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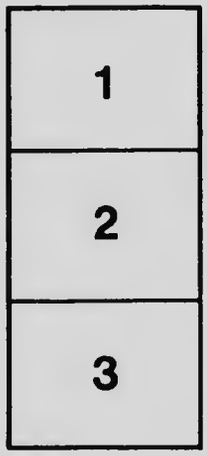

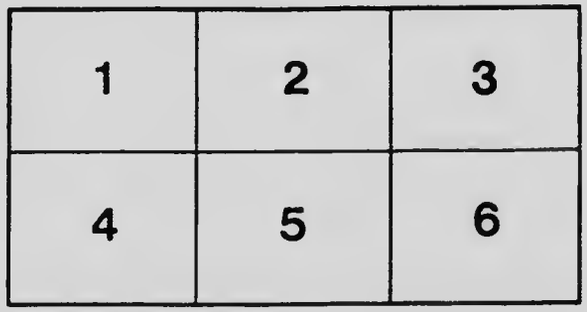

DEPARTMENT OF AGRICULTURE

CENTRAL EXPERIMENTAL FARM

OTTAWA, CANADA

RESULTS OBTAINED IN 1903

FROM

TRIAL PLOTS OF

GRAIN, FODDER CORN, FIELD ROOTS

AND

POTATOES

BY

WILLIAM SAUNDERS, LL.D.,

Director of Experimental Farms

AND

CHAS. E. SAUNDERS, Ph.D.

Experimentalist

BULLETIN No. 44

DECEMBER, 1903

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

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To the Honourable
The Minister of Agriculture.

SIR,—I herewith submit for your approval Bulletin No. 44 of the Experimental Farm series, which has been prepared by the Experimentalist, Dr. C. E. Saunders and myself. There are presented in this publication the results of a large number of experiments, which have been conducted at all the experimental farms in your Department during the season of 1903, with oats, barley, spring wheat, peas, Indian corn, turnips, mangels, carrots, sugar beets and potatoes, in plots of uniform size, and with the crops grown under uniform conditions. The average results are also given of the tests for a series of years of those varieties which have proved most productive.

These trial plots are conducted with the object of gaining information as to the relative productiveness of the different sorts and their earliness in ripening. The returns show much variation in the weight of the crops grown and point to the importance of care in the choice of varieties of seed for sowing. It is hoped that these results giving the experience gained under some of the most important climatic variations found in the country, will prove useful to farmers in every part of Canada.

I have the honour to be,
Your obedient servant,

WM. SAUNDERS,
Director of Experimental Farms.

OTTAWA, December 10, 1903.

RESULTS OBTAINED IN 1903

FROM TRIAL PLOTS OF

GRAIN, FODDER CORN, FIELD ROOTS AND POTATOES

By William Saunders, LL.D., F.R.S.C., F.L.S., F.C.S., &c.
Director of Experimental Farms,

And Chas. E. Saunders, B.A., Ph.D., Experimentalist.

During the past nine years experiments have been conducted on uniform trial plots at each of the Dominion Experimental Farms for the purpose of gaining information as to the most productive and earliest ripen. varieties of grain, fodder corn, field roots and potatoes. In arranging for these plots the same varieties have been sown at each of the farms, the seed being supplied at the outset from a common stock In each case seed has been sown early, and, as a rule, all the different sorts of the same crop have been sown on the same day or at most within two or three days so as to give to all an even start. The land chosen each year for these plots has been as nearly uniform in character as could be found and before sowing has been brought into a good condition of tilth. In this bulletin which is the ninth of the series, the details are arranged after the same plan as in the previous issues, except that the different varieties are placed in the tables in the order of their average productiveness at all the farms, instead of being arranged in the order of their yield at the Central Experimental Farm. The number of days required for all the sorts from sowing to ripening is also given and thus their relative earliness is shown.

In comparing the crops obtained from the several varieties in any one year with another, the relative positions occupied by the different sorts will often vary from lack of uniformity in the soil, and other causes. When, however, the average of such results can be given for a number of years the information becomes much more satisfactory and valuable. In the experience recorded near the end of this bulletin the

average crops obtained from the sowings of a number of successive years are shown, all those varieties which have been four years under trial being placed in competition with those which have been tested for longer periods.

The weather in the eastern parts of Canada was quite unusual during the past season. There was an almost unbroken drought from early in April until about the middle of June, which was followed by a long period of very wet weather. All the varieties of grain were more or less injured, but the early varieties of wheat suffered most. They were much dwarfed in growth and were heading out when the rains came, and although rapid growth followed, they did not recover to the same extent as the later ripening sorts. While all the varieties suffered a reduction in crop, the yields of the earliest varieties of wheat are in some cases remarkably low. The wet weather proved very favourable for the spread of rust, which further reduced the crop of grain. In the case of the field roots, the principal effect of the drought was to delay the germination of a large proportion of the seed of both sowings until about the middle of June, when the dormant seed of both first and second sowings germinated together.

OATS.

During the season of 1903, forty-five varieties of oats have been under trial. The size of the plots on which they were grown was one-fortieth of an acre at Ottawa, Ont., Nappan, N.S., and Agassiz, B.C.; while at Brandon, Man., and Indian Head, N.W.T., the plots were usually one-twentieth of an acre. The seed was sown at the rate of two bushels per acre ; and the dates of sowing were as follows :—At Ottawa, April 20 ; Nappan, May 4 ; Brandon, May 5 and 6 ; Indian Head, April 25 ; and at Agassiz, April 17.

Particulars as to the character of the land in each case, and of the preparation and treatment it has had will be found in the annual report of the Experimental Farms for 1903.

At Brandon the plot of Banner oats being on the outside of the block near the road, was somewhat injured by traffic. The Tartar King seed was very plump and heavy, and the plants did not tiller to any great extent : for these reasons the plot was too thin for the best results.

In Canada the bushel of oats is 34 lbs.

UNIFORM TEST PLOTS OF OATS FOR 1903.

Number.	Name of Variety.	Yield per Acre at the Several Experimental Farms.						Number of Days from Sowing to Harvesting.					
		Average of all Farms.	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.
		Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Abundance	94 15	71 6	92 32	109 14	122 27	75 30	116	115	113	107	123	122
2	White Giant	93 17	74 4	94 4	103 28	121 21	73 28	118	116	119	109	122	122
3	Wide Awake	93 ..	66 16	88 8	113 18	134 4	62 22	117	113	114	110	122	120
4	Sensation	92 8	67 22	98 28	91 6	121 16	82 ..	115	117	114	108	122	116
5	Danish Island	91 14	60 20	90 20	108 8	115 ..	82 22	117	115	115	109	122	124
6	Lincoln	90 15	62 12	89 14	108 28	129 29	61 26	118	115	113	109	122	122
7	Banner	90 10	71 6	95 10	84 4	136 26	64 4	115	115	113	107	124	118
8	Golden Tartarian	90 2	71 26	77 22	106 6	122 32	71 26	120	120	121	112	126	122
9	Waverley	89 30	61 6	97 22	109 14	108 28	72 12	116	116	119	107	123	116
10	Thousand Dollar	88 27	55 10	97 22	105 10	132 27	52 32	116	117	114	107	122	119
11	Improved Ligowo	88 22	67 22	89 14	105 20	111 26	68 28	115	115	114	107	122	116
12	Twentieth Century	87 30	71 6	97 22	104 14	110 20	55 20	116	119	112	109	122	117
13	Bavarian	87 28	56 16	81 6	91 26	126 26	82 32	116	115	114	109	125	118
14	Swedish Select	87 16	70 20	87 2	94 4	126 16	59 4	116	119	115	106	126	116
15	Golden Giant	87 4	86 16	60 .	109 14	118 18	61 6	120	116	119	116	126	123
16	*Kendal White	86 30	67 2	75 10	91 26	127 2	73 8	117	116	114	109	126	118
17	Holstein Prolific	86 28	55 10	82 12	107 32	127 32	60 20	116	116	113	109	123	120
18	Mennonite	86 14	70 .	82 12	98 28	119 24	61 6	115	117	113	105	123	117
19	Early Golden Prolific	85 32	47 22	84 24	115 10	120 ..	62 2	117	116	116	109	126	116
20	Black Beauty	85 22	67 2	84 24	93 8	122 12	60 30	114	115	108	106	123	116
21	Columbus	85 20	70 20	62 12	104 14	111 26	78 28	116	115	116	108	126	117
22	Improved American	85 6	61 26	84 24	95 10	125 10	58 28	115	115	114	107	122	118
23	Siberian	84 29	70 20	96 16	98 28	89 9	69 4	119	118	114	110	133	118
24	*Olive Black	84 22	61 6	88 8	83 8	121 26	63 28	118	117	116	113	128	119
25	Golden Fleece	84 22	64 24	82 12	84 4	120 30	71 6	116	117	115	99	128	119
26	Irish Victor	84 21	60 20	58 28	107 22	123 33	72 2	116	117	114	102	123	119
27	Buckbee's Illinois	84 15	54 24	62 12	119 14	126 31	58 28	118	119	117	108	123	124
28	Salines	84 3	62 32	85 30	95 10	116 1	60 10	120	119	121	111	124	124
29	Golden Beauty	84 2	73 18	64 24	93 18	127 2	61 16	115	114	114	109	122	118
30	Goldfinder	83 22	59 14	92 32	83 18	117 22	84 24	119	118	119	111	128	120
31	American Triumph	83 2	65 30	58 28	98 18	123 18	68 18	118	120	117	109	125	118
32	*Milford White	82 20	59 14	74 4	77 22	119 14	82 12	117	116	114	112	126	117
33	White Schonen	81 18	48 8	88 8	100 20	108 8	62 12	114	114	114	109	116	118
34	New Zealand	81 16	50 ..	70 20	114 24	112 22	59 14	123	120	120	115	133	126
35	Joanette (Black)	80 14	55 10	94 4	83 18	105 30	63 8	115	118	110	107	127	115
36	American Beauty	80 8	55 30	71 26	99 14	115 20	58 18	116	117	113	109	123	120
37	*Olive White	79 10	60 20	71 26	80 20	109 14	74 4	117	116	116	112	126	117
38	*Kendal Black	79 6	57 22	75 10	82 12	117 2	63 18	118	117	114	112	126	120
39	Scotch Potato	79 3	77 2	68 8	91 26	100 15	57 32	117	116	115	109	123	120
40	*Pense White	79 2	84 4	69 14	80 ..	115 10	66 16	117	114	116	112	126	118
41	Pioneer (Black)	78 11	48 8	85 30	88 18	104 19	64 14	114	118	108	106	123	115
42	*Milford Black	77 24	51 6	80 ..	87 12	114 24	55 10	118	117	114	112	126	119
43	Tartar King	77 3	61 26	70 20	77 22	97 22	77 28	113	112	109	107	122	115
44	*Pense Black	76 28	41 6	81 6	85 10	115 ..	61 16	119	117	116	112	128	124
45	Wallis	76 6	44 4	83 18	99 4	97 22	56 16	117	115	114	110	125	122

*Cross-bred varieties produced at the Experimental Farms.

