	108	130	129	117	118
33	Victoria	30	..	39	..	41	20	33	..	35	50	109	130	126	116	120
34	Agnes	29	40	31	..	32	10	37	20	32	32	104	128	123	116	117
35	Gregory	29	20	38	..	32	40	34	..	33	45	107	130	119	115	119
36	Early Britain	27	50	54	40	44	..	29	10	38	55	99	119	116	106	110
37	French Canner	21	20	52	20	36	..	25	20	33	45	100	119	116	105	110
38	White Wonder	20	..	51	..	40	20	39	..	37	50	98	119	114	108	109
39	Harrison's Glory	..	..	59	..	38	30	22	40	40	3	..	111	116	104	110
40	Fenton	..	..	45	20	29	40	31	30	35	30	..	126	119	108	117
41	Alma	..	..	44	40	32	40	32	40	36	40	..	122	129	116	122
42	King	..	..	42	20	40	10	39	..	40	30	..	121	125	115	120
43	Kent	..	..	41	20	38	10	30	..	36	30	..	126	124	116	122
44	Canadian Beauty	..	..	39	..	30	40	30	20	33	20	..	128	125	110	121
45	Daniel O'Rourke	..	..	39	..	40	20	34	40	38	..	..	126	124	106	118
46	Tribby	..	..	37	20	55	10	27	30	40	..	..	129	127	115	123
47	Prince	..	..	31	20	29	10	25	..	28	30	..	129	125	113	122

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The twelve varieties of pease which have given the largest crops at the several experimental farms during 1898, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per acre.		Per acre.	
Bush.	Lbs.	Bush.	Lbs.
1. Arthur.....	46 50	7. Perth.....	39 30
2. Elephant Blue.....	45 20	8. Crown.....	39 10
3. Macoun.....	40 ..	9. Multiplier.....	38 40
4. Picton.....	40 ..	10. Lanark.....	38 30
5. Pride.....	40 ..	11. Black-eyed Marrowfat.....	38 20
6. Prussian Blue.....	40 ..	12. Centennial.....	38 ..

An average crop of 40 bushels 22 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush.	Lbs.	Bush.	Lbs.
1. Harrison's Glory.....	59 ..	7. Vincent.....	49 ..
2. Perth.....	55 40	8. New Potter.....	48 ..
3. Early Britain.....	54 40	9. Black-eyed Marrowfat.....	48 ..
4. Pride.....	51 40	10. Mummy.....	47 40
5. French Canner.....	52 20	11. German White.....	47 20
6. White Wonder.....	51 ..	12. Arthur.....	46 ..

An average crop of 51 bushels 7 lbs. per acre.

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

Per acre.		Per acre.	
Bush.	Lbs.	Bush.	Lbs.
1. Paragon.....	57 50	7. Pride.....	44 50
2. Trilby.....	55 10	8. Duke.....	44 50
3. Perth.....	49 30	9. Early Britain.....	44 ..
4. Bruce.....	49 30	10. New Potter.....	43 20
5. Golden Vine.....	49 ..	11. Elephant Blue.....	43 10
6. Crown.....	45 30	12. Creeper.....	43 ..

An average crop of 47 bushels 27 lbs. per acre.

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

Per acre.		Per acre.	
Bush.	Lbs.	Bush.	Lbs.
1. King.....	39 ..	7. Prince Albert.....	35 20
2. White Wonder.....	39 ..	8. Gregory.....	34 40
3. Agnes.....	37 20	9. Crown.....	34 40
4. Mummy.....	37 ..	10. Daniel O'Rourke.....	34 40
5. Macoun.....	36 40	11. Cooper.....	34 20
6. Elephant Blue.....	36 20	12. Picton.....	34 20

An average crop of 36 bushels 7 lbs. per acre.

The twelve varieties which have given the largest crops in 1898, taking the average results obtained on all the experimental farms, are the following:—

Per acre.		Per acre.	
Bush.	Lbs.	Bush.	Lbs.
1. Perth.....	43 12	7. Vincent.....	39 37
2. Pride.....	43 2	8. Early Britain.....	38 55
3. Elephant Blue.....	40 52	9. Picton.....	38 40
4. King.....	40 30	10. New Potter.....	38 37
5. Harrison's Glory.....	40 3	11. German White.....	38 32
6. Trilby.....	40 —	12. Bruce.....	38 27

An average crop of 40 bushels 2 lbs. per acre.

The average crop of all the varieties of pease tested at each of the experimental farms in 1898, was as follows:—At Ottawa, 34 bushels 30 lbs.; Brandon 41 bushels 8 lbs.; Indian Head, 37 bushels 59 lbs., and at Agassiz, 31 bushels 19 lbs. The average return given by the whole of the varieties, at all the farms, was 36 bushels 29 lbs. per acre.

TRIAL PLOTS OF INDIAN CORN.

Twenty-four varieties of Indian Corn have been tested during 1898. 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, 18th May; Nappan, 28th May; Brandon, 23rd May, Indian Head, 16th May, and at Agassiz, 17th May. All were cut green and put into the silo for the winter feeding of stock. The dates of cutting were:—At Ottawa, 17th September; Nappan, 26th September; Brandon, 1st September; Indian Head, 7th September, and at Agassiz, 23rd September. 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, YIELD AT THE SEVERAL EXPERIMENTAL FARMS, SEASON OF 1898.

Number.	Name of Variety.	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	Red Cob Ensilage....	24 1,170	18 300	27 1,410	14 1,964	33 .....	23 1,375
2	Early Mastodon.....	24 1,060	21 1,450	27 120	8 764	29 1,400	22 558
3	Cloud's Early Yellow	24 473	12 1,850	27 1,000	12 420	26 1,460	20 1,410
4	Giant Prolific Ensilage.....	22 1,100	16 1,550	25 380	15 492	38 450	23 1,191
5	Early Butler.....	21 1,340	12 970	24 1,940	12 552	28 100	19 1,780
6	Evergreen Sugar....	21 900	11 550	14 160	6 540	16 1,000	13 1,830
7	Rural Thoroughbred White Flint.....	20 1,800	23 1,850	29 1,840	18 620	23 200	23 462
8	Champion White Pearl.....	20 247	16 1,220	21 1,560	16 1,264	28 1,760	20 1,610
9	Sanford.....	20 113	20 1,800	23 200	13 1,720	22 1,100	20 186
10	Selected Leaning....	19 1,380	14 1,150	19 1,160	13 796	22 220	17 1,711
11	Pride of the North..	19 940	15 1,350	24 1,500	9 742	29 80	19 1,322
12	White Cap Yellow Dent.....	19 170	17 1,200	28 1,200	12 1,740	25 160	20 1,294
13	Extra Early Huron Dent.....	18 1,180	15 1,020	23 200	11 572	25 1,920	18 1,778
14	Mammoth Cuban....	18 80	16 1,770	20 1,800	9 216	20 1,800	17 353
15	King of the Earliest..	17 1,200	17 100	19 940	10 1,780	24 1,610	17 1,926
16	Ruby Mexican.....	17 100	9 150	19 720	8 632	22 1,980	15 716
17	Mammoth Eight-rowed Flint.....	16 1,440	16 1,770	24 840	11 968	24 1,000	18 1,603
18	Canada White Flint..	16 340	17 100	21 1,200	12 816	21 900	17 1,471
19	North Dakota White	15 1,240	16 1,770	22 1,100	8 236	22 1,320	17 333
20	Longfellow.....	14 1,920	17 650	23 1,080	10 1,384	19 1,600	17 526
21	Pearce's Prolific....	14 1,113	17 1,200	25 600	9 1,800	24 1,000	18 712
22	Angel of Midnight...	14 1,060	16 450	24 1,720	11 1,232	21 900	17 1,472
23	Compton's Early....	13 180	16 1,550	25 1,700	14 1,568	24 1,500	19 99
24	Mitchell's Extra Early	11 660	9 1,250	23 1,300	9 876	16 1,200	14 257

The six varieties of Indian Corn which have given the heaviest crops at the several experimental farms during 1898, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Red Cob Ensilage.....	24 1,170	4. Giant Prolific Ensilage.....	22 1,100
2. Early Mastodon.....	24 1,060	5. Early Butler.....	21 1,340
3. Cloud's Early Yellow.....	24 473	6. Evergreen Sugar.....	21 900

An average crop of 23 tons 340 lbs. per acre.

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

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Thoroughbred White Flint...	23	1,850	4.	Red Cob Ensilage..	18	300
2.	Early Mastodon.....	21	1,450	5.	Pearce's Prolific.....	17	1,200
3.	Sanford.....	20	1,800	6.	White Cap Yellow Dent.....	17	1,200

An average crop of 19 tons 1,967 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Thoroughbred White Flint...	29	1,840	4.	Cloud's Early Yellow.....	27	1,000
2.	White Cap Yellow Dent.....	28	1,200	5.	Early Mastodon.....	27	120
3.	Red Cob Ensilage.....	27	1,440	6.	Compton's Early.....	25	1,700

An average crop of 27 tons 1,550 lbs. per acre.

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

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Thoroughbred White Flint...	18	620	4.	Red Cob Ensilage.....	14	1,964
2.	Champion White Pearl....	16	1,264	5.	Compton's Early.....	14	1,568
3.	Giant Prolific Ensilage....	15	492	6.	Sanford.....	13	1,720

An average crop of 15 tons 1,271 lbs. per acre.

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

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Giant Prolific Ensilage.....	38	450	4.	Pride of the North.....	29	80
2.	Red Cob Ensilage.....	33	.....	5.	Champion White Pearl.....	28	1,760
3.	Early Mastodon.....	29	1,400	6.	Early Butler.....	28	100

An average crop of 31 tons 298 lbs. per acre.

The six varieties of Indian Corn which have given the heaviest crops, in 1898, 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.....	23	1,375	4.	Early Mastodon.....	22	558
2.	Giant Prolific Ensilage....	23	1,194	5.	Champion White Pearl.....	20	1,610
3.	Thoroughbred White Flint...	23	462	6.	Cloud's Early Yellow.....	20	1,440

An average crop of 22 tons 773 lbs. per acre.

As the season of 1898 was very favourable for maturing the corn crop, all the varieties grown, attained a sufficient degree of ripeness to permit of their being made into useful and nutritious food for stock.

The average weight cut green of all the varieties of Indian Corn, tested at each of the experimental farms, in 1898, was as follows:—At Ottawa, 18 tons 1,216 lbs.; Nappan, 15 tons 1,625 lbs.; Brandon, 23 tons 1,450 lbs.; Indian Head, 11 tons 1,399 lbs.; and at Agassiz, 24 tons 1,444 lbs. The average return given by the whole of the varieties at all the farms was 18 tons 1,827 lbs per acre.

## TRIAL PLOTS OF TURNIPS.

Nineteen varieties of turnips were tested during 1898, sown on drills or on the flat, 2½ feet apart. Two sowings were made at each farm, one sowing two weeks later than the other. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were as follows:—At Ottawa, 13th October; Nappan, 14th October; Brandon, 7th October; Indian Head, 11th October, and at Agassiz, on the 19th October. 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.		NAPPAN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.					
		Sown 28th April		Sown 25th May		Sown 17th May		Sown 14th May		Sown 9th May		Sown 23rd May		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.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.	Per acre. Tons. Lbs.
1	Purple Top Swede.....	29 740	29 1,565	27 1,825	22 950	45 288	57 1,104	21 636	19 1,864	58 1,040	56 112	36 906	37 339				
2	Giant King.....	29 740	24 1,500	29 725	23 1,125	34 1,696	40 256	27 120	19 808	49 624	32 120	33 1,481	27 1,982				
3	Jumbo.....	27 1,275	26 1,790	27 1,100	23 400	39 1,728	44 1,760	24 788	23 728	58 336	40 1,312	34 1,445	31 1,593				
4	Mammoth Clyde.....	27 1,275	26 470	30 1,190	21 755	33 528	34 640	24 840	24 1,600	26 800	25 1,568	28 872	26 987				
5	Drummond Purple Top.....	27 1,110	27 120	27 1,300	21 1,790	28 1,024	33 1,584	26 272	19 1,600	35 576	33 .....	29 1,704	29 212				
6	Marquis of Lorne.....	27 780	26 1,130	29 375	26 490	28 496	35 1,280	20 128	21 1,088	29 784	29 168	26 1,638	27 1,435				
7	Shamrock Purple Top.....	26 1,625	26 1,265	27 875	21 1,500	39 672	35 1,808	25 424	21 1,824	30 1,424	29 1,840	29 1,704	27 453				
8	Bangholm Selected.....	26 800	24 1,995	28 840	21 500	29 1,664	38 32	19 940	21 1,560	47 864	31 2,240	30 621	26 575				
9	Skrivings.....	26 470	27 615	28 1,275	20 1,630	31 1,888	44 1,760	22 1,540	22 880	40 1,312	35 752	30 97	30 332				
10	Halewood's Bronze Top.....	25 1,645	27 615	30 465	29 1,100	31 304	39 1,200	25 688	22 1,012	43 1,120	28 144	28 1,137	29 99				
11	Prize Purple Top.....	25 820	21 1,735	26 925	25 1,475	38 32	39 1,022	21 1,936	15 736	30 1,352	27 1,440	28 1,030	31 561				
12	Perfection Swede.....	25 490	26 305	28 115	22 225	36 1,920	43 1,620	19 1,896	18 1,356	35 664	34 992	28 1,837	29 349				
13	Prize Winner.....	25 490	26 305	28 115	22 225	36 1,920	43 1,620	19 1,896	18 1,356	35 664	34 992	28 1,837	29 349				
14	Hall's Westbury.....	25 325	23 655	30 1,740	23 1,125	31 1,888	42 1,840	28 892	22 880	43 1,032	28 144	31 1,975	27 1,370				
15	Hartley's Bronze.....	24 1,335	25 1,625	30 1,775	27 1,535	38 1,616	42 480	25 2,180	21 768	30 1,600	29 80	30 41	29 304				
16	Sutton's Champion.....	24 840	26 1,625	27 1,300	22 515	32 944	50 1,376	24 1,764	22 616	40 1,400	38 1,440	30 68	32 714				
17	Champion Purple Top.....	23 200	23 1,850	28 550	23 1,415	34 1,168	48 1,680	26 800	19 1,468	28 256	28 1,904	28 595	25 63				
18	Carter's Elephant.....	22 880	26 1,955	30 1,915	25 25	33 528	31 1,360	20 524	16 736	29 960	28 320	27 561	25 1,279				
19	East Lothian.....	22 385	30 1,710	27 375	23 400	32 944	44 704	27 384	21 768	43 1,384	25 952	30 1,094	29 107				

The crops from the two sowings of turnips at the experimental farms in 1898 have averaged per acre as follows:—

	Tons.	Lbs.
Central Experimental Farm, first sowing.....	25	1,298
do second sowing.....	26	842
Experimental Farm, Nappan, first sowing.....	28	1,185
do second sowing.....	23	1,918
Experimental Farm, Brandon, first sowing.....	34	387
Average crop from all the plots at all the farms, first sowing, 30 tons 797 lbs.; second sowing, 29 tons 300 lbs. per acre.		
Experimental Farm, Brandon, second sowing.....	41	1,902
Experimental Farm, Indian Head, first sowing.....	23	1,338
do second sowing.....	21	263
Experimental Farm, Agassiz, first sowing.....	39	618
do second sowing.....	32	552

The six varieties of turnips which have given the heaviest crops at the several experimental farms during the season of 1898, 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. East Lothian (2nd sowing) . . .	30 1,710	4. Perfection Swede (2nd sowing)	29 410
2. Purple Top Swede (2nd sowing)	29 1,565	5. Jumbo . . . . .	27 1,275
3. Giant King . . . . .	29 740	6. Mammoth Clyde . . . . .	27 1,275

An average crop of 29 tons 162 lbs. per acre.

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

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Carter's Elephant . . . . .	30 1,915	4. Hartley's Bronze . . . . .	30 175
2. Mammoth Clyde . . . . .	30 1,190	5. Hall's Westbury . . . . .	29 1,740
3. Halewood's Bronze Top . . . . .	30 465	6. Giant King . . . . .	29 725

An average crop of 30 tons 635 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Purple Top Swede (2nd sowing)	57 1,104	4. Selected Champion (2nd sowing)	48 1,680
2. Sutton's Champion (2nd sowing)	50 1,376	5. Purple Top Swede . . . . .	45 288
3. Perfection Swede (2nd sowing)	50 320	6. Jumbo (2nd sowing) . . . . .	44 1,760

An average crop of 49 tons 1,088 lbs. per acre.

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

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Hall's Westbury . . . . .	28 892	4. Selected Champion . . . . .	26 800
2. East Lothian . . . . .	27 984	5. Drummond Purple Top . . . . .	26 272
3. Giant King . . . . .	27 120	6. Hartley's Bronze . . . . .	25 1,480

An average crop of 26 tons 1,658 lbs. per acre.

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

Per acre.		Per acre.	
Tons.	Lbs.	Tons.	Lbs.
1. Purple Top Swede . . . . .	58 1,040	4. Bangholm Selected . . . . .	47 864
2. Jumbo . . . . .	58 336	5. Sutton's Champion . . . . .	50 1,400
3. Giant King . . . . .	49 624	6. Skirving's . . . . .	40 1,312

An average crop of 49 tons 262 lbs. per acre.

The six varieties of turnips which have produced the heaviest crops in 1898, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Purple Top Swede (2nd sowing).....	37	339	4. Sutton's Champion (2nd sowing).....	32	714
2. Jumbo.....	34	1,445	5. Hall's Westbury.....	31	1,575
3. Giant King.....	33	1,981	6. Perfection Swede (2nd sowing)	31	561

An average crop of 33 tons 1,102 lbs. per acre.

The early sown plots have given this year the larger crops at Nappan, Indian Head and Agassiz, but at Ottawa there has been a slight advantage in favour of the second sowing, and at Brandon a decided advantage in this particular. The average results, however, from all the farms show a difference of 1 ton 488 lbs. per acre in favour of the first sowing.

#### TRIAL PLOTS OF MANGELS.

Eighteen varieties of mangels have been under test in 1898, all sown on drills or on the flat 2½ feet apart. Two sowings were made at each farm, 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, 13th October; Nappan, 8th October; Brandon, 4th October; Indian Head, 11th October, and at Agassiz, 19th October.