The twelve varieties of oats which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Abundance	94	15	7. Banner	90	10
2. White Giant	93	17	8. Golden Tartarian	90	2
3. Wide Awake	93	..	9. Waverley	89	30
4. Sensation	92	8	10. Thousand Dollar	88	27
5. Danish Island	91	14	11. Improved Ligowo	88	22
6. Lincoln	90	15	12. Twentieth Century	87	30

An average crop of 90 bushels 30 lbs. per acre.

The twelve varieties of oats which have produced the largest crops during 1903, at the several experimental farms, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Busb.	Lbs.
1. Golden Giant	86	16	7. Abundance	71	6
2 Scotch Potato	77	2	8. Twentieth Century	71	6
3. White Giant	74	4	9. Siberian	70	20
4. Golden Beauty	73	18	10. Columbus	70	20
5 Golden Tartarian	71	26	11. Swedish Select	70	20
6. Banner	71	6	12. Mennonite	70	..

An average crop of 73 bushels 6 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Busb.	Lbs.
1. Sensation	98	28	7. Joanette	94	4
2. Twentieth Century	97	22	8. White Giant	94	4
3. Thousand Dollar	97	22	9.Abundance	92	32
4. Waverley	97	22	10. Goldfinder	92	32
5. Siberian	96	16	11. Danish Island	90	20
6. Banner	95	10	12. Improved Ligowo	89	14

An average crop of 94 bushels 27 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Buckbee's Illinois	119	14	7. Waverley	109	14
2. Early Golden Prolific	115	10	8. Lincoln	108	28
3. New Zealand	114	24	9. Danish Island	108	8
4. Wide Awake	113	18	10. Holstein Prolific	107	32
5. Golden Giant	109	14	11. Irish Victor	107	22
6. Abundance	109	14	12. Golden Tartarian	106	6

An average crop of 110 bushels 28 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Banner	136	26	7. Golden Beauty	127	2
2. Wide Awake	134	4	8. Buckbee's Illinois	126	31
3. Thousand Dollar	132	27	9. Bavarian	126	26
4. Lincoln	129	29	10. Swedish Select	126	16
5. Holstein Prolific	127	32	11. Improved American	125	10
6. Kendal White	127	2	12. Irish Victor	123	33

An average crop of 128 bushels 26 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Bavarian	83	8	7. Abundance	75	30
2. Danish Island	82	22	8. Olive White	74	4
3. Milford White	82	12	9. White Giant	73	28
4. Sensation	82	..	10. Kendal White	73	8
5. Columbus	78	28	11. Waverley	72	12
6. Tartar King	78	28	12. Irish Victor	72	2

An average crop of 77 bushels 12 lbs. per acre.

The average crop of all the varieties of oats tested at each of the experimental farms in 1903 was as follows :—At Ottawa, 62 bushels 9 lbs. per acre ; Nappan, 81 bushels 18 lbs. ; Brandon, 97 bushels 4 lbs. ; Indian Head, 117 bushels 23 lbs. ; and at Agassiz, 66 bushels 4 lbs. The average return given by the whole of the varieties of oats tested at all the farms was 84 bushels 18 lbs. per acre.

BARLEY.

During the season of 1903, fifteen varieties of two-rowed barley and twenty varieties of six-rowed barley have been under test. The barley plots were of the same size as those sown with oats. The seed was used in the proportion of two bushels per acre ; and the dates of sowing were as follows :—At Ottawa, Ont., April 17 and 18 ; Nappan, N.S., May 13 ; Brandon, Man., May 7 and 8, and June 5 ; Indian Head, N.W.T., April 29, and at Agassiz, B.C., April 25.

All the plots of two-rowed barley at Brandon were frozen on September 4, so that the number of days for maturing can only be given approximately. The sowing of these plots so late (June 5) accounts for the unsatisfactory results. The plots were first sown in good season (May 8), but were washed out by a heavy rain storm, making a second sowing necessary.

In Canada the bushel of barley is 48 lbs.

UNIFORM TEST PLOTS OF TWO-ROWED BARLEY FOR 1903.

Number.	Name of Variety	Yield per Acre at the Several Experimental Farms.										Number of Days from Sowing to Harvesting.					
		Average of all Farms.		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.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Invincible	55	34	46	32	55	40	32	24	77	14	66	12	108	105	103	101	115	115
2	French Chevalier	54	28	44	28	58	16	27	34	71	22	70	40	109	105	101	105	117	117
3	Canadian Thorpe	54	10	46	32	59	8	24	28	71	2	69	28	106	107	101	102	108	114
4	Standwell	53	22	35	..	52	24	31	42	80	40	67	4	110	109	103	106	115	115
5	*Beaver	53	16	42	24	60	40	32	4	56	12	75	..	107	104	100	104	112	117
6	Danish Chevalier	52	24	37	4	65	..	28	46	66	2	65	20	109	107	101	105	117	115
7	*Sidney	51	26	39	8	43	16	39	18	62	24	73	16	107	107	101	100	108	117
8	*Dunham	51	16	37	44	49	8	40	30	52	14	76	32	107	108	101	102	109	114
9	*Gordon	51	14	41	32	46	32	30	..	64	28	73	26	105	106	101	105	107	108
10	Newton	50	26	31	12	64	8	33	16	61	2	62	44	107	108	101	104	115	109
11	*Logan	48	40	37	4	45	40	37	34	62	14	61	12	106	109	101	101	105	112
12	*Harvey	48	..	40	..	40	40	35	..	58	16	65	40	105	109	101	100	103	110
13	*Fulton	47	10	37	4	48	16	33	36	58	46	57	44	106	108	103	101	103	116
14	*Jarvis	47	..	46	12	40	..	30	30	61	22	56	32	105	106	101	100	108	109
15	*Clifford	45	28	36	32	42	24	31	42	57	14	59	28	106	109	100	105	105	109

* Cross-bred varieties produced at the Experimental Farms.

The six varieties of two-rowed barley which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1 Invincible	55	34	4. Standwell	53	22
2. French Chevalier	54	28	5. Beaver	53	16
3. Canadian Thorpe	54	10	6. Danish Chevalier	52	24

An average crop of 53 bushels 46 lbs. per acre.

The six varieties of two-rowed barley which have given the largest crops during 1903, at the several experimental farms, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Canadian Thorpe	46	32	4. French Chevalier	44	28
2. Invincible	46	32	5. Beaver	42	24
3. Jarvis	46	1[illegible]	6. Gordon	41	32

An average crop of 44 bushels 35 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Danish Chevalier	65	..	4. Canadian Thorpe	59	8
2. Newton	64	8	5. French Chevalier	58	16
3. Beaver	60	40	6. Invincible	55	40

An average crop of 60 bushels 27 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dunham	40	30	4. Harvey	35	..
2. Sidney	39	18	5. Fulton	33	36
3. Logan	37	34	6. Newton	33	16

An average crop of 36 bushels 30 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Standwell	80	40	4. Canadian Thorpe		2
2. Invincible	77	14	5. Danish Chevalier		2
3. French Chevalier	71	22	6. Gordon	64	28

An average crop of 71 bushels 42 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dunham	76	32	4. Sidney	73	16
2. Beaver	75	..	5. French Chevalier	70	40
3. Gordon	73	26	6. Canadian Thorpe	69	28

An average crop of 73 bushels 8 lbs. per acre.

The average crop of all the varieties of two-rowed barley tested at each of the experimental farms in 1903 was as follows :—At Ottawa, 39 bushels 47 lbs. per acre ; Nappan, 51 bushels 24 lbs. ; Brandon, 32 bushels 32 lbs ; Indiar Head, 64 bushels 5 lbs., and at Agassiz, 66 bushels 38 lbs. The average return given by the whole of the varieties of two-rowed barley tested at all the farms was 50 bushels 47 lbs. per acre.

UNIFORM TEST PLOTS OF SIX-ROWED BARLEY FOR 1903.

Number.	Name of Variety	Yield per Acre at the Several Experimental Farms.										Number of Days from Sowing to Harvesting.					
		Average of all Farms.		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
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Mensury	62	40	38	36	60	..	71	32	63	36	80	..	103	102	101	95	108	105
2	*Brome	61	38	53	36	53	16	66	32	63	26	71	32	103	103	103	95	113	103
3	Odessa	60	12	44	23	60	40	66	12	71	12	58	16	97	100	97	84	106	100
4	*Trooper	60	..	52	4	65	..	53	16	64	8	65	20	102	98	99	95	110	109
5	Oderbruch	59	38	42	44	66	32	63	16	54	38	71	12	100	100	98	92	107	103
6	*Nugent	59	32	42	4	64	8	72	4	54	28	65	20	105	107	104	94	112	109
7	*Empire	59	32	45	20	65	40	61	32	56	32	68	36	104	100	100	96	113	109
8	*Summit	59	24	54	28	54	8	67	14	61	2	60	20	104	98	104	98	113	109
9	Common	59	20	44	28	63	16	61	32	60	20	67	4	99	98	99	91	106	101
10	*Mansfield	58	30	34	28	55	40	66	12	63	6	73	16	103	100	101	96	108	109
11	*Stella	58	1	51	12	58	16	53	46	54	3	72	24	104	98	104	94	112	114
12	*Albert	56	2	47	4	59	8	58	36	53	26	61	32	103	106	99	95	108	109
13	*Royal	55	40	41	12	58	16	50	40	60	..	68	36	102	106	99	95	110	100
14	*Yale	55	22	45	..	53	16	70	..	53	46	55	..	104	100	104	94	112	109
15	*Garfield	53	30	52	4	50	..	55	20	55	30	55	..	102	98	100	94	111	109
16	*Claude	53	24	35	40	48	16	55	20	65	40	62	4	103	107	99	94	112	105
17	*Argyle	53	20	34	28	54	8	55	12	56	32	65	40	103	100	100	95	111	108
18	Rennie's Improved	53	4	42	44	45	40	53	46	57	14	65	20	99	98	99	92	106	102
19	Baxter	52	8	42	20	59	8	41	12	50	20	64	28	100	97	99	95	108	103
20	Champion	45	40	40	20	49	8	32	24	45	20	61	32	96	96	96	88	103	99

* Cross-bred varieties produced at the Experimental Farms.

The six varieties of six-rowed barley which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury	62	40	4. Trooper	60	..
2. Brome	61	38	5. Oderbruch	59	38
3. Odessa	60	12	6. Nugent	59	32

An average crop of 60 bushels 35 lbs. per acre.

The six varieties of six-rowed barley which have given the largest crops during 1903, at the several experimental farms, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Summit	54	28	4. Garfield	52	4
2. Brome	53	36	5. Stella	51	12
3. Trooper	52	4	6. Albert	47	4

An average crop of 51 bushels 39 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Oderbruch	66	32	4. Nugent	64	8
2. Empire	65	40	5. Common	63	16
3. Trooper	65	..	6. Odessa	60	40

An average crop of 64 bushels 15 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Nugent	72	4	4. Summit	67	14
2. Mensury	71	32	5. Brome	66	32
3. Yale	70	..	6. Mansfield	66	12

An average crop of 69 bushels per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Odessa	71	12	4. Mensury	63	36
2. Claude	65	40	5. Brome	63	26
3. Trooper	64	8	6. Mansfield	63	6

An average crop of 65 bushels 13 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury	80	..	4. Brome	71	32
2. Mansfield	73	16	5. Oderbruch	71	12
3. Stella	72	24	6. Empire	68	36

An average crop of 72 bushels 44 lbs. per acre.

The average crop of all the varieties of six-rowed barley tested at each of the experimental farms in 1903 was as follows :—At Ottawa, 44 bushels 22 lbs. per acre ; Nappan, 57 bushels 12 lbs.; Brandon, 58 bushels 44 lbs.; Indian Head, 58 bushels 15 lbs. ; and at Agassiz, 63 bushels 34 lbs. The average return given by the whole of the varieties of six-rowed barley tested at all the farms was 56 bushels 45 lbs. per acre.

SPRING WHEAT.

Fifty-eight varieties of spring wheat have been grown on the uniform test plots during the past season. The plots were of the same size as those sown with oats, and the seed was used at the rate of one and one-half bushels per acre. The dates of sowing were as follows :—At Ottawa, Ont., April 14 ; Nappan, N.S., April 29 ; Brandon, Man., April 21 to 24 ; Indian Head, N.W.T., April 18, and at Agassiz, B.C., April 18.

In Canada the bushel of wheat is 60 lbs.

UNIFORM TEST PLOTS OF SPRING WHEAT FOR 1903.

Number.	Name of Variety.	Yield per Acre at the Several Experimental Farms.										Number of Days from Sowing to Harvesting.					
		Average of all Farms.		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.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	*Advance	35	14	34	40	32	40	28	10	38	..	42	40	122	115	118	121	142	114
2	Roumanian	34	36	27	..	21	20	44	40	41	..	39	50	125	115	122	124	143	119
3	Wellman's Fife	34	18	29	..	33	..	30	20	33	10	41	..	127	122	124	123	142	123
4	*Byron	34	10	26	20	42	40	27	40	35	20	38	50	119	108	119	123	133	114
5	Mouarch	33	8	28	..	35	20	26	..	35	..	41	20	125	123	122	121	139	121
6	*Preston	32	58	29	40	28	..	23	40	43	10	40	20	122	113	121	123	136	119
7	White Connell	32	58	27	20	35	20	26	..	35	..	41	10	126	122	124	123	141	121
8	White Fife	32	39	27	..	36	..	27	40	36	5	36	30	126	123	124	123	141	118
9	Goose	32	32	19	..	22	..	46	20	36	10	39	10	123	115	120	126	141	114
10	*Chester	32	27	19	20	40	..	33	30	36	15	33	10	122	116	120	120	138	115
11	*Crawford	32	25	21	40	36	40	29	..	37	15	37	30	119	108	122	120	133	112
12	*Clyde	32	18	25	..	34	..	25	30	36	..	41	..	124	118	122	121	133	123
13	Red Fife	32	14	25	14	36	40	24	20	38	30	36	..	126	123	121	12.	142	121
14	*Norval	32	9	25	40	34	40	27	..	38	45	34	40	121	118	120	122	133	112
15	*Laurel	32	..	21	..	36	..	26	..	36	20	40	40	127	121	124	123	†147	121
16	White Russian	31	58	26	40	30	40	30	40	31	50	40	..	127	121	122	124	†147	123
17	*Percy	31	44	19	40	26	40	29	10	36	30	46	40	122	115	122	122	136	114
18	Hungarian	31	40	27	20	24	40	28	20	42	..	36	..	122	113	121	122	137	116
19	Pringle's Champlain	31	38	26	..	30	..	24	50	41	40	35	40	123	117	121	119	139	119
20	*Huron	31	28	26	..	26	40	27	40	39	..	38	..	123	118	121	123	136	115
21	*Benton	31	24	30	20	20	40	29	20	36	30	40	10	124	113	122	122	138	123
22	*Alpha	31	22	20	20	30	..	28	..	37	40	40	50	123	118	120	123	136	118
23	*Essex	31	20	25	20	38	..	21	30	32	20	39	30	126	121	122	122	†147	120
24	*Stanley	31	12	22	40	28	40	27	40	39	10	37	50	121	109	121	120	136	118
25	Power's Fife (Minn. No. 149)	31	6	22	..	37	20	26	50	32	30	36	50	128	124	124	124	†147	122
26	*Crown	31	6	23	20	31	20	24	50	37	..	39	..	122	118	120	120	139	115
27	Herisson Bearded	31	4	25	40	31	20	28	20	35	20	34	40	126	114	120	124	†147	123
28	McKendry's Fife (Minn. No. 181)	30	57	30	20	32	..	25	..	30	25	37	..	129	124	124	124	†147	125
29	*Weldon	30	48	24	..	23	20	28	40	43	40	34	20	125	118	122	120	143	123
30	Robin's Rust Proof	30	28	28	20	28	40	25	30	30	50	30	..	123	118	124	122	136	116
31	*Admiral	30	24	19	..	36	..	27	40	32	30	36	50	123	116	122	122	136	119
32	*Bishop	30	19	21	40	31	20	28	40	28	15	41	40	120	108	120	122	136	115
33	Rio Grande	30	2	20	40	36	40	26	..	31	30	35	20	126	124	120	122	142	122
34	*Fraser	30	1	19	40	19	20	31	20	39	35	40	10	117	105	120	116	130	114
35	*Angus	30	..	21	40	26	..	30	..	38	50	33	30	122	115	122	120	136	116
36	*Dawn	29	48	20	20	34	..	30	20	33	40	30	40	120	112	120	119	132	115
37	*Blair	29	36	22	40	20	..	31	30	33	50	40	..	123	115	122	122	133	124
38	*Early Riga	29	14	10	..	42	..	22	20	35	10	36	40	116	105	115	119	129	112
39	Australian, No. 9	29	10	14	40	29	20	34	..	32	..	35	50	125	109	124	121	†147	122
40	Minnesota, No. 163	29	8	29	20	28	40	21	20	27	..	39	20	128	124	124	125	†147	122
41	Australian, No. 27	28	57	23	20	20	.	23	20	37	35	40	30	127	121	124	122	†147	121
42	Red Fern	28	48	21	40	22	..	25	50	34	10	40	20	125	118	121	122	142	121
43	*Countess	28	48	22	20	25	20	20	50	35	50	39	40	120	108	122	121	133	115
44	*Cartier	28	30	21	20	18	40	27	40	33	30	41	20	119	108	121	119	133	114
45	*Hastings	28	24	19	40	16	40	25	40	38	20	41	40	122	113	122	120	142	112
46	Australian, No. 19	28	21	24	20	17	20	22	20	33	45	44	.	127	123	124	125	†147	114
47	*Plumper	28	18	20	..	16	40	28	..	34	50	42	..	122	114	122	125	136	115
48	Australian, No. 23	28	11	24	20	33	20	21	50	26	55	34	30	128	122	124	124	†147	122
49	Red Swedish	27	42	18	20	35	20	18	10	29	20	37	20	125	121	122	120	†147	114
50	*Cassel	27	29	14	20	26	..	26	50	30	55	39	20	125	118	124	122	136	126
51	Colorado	27	25	22	..	24	..	19	20	35	25	36	20	123	114	118	122	138	124
52	*Progress	27	22	18	40	24	40	23	40	34	30	35	20	123	114	121	123	136	122
53	Japanese	27	20	19	..	30	40	26	40	27	40	32	40	117	106	122	116	130	112
54	*Vernon	26	48	18	40	30	..	27	..	25	30	32	50	122	118	121	122	136	115
55	Australian, No. 25	26	27	22	20	18	..	22	..	31	15	38	40	126	121	124	124	†147	116
56	Australian, No. 10	26	17	18	..	27	20	21	40	26	45	37	40	128	122	124	125	†147	122
57	Australian, No. 13	25	49	21	..	32	..	18	..	22	35	35	30	128	123	124	125	†147	122
58	Haynes' Blue Stem (Minn. No. 169)	24	57	24	20	26	..	18	30	21	35	34	20	129	125	124	125	†147	124

* Cross-bred varieties produced at the Experimental Farms.

† These varieties were not fully ripe, but had to be cut on Sept. 8, on account of frost. The number of days maturing is therefore only roughly estimated from the condition of the grain when cut.

The twelve varieties of spring wheat which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Advance	35	14	7. White Connell	32	58
2. Roumanian	34	36	8. White Fife	32	39
3. Wellman's Fife	34	18	9. Goose	32	32
4. Byron	34	10	10. Chester	32	27
5. Monarch	33	8	11. Crawford	32	25
6. Preston	32	58	12. Clyde	32	18

An average crop of 33 bushels 18 lbs. per acre.

The twelve varieties of spring wheat which have given the largest crops at the several experimental farms in 1903, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Advance	34	40	7. Robin's Rust Proof	28	20
2. Benton	30	20	8. Monarch	28	..
3. McKendry's Fife (Minn. 181)	30	20	9. White Connell	27	20
4. Preston	29	40	10. Hungarian	27	20
5. Minn. No. 163	29	20	11. White Fife	27	..
6. Wellman's Fife	29	..	12. Roumanian	27	..

An average crop of 29 bushels 2 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Byron	42	40	7. Crawford	36	40
2. Early Riga	42	..	8. Red Fife	36	40
3. Chester	40	..	9. Rio Grande	36	40
4. Wellman's Fife	38	..	10. Admiral	36	..
5. Essex	38	..	11. White Fife	36	..
6. Power's Fife (Minn. 149)	37	20	12. Laurel	36	..

An average crop of 38 bushels per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Goose	46	20	7. White Russian	30	40
2. Roumanian	44	40	8. Wellman's Fife	30	20
3. Australian No. 9	34	..	9. Dawn	30	20
4. Chester	33	30	10. Angus	30	..
5. Blair	31	30	11. Benton	29	20
6. Fraser	31	20	12. Percy	29	10

An average crop of 33 bushels 26 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Weldon	43	40	7. Stanley	39	10
2. Preston	43	10	8. Huron	39	..
3. Hungarian	42	..	9. Angus	38	50
4. Pringle's Champlain	41	40	10. Norval	38	45
5. Roumanian	41	..	11. Red Fife	38	30
6. Fraser	39	35	12. Hastings	38	20

An average crop of 40 bushels 18 lbs. per acre.

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

		Per acre. Bush.	Lbs.			Per acre. Bush.	Lbs.
1	Percy	46	40	7.	Monarch	41	20
2	Australian No. 19	44	..	8.	Cartier	41	20
3	Advance	42	40	9.	White Connell	41	10
4	Plumper	42	..	10.	Wellman's Fife	41	..
5	Hastings	41	40	11.	Clyde	41	..
6	Bishop	41	40	12.	Alpha	40	50

An average crop of 42 bushels 7 lbs. per acre.