The yield per acre in each case has been calculated from the weight of roots gathered from two rows each 66 feet long. Nos. 3 and 5, the Yellow Intermediate and Mammoth Yellow Intermediate were not sown at Agassiz for the reason that the seed was lost in transit, and the second sowing of Nos. 16 and 17, Mammoth Oval Shaped and Red Fleshed Tankard are not reported on at Brandon because the seed did not germinate.

UNIFORM TEST PLOTS OF MANGELS.

Number.	NAME OF VARIETY.	OTTAWA, ONT.		NAPPAN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.						
		Sown 29th April 6th May.		Sown 25th May 7th June.		Sown 17th May 1st June.		Sown 14th May 29th May.		Sown 28th April 12th May.		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.			
1	Gate Post	33	1,485	26	800	28	1,382	27	120	35	400	34	464	35	444	35	32	
2	Giant Yellow Globe	33	1,325	34	343	31	1,104	28	476	27	120	35	400	34	464	35	32	
3	Yellow Intermediate	31	1,325	24	1,500	33	880	28	1,532	28	54	17	1,200	14	1,040	33	896	
4	Giant Yellow Half Long	30	1,215	23	1,320	35	416	29	212	22	1,672	22	1,056	22	264	36	1,016	
5	Mann. Yellow Intermediate	30	890	26	305	43	328	23	1,916	26	8	4	22	264	31	739	26	1,274
6	Canadian Giant	28	535	26	95	41	1,760	30	1,896	25	4	22	1,056	22	264	31	739	
7	Mann. Long Red	27	1,770	23	1,335	53	456	60	1,440	30	1,908	25	988	29	872	32	974	
8	Prize Mann. Long Red	27	615	23	1,685	23	1,850	45	1,050	24	1,500	24	768	33	880	32	1,120	
9	Giant Yellow Intermediate	26	1,136	23	800	30	1,685	49	1,792	21	1,228	23	68	26	976	29	1,585	
10	Northon Giant	26	965	25	1,150	43	1,608	56	492	22	880	30	1,776	29	1,400	32	762	
11	Golden Washed Tankard	24	1,065	16	730	41	1,352	24	1,764	26	1,064	24	490	22	1,764	29	1,839	
12	Champion Yellow Globe	24	345	21	735	34	640	33	1,320	25	1,628	24	1,280	22	264	27	1,045	
13	Ward's Large Oval Shaped	23	1,550	18	300	38	1,880	25	688	24	412	24	1,984	24	1,345	24	1,283	
14	Warden Orange Globe	23	860	19	1,600	42	1,536	44	704	23	1,184	22	88	21	64	17	1,200	
15	Selected Mann. Long Red	23	860	20	260	30	1,512	45	1,872	23	596	24	1,688	30	1,424	29	80	
16	Mann. Oval Shaped	20	1,415	14	1,040	41	368	64	1,888	22	1,500	25	48	35	1,056	35	48	
17	Gate Post Yellow	16	835	20	500	29	725	16	1,350	21	1,560	22	88	35	928	35	976	
18	Red Flashed Tankard	16	10	16	670	38	1,880	55	880	24	1,80	21	1,120	20	40	26	148	
						46	400			23	1,784	25	488	17	1,960	14	1,832	

\* Did not germinate.

The crops from the two sowings of mangels at the experimental farms in 1898 have averaged per acre as follows:

	Tons. Lbs.	Tons. Lbs.
Central Experimental Farm, first sowing	26	85
" " second sowing	21	1,220
Experimental Farm, Nappan, first sowing	24	1,993
" " second sowing	21	1,080
Brandon, first sowing	45	81
Average crop from all the farms, first sowing 29 tons 1,568 lbs., second sowing, 28 tons 295 lbs.		

	Tons. Lbs.
Experimental Farm, Brandon, second sowing	25
Indian Head, first sowing	25
" " second sowing	24
Agassiz, first sowing	27
" " second sowing	25
Average of all farms	25

The six varieties of mangels which have produced the heaviest crops at the several experimental farms during 1898, 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.....	33	1,485	4. Yellow Intermediate.....	31	1,525
2. Giant Yellow Globe.....	33		5. Giant Yellow Half-long.....	30	1,215
3. Golden Tankard.....	52	1,505	6. Mammoth Yellow Intermediate	30	390

An average crop of 32 tons 20 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Giant Yellow Globe(2nd sowing)	38	125	4. Gate Post Yellow.....	29	725
2. Giant Yellow Intermediate.....	30	1,635	5. Gate Post.....	28	1,275
3. Yellow Intermediate.....	29	1,450	6. Giant Yellow Half-long.....	28	550

An average crop of 30 tons 1,627 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Gate Post (2nd sowing).....	69	1,392	4. Canadian Giant (2nd sowing).	60	1,440
2. Yellow Intermediate (2nd sowing)	65	416	5. Giant Yellow Globe.....	57	1,104
3. Selected Mamm. Long Red (2nd sowing).....	64	1,888	6. Red Fleshed Tankard (2nd sowing).....	56	992

An average crop of 62 tons 872 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Canadian Giant.....	30	1,908	4. Gate post.....	28	476
2. Yellow Intermediate.....	29	212	5. Gate post yellow (2nd sowing).	27	1,704
3. Giant Yellow Globe.....	28	1,552	6. Norbiton Giant (2nd sowing).	26	1,064

An average crop of 28 tons 1,153 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Selected Mam. Long Red.....	35	1,456	4. Mamm. Long Red.....	33	880
2. Mamm. Oval-shaped.....	35	928	5. Giant Yellow Intermediate.....	30	1,776
3. Gate Post.....	35	400	6. Warden Orange Globe.....	30	1,424

An average crop of 40 tons 572 lbs. per acre.

The six varieties of mangels which have produced the heaviest crops in 1898, taking the average of the results obtained at all the experimental farms, are :—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Yellow Intermediate.....	36	1,016	4.	Canadian Giant .....	32	974
2.	Gate Post (2nd sowing).....	36	32	5.	Giant Yellow Intermediate...	32	702
3.	Giant Yellow Globe.....	33	806	6.	Norbiton Giant.....	29	1,859

An average crop of 33 tons 898 lbs. per acre.

The early sown plots of mangels have given larger crops than those later sown at all the experimental farms, excepting at Brandon, where the advantage has been with the second sowing. The average results from all the farms show a difference of 1 ton 1,273 lbs. per acre in favour of the first sowing.

### TRIAL PLOTS OF CARROTS.

Sixteen varieties of carrots were under test during 1898 all sown in drills or on the flat 2 feet apart. Two sowings were made in each case, the second sowing two weeks after the first, excepting at the branch farm at Indian Head, 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, 13th October; Nappan, 7th October; Brandon, 11th October; Indian Head, 13th October and at Agassiz, 19th October. 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.

NAME OF VARIETY.	OTTAWA, ONT.		NAPPAN, N.S.		BRANDON, MAN.		INDIAN HEAD, N. W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.	
	Sown 28th April	Sown 6th May	Sown 25th May	Sown 7th June	Sown 17th May	Sown 1st June	Sown 13th May	Sown 28th April	Sown 12th May	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.	
1 Mammoth White Intermediate	28 1,000	27 1,110	17 75	13 1,555	12 900	12 640	8 1,688	34 630	32 1,606	22 1,999	21 1,950	
2 Giant White Vosges	25 35	18 640	15 450	12 1,665	10 1,560	10 240	7 356	25 1,333	22	19 345	15 1,636	
3 Improved Short White	22 1,870	22 220	15 15	14 565	7 1,400	12 1,080	9 216	32 826	42 333	19 1,028	22 1,530	
4 Early Gem	22 1,705	20 1,415	14 1,000	14 565	12 200	11 1,760	7 1,840	25 1,333	24 1,133	18 1,560	17 1,718	
5 Ontario's Champion	21 1,230	13 730	13 100	11 1,85	9 480	12 200	9 480	28 1,200	27 1,000	18 253	16 29	
6 Iverson's Champion	21 900	19 280	13 1,570	10 1,460	12 200	9 1,360	7 520	25 1,726	24 693	18 594	15 1,948	
7 Half Long White	20 95	21 1,560	16 915	14 275	11 880	11 1,760	9 1,404	37 214	32 972	21 526	20 142	
8 Guerande, or Ox Heart	19 1,600	19 280	10 1,750	14 1,735	11 960	8 1,640	7 520	37 853	27 256	16 791	17 965	
9 Green Top White Ortic	16 175	14 1,370	13 825	13 300	10 1,560	10 680	9 1,272	32 826	29 666	19 1,203	15 1,826	
10 Half Long Chantenay	14 1,370	13 1,225	11 1,490	13 825	6 1,640	8 1,600	7 1,180	35 1,720	29 1,986	17 555	16 900	
11 Yellow Intermediate	12 1,965	12 915	11 40	8 1,835	12 1,080	3 1,160	6 1,200	36 1,626	35 986	19 1,389	17 1,983	
12 Carter's Orange Giant	12 750	11 665	9 1,865	9 415	6 320	7 80	4 996	12 1,666	15 1,083	11 1,427	10 1,436	
13 Long Orange or Surrey	12 255	11 110	7 935	6 1,050	9 40	8 720	6 276	24 400	15 1,000	13 408	10 720	
14 Scarlet Intermediate	7 1,810	8 1,820	8 240	10 300			4 1,504	20 1,946	16 560	12 645	11 1,560	

\* Did not germinate.

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

Central Experimental Farm, Ottawa, Ont., first sowing	18 tons	528 lbs.	Experimental Farm, Indian Head, one sowing only	7 tons	1,387 lbs.
" " second sowing	16	1,506	" " Agassiz, B.C., first sowing	28	697
Experimental Farm, Nappan, N.S., first sowing	12	1,982	" " second sowing	26	24
" " second sowing	11	1,354	Average crop from all the farms, omitting the one sowing from Indian Head, first sowing	17	777
Brandon, Man., first sowing	9	1,989	Average crop from all the farms, second sowing	16	211
" " second sowing	9	1,771			

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The six varieties of carrots which have produced the heaviest crops at the several experimental farms during 1898 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. Mamm. White Intermediate.	28	1,090	4. Early Gem . . . . .	22	1,705
2. Large White Vosges. . . . .	25	35	5. Ontario Champion . . . . .	21	1,230
3. Improved Short White . . . . .	22	1,870	6. Iverson's Champion. . . . .	21	900

An average crop of 23 tons 1,472 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mamm. White Intermediate.	17	75	4. Giant White Vosges. . . . .	15	450
2. Half Long White . . . . .	16	915	5. Improved Short White. . . . .	15	15
3. White Belgian. . . . .	15	740	6. Green Top White Orthe. . . . .	14	1,725

An average crop of 15 tons 1,320 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Improved Short White (2nd sowing) . . . . .	12	1,080	4. Iverson's Champion. . . . .	12	200
2. White Belgian . . . . .	12	1,080	5. Ontario Champion (2nd sowing). . . . .	12	200
3. Mamm. White Intermediate (2nd sowing). . . . .	12	640	6. Early Gem. . . . .	12	200

An average crop of 12 tons 567 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 . . . . .	9	1,404	4. Ontario Champion. . . . .	9	480
2. Green Top White Orthe. . . . .	9	1,272	5. Improved Short White. . . . .	9	216
3. Half Long Chantenay. . . . .	9	600	6. Mamm White Intermediate . . . . .	8	1,658

An average crop of 9 tons 610 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Improved Short White (2nd sowing). . . . .	42	333	4. Yellow Intermediate. . . . .	35	1,720
2. Half Long White. . . . .	37	214	5. Mamm. White Intermediate . . . . .	34	630
3. White Belgian. . . . .	36	1,626	6. Half Long Chantenay. . . . .	32	1,236

An average crop of 36 tons 965 lbs. per acre.



The six varieties of carrots which have produced the heaviest crops, in 1898, taking the average of the results obtained on all the experimental farms are the following :—

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mamm. White Intermediate.	22	1,999	4. White Belgian.....	19	1,539
2. Improved Short White (2nd sowing).....	22	1,550	5. Green Top White Orthe.....	19	1,293
3. Half Long White.....	21	526	6. Giant White Vosges . . . . .	19	347

An average crop of 25 tons 232 lbs. per acre.

Leaving out of consideration the single sowing at the Indian Head farm, the average crops from the first sowings at all the other farms have exceeded those from the second sowings by 1 ton 563 lbs. per acre.

#### TRIAL PLOTS OF SUGAR BEETS.

Six varieties of sugar beets have been tested during 1898, sown in drills or on the flat two feet apart. Two sowings were made in each case, the second sowing about two weeks after 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, 13th October; Nappan, 6th October; Brandon, 4th October; Indian Head, 12th October; and at Agassiz, 19th October. 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.		NAPPAN, N.S.		BRANDON, MAN.		INDIAN HEAD, N.W.T.		AGASSIZ, B.C.		AVERAGE OF ALL FARMS.	
		Sown 28th April	Sown 6th May.	Sown 25th May.	Sown 7th June.	Sown 17th May.	Sown 1st June.	Sown 14th May.	Sown 24th May.	Sown 9th May.	Sown 23rd May.	First Sowing.	Second Sowing.
		Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
1	Danish Improved.....	17 1,970	18 300	23 1,850	22 1,240	34 1,696	39 144	21 372	23 1,124	26 1,064	20 656	24 902	23 1,464
2	Wanzleben.....	15 1,020	16 340	16 625	14 355	38 560	25 1,480	17 56	15 1,944	21 1,912	21 1,560	21 1,634	18 1,536
3	Danish Red Top.....	14 1,700	14 1,390	28 1,565	19 1,585	41 104	51 960	23 332	24 312	35 576	27 384	28 1,255	27 925
4	Improved Imperial.....	13 1,720	15 525	21 775	17 1,255	30 1,776	34 1,168	16 736	16 310	30 192	29 1,664	22 1,030	22 1,390
5	Red Top Sugar.....	12 1,905	14 1,370	24 1,300	17 365	30 1,776	36 1,920	16 472	18 828	35 1,456	30 928	21 181	23 1,082
6	Vilmorin's Improved.....	9 975	10 235	15 1,175	11 765	26 1,328	31 1,361	11 836	14 1,568	29 432	27 1,440	18 949	19 285

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

	Per acre.
	Tons. Lbs.
Central Experimental Farm, first sowing.....	14 215
" " second sowing.....	14 1,703
Experimental Farm, Nappan, first sowing.....	21 1,548
" " second sowing.....	17 260
Experimental Farm, Brandon, first sowing.....	33 1,540
" " second sowing.....	36 1,172
Experimental Farm, Indian Head, first sowing.....	17 1,134
" " second sowing.....	18 1,686
Experimental Farm, Agassiz, first sowing.....	29 1,065
" " second sowing.....	27 338
Average crop from all the farms: first sowing, 22 tons 1113 lbs. per acre.	
" " second sowing, 22 tons 1113 lbs. per acre.	

The four varieties of sugar beets which have produced the heaviest crops at the several experimental farms during 1898, 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. Danish Improved (2nd sowing)	18	300	3. Improved Imperial (2nd sowing)	15	525
2. Wanzleben (2nd sowing)	16	340	4. Danish Red Top	14	1,700

An average crop of 16 tons 216 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Danish Red Top	28	1,565	3. Danish Improved	23	1,850
2. Red Top Sugar	24	1,300	4. Improved Imperial	21	775

An average crop of 24 tons 1,372 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Danish Red Top (2nd sowing)	51	960	3. Wanzleben	38	560
2. Danish Improved (2nd sowing)	39	144	4. Red Top Sugar (2nd sowing)	36	1,920

An average crop of 41 tons 896 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 Red Top (2nd sowing)	24	312	3. Red Top Sugar (2nd sowing)	18	828
2. Danish Improved (2nd sowing)	23	1,124	4. Wanzleben	17	56

An average crop of 20 tons 1,580 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Red Top Sugar	35	1,456	3. Improved Imperial	30	192
2. Danish Red Top	35	576	4. Vilmorin's Improved	29	432

An average crop of 32 tons 1,164 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops in 1898, 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 Red Top	28	1,255	3. Red Top Sugar (2nd sowing)	23	1,902
2. Danish Improved	24	902	4. Improved Imperial (2nd sowing)	22	1,390

An average crop of 24 tons 1,652 lbs. per acre.

The average crop from the first and second sowings of sugar beets differ but little this year, the gain from early sowing averaging only 547 lbs. per acre.

TRIAL PLOTS OF POTATOES.

One hundred and four varieties of potatoes have been under trial in uniform test plots during 1898. 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 dates of planting and digging were the following. At Ottawa, planted 26th and

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3 Late  
4 Rose  
5 Enq  
6 Amc  
7 Stat  
8 Rura  
9 Nort  
10 Seed  
11 Rura  
12 Carn  
13 Pola  
14 Gree  
15 Seat  
16 Peer  
17 Clay  
18 Lee  
19 Prid  
20 Fleu  
21 Roch  
22 Bur  
23 Mon  
24 Amc  
25 Rec  
26 Drec  
27 Earl  
28 Irish  
29 Ree  
30 Earl  
31 Sir  
32 New  
33 Earl  
34 New  
35 Bill  
36 Mag  
37 Das  
38 Viel  
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40 Car  
41 Que  
42 Eve  
43 Tro  
44 Goo  
45 Del  
46 Dak  
47 Hon  
48 Ear  
49 Iris  
50 Ear  
51 Ear