The average crop of all the varieties of spring wheat tested at each of the experimental farms in 1903, was as follows :—At Ottawa, 23 bushels 3 lbs. per acre; Nappan, 29 bushels 15 lbs. per acre ; Brandon, 26 bushels 46 lbs. ; Indian Head, 34 bushels 24 lbs.; and at Agassiz, 38 bushels 10 lbs. The average return given by the whole of the varieties of spring wheat at all the farms was 30 bushels 20 lbs. per acre.

EMMER ("SPELTZ")

The common variety of emmer, to which the incorrect name of Spelts is often given, was grown as usual at all the experimental farms this past season. In comparing the yield of this grain with wheat a deduction of twenty per cent or more must be made from the weight of the emmer on account of the husk, inasmuch as this grain retains its husk after ordinary threshing.

The following table shows the yield of common emmer obtained at each experimental farm; and for comparison the highest yield of wheat at each farm is also inserted.

UNIFORM TEST PLOTS OF COMMON EMMER FOR 1903.

Where Grown.	Number of Days Maturing.	Yield per Acre as Threshed.	Estimated Yield per Acre of Clean Grain.			Highest Yield of Wheat Obtained.	
			In pounds.	In Bushels of 60 lbs. Each.			
		Lbs.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Ottawa	117	1,300	1,040	17	20	34	40
Nappan	122	1,520	1,216	20	16	42	40
Brandon	127	2,630	2,104	35	4	46	20
Indian Head	143	3,280	2,624	43	44	46	..*
Agassiz	122	2,190	1,752	29	12	46	40

*This yield was obtained from a macaroni wheat known as Mahmoudi, a variety not yet tested at all the farms.

PEASE.

Forty varieties of pease have been under trial during the past season. The plots were of the same size as those sown with oats; and the quantity of seed used per acre varied from two to three bushels, depending on the size of the pea. The dates of sowing were as follows:—At Ottawa, Ont., April 22, Nappan, N.S., May 9; Brandon, Man., April 24 to 27; Indian Head, N.W.T., May 5; and at Agassiz, B.C., April 21.

In Canada the bushel of pease is 60 lbs.

UNIFORM TEST PLOTS OF PEASE FOR 1903.

Number.	Name of Variety.	Yield per Acre at the Several Experimental Farms.										Number of Days from Sowing to Harvesting.					
		Average of all Farms.		Ottawa, Ont.		Nappan, N. S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B. C.		Average.	Ottawa.	Nappan.	Brandon.	Indian Head.	Agassiz.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	English Grey	44	8	34	20	34	..	63	..	55	50	23	30	12[illegible]	121	128	1[illegible]	*26	116
2	*Macoun	43	42	23	..	38	40	57	..	55	30	44	20	12[illegible]	120	124	129	131	116
3	Early Britain	43	14	24	40	24	..	60	20	60	30	46	40	121	122	122	118	126	116
4	*Archer	41	30	27	20	42	..	51	40	53	10	33	20	125	123	124	127	128	122
5	Crown	41	6	34	..	40	..	53	..	40	50	37	40	120	119	121	117	121	122
6	*Alma	41	4	26	..	31	20	64	40	50	10	33	10	124	117	123	126	134	123
7	German White	40	34	27	20	25	20	54	40	49	10	46	20	124	120	128	126	126	118
8	Pride	40	26	28	40	34	..	50	..	53	10	36	20	124	122	121	124	128	123
9	*Arthur	40	10	22	40	44	40	46	40	42	10	44	40	121	118	123	124	124	116
10	*Mackay	38	50	20	..	30	40	50	20	57	50	35	20	128	120	126	127	132	121
11	Wisconsin Blue	38	38	25	40	23	20	50	..	55	10	39	..	124	119	128	122	134	119
12	Mummy	38	26	30	..	37	20	45	20	37	30	42	..	122	122	123	124	124	119
13	*Pearl	38	26	25	20	24	40	54	..	45	30	42	40	124	119	126	129	126	121
14	Chancellor	38	23	30	20	..	†	41	40	37	30	44	..	120	118	†	115	124	121
15	Large White Marrowfat	38	4	27	20	29	20	43	40	43	30	46	30	123	119	123	128	124	122
16	*King	37	46	27	20	20	..	47	..	56	30	38	..	124	121	124	124	131	121
17	Black-eyed Marrowfat	37	36	22	40	28	..	48	..	50	30	38	50	125	118	124	130	128	123
18	*Agnes	37	30	23	..	35	20	43	..	46	50	39	20	122	119	123	125	121	122
19	Daniel O'Rourke	37	16	32	..	36	40	41	..	41	10	35	30	120	118	122	124	121	116
20	*Kent	36	56	29	..	26	..	45	20	49	10	35	10	126	123	127	129	132	119
21	*Gregory	36	48	30	40	28	40	34	20	59	10	31	10	125	120	129	126	130	119
22	Prussian Blue	36	44	33	40	25	20	34	..	55	50	34	50	122	118	123	124	126	121
23	*Paragon	36	42	31	20	13	20	38	40	60	..	40	10	125	117	124	129	130	123
24	*Victoria	36	26	31	20	26	..	54	40	38	10	32	..	126	125	127	132	128	119
25	*Carleton	36	22	23	..	30	..	33	40	49	50	45	20	126	123	124	130	134	118
26	Golden Vine	36	10	32	40	18	40	53	40	39	10	36	40	121	121	122	126	121	119
27	*Elliot	35	52	23	20	33	20	43	20	46	50	32	30	125	120	126	127	128	123
28	*Nelson	35	42	15	40	32	40	44	..	45	30	40	40	121	119	123	121	126	118
29	*Bruce	35	12	30	40	30	..	28	20	52	50	34	10	124	122	122	129	128	120
30	*Trilby	35	6	27	40	26	40	49	40	39	50	31	40	126	118	128	128	132	123
31	*Picton	35	2	31	..	16	40	46	40	48	30	32	20	123	122	122	126	124	121
32	*Perth	34	50	29	..	28	40	36	..	47	50	32	40	122	118	124	124	124	118
33	Prince Albert	34	44	26	20	27	20	47	..	37	30	35	30	123	119	121	129	126	119
34	New Potter	33	56	23	40	26	..	31	40	49	10	39	10	124	119	126	124	128	122
35	Centennial	33	4	20	40	30	40	27	40	44	50	41	30	124	122	124	127	126	119
36	*Duke	32	54	30	40	20	40	34	20	45	10	33	40	125	120	122	129	133	120
37	*Fergus	32	36	21	..	21	20	43	20	43	30	33	50	127	120	129	130	134	121
38	*Prince	31	54	26	20	18	..	37	..	45	10	33	..	124	123	123	129	126	121
39	White Wonder	30	58	22	40	13	20	47	20	31	30	40	..	118	116	122	116	115	122
40	*Lanark	30	54	23	20	20	..	24	..	44	50	42	20	123	119	127	129	126	116

* Cross-bred varieties produced at the Experimental Farms.
† Failed.

The twelve varieties of pease which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. English Grey	44	8	7. German White	40	34
2. Macoun	43	42	8. Pride	40	26
3. Early Britain	43	14	9. Arthur	40	10
4. Archer	41	30	10. Mackay	38	50
5. Crown	41	6	11. Wisconsin Blue	38	38
6. Alma	41	4	12. Mummy	38	26

An average crop of 40 bushels 59 lbs. per acre.

The twelve varieties of pease which have given the largest crops at the several experimental farms during 1903, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. English Grey	34	20	7. Victoria	31	20
2. Crown	34	..	8. Picton	31	..
3. Prussian Blue	33	40	9. Gregory	30	40
4. Golden Vine	32	40	10. Duke	30	40
5. Daniel O'Rourke	32	..	11. Bruce	30	40
6. Paragon	31	20	12 Chancellor	30	20

An average crop of 31 bushels 53 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Arthur	44	40	7. Agnes	35	20
2. Archer	42	..	8. English Grey	34	..
3. Crown	40	..	9. Pride	34	..
4. Macoun	38	40	10. Elliot	33	20
5 Mummy	37	20	11. Nelson	32	40
6. Daniel O'Rourke	36	40	12. Alma	31	20

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

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Alma	64	40	7. Pearl	54	..
2. English Grey	63	..	8. Golden Vine	53	40
3. Early Britain	60	20	9. Crown	53	..
4. Macoun	57	..	10. Archer	51	40
5. Victoria	54	40	11. Mackay	50	20
6. German White	54	40	12. Pride	50	..

An average crop of 55 bushels 35 lbs. per acre.

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

	Per acre. Bush.	Lbs		Per acre. Bush.	Lbs.
1. Early Britain..	60	30	7. Prussian Blue..	55	50
2. Paragon..	60	..	8. Macoun..	55	30
3. Gregory..	59	10	9. Wisconsin Blue....	55	10
4. Mackay..	57	50	10. Archer..	53	10
5. King..	56	30	11. Pride..	53	10
6. English Grey..	55	50	12. Bruce..	52	50

An average crop of 56 bushels 18 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Early Britain..	46	40	7. Chancellor..	44	..
2. Large White Marrowfat..	46	30	8. Pearl..	42	40
3. German White..	46	20	9. Lanark..	42	20
4. Carleton..	45	20	10. Mummy..	42	..
5. Arthur..	44	40	11. Centennial..	41	30
6. Macoun..	44	20	12. Nelson..	40	40

An average crop of 43 bushels 55 lbs. per acre.

The average crop of all the varieties of pease tested at each of the experimental farms in 1903, was as follows :—At Ottawa, 26 bushels 53 lbs. per acre ; Nappan, 28 bushels 1 lb. ; Brandon, 44 bushels 58 lbs. ; Indian Head, 47 bushels 40 lbs.; and at Agassiz, 37 bushels 53 lbs. The average return given by the whole of the varieties at all the farms was 37 bushels 6 lbs. per acre.

INDIAN CORN.

The number of varieties of corn tested in 1903 was twenty-three. These were all sown in rows three feet apart and the plants thinned out to six or eight inches apart in the rows. The dates of sowing were as follows :—At Ottawa, Ont., May 27 ; Nappan, N.S., June 2 ; Brandon, Man., May 28 ; Indian Head, N.W.T., May 22 ; and at Agassiz, B.C., May 20.

The crop in each case was cut green and put into the silo for the winter feeding of stock. The dates of cutting were :—At Ottawa, September 30 ; Nappan, October 6 ; Brandon, September 4 ; Indian Head, September 9 ; and at Agassiz, October 10. The yield per acre has been calculated in each case from the weight obtained from two rows each 66 feet long.

In Canada the ton is 2,000 lbs.

UNIFORM TEST PLOTS OF INDIAN CORN FOR 1903.