27th May ; dug 6th and 7th October. Nappan, planted June 4th ; dug 21st September. Brandon, planted 16th May ; dug 4th October. Indian Head, planted 13th May ; dug 30th September, and at Agassiz, planted 13th May and dug from 19th September to 3rd October. 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 per acre at the several Experimental Farms. Season of 1898.						
		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.
1	Holborn Abundance	393	48 222	12 308	.. 479	36 532	24 387	12
2	Early White Prize	369	36 253	.. 385	.. 618	12 454	40 416	5
3	Late Puritan	358	36 303	36 579	20 655	36 428	46 465	10
4	Rose No. 9.	354	12 288	12 458	20 492	48 454	40 409	38
5	Empire State	345	24 145	48 487	40 622	36 476	40 415	37
6	American Wonder	338	48 242	.. 550	.. 611	36 550	.. 458	28
7	State of Maine	325	36 283	48 601	20 539	.. 443	.. 438	32
8	Rural Blush	325	36 327	48 476	40 433	24 583	24 429	22
9	Northern Spy	325	36 145	48 366	40 605	24 491	20 386	57
10	Seedling No. 7.	321	12 297	.. 682	.. 506	4 542	40 469	47
11	Rural No. 2	319	.. 259	36 608	40 396	.. 443	.. 405	15
12	Carman No. 1.	316	48 356	24 531	40 589	36 309	.. 420	41
13	Polaris	316	48 365	12 476	40 706	12 308	.. 434	34
14	Green Mountain	314	36 257	24 586	40 561	15 175	.. 438	59
15	Seattle	308	.. 387	12 381	20 517	48 296	16 378	7
16	Peerless Junior	308	.. 292	36 432	40 525	15 484	.. 408	30
17	Clay Rose	303	36 314	38 572	.. 511	32 513	20 449	1
18	Lee's Favourite	303	36 352	.. 220	.. 510	24 407	44 358	44
19	Pride of the Table	299	12 325	36 377	40 517	18 385	44 381	6
20	Flemish Beauty	299	12 556	24 403	20 442	12 406	14 381	28
21	Rochester Rose	297	.. 275	.. 462	.. 611	20 378	24 404	44
22	Burnaby Seedling	294	48 169	24 520	40 591	30 409	12 397	6
23	Money Maker	294	48 360	48 506	.. 468	30 484	.. 422	49
24	American Giant	290	24 349	48 506	.. 646	48 586	40 475	56
25	Record	288	12 165	.. 414	20 259	36 476	40 320	45
26	Dreer's Standard	288	12 303	36 623	20 514	10 557	20 457	19
27	Early Ohio	286	.. 198	.. 154	.. 584	27 369	36 318	24
28	Irish Cobbler	279	24 332	12 418	.. 517	.. 381	20 385	35
29	Reeve's Rose	279	24 310	12 410	40 636	40 486	56 424	46
30	Earliest of All	279	24 327	48 315	20 466	24 447	20 367	15
31	Sir Walter Raleigh	277	12 187	.. 476	40 396	.. 632	24 373	51
32	New Queen	277	12 297	.. 256	40 558	40 406	14 359	9
33	Early Norther	277	12 290	12 440	.. 470	48 564	40 390	34
34	New Variety No. 1	275	.. 316	48 440	.. 660	.. 616	.. 461	33
35	Bill Nye	275	.. 358	36 297	.. 467	56 532	24 386	11
36	Maggie Murphy	272	48 288	12 403	20 453	12 572	.. 397	54
37	Daisy	270	36 194	48 168	40 633	36 542	40 362	4
38	Vick's Extra Early	270	36 246	24 381	20 594	6 484	.. 395	17
39	Bovee	266	12 294	48 330	.. 673	12 445	50 402	..
40	Carman No. 3	266	12 316	48 484	.. 591	48 443	30 420	27
41	Queen of the Valley	266	12 279	24 553	40 547	48 457	36 420	56
42	Everett	264	.. 270	36 249	20 649	.. 444	20 375	27
43	Troy Seedling	264	.. 253	.. 403	20 499	14 572	.. 398	18
44	Good News	264	.. 165	.. 443	40 499	24 325	36 339	32
45	Delaware	264	.. 354	12 572	.. 528	.. 363	44 416	23
46	Dakota Red	261	48 180	24 425	20 552	12 623	20 408	36
47	Honeoye Rose	261	48 286	.. 55	.. 512	6 371	4 297	11
48	Early Six Weeks	261	48 312	24 293	20 325	30 395	46 317	45
49	Irish Daisy	259	36 448	48 498	40 598	28 484	.. 457	54
50	Early Rose	259	36 211	12 315	20 495	.. 464	56 349	12
51	Early Thorburn	259	36 237	36 407	.. 389	24 387	12 336	9

UNIFORM TEST PLOTS OF POTATOES—Continued.

Number.	NAME OF VARIETY.	Yield per Acre at the several Experimental Farms. Season of 1898.										
		Ottawa, Ont.		Nappan, N. S.		Brantford, Man.		Indian Head, N. S. P.		Agassiz, B. C.		Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
52	Seedling No. 230	259	36 332	12 381	20 584	20 528	.. 417	.. 5				
53	Crown Jewel	259	36 217	48 190	40 486	12 491	20 329	.. 35				
54	Pearce's Extra Early	257	24 149	36 91	40 ..	42 232	.. 386	45				
55	General Gordon	257	24 195	48 440	.. 512	36 528	.. 353	25				
56	Beauty of Hebron	255	12 248	36 168	40 618	.. 476	40 353	25				
57	White Beauty	255	12 179	36 392	20 488	24 440	.. 351	6				
58	Monroe County	255	12 224	24 513	20 574	12 466	24 406	42				
59	Cambridge Russet	253	.. 294	48 300	40 473	.. 395	40 343	25				
60	Vanicr	253	.. 299	12 528	.. 498	8 308	.. 377	16				
61	Early Sunrise	250	48 151	48 205	20 677	36 475	12 352	8				
62	Early Harvest	250	48 178	12 220	.. 490	.. 322	40 292	20				
63	Satisfaction	250	48 156	12 370	20 477	24 366	40 324	16				
64	Clarke's No. 1	248	36 198	.. 498	40 631	24 462	.. 407	44				
65	Chicago Market	248	36 248	36 586	40 ..	425	50 877	25				
66	Ideal	248	36 288	12 381	20 382	48 548	30 369	53				
67	Wonder of the World	248	36 203	24 447	20 605	.. 445	.. 389	52				
68	Columbus	244	12 244	12 539	.. 503	12 368	.. 379	44				
69	Hopeful	239	48 297	.. 498	40 398	.. 315	20 349	45				
70	Ohio Junior	239	48 187	.. 242	.. 383	20 436	.. 297	38				
71	Early Puritan	239	48 239	48 436	20 582	4 395	40 378	44				
72	Uncle Sam	239	48 160	36 414	20 563	12 586	40 392	55				
73	Lizzie's Pride	237	36 358	36 410	40 619	8 476	40 420	32				
74	Reading Giant	235	24 598	12 396	.. 558	23 463	28 410	17				
75	Brown's Rot Proof	233	12 224	24 590	20 ..	425	50 368	26				
76	Maule's Thoroughbred	228	48 316	48 480	20 468	36 441	28 387	12				
77	Stourbridge Glory	228	48 165	.. 388	40 537	.. 431	42 350	14				
78	Early Gem	224	56 321	12 242	.. 437	.. 410	40 327	9				
79	Quaker City	222	12 330	.. 586	40 528	10 366	40 406	44				
80	Table King	222	12 198	.. 381	20 415	48 293	10 302	6				
81	Orphans	220	.. 231	.. 278	40 353	28 388	40 294	21				
82	Sharpe's Seedling	220	.. 211	12 278	40 538	28 528	.. 155	4				
83	Pearce's Prize Winner	215	36 301	24 374	.. ..	438	32 332	23				
84	World's Fair	215	36 154	.. 476	40 551	24 313	50 342	54				
85	Prize Taker	211	12 149	36 212	40 589	32 310	56 294	47				
86	Hale's Champion	211	12 402	26 212	40 464	48 300	40 318	21				
87	I. X. L	209	.. 250	48 612	20 512	22 394	12 396	56				
88	Freeman	209	.. 160	36 465	40 545	36 319	44 340	7				
89	Victor Rose	206	48 145	48 308	.. 556	37 365	12 316	29				
90	Pride of the Market	202	24 288	12 476	40 531	24 445	50 388	54				
91	Great Divide	198	.. 360	48 550	.. 594	.. 375	28 415	39				
92	McKenzie	198	.. 387	12 407	.. 554	10 447	20 398	44				
93	Burpee's Extra Early	193	36 281	36 124	40 398	12 444	20 288	28				
94	Algona No. 1	180	24 217	48 330	.. 188	20 350	32 313	24				
95	Harbinger	167	12 264	.. 344	40 565	14 337	20 335	41				
96	London	167	12 270	36 198	.. 496	52 462	.. 318	56				
97	Brownell's Winner	165	.. 182	36 385	.. 631	24 513	.. 375	24				
98	Houlton Rose	156	12 145	48 297	.. 612	8 583	24 358	54				
99	Fillbasket	154	.. 132	.. 190	40 324	12 256	40 211	42				
100	Seedling No. 214	154	.. 202	24 216	20 514	48 401	50 295	52				
101	Charles Downing	151	48 303	36 440	.. 618	10 580	48 418	52				
102	Lightning Express	151	48 228	48 205	20 558	48 411	28 317	14				
103	Russell's Seedling	149	36 301	24 337	20 497	12 344	40 326	2				
104	King of the Roses	145	12 312	24 253	.. 582	23 290	24 316	40				

\* Nos. 54, 65, 75 and 83 were omitted at the Indian Head Farm, owing to the seed not arriving in time to plant with the other sorts.

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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. Holborn Abundance .....	393	48	7. State of Maine .....	325	36
2. Early White Prize.....	369	36	8. Rural Blush.....	325	36
3. Late Puritan.....	358	36	9. Northern Spy.....	325	36
4. Rose No. 9.....	354	12	10. Seedling No. 7.....	321	12
5. Empire State.....	345	24	11. Rural No. 2.....	319	..
6. American Wonder.....	338	48	12. Carman No. 1.....	316	48

An average crop of 341 bushels 11 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Irish Daisy.....	448	48	7. Money Maker.....	360	48
2. Hale's Champion.....	402	26	8. Great Divide.....	360	48
3. Reading Giant.....	398	12	9. Lizzie's Pride.....	358	36
4. Seattle.....	387	12	10. Bill Nye.....	358	36
5. McKenzie.....	387	12	11. Flemish Beauty.....	356	24
6. Polaris.....	365	12	12. Carman No. 1.....	356	24

An average crop of 378 bushels 23 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling No. 7.....	682	7	7. Chicago Market.....	586	40
2. Dreeer's Standard.....	623	20	8. Green Mountain.....	586	40
3. I. X. L.....	612	20	9. Quaker City.....	586	40
4. Rural No. 2.....	608	40	10. Late Puritan.....	579	20
5. State of Maine.....	601	20	11. Clay Rose.....	572	..
6. Brown's Rot Proof.....	590	20	12. Delaware.....	572	..