Number.	Name of Variety.	Yield per Acre at the Several Experimental Farms.									
		Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.	
		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	Early Mastodon	21	1,699	27	835	17	650	21	768	18	300	24	1,940
2	Thoroughbred White Flint	21	112	17	1,200	16	1,350	28	232	18	300	24	1,500
3	Eureka	20	1,536	14	1,370	17	320	28	1,532	20	700	22	1,760
4	Angel of Midnight	19	1,076	13	180	13	950	19	1,072	25	600	26	580
5	Giant Prolific Ensilage	19	1,061	20	755	17	1,750	19	280	15	800	24	1,720
6	Superior Fodder	19	1,037	16	780	17	100	21	1,824	16	1,000	25	1,480
7	Red Cob Ensilage	19	504	17	100	17	870	19	1,072	11	....	31	480
8	Compton's Early	18	1,404	18	1,840	14	1,370	20	392	17	1,200	22	220
9	Champion White Pearl	18	689	18	355	14	600	24	312	14	1,700	20	480
10	Mammoth Cuban	18	656	19	1,600	14	1,150	19	1,072	13	1,500	23	1,960
11	Early Butler	18	269	19	280	14	270	19	1,336	15	1,900	21	1,560
12	Salzer's All Gold	17	1,658	15	1,460	15	800	14	248	19	500	24	1,280
13	North Dakota White	17	1,332	14	1,700	11	1,100	18	960	19	500	24	400
14	Longfellow	17	1,112	15	1,210	15	1,570	19	280	19	1,600	17	870
15	Pride of the North	17	912	19	500	12	530	15	1,680	13	1,500	26	350
16	Selected Leaming	17	346	17	1,970	18	850	18	432	13	400	18	80
17	Mammoth Eight-Rowed Flint	16	652	15	140	11	1,100	15	1,152	18	300	21	570
18	King Philip	16	278	11	1,100	14	600	18	1 752	15	1,900	20	40
19	King of the Earliest	16	263	21	955	14	50	15	360	12	1,300	17	650
20	Sanford	15	1,988	15	1,570	15	1,350	16	1,000	16	560	15	1,460
21	White Cap Yellow Dent	15	1,926	15	1,460	13	1,500	18	1,752	14	1,700	16	1,220
22	Cloud's Early Yellow	14	1,298	16	560	11	500	16	472	11	1,100	17	1,860
23	Evergreen Sugar	14	72	14	600	11	....	15	1,680	12	1,300	16	780

The six varieties of Indian corn which have given the heaviest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Early Mastodon	21	1,699	4. Angel of Midnight	19	1,076
2. Thoroughbred White Flint	21	112	5. Giant Prolific Ensilage	19	1,061
3. Eureka	20	1,536	6. Superior Fodder	19	1,037

An average crop of 20 tons 753 lbs. per acre.

The six varieties of Indian corn which have given the heaviest crops at the several experimental farms during 1903, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Early Mastodon	27	835	4. Mammoth Cuban	19	1,600
2. King of the Earliest	21	955	5. Pride of the North	19	500
3. Giant Prolific Ensilage	20	755	6. Early Butler	19	280

An average crop of 21 tons 488 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Selected Leaming	18	850	4. Early Mastodon	17	650
2. Giant Prolific Ensilage	17	1,750	5. Eureka	17	320
3. Red Cob Ensilage	17	870	6. Superior Fodder	17	100

An average crop of 17 tons 1,090 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Eureka	28	1,532	4. Superior Fodder	21	1,824
2. Thoroughbred White Flint	28	232	5. Early Mastodon	21	768
3. Champion White Pearl	24	312	6. Compton's Early	20	392

An average crop of 24 tons 177 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Angel of Midnight	25	600	4. North Dakota White	19	500
2. Eureka	20	700	5. Salzer's All Gold	19	500
3. Longfellow	19	1,600	6. Early Mastodon	18	300

An average crop of 20 tons 700 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Cob Ensilage	31	480	4. Superior Fodder	25	1,480
2. Angel of Midnight	26	580	5. Early Mastodon	24	1,940
3. Pride of the North	26	350	6. Giant Prolific Ensilage	24	1,720

An average crop of 26 tons 1,902 lbs. per acre.

The average weight of all the varieties, cut green, of Indian corn tested at each of the experimental farms in 1903, was as follows :—At Ottawa, 17 tons 459 lbs. per acre ; Nappan, 14 tons 1,535 lbs. ; Brandon, 19 tons 681 lbs. ; Indian Head, 16 tons 550 lbs ; and at Agassiz, 21 tons 1,880 lbs. The average return given by the whole of the varieties at all the farms was 17 tons 1,821 lbs. per acre.

TURNIPS.

Twenty-one varieties of turnips were tested in 1903, sown in drills or on the flat 2½ feet apart. Two sowings were made at each farm, the second sowing being about 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 as follows :—At Ottawa, Ont., October 19 ; Nappan, N.S., October 27 ; Brandon, Man., October 7 ; Indian Head, N.W.T., October 9 ; and at Agassiz, B.C., October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows, each 66 feet long.

In Canada the ton is 2,000 lbs.

UNIFORM TEST PLOTS OF TURNIPS FOR 1903.

Number.	Name of Variety.	Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.	
		First Sowing.	Second Sowing.	Sown May 7.	Sown May 21.	Sown May 15.	Sown May 29.	Sown May 30.	Sown June 13.	Sown May 16.	Sown May 28.	Sown May 13.	Sown May 27.
		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	Mammoth Clyde	38 1,596	28 628	41 665	30 1,545	47 1,040	38 1,055	41 1,160	16 1,000	21 1,956	16 1,000	41 1,160	39 540
2	New Century	38 659	26 1,955	47 1,865	23 1,850	47 50	38 725	39 672	14 1,040	17 848	18 960	39 1,860	39 1,200
3	Emperor Swede	38 131	27 1,845	37 1,570	20 425	47 710	40 25	38 50	14 1,568	19 544	26 8	47 1,270	38 1,200
4	Jumbo	36 1,854	26 1,130	46 235	24 1,665	44 1,925	37 745	32 680	16 1,000	22 1,540	15 360	38 890	38 1,880
5	Hartley's Bronze	36 1,219	31 957	29 245	27 780	41 1,490	35 455	38 560	22 880	*	32 152	37 580	40 520
6	Perfection Swede	36 118	29 1,928	25 1,975	24 1,005	50 320	43 625	35 1,280	16 1,000	22 1,936	29 80	45 1,080	36 930
7	Good Luck	35 1,518	28 1,750	40 1,510	28 1,090	44 1,760	41 500	36 864	14 1,040	14 1,964	22 880	41 1,490	37 1,240
8	Drummond Purple Top	35 1,260	26 727	33 990	30 225	43 1,120	35 125	42 480	14 1,040	21 1,956	18 1,752	36 1,755	33 495
9	Kangaroo	35 1,062	26 1,712	44 1,430	24 1,005	47 875	34 1,795	39 1,200	17 320	10 196	22 1,808	35 1,610	34 1,630
10	Elephant's Master	34 1,960	26 1,427	33 1,155	20 260	48 30	37 910	40 1,312	15 1,580	12 948	23 1,520	40 355	36 765
11	Sutton's Champion	34 1,754	28 522	26 1,625	24 1,830	39 1,530	38 1,550	39 1,200	15 360	*	25 952	33 660	36 1,920
12	Imperial Swede	34 1,333	30 1,583	30 390	29 740	43 955	37 85	40 520	19 1,600	17 980	28 288	41 1,820	39 1,200
13	Hall's Westbury	34 396	28 1,057	23 695	19 1,270	41 1,820	37 1,735	39 1,200	21 240	23 464	27 1,440	42 1,800	36 600
14	Halewood's Bronze Top	34 383	28 701	23 1,520	21 1,890	48 1,845	34 1,465	38 1,880	17 320	19 148	26 1,328	40 520	41 500
15	Skirvings	34 171	29 73	25 1,480	19 445	44 605	38 1,550	40 520	20 920	22 1,012	31 832	37 1,240	35 620
16	Magnum Bonum	34 79	28 1,961	30 555	24 345	49 1,000	41 1,390	43 1,120	18 960	13 400	23 1,520	33 1,320	36 1,590
17	Selected Purple Top	33 1,881	28 667	29 575	28 1,915	47 1,370	40 955	40 520	16 736	20 1,580	18 488	31 1,360	37 1,240
18	Bangholm Selected	33 1,373	25 1,044	29 905	24 15	46 235	35 455	34 1,960	15 360	18 1,884	21 1,032	38 1,880	31 1,360
19	Shamrock Purple Top	33 500	26 1,328	33 825	26 965	41 1,325	35 1,115	36 600	19 280	19 1,792	19 1,600	34 1,960	32 680
20	East Lothian	32 1,122	27 1,367	23 1,520	23 860	41 665	36 435	36 1,920	15 1,680	15 96	24 312	45 1,410	38 1,550
21	Carter's Elephant	32 924	24 1,500	27 120	17 320	39 1,365	32 680	38 560	14 1,040	20 1,316	21 240	36 1,260	38 1,220

* Destroyed by turnip fly.

The six varieties of turnips which have given the heaviest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Clyde	38	1,596	4. Jumbo	36	1,852
2. New Century	38	659	5. Hartley's Bronze	36	1,219
3. Emperor Swede	33	131	6. Perfection Swede	36	118

An average crop of 37 tons 929 lbs. per acre.

The six varieties of turnips which have given the heaviest crops at the several experimental farms during the season of 1903, are the following :—

(Where not otherwise stated the quantities given are all from the early sown plots.)

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New Century	47	1,865	4. Mammoth Clyde	41	665
2. Jumbo	46	235	5. Good Luck	40	1,510
3. Kangaroo	44	1,430	6. Emperor Swede	37	1,570

An average crop of 43 tons 213 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Perfection Swede	50	320	4. Elephant's Master	48	30
2 Magnum Bonum	49	1,000	5. Selected Purple Top	47	1,370
3. Halewood's Bronze Top	48	1,845	6. Mammoth Clyde	47	1,040

An average crop of 48 tons 1,268 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Magnum Bonum	43	1,120	4 Elephant's Master	40	1,312
2. Drummond Purple Top	42	480	5. Selected Purple Top	40	520
3. Mammoth Clyde	41	1,160	6. Skirvings	40	520

An average crop of 41 tons 852 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Hartley's Bronze (2nd sowing)	32	152	4. Imperial Swede (2nd sowing)	28	283
2. Skirvings (2nd sowing)	31	832	5. Hall's Westbury (2nd sowing)	27	1,440
3. Perfection Swede (2nd sowing)	29	80	6. Halewood's Bronze Top (2nd sowing)	26	1,328

An average crop of 29 tons 353 lbs. per acre.

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

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Emperor Swede	47 1,270	4. Hall's Westbury	42 1,800
2. East Lothian	45 1,410	5. Imperial Swede	41 1,820
3. Perfection Swede	45 1,080	6. Good Luck	41 1,490

An average crop of 44 tons 478 lbs. per acre.

The crops from the two sowing of turnips at the experimental farms in 1903 have averaged per acre, as follows :—

	Tons.	Lbs.
Central Experimental Farm, first sowing	32	1,126
" " second sowing	24	974
Experimental Farm, Nappan, first sowing	45	192
" Nappan, second sowing	37	1,256
" Brandon, first sowing	38	1,465
" Brandon, second sowing	16	1,955
" Indian Head, first sowing	18	1,345
" Indian Head, second sowing	23	1,407
" Agassiz, first sowing	39	347
" Agassiz, second sowing	37	328

The average crop from all the plots at all the farms was, for the first sowing, 34 tons 1,695 lbs., and for the second sowing, 27 tons 1,984 lbs.; showing an advantage in favour of the first sowing of 6 tons 1,711 lbs. per acre. It will be seen that the early sown plots have given the larger crops at all the farms except at Indian Head, N.W.T.

MANGELS.

Sixteen varieties of mangels have been under test during 1903. All were sown in drills or on the flat in rows 2½ feet apart. Two sowings were made at each farm, the second sowing being about 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 as follows :—At Ottawa, Ont., October 19 ; Nappan, N.S., October 21 ; Brandon, Man., September 21 ; Indian Head, N.W.T., October 8 ; and at Agassiz, B.C., October 22. The yield per acre has been calculated in each case from the weight of roots gathered from two rows, each 66 feet long.

In Canada the ton is 2,000 lbs.

UNIFORM TEST PLOTS OF MANGELS FOR 1903.

Number.	Name of Variety.	Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N. W. T.		Agassiz, B.C.	
		First Sowing.	Second Sowing.	Sown May 7.	Sown May 21.	Sown May 15.	Sown May 29.	Sown May 30.	Sown June 13.	Sown May 14.	Sown May 26.	Sown April 28.	Sown May 12.
		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	Mammoth Long Red	39 1,761	31 1,479	41 335	21 900	41 5	36 1,755	42 744	23 1,520	26 536	29 1,664	48 1,185	46 1,555
2	Mam. Yellow Intermediate.	37 936	27 886	34 1,630	15 1,845	46 1,225	37 745	33 1,320	24 1,368	32 812	24 840	39 1,695	34 1,630
3	Half Long Sugar White ...	36 1,102	27 1,836	35 620	15 1,350	40 1,675	30 1,710	36 1,392	28 760	29 1,796	17 1,968	40 25	46 1,390
4	Selected Yellow Globe.....	36 290	26 513	39 375	17 815	45 90	35 475	27 1,704	23 728	29 80	19 608	39 1,200	35 1,940
5	Giant Yellow Intermediate	35 1,392	28 1,493	34 475	17 815	45 1,575	36 600	25 160	23 992	33 1,716	28 496	39 1,035	38 560
6	Lion Yellow Intermediate ..	35 910	26 1,834	30 225	19 1,435	46 235	41 5	29 1,400	22 880	32 152	17 1,704	39 540	33 1,145
7	Prize Winner Yellow Globe	34 515	25 1,132	32 845	18 630	43 1,450	37 415	31 1,360	21 1,560	28 1,948	18 1,552	34 970	31 1,505
8	Triumph Yellow Globe	34 272	24 109	40 190	18 1,125	41 1,325	30 225	33 1,584	20 656	26 800	24 576	28 1,460	26 1,965
9	Selected Mamm. Long Red.	33 838	29 714	24 1,500	22 385	43 1,120	39 1,365	32 1,736	23 1,784	28 496	26 1,064	37 1,340	34 970
10	Prize Mamm. Long Red...	33 638	26 1,500	32 350	20 1,250	45 255	37 1,240	32 1,472	22 88	26 1,592	25 1,480	29 1,520	27 1,440
11	Half Long Sugar Rosy.....	33 634	24 1,671	29 740	14 215	41 170	32 185	27 912	20 1,712	27 516	18 1,024	41 830	38 1,220
12	Giant Yellow Globe.....	32 297	26 1,592	25 1,645	16 1,990	45 585	36 1,425	25 1,480	21 1,560	29 1,796	30 720	33 1,980	28 265
13	Gate Post.	31 1,730	24 840	34 1,795	20 1,580	32 1,670	22 550	27 1,968	23 200	29 1,400	19 1,600	33 1,815	36 270
14	Yellow Intermediate.....	31 396	24 130	29 1,730	14 495	40 850	32 1,175	30 720	20 712	28 892	26 800	26 1,790	26 1,470
15	Giant Sugar Mangel.	31 264	24 1,764	34 1,135	15 1,680	33 495	25 985	27 912	20 1,712	25 1,480	24 1,104	34 1,300	37 1,340
16	Leviathan Long Red.....	29 318	25 503	23 200	13 1,885	42 1,800	35 125	28 232	18 960	24 1,236	27 1,176	27 120	31 370

The six varieties of mangels which have given the heaviest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Long Red..	39	1,761	4. Selected Yellow Globe..	36	290
2. Mamm. Yellow Intermediate.. ..	37	936	5. Giant Yellow Intermediate..	35	1,392
3. Half Long Sugar White..	36	1,102	6. Lion Yellow Intermediate..	35	910

An average crop of 36 tons 1,732 lbs. per acre.

The six varieties of mangels which have produced the heaviest crops at the several experimental farms during 1903, are the following. (Unless otherwise stated the yields given are all from the earliest sown plots) :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Long Red..	41	335	4. Half Long Sugar White..	35	620
2. Triumph Yellow Globe..	40	190	5. Gate Post..	34	1,795
3. Selected Yellow Globe..	39	375	6. Mammoth Yellow Intermediate..	34	1,630

An average crop of 37 tons, 1,158 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Yellow Intermediate ..	46	1,225	4. Giant Yellow Globe..	45	585
2. Lion Yellow Intermediate	46	235	5. Prize Mammoth Long Red..	45	255
3. Giant Yellow Intermediate..	45	1,575	6. Selected Yellow Globe..	45	90

An average crop of 45 tons, 1,328 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1 Mammoth Long Red..	42	744	4. Mammoth Yellow Intermediate ..	33	1,320
2. Half Long Sugar White..	36	1,392	5. Selected Mammoth Long Red.. ..	32	1,736
3. Triumph Yellow Globe..	33	1,584	6. Prize Mammoth Long Red..	32	1,472

An average crop of 35 tons, 708 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1 Giant Yellow Intermediate..	33	1,716	4. Giant Yellow Globe (2nd sowing).	30	720
2. Mammoth Yellow Intermediate ..	32	812	5. Half Long Sugar White..	29	1,796
3. Lion Yellow Intermediate..	32	152	6. Mammoth Long Red (2nd sowing)	29	1,664

An average crop of 31 tons 810 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Long Red....	48	1,185	4. Mammoth Yellow Intermediate ..	39	1,695
2. Half Long Sugar White (2nd sowing)..	46	1,390	5. Selected Yellow Globe..	39	1,200
3. Half Long Sugar Rosy..	41	830	6. Giant Yellow Intermediate..	39	1,035

An average crop of 42 tons 1,223 lbs. per acre.

The crops from the two sowings of mangels at the experimental farms in 1903, have averaged per acre as follows :—

	Tons.	Lbs.
Central Experimental Farm, first sowing	32	1,237
" " second sowing	17	1,400
Experimental Farm, Nappan, first sowing	42	408
" Nappan, second sowing	34	311
" Brandon, first sowing	30	1,694
" Brandon, second sowing	22	949
" Indian Head, first sowing	28	1,453
" Indian Head, second sowing	23	1,523
" Agassiz, first sowing	35	1,925
" Agassiz, second sowing	34	1,439

The average crop from all the plots at all the farms was, from the first sowing, 34 tons 134 lbs., and from the second sowing, 26 tons 1,124 lbs.; showing an advantage in favour of early sowing of 7 tons 1,019 lbs. per acre.

CARROTS

Eleven different sorts of carrots were tested during 1903, all being sown in drills or on the flat two feet apart. Two sowings were made in each case, the second sowing being two weeks later than the first. The dates of sowing will be found in the accompanying table. The dates on which the carrots were pulled were as follows :—At Ottawa, Ont., October 19 ; Nappan, N.S., October 27 ; Brandon, Man., October 19 ; Indian Head, N.W.T., October 12 ; and at Agassiz, B.C., October 27.

In Canada the ton is 2,000 lbs.

UNIFORM TEST PLOTS OF CARROTS FOR 1903.

Number.	Name of Variety.	Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.	
		First Sowing.	Second Sowing.	Sown May 7.	Sown May 21.	Sown May 15.	Sown May 29.	Sown May 16.	Sown June 6.	Sown May 2.	Sown May 16.	Sown April 27.	Sown May 11.
		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	Ontario Champion	23 352	18 993	29 1,070	22 550	30 225	22 1,375	21 240	11 1,760	10 64	9 1,800	25 160	25 1,480
2	Giant White Vosges	23 273	18 1,796	29 80	21 570	29 905	19 1,600	15 1,680	12 1,300	9 1,008	12 1,060	31 1,690	28 430
3	Mamm. White Intermediate	22 1,573	18 134	30 1,875	22 1,210	27 615	24 675	14 1,700	8 60	8 500	8 1,100	32 1,175	26 1,625
4	New White Intermediate	21 1,309	17 857	33 1,815	25 160	24 675	22 880	21 240	10 900	9 876	11 704	19 940	17 1,640
5	Improved Short White	21 975	17 1,024	28 430	20 755	20 1,580	20 920	22 1,320	12 640	9 1,404	9 1,800	26 140	24 1,005
6	White Belgian	19 1,534	16 241	27 1,110	19 1,930	18 1,950	17 155	17 1,640	10 1,780	9 1,140	10 1,120	24 1,830	22 220
7	Half Long Chantenay	18 1,178	14 1,363	21 75	16 175	23 200	18 300	17 320	10 1,120	12 684	10 1,912	19 610	17 1,310
8	Long Yellow Stump Rooted	17 1,930	15 1,595	26 1,810	18 300	22 880	21 1,375	10 900	11 1,320	9 1,140	8 1,688	20 920	18 1,290
9	Half Long White	17 599	15 1,948	21 1,890	20 1,745	19 445	18 1,620	16 1,440	8 720	7 652	9 1,272	21 570	22 385
10	Carter's Orange Giant	16 1,455	15 228	21 1,065	18 135	17 650	15 1,350	11 880	9 1,300	9 1,820	9 1,800	23 860	22 55
11	Early Gem	16 410	14 1,315	16 1,495	15 1,020	19 1,105	19 445	14 600	11 1,320	11 1,892	8 1,160	18 960	18 65

The six varieties of carrots which have given the heaviest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Ontario Champion..	23	352	4. New White Intermediate..	21	1,309
2. Giant White Vosges..	23	273	5. Improved Short White..	21	975
3. Mamm. White Intermediate..	22	1,573	6. White Belgian..	19	1,534

An average crop of 22 tons 3 lbs. per acre.