An average crop of 600 bushels 7 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Polaris.....	706	12	7. American Giant.....	646	48
2. Early Sunrise.....	677	36	8. Reeves' Rose.....	636	40
3. Bovee.....	673	12	9. Daisy.....	633	36
4. New Variety No. 1.....	660	..	10. Clarke's No. 1.....	631	24
5. Late Puritan.....	655	36	11. Brownell's Winner.....	631	24
6. Everett.....	649	..	12. Empire State.....	622	36

An average crop of 652 bushels per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Dakota Red.....	623	20	7. Charles Downing.....	580	48
2. New Variety No. 1.....	616	..	8. Maggie Murphy.....	572	..
3. Uncle Sam.....	586	40	9. Troy Seedling.....	572	..
4. American Giant.....	586	40	10. Early Norther.....	564	40
5. Rural Blush.....	583	24	11. Dreeer's Standard.....	557	20
6. Houlton Rose.....	583	24	12. American Wonder.....	550	..

An average crop of 581 bushels 21 lbs. per acre.

The twelve varieties which have produced the largest crops in 1898, taking the average of the results obtained at all the experimental farms are:

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Giant.....	475	56	7. Dreer's Standard.....	457	19
2. Seedling No. 7.....	469	47	8. Clay Rose.....	449	1
3. Late Puritan.....	465	10	9. Green Mountain.....	438	59
4. New Variety No. 1.....	461	33	10. State of Maine.....	438	32
5. American Wonder.....	458	28	11. Polaris.....	434	34
6. Irish Daisy.....	457	54	12. Rural Blush.....	429	22

An average crop of 453 bushels 3 lbs. per acre.

The average crop of all the varieties of potatoes tested, at each of the experimental farms, was as follows: At Ottawa, 255 bushels 35 lbs. per acre; Nappan, 261 bushels 15 lbs.; Brandon, 394 bushels 18 lbs.; Indian Head, 503 bushels 16 lbs. and at Agassiz 422 bushels 36 lbs. The average return given by the whole of the varieties at all the farms was 367 bushels 24 lbs. per acre.

### AVERAGE CROPS FOR THE PAST THREE AND FOUR YEARS.

The results of experimental tests of varieties of grain, to gain information as to their relative productiveness and usefulness, are much more reliable as a guide to the selection of the best sorts, when the average experience of several years can be given. For the past four years these test plots have been conducted, under conditions as nearly uniform as it has been possible to secure. The average of the crops obtained during this period, is herewith presented.

### FOUR 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 four years, are the following:—

#### CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Banner.....	70	21	7. Golden Giant.....	65	7
2. Golden Beauty.....	69	7	8. White Schonen.....	64	15
3. American Triumph.....	67	19	9. White Russian.....	64	2
4. Columbus.....	67	15	10. Joannette.....	64	1
5. Abundance.....	66	37	11. Early Golden Prolific.....	63	23
6. Improved Ligowo.....	65	30	12. American Beauty.....	62	32

An average crop of 66 bushels per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Russian.....	66	21	7. California Prolific Black....	62	12
2. Wallis.....	65	2	8. Abyssinia.....	62	4
3. Columbus.....	64	19	9. White Schonen.....	61	26
4. Banner.....	63	19	10. American Beauty.....	61	16
5. Oderbrush.....	63	13	11. Golden Beauty.....	60	25
6. Early Blossom.....	62	17	12. Lincoln.....	60	25

An average crop of 62 bushels 31 lbs. per acre.

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## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Beauty.....	92	19	7. Bavarian.....	79	26
2. Banner.....	90	5	8. California Prolific Black....	77	12
3. Holstein Prolific.....	81	23	9. Rosedale.....	77	7
4. Early Golden Prolific.....	81	1	10. Golden Beauty.....	75	12
5. White Schonen.....	80	27	11. Columbus.....	74	1
6. Golden Giant.....	79	29	12. Joannette.....	73	25

An average crop of 86 bushels 25 lbs. per acre.



Experimental Plots of Oats at the Central Experimental Farm, Ottawa, Ont.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Columbus.....	88	18	7. Early Golden Prolific.....	80	2
2. American Beauty.....	85	15	8. White Schonen.....	79	34
3. Holstein Prolific.....	81	26	9. Wide Awake.....	79	34
4. Abundance.....	82	4	10. Early Archangel.....	79	14
5. Golden Beauty.....	80	7	11. Bavarian.....	77	32
6. Abyssinia.....	80	5	12. Banner.....	77	1

An average crop of 81 bushels 10 lbs. per acre.



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

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Bavarian.....	60	22	7. Early Golden Prolific.....	55	33
2. Lincoln.....	60	6	8. Early Archangel.....	55	30
3. Early Gothland.....	59	27	9. Cream Egyptian.....	55	5
4. Early Blossom.....	56	17	10. Holstein Prolific.....	55	3
5. Banner.....	56	7	11. American Beauty.....	51	33
6. Columbus.....	56	7	12. Early Maine.....	51	16

An average crop of 56 bushels 26 lbs. per acre.

The twelve varieties of oats which have produced the largest average crops for the past four 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.....	71	17	7. White Schonen.....	65	29
2. American Beauty.....	71	16	8. Early Golden Prolific.....	65	27
3. Columbus.....	70	5	9. Wallis.....	65	16
4. Golden Beauty.....	67	17	10. Abundance.....	65	9
5. Bavarian.....	66	33	11. Golden Giant.....	64	19
6. Holstein Prolific.....	66	18	12. White Russian.....	64	11

An average crop of 67 bushels 4 lbs. per acre.

The Improved Ligowo, which is also a very promising oat, averaged 64 bushels 6 lbs. per acre, within 5 lbs. per acre of the White Russian.

## FOUR 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 four years, are the following:—

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Beaver.....	42	9	4. Canadian Thorpe.....	49	15
2. Danish Chevalier.....	40	32	5. Sidney.....	39	38
3. Bolton.....	40	15	6. Newton.....	39	27

An average crop of 40 bushels 22 lbs. per acre.

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

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. French Chevalier.....	36	12	4. Beaver.....	34	3
2. Danish Chevalier.....	35	25	5. Bolton.....	33	51
3. Newton.....	34	18	6. Prize Prolific.....	33	16

An average crop of 34 bushels 29 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. French Chevalier.....	51	9	4. Newton.....	43	36
2. Sidney.....	48	..	5. Beaver.....	42	46
3. Thanet.....	44	28	6. Prize Prolific.....	39	47

An average crop of 45 bushels 4 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.....	58	31	4.	Prize Prolific.....	53	34
2.	Danish Chevalier.....	56	22	5.	Newton.....	52	6
3.	Canadian Thorpe.....	54	29	6.	Beaver.....	52	4

An average crop of 54 bushels 29 lbs. per acre.

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

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	French Chevalier.....	37	39	4.	Beaver.....	35	12
2.	Kinver Chevalier.....	36	45	5.	Canadian Thorpe.....	34	10
3.	Danish Chevalier.....	36	2	6.	Prize Prolific.....	32	39

An average crop of 35 bushels 24 lbs. per acre.

The six varieties of two-rowed barley which have produced the largest crops for the past four 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.....	36	26	4.	Canadian Thorpe.....	34	10
2.	Danish Chevalier.....	34	18	5.	Newton.....	33	26
3.	Beaver.....	34	17	6.	Prize Prolific.....	32	14

An average crop of 34 bushels 10 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 four years are the following :—

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Odesa.....	57	12	4.	Pioneer.....	51	39
2.	Mensury.....	55	42	5.	Stella.....	48	19
3.	Royal.....	53	26	6.	Trooper.....	48	17

An average crop of 52 bushels 26 lbs. per acre.