The six varieties of carrots which have produced the heaviest crops at the several experimental farms during the season of 1903, are the following. (Unless otherwise stated, the yields given are all from the earliest sown plots) :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate..	33	1,815	4. Giant White Vosges..	29	80
2. Mammoth White Intermediate....	30	1,875	5. Improved Short White..	28	430
3. Ontario Champion..	29	1,070	6. White Belgian..	27	1,110

An average crop of 29 tons 1,730 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Ontario Champion..	30	225	4. New White Intermediate..	24	675
2. Giant White Vosges..	29	905	5. Half Long Chantenay	23	200
3. Mammoth White Intermediate....	27	615	6. Long Yellow Stump Rooted.. ..	22	880

An average crop of 26 tons 250 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Short White....	22	1,320	4. White Belgian..	17	1,440
2. New White Intermediate....	21	240	5. Half Long Chantenay....	17	320
3. Ontario Champion..	21	240	6. Half Long White..	16	1,440

An average crop of 19 tons 867 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant White Vosges (2nd sowing).	12	1,080	4. New White Intermediate (2nd sowing)..	11	704
2. Half Long Chantenay..	12	684	5. White Belgian (2nd sowing).. ..	10	120
3. Early Gem..	11	1,892	6. Ontario Champion..	10	64

An average crop of 11 tons 924 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth White Intermediate....	32	1,175	4. Ontario Champion (2nd sowing)..	25	1,480
2. Giant White Vosgee..	31	1,600	5. White Belgian..	24	1,830
3. Improved Short White..	26	140	6. Carter's Orange Giant..	23	860

An average crop of 27 tons 863 lbs. per acre.

The crops from the two sowings of carrots at the experimental farms in 1903, have averaged as follows :—

	Tons.	Lbs.
Central Experimental Farm, first sowing....	26	247
" " second sowing..	20	50
Experimental Farm, Nappan, first sowing....	22	1,050
" Nappan, second sowing..	20	63
" Brandon, first sowing....	16	1,360
" Brandon, second sowing..	10	1,520
" Indian Head, first sowing...	9	1,562
" Indian Head, second sowing	10	131
" Agassiz, first sowing....	23	1,805
" Agassiz, second sowing..	22	370

The average crop from all the plots at all the farms was, from the first sowing, 19 tons 1,781 lbs., and from the second sowing, 16 tons 1,227 lbs.; showing an advantage in favour of the early sown plots of 3 tons 554 lbs. per acre.

SUGAR BEETS.

Eight varieties of sugar beets have been tested during 1903, sown in drills or on the flat two feet apart. Two sowings were made at each farm, the second sowing being about 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 as follows :—At Ottawa, Ont., October 19 ; Nappan, N.S., October 22 ; Brandon, Man., September 21 ; Indian Head, N.W.T., October 9 ; and at Agassiz, B.C., October 23. The yield per acre in each instance has been calculated from the weight of roots gathered from two rows, each 66 feet long.

Though all the varieties mentioned in the table are commonly classed as sugar beets it should be noted that the only sorts recommended for use in the manufacture of beet sugar are Wanzleben, Vilmorin's Improved, and French 'Very Rich.'

In Canada the ton is 2,000 lbs.

UNIFORM TEST PLOTS OF SUGAR BEETS FOR 1903.

Number.	Name of Variety.	Average of all Farms.				Ottawa, Ont.				Nappan, N.S.				Brandon, Man.				Indian Head, N.W.T.				Agassiz, B.C.			
		First Sowing.		Second Sowing.		Sown May 7.		Sown May 21.		Sown May 15.		Sown May 29.		Sown June 1.		June 15.		Sown May 15.		Sown May 26.		Sown April 28.		Sown May 12.	
		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	Red Top Sugar	28	1,594	22	636	36	105	20	920	29	575	19	445	24	312	20	920	25	1,559	22	1,144	28	1,420	28	1,750
2	Improved Imperial	28	1,347	25	88	39	540	21	900	28	595	18	1,620	22	1,936	21	504	26	866	23	1,024	26	800	35	300
3	Danish Red Top	28	1,334	21	359	35	455	16	1,495	31	40	21	1,395	25	160	19	1,600	24	1,896	22	1,144	27	120	25	160
4	Danish Improved	25	866	21	405	32	1,010	15	690	28	265	22	1,375	23	464	16	1,000	21	1,956	23	1,520	26	635	27	1,440
5	Royal Giant	26	120	22	741	20	1,250	15	1,185	37	415	30	390	19	1,600	21	504	26	866	18	828	26	470	26	800
6	Wanzleben	22	1,709	18	280	29	1,565	13	70	24	1,005	20	425	20	128	15	360	21	886	21	1,956	18	960	20	500
7	Vilmorin's Improved	21	637	19	1,514	19	610	7	1,160	28	925	24	675	13	1,456	14	776	21	1,005	29	1,400	23	1,190	22	1,540
8	French 'Very Rich'	19	1,603	17	881	23	695	18	1,455	21	75	17	650	13	1,720	13	1,720	21	1,243	14	1,700	19	280	22	880

The four varieties of sugar beets which have given the heaviest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Top Sugar..	28	1,594	3. Danish Red Top..	28	1,334
2. Improved Imperial..	28	1,347	4. Danish Improved..	26	866

An average crop of 28 tons 285 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops at the several experimental farms during the season of 1903, are the following. (Unless otherwise stated, the yields given are all from the earliest sown plots) :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs		Per acre. Tons.	Lbs.
1. Improved Imperial..	39	540	3. Danish Red Top..	35	455
2. Red Top Sugar..	36	105	4. Danish Improved..	32	1,010

An average crop of 35 tons 1,528 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Royal Giant..	37	415	3. Red Top Sugar..	29	575
2. Danish Red Top..	31	40	4. Vilmorin's Improved..	28	925

An average crop of 31 tons, 989 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top....	25	160	3. Danish Improved..	23	464
2. Red Top Sugar..	24	312	4. Improved Imperial..	22	1,936

An average crop of 23 tons 1,718 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Vilmorin's Improved (2nd sowing)	29	1,400	3. Royal Giant..	26	866
2. Improved Imperial (2nd sowing)..	28	1,024	4. Red Top Sugar..	25	1,559

An average crop of 27 tons 1,212 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Imperial (2nd sowing)..	35	390	3. Danish Improved (2nd sowing) ..	27	1,440
2. Red Top Sugar (2nd sowing)	28	1,760	4. Danish Red Top..	27	120

An average crop of 29 tons 1,425 lbs. per acre.

The crops from the two sowings of sugar beets at the experimental farms in 1903, have averaged as follows :—

	Tons.	*Lbs.*
Central Experimental Farm, first sowing	29	1,029
" " second sowing	16	237
Experimental Farm, Nappan, first sowing	28	987
" Nappan, second sowing	21	1,622
" Brandon, first sowing	20	722
" Brandon, second sowing	17	1,673
" Indian Head, first sowing	23	1,533
" Indian Head, second sowing	22	1,577
" Agassiz, first sowing	24	984
" Agassiz, second sowing	26	194

The average crop from all the plots at all the farms was, from the first sowing, 25 tons 651 lbs, and from the second sowing, 20 tons 1,861 lbs.; showing an advantage in favour of the first sowing of 4 tons 790 lbs. per acre.

POTATOES.

Fifty-five varieties of potatoes have been under test during 1903. The potatoes planted were cut into pieces with two or three eyes in each, and these were planted in rows 2½ feet apart, the sets being placed a foot apart in the rows. The following were the dates of planting and digging :—At Ottawa, Ont., planted May 22, dug October 5 and 6 ; at Nappan, N.S., planted May 22, dug September 25 ; at Brandon, Man., planted May 21, dug October 16 and 17 ; at Indian Head, N.W.T., planted May 14, dug October 5 ; and at Agassiz, B.C., planted May 19, dug September 22.

At the Central Experimental Farm the sets of some of the early varieties dried up in the ground from the excessive drought in spring. This accounts for the small yield reported this year in the case of some varieties which in past years have done well.

In Canada the bushel of potatoes is 60 lbs.

UNIFORM TEST PLOTS OF POTATOES FOR 1903.

Number.	Name of Variety.	Yield at the Several Experimental Farms.											
		Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head N.W.T.		Agassiz, B.C.	
		Per Acre.		Per Acre.		Per Acre.		Per Acre.		Per Acre.		Per Acre.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
1	Seedling No. 7	448	39	356	24	528	..	487	40	523	36	347	36
2	Vanier	444	54	358	36	550	..	425	20	514	21	376	12
3	Rose No. 9	432	21	398	12	378	24	429	..	597	31	358	36
4	Rochester Rose	430	3	305	48	495	..	341	..	542	4	466	24
5	Carman No. 1	429	2	514	48	226	36	399	40	711	28	292	36
6	Enormous	426	13	363	..	506	..	509	40	508	12	244	12
7	Late Puritan	425	30	473	..	407	..	430	50	517	26	299	12
8	Burnaby Seedling	417	39	418	..	411	24	429	..	548	14	281	36
9	Everett	417	24	393	48	433	24	447	20	575	57	236	30
10	Uncle Sam	415	13	393	48	308	..	498	40	554	24	321	12
11	Canadian Beauty	409	47	451	..	312	24	469	20	585	12	231	..
12	Pearce	409	42	334	24	605	..	407	..	357	16	344	48
13	Penn. Manor	403	8	347	36	418	..	407	..	532	50	310	12
14	Dreer's Standard	402	29	534	36	259	36	414	20	480	28	323	24
15	Delaware	401	24	301	24	330	..	586	40	535	55	253	..
16	Swiss Snowflake	398	21	305	48	404	48	414	20	554	24	312	24
17	State of Maine	397	19	387	12	345	24	484	..	508	12	261	48
18	I X L	396	1	367	24	363	..	414	20	542	4	293	18
19	Cambridge Russet	390	50	369	36	231	..	465	40	428	7	459	48
20	Troy Seedling	390	8	374	..	429	..	377	40	492	48	277	12
21	Maule's Thoroughbred	389	13	266	12	374	..	440	..	551	19	314	36
22	Country Gentleman	389	6	347	36	228	48	447	20	523	36	398	12
23	McIntyre	386	31	253	..	517	..	388	40	498	57	275	..
24	Early Norther	385	..	310	12	365	12	462	..	508	12	279	24
25	Irish Daisy	379	4	288	12	294	48	484	..	483	33	344	48
26	Clay Rose	377	56	418	..	492	48	355	40	391	7	232	6
27	Irish Cobbler	375	44	338	48	358	36	447	20	443	31	290	24
28	Vick's Extra Early	373	42	299	12	534	36	315	20	477	24	242	..
29	American Wonder	371	48	169	24	248	36	495	..	585	12	360	48
30	Holborn Abundance	370	1	261	48	297	..	436	20	597	31	257	24
31	Sharpe's Seedling	364	54	193	36	341	..	425	20	508	12	356	24
32	Reeves' Rose	364	24	272	48	242	..	451	..	455	50	400	24
33	American Giant	362	11	411	24	235	24	414	20	560	33	189	12
34	Money Maker	358	29	396	..	272	48	480	20	403	28	239	48
35	Lee's Favourite	354	14	312	24	222	12	432	40	603	40	200	12
36	Brown's Rot Proof	348	11	305	48	286	..	447	20	385	..	316	48
37	General Gordon	347	38	180	24	222	12	630	40	511	16	193	36
38	Early Michigan	346	24	268	24	202	24	410	40	489	4	360	48
39	Early Puritan	346	17	189	12	367	24	462	..	446	36	266	12
40	Empire State	345	27	180	24	314	36	451	..	597	31	183	44
41	Prolific Rose	342	24	162	48	250	48	418	..	563	38	316	48
42	Early Sunrise	334	52	169	24	228	48	377	40	649	52	248	36
43	Green Mountain	334	49	259	36	308	..	451	..	369	36	285	54
44	Sabean's Elephant	333	1	330	..	301	24	366	40	455	50	211	12
45	Early Rose	332	35	209	..	253	..	335	30	489	43	375	40
46	Early St. George	322	31	121	..	231	..	330	..	631	24	299	12
47	Burpee's Extra Early	321	53	319	..	202	24	311	40	542	4	234	18
48	Rawdon Rose	318	18	202	24	198	.	440	..	434	16	316	48
49	Carman No. 3	305	46	253	..	270	36	381	20	428	7	195	48
50	Early Andes	303	4	33	..	310	12	363	..	575	57	233	12
51	Early Envoy	303	2	283	48	407	..	271	20	326	28	226	36
52	Early White Prize	295	9	57	12	264	..	418	..	468	9	268	24
53	Bovee	281	25	103	24	347	36	319	..	351	7	286	..
54	Up to Date	236	51	180	24	336	36	258	30	267	57	140	48
55	Pingree	208	29	37	24	325	36	113	40	357	16	*	

* Not planted.