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

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Mensury.....	48	45	4.	Surprise.....	41	42
2.	Trooper.....	43	1	5.	Pioneer.....	41	32
3.	Oderbruch.....	42	44	6.	Vanguard.....	40	30

An average crop of 43 bushels 8 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Bush.	Lbs.			Bush.	Lbs.
1.	Common.....	56	7	4.	Nugent.....	51	32
2.	Trooper.....	55	2	5.	Surprise.....	50	15
3.	Mensury.....	54	30	6.	Stella.....	49	23

An average crop of 52 bushels 42 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.....	60	30	4. Mensury.....	57	24
2. Odessa.....	59	23	5. Baxter.....	55	40
3. Common.....	57	23	6. Trooper.....	55	30

An average crop of 57 bushels 38 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Oderbruch.....	33	34	4. Common.....	32	21
2. Mensury.....	33	1	5. Royal.....	32	12
3. Odessa.....	32	44	6. Trooper.....	31	1

An average crop of 32 bushels 27 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Mensury.....	49	47	4. Common.....	45	24
2. Odessa.....	47	20	5. Royal.....	45	2
3. Trooper.....	46	29	6. Oderbruch.....	44	44

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

## FOUR 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 four years, are the following :—

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Preston.....	26	3	7. Stanley.....	22	41
2. Colorado.....	23	59	8. Pringle's Champlain.....	22	33
3. Goose.....	23	51	9. Huron.....	22	27
4. Wellman's Fife.....	23	46	10. Progress.....	21	41
5. Rio Grande.....	23	37	11. Vernon.....	21	41
6. Monarch.....	23	24	12. Advance.....	21	20

An average crop of 23 bushels 5 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Wellman's Fife.....	32	44	7. Goose.....	29	50
2. Stanley.....	31	5	8. White Russian.....	29	5
3. White Connell.....	30	55	9. Rio Grande.....	29	..
4. Preston.....	30	45	10. Old Red River.....	28	55
5. Red Fern.....	30	35	11. Advance.....	28	35
6. Huron.....	30	10	12. Admiral.....	27	20

An average crop of 29 bushels 5 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Fife.....	39	5	7. White Connell.....	34	57
2. Goose.....	38	7	8. Pringle's Champlain.....	34	43
3. Red Fife.....	36	50	9. Rio Grande.....	34	28
4. Preston.....	36	41	10. Old Red River.....	33	35
5. Monarch.....	36	25	11. White Russian.....	33	2
6. Crown.....	35	27	12. Wellman's Fife.....	32	25

An average crop of 35 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. Red Fife.....	42	7	7. Percy.....	40	57
2. Emporium.....	42	3	8. Crown.....	40	52
3. Beaudry.....	41	48	9. Wellman's Fife.....	40	60
4. Preston.....	41	25	10. Red Fern.....	40	10
5. Huron.....	41	22	11. Stanley.....	39	10
6. White Fife.....	41	2	12. White Connell.....	39	2

An average crop of 40 bushels 53 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Fife.....	26	31	7. Old Red River.....	25	25
2. Preston.....	26	30	8. Wellman's Fife.....	25	15
3. White Connell.....	26	20	9. Alpha.....	25	1
4. Red Fife.....	26	11	10. Monarch.....	24	45
5. Herisson Bearded.....	26	2	11. Campbell's White Chaff....	24	45
6. Rio Grande.....	25	50	12. Admiral.....	24	35

An average crop of 25 bushels 35 lbs. per acre.

The twelve varieties of spring wheat 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.	
	Bush.	Lbs.		Bush.	Lbs.
1. Preston.....	32	17	7. White Connell.....	30	19
2. Wellman's Fife.....	31	..	8. Rio Grande.....	30	1
3. Monarch.....	30	58	9. Goose.....	29	58
4. Percy.....	30	24	10. Red Fern.....	29	17
5. Red Fife.....	30	23	11. Old Red River.....	29	17
6. White Fife.....	30	20	12. Advance.....	29	8

An average crop of 30 bushels 17 lbs. per acre.

The cross-bred variety Stanley came within 5 lbs. of Advance, having averaged 29 bushels 3 lbs. for the four years.

## THREE 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 years, are the following:—

## 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.....	34	47

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.....	47	..	7. Large White Marrowfat....	33	50
2. Centennial.....	36	40	8. Carleton .....	33	10
3. Pride.....	36	33	9. Bedford.....	32	10
4. Black-eyed Marrowfat. . .	36	26	10. Prince.....	32	10
5. New Potter .....	33	53	11. Prince Albert.....	31	53
6. Creeper .....	33	50	12. Paragon.....	30	50

An average crop of 34 bushels 50 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Pride.....	52	35	7. Crown .....	44	32
2. Mumny.....	48	32	8. Black-eyed Marrowfat.....	44	32
3. New Potter .....	48	30	9. Trilby.....	43	46
4. Carleton.....	46	33	10. Prince.....	41	26
5. Kent.....	45	40	11. Agnes.....	40	53
6. Mackay.....	44	53	12. Prince Albert.....	40	13

An average crop of 45 bushels 8 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Paragon.....	43	23	7. Golden Vine.....	37	22
2. Trilby.....	42	53	8. Centennial .....	37	10
3. Carleton .....	40	50	9. New Potter.....	36	20
4. Crown.....	39	26	10. Pride .....	36	..
5. Duke .....	38	36	11. Mackay.....	35	33
6. Prince.....	38	3	12. Creeper.....	34	46

An average crop of 38 bushels 12 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Arthur .....	28	53	7. New Potter.....	23	32
2. Creeper.....	25	53	8. Centennial .....	22	45
3. Prince Albert .....	25	46	9. Kent.....	22	13
4. Carleton.....	24	50	10. Paragon .....	22	7
5. Macoun.....	24	46	11. Crown.....	21	51
6. Multiplier.....	23	55	12. Golden Vine .....	21	27

An average crop of 23 bushels 59 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Crown .....	37	36	7. Centennial .....	33	47
2. Carleton.....	35	49	8. Paragon .....	33	40
3. Pride.....	35	16	9. Creeper .....	33	26
4. New Potter.....	31	57	10. Trilby.....	33	10
5. Prince Albert.....	33	49	11. Duke.....	33	11
6. Arthur .....	33	47	12. Kent.....	33	17

An average crop of 34 bushels 19 lbs. per acre.

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### THREE AND FOUR YEARS' EXPERIENCE WITH VARIETIES OF INDIAN CORN.

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

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

#### CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Giant Prolific Ensilage.....	26	91	4. Red Cob Ensilage.....	24	184
2. Thoroughbred White Flint....	25	1,179	5. Pride of the North (3 yrs.)...	21	805
3. Selected Leaming.....	25	189	6. Champion White Pearl.....	21	236

An average crop of 23 tons 1,780 lbs. per acre.



Experimental Plots of Indian Corn at the Central Experimental Farm, Ottawa, Ont.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Thoroughbred White Flint... .	17	155	4. Angel of Midnight.....	11	1,466
2. Sanford.....	15	435	5. Compton's Early.....	14	1,035
3. Selected Leaming.....	15	67	6. Canada White Flint.....	14	627

An average crop of 15 tons 298 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Angel of Midnight.....	22	1,567	4. Pride of the North (3 yrs.)....	19	1,233
2. Thoroughbred White Flint...	20	1,272	5. Longfellow.....	19	445
3. Red Cob Ensilage.....	19	1,622	6. Selected Leaming.....	18	1,986

An average crop of 20 tons 354 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	1,835	4. Selected Leaming.....	11	465
2. Sanford.....	11	1,242	5. Pride of the North (3 yrs.)....	11	197
3. Red Cob Ensilage.....	11	936	6. Compton's Early.....	11	187

An average crop of 11 tons 810 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Selected Leaming.....	25	1,106	4. King of the Earliest (3 yrs.)..	21	370
2. Red Cob Ensilage.....	22	1,851	5. Angel of Midnight.....	19	830
3. Giant Prolific Ensilage.....	21	460	6. Thoroughbred White Flint...	18	1,013

An average crop of 21 tons 938 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Selected Leaming.....	19	362	4. Giant Prolific Ensilage.....	17	1,463
2. Red Cob Ensilage.....	18	1,038	5. Pride of the North (3 yrs.)....	16	1,475
3. Thoroughbred White Flint....	18	1,025	6. Angel of Midnight.....	16	1,407

An average crop of 17 tons 1,795 lbs. per acre.

## THREE AND FOUR YEARS' EXPERIENCE WITH VARIETIES OF TURNIPS.

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

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

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Selected Purple Top.....	38	505	4. Carter's Elephant.....	35	1,170
2. Perfection Swede (3 yrs.)....	36	875	5. Giant King.....	35	1,115
3. Hartley's Bronze.....	35	1,170	6. Mammoth Clyde (3 yrs.).....	34	1,813

An average crop of 36 tons 108 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Perfection Swede (3 yrs.)....	32	1,438	4. Carter's Elephant.....	31	589
2. Hartley's Bronze.....	32	308	5. Skirving's.....	30	1,798
3. Selected Purple Top.....	31	1,965	6. Mammoth Clyde (3 yrs.).....	30	386

An average crop of 31 tons 1,081 lbs. per acre.



## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Selected Purple Top.....	31	1,668	4.	Hartley's Bronze.....	27	1,044
2.	Perfection Swede (3 yrs.).....	29	828	5.	Sutton's Champion (3 yrs.)....	27	824
3.	Champion Purple Top.....	28	1,204	3.	Prize Winner (3 yrs.).....	27	614

An average crop of 28 tons 1,363 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.....	19	1,556	4.	Selected Purple Top.....	18	608
2.	Champion Purple Top.....	18	1,620	5.	Skirving's.....	18	344
3.	Perfection Swede (3 yrs.).....	18	872	6.	East Lothian.....	18	126

An average crop of 18 tons 1,187 lbs. per acre.

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

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Jumbo.....	45	1,245	4.	East Lothian.....	40	1,282
2.	Selected Purple Top.....	43	1,266	5.	Prize Winner (3 yrs.).....	38	1,195
3.	Giant King.....	41	1,445	6.	Perfection Swede (3 yrs.)....	35	1,837

An average crop of 41 tons 45 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 three or four years, are:—

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Selected Purple Top.....	32	1,602	4.	Hartley's Bronze.....	29	1,660
2.	Perfection Swede.....	30	1,170	5.	East Lothian.....	29	961
3.	Jumbo.....	29	1,805	6.	Giant King.....	29	151

An average crop of 30 tons 558 lbs. per acre.

## THREE 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 three years, are the following:—

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Gate Post.....	39	1,273	4.	Giant Yellow Globe.....	33	935
2.	Giant Yellow Intermediate... ..	33	1,608	5.	Canadian Giant.....	31	1,130
3.	Mamm. Long Red.....	34	1,190	6.	Yellow Intermediate.....	31	175

An average crop of 34 tons 1,052 lbs. per acre.

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

		Per acre.				Per acre.	
		Tons.	Lbs.			Tons.	Lbs.
1.	Giant Yellow Globe.....	32	601	4.	Gate Post.....	27	908
2.	Giant Yellow Intermediate... ..	31	325	5.	Mamm. Long Red.....	26	1,968
3.	Yellow Intermediate.....	30	1,160	6.	Prize Mamm. Long Red.....	26	1,736

An average crop of 29 tons 449 lbs. per acre.



EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Gate Post .....	44	880	4. Canadian Giant.....	39	1,477
2. Giant Yellow Intermediate...	40	1,664	5. Prize Mamm. Long Red....	39	1,112
3. Yellow Intermediate.....	40	696	6. Giant Yellow Globe.....	38	32

An average crop of 40 tons 977 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.....	20	436	4. Gate Post .....	18	1,921
2. Giant Yellow Globe.....	19	808	5. Canadian Giant .....	18	1,180
3. Giant Yellow Intermediate...	18	1,990	6. Golden Fleshed Tankard....	18	569

An average crop of 19 tons 151 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mamm. Long Red.....	33	352	4. Mamm. Oval Shaped.....	30	104
2. Gate Post .....	32	1,501	5. Giant Yellow Intermediate..	29	1,129
3. Golden Fleshed Tankard.....	30	670	6. Canadian Giant.....	29	197

An average crop of 30 tons 1,659 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, for the past three years, are:—

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Gate Post .....	31	1,296	4. Giant Yellow Globe.....	29	961
2. Giant Yellow Intermediate...	31	943	5. Mamm. Long Red .....	29	139
3. Yellow Intermediate.....	30	1,616	6. Canadian Giant.....	28	1,796

An average crop of 30 tons 458 lbs. per acre.

THREE YEARS' EXPERIENCE WITH VARIETIES OF CARROTS.

The six varieties of carrots which have given the heaviest crops, at the several experimental farms for the past three years, are the following.

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mamm. White Intermediate..	26	1,020	4. Iverson's Champion.....	23	1,740
2. Improved Short White.....	24	766	5. Half Long White.....	23	1,208
3. Giant White Vosges.....	24	691	6. White Belgian.....	23	53

An average crop of 24 tons 579 lbs. per acre.

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

	Per acre.			Per acre.	
	Tons.	Lbs.		Tons.	Lbs.
1. Mamm. White Intermediate..	17	1,821	4. Improved Short White.....	17	505
2. Iverson's Champion.....	17	1,373	5. Half Long White.....	17	398
3. Giant White Vosges.....	17	520	6. Half Long Chantenay.....	16	945

An average crop of 17 tons 594 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Early Gem .....	14	1,186	4. Half Long White.....	13	1,426
2. Iverson's Champion..	14	536	5. White Belgian.....	13	33
3. Giant White Vosges.....	13	1,500	6. Mann. White Intermediate	13	33

An average crop of 13 tons 1,451 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.....	9	40	4. Improved Short White .....	8	632
2. Half Long Chantenay.....	8	1,772	5. Iverson's Champion.....	8	366
3. Mann. White Intermediate..	8	1,028	6. White Belgian .....	8	192

An average crop of 8 tons 1,005 lbs. per acre.

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

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Improved Short White. . . .	34	166	4. Giant White Vosges.....	30	1,531
2. Yellow Intermediate.....	33	195	5. White Belgian. ....	29	30
3. Half Long White.....	30	1,567	6. Iverson's Champion.....	23	1,239

An average crop of 31 tons 121 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 three years, are :—

		Per acre.			Per acre.
		Tons. Lbs.			Tons. Lbs.
1. Improved Short White ....	19	263	4. Mann. White Intermediate	18	1,409
2. Half Long White.....	18	1,727	5. Iverson's Champion.....	18	1,048
3. Giant White Vosges.....	18	1,559	6. White Belgian. ....	17	1,321

An average crop of 18 tons 1,221 lbs. per acre.

## FOUR 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 four years, are the following :—

## CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

		Per acre.			Per acre.
		Bush. Lbs.			Bush. Lbs.
1. Northern Spy .....	386	18	7. Everett .....	312	24
2. Late Puritan.....	364	16	8. Empire State.....	312	20
3. Holborn Abundance.....	346	18	9. Rochester Rose.....	311	57
4. American Wonder.....	335	46	10. Early White Prize.....	308	46
5. Irish Daisy.....	334	12	11. American Giant.....	301	19
6. Seedling 230.....	313	30	12. State of Maine.....	301	15

An average crop of 327 bushels 21 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling 230.....	435	4	7. Holborn Abundance.....	380	20
2. McKenzie.....	407	24	8. Rochester Rose.....	379	10
3. Seattle.....	402	27	9. Pearce's Prize Winner.....	378	41
4. Irish Daisy.....	395	14	10. Lee's Favourite.....	364	22
5. Carman No. 1.....	384	31	11. Early Puritan.....	362	22
6. Reading Giant.....	382	34	12. Dreer's Standard.....	358	49

An average crop of 385 bushels 55 lbs. per acre.

## EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Irish Daisy.....	419	13	7. Carman No. 1.....	386	52
2. Pearce's Prize Winner.....	418	—	8. New Variety No 1.....	386	13
3. Chicago Market.....	407	40	9. Clarke's No. 1.....	383	10
4. Late Puritan.....	402	25	10. Pride of the Market.....	382	15
5. Great Divide.....	390	30	11. Early Norther.....	380	25
6. Dreer's Standard.....	390	30	12. Delaware.....	380	6

An average crop of 393 bushels 56 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Lee's Favourite.....	462	4	7. Monroe County.....	383	40
2. New Variety No. 1.....	420	12	8. Queen of the Valley.....	382	48
3. Northern Spy.....	405	36	9. Rochester Rose.....	376	34
4. London.....	392	21	10. American Wonder.....	372	54
5. Seedling 230.....	390	28	11. Brownell's Winner.....	370	45
6. Early White Prize.....	385	9	12. World's Fair.....	370	20

An average crop of 392 bushels 44 lbs. per acre.

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

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Seedling No. 7.....	468	21	7. Reading Giant.....	354	4
2. Brownell's Winner.....	407	30	8. Troy Seedling.....	351	11
3. Clay Rose.....	404	19	9. Late Puritan.....	346	37
4. Dakota Red.....	386	51	10. Irish Daisy.....	345	32
5. World's Fair.....	384	15	11. American Wonder.....	334	46
6. Seedling 230.....	367	53	12. American Giant.....	333	4

An average crop of 373 bushels 42 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 four years, are:—

	Per acre.			Per acre.	
	Bu.	Lbs.		Bu.	Lbs.
1. Irish Daisy.....	366	44	7. Lee's Favourite.....	338	13
2. Seedling 230.....	361	45	8. Empire State.....	336	52
3. Late Puritan.....	356	54	9. State of Maine.....	335	56
4. American Wonder.....	345	46	10. McKenzie.....	335	17
5. Reading Giant.....	340	35	11. Clarke's No. 1.....	334	17
6. New Variety No. 1.....	338	16	12. Queen of the Valley.....	333	41

An average crop of 343 bushels 41 lbs. per acre.

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## SUMMARY.

The particulars presented in this bulletin, show the importance of choosing the most prolific and vigorous growing varieties for seed. They also afford further proof that the tendency to great productiveness in certain sorts, is to a large extent fixed and permanent. As an example the twelve varieties of oats which are listed in this bulletin, as having given the largest average crops, at all the experimental farms for the past four years, includes ten of those given last year as the best for three years. Further in comparing these two lists of the best twelve sorts of oats, for each experimental farm, we find this year at Ottawa ten out of the former twelve, at Nappan ten of the twelve, at Brandon eleven of the twelve, at Indian Head ten of the twelve and at Agassiz nine of the twelve. A careful scrutiny of the lists of the other sorts of grain will afford further evidence along this line.

The variations between the largest and smallest crops, in the uniform test plots on the Central Experimental Farm while not quite so marked in 1898 as they were in 1897, are still very large. In the oats the crops range from 39 bushels 14 lbs. to 42 bushels 12 lbs. ; in the two-rowed barley from 55 bushels 20 lbs. to 31 bushels 10 lbs. ; in the six-rowed barley from 58 bushels 16 lbs. to 33 bushels 16 lbs. ; in the spring wheat from 31 bushels 15 lbs. to 15 bushels, and in the pease from 46 bushels 50 lbs. to 20 bushels.

These facts should induce farmers every where to pay more attention to the selection of the most promising sorts for seed. Any of those varieties which are among the twelve which have given the best average crops for the past four years may be sown with the confident expectation of a good crop, provided the season is fairly favourable, and the general use of these more productive sorts for seed, would soon raise the average yield of the Dominion several bushels, which would add some millions of dollars yearly, to the receipts of the farming community in Canada.