The twelve varieties of potatoes which have produced the largest crops in 1903, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Seedling No. 7	448	39	7. Late Puritan	425	30
2. Vanier	444	54	8. Burnaby Seedling	417	39
3. Rose No. 9	432	21	9. Everett	417	24
4. Rochester Rose	430	3	10. Uncle Sam	415	13
5. Carman No. 1	429	2	11. Canadian Beauty	409	47
6. Enormous	426	13	12. Pearce	409	42

An average crop of 425 bushels 32 lbs per acre.

The twelve varieties of potatoes which have produced the largest crops at the several experimental farms during the season of 1903, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dreer's Standard	534	36	7. American Giant	411	24
2. Carman No. 1	514	48	8. Rose No. 9	398	12
3. Late Puritan	473	..	9. Money Maker	396	..
4. Canadian Beauty	451	..	10. Uncle Sam	393	48
5. Clay Rose	418	..	11. Everett	393	48
6. Burnaby Seedling	418	..	12. State of Maine	387	12

An average crop of 432 bushels 29 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Pearce	605	..	7. Rochester Rose	495	..
2. Vanier	550	..	8. Clay Rose	492	48
3. Vick's Extra Early	534	36	9. Everett	433	24
4. Seedling No. 7	528	..	10. Troy Seedling	429	..
5. McIntyre	517	..	11. Penn Manor	418	..
6. Enormous	506	..	12. Burnaby Seedling	411	24

An average crop of 493 bushels 21 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. General Gordon	630	40	7. Irish Daisy	484	..
2. Delaware	586	40	8. State of Maine	484	..
3. Enormous	509	40	9. Money Maker	480	20
4. Uncle Sam	498	40	10. Canadian Beauty	469	20
5. American Wonder	495	..	11. Cambridge Russet	465	40
6. Seedling No. 7	487	40	12. Early Puritan	462	..

An average crop of 504 bushels 28 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Garman No. 1	711	28	7. Empire State	597	31
2. Early Sunrise	649	12	8. American Wonder	585	12
3. Early St. George	631	24	9. Canadian Beauty	585	12
4. Lee's Favourite	603	40	10. Early Andes	575	57
5. Holborn Abundance	597	31	11. Everett	575	57
6. Rose No. 9	597	31	12. Prolific Rose	563	38

An average crop of 606 bushels 14 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Rochester Rose	466	24	7. American Wonder	360	48
2. Cambridge Russet	459	48	8. Early [illegible]igan	360	48
3. Reeves' Rose	400	24	9. Rose No. 9	358	36
4. Country Gentleman	398	12	10. Sharpe's Seedling	356	24
5. Vanier	376	12	11. Seedling No. 7	347	36
6. Early Rose	375	40	12. Irish Daisy	344	48

An average crop of 383 bushels 48 lbs. per acre.

The average crops of all the varieties of potatoes tested in 1903, at each of the experimental farms, were as follows :—At Ottawa, 293 bushels 19 lbs. per acre ; at Nappan, 338 bushels 5 lbs. per acre ; at Brandon, 415 bushels 50 lbs. per acre ; at Indian Head, 500 bushels 48 lbs. per acre ; and at Agassiz, 289 bushels 29 lbs. per acre.

The average return given by the whole of the varieties at all the farms was 365 bushels 30 lbs. per acre.

AVERAGE OF CROPS ON THE EXPERIMENTAL PLOTS FOR A SERIES OF YEARS.

The results of experiments with different varieties of agricultural crops to ascertain their relative productiveness become much more reliable and conclusive when the average experience of a series of years can be given. In this way variations arising from inequality of soil and variability of season are to a large extent equalized, and the conclusions reached become a more valuable guide to the farmer in selecting his seed. The experience here recorded with the varieties under test covers a period of from four to nine years.

TEST OF VARIETIES OF OATS FOR A SERIES OF YEARS.

The twelve varieties of oats which have produced the largest crops for a series of years, taking the average of the results obtained on all the experimental farms, are the following :—

The length of time they have been under trial is stated in each case.

In Canada the bushel of oats is 34 lbs.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Danish Island, 6 yrs..	79	3	7. Thousand Dollar, 6 yrs..	75	22
2. Banner, 9 yrs..	78	25	8. Black Beauty, 5 yrs..	75	14
3. Mennonite, 8 yrs..	77	3	9. Holstein Prolific, 9 yrs..	75	13
4. New Zealand, 5 yrs..	76	33	10. Improved American, 6 yrs.. ..	75	12
5. American Beauty, 8 yrs..	75	29	11. Buckbee's Illinois, 8 yrs..	74	18
6. White Giant, 6 yrs..	75	27	12. Golden Tartarian, 7 yrs..	74	13

An average crop for the twelve varieties of 76 bushels 6 lbs. per acre.

The twelve varieties of oats which have averaged the heaviest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. White Giant, 6 yrs..	69	2	7. Holstein Prolific, 9 yrs..	63	31
2. Banner, 9 yrs..	68	6	8. Golden Beauty, 9 yrs..	63	28
3. Mennonite, 8 yrs..	65	19	9. Joanette, 9 yrs..	63	8
4. American Triumph, 9 yrs..	64	28	10. Abundance, 9 yrs..	61	31
5. Columbus, 9 yrs..	64	19	11. Improved Ligowo, 9 yrs..	61	30
6. Golden Giant, 9 yrs..	64	8	12. American Beauty, 9 yrs..	61	30

An average crop for the twelve varieties of 64 bushels 16 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Salines, 5 yrs..	80	24	7. Wallis, 9 yrs..	76	21
2. Siberian, 7 yrs..	79	17	8. New Zealand, 5 yrs..	76	16
3. Mennonite, 8 yrs..	78	10	9. White Giant, 6 yrs..	76	3
4. Thousand Dollar, 5 yrs..	78	4	10. Lincoln, 9 yrs..	75	25
5. Black Beauty, 5 yrs..	78	4	11. White Schonen, 9 yrs..	74	25
6. Danish Island, 6 yrs..	77	19	12. Banner, 9 yrs..	74	13

An average crop for the twelve varieties of 77 bushels 7 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Buckbee's Illinois, 6 yrs..	92	4	7. Early Golden Prolific, 8 yrs.. ..	88	13
2. American Beauty, 8 yrs..	91	16	8. Bavarian, 8 yrs..	87	22
3. Danish Island, 5 yrs..	90	6	9. Golden Tartarian, 6 yrs..	86	33
4. Menoonite, 7 yrs..	90	..	10. Improved American, 5 yrs.... ..	86	32
5. Banner, 8 yrs..	88	29	11. Holstein Prolific, 8 yrs..	86	7
6. White Giant, 5 yrs..	88	24	12. Golden Glaot, 8 yrs..	84	28

An average crop for the twelve varieties of 88 bushels 18 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Abundance, 8 yrs..	97	..	7. American Beauty, 8 yrs..	94	15
2. Improved American, 7 yrs..	96	13	8. Wide Awake, 8 yrs..	94	13
3. Danish Island, 5 yrs..	96	10	9. Columbus, 8 yrs..	94	10
4. Thousand Dollar, 5 yrs..	95	22	10 Golden Beauty, 8 yrs..	92	19
5. Holstein Prolific, 8 yrs..	95	19	11. Black Beauty, 5 yrs..	92	8
6. Banner, 8 yrs..	94	30	12. Buckbee's Illinois, 6 yrs..	90	31

An average crop for the twelve varieties of 94 bushels 18 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Black Beauty, 6 yrs..	73	32	7. Banner, 9 yrs..	65	30
2. Danish Island, 6 yrs..	73	23	8. White Giant, 6 yrs..	65	20
3 Goldeu Tartariao, 7 yrs..	72	5	9. Lincoln, 9 yrs..	64	33
4. Golden Glaot, 7 yrs..	68	26	10. Mennonite, 8 yrs..	63	17
5. Salloes, 5 yrs..	68	14	11. Buckbee's Illinois, 8 yrs..	63	8
6. New Zealand, 5 yrs..	67	9	12. Bavarian, 9 yrs..	62	27

An average crop for the twelve varieties of 67 bushels 17 lbs. per acre.

TEST OF VARIETIES OF BARLEY FOR A SERIES OF YEARS.

TWO-ROWED BARLEY.

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

The length of time they have been under trial is stated in each case.

In Canada the bushel of barley is 48 lbs.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier, 9 yrs..	47	8	4. Danish Chevalier, 9 yrs..	45	17
2. Dunham, 6 yrs..	45	47	5. Clifford, 5 yrs..	44	44
3. Canadian Thorpe, 9 yrs..	45	17	6. Beaver, 9 yrs..	44	43

An average crop for the six varieties of 45 bushels 29 lbs per acre.

The six varieties of two-rowed barley which have averaged the heaviest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Canadian Thorpe, 9 yrs..	46	36	4. Danish Chevalier, 9 yrs..	45	23
2. French Chevalier, 9 yrs..	45	45	5 Clifford, 5 yrs..	43	46
3. Beaver, 9 yrs..	45	44	6. Dunham, 6 yrs..	43	33

An average crop for the six varieties of 45 bushels 14 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Danish Chevalier, 9 yrs..	46	26	4. Newton, 9 yrs..	44	34
2. Beaver, 9 yrs..	46	21	5. Canadian Thorpe, 9 yrs..	43	47
3. French Chevalier, 9 yrs..	45	22	6. Harvey, 5 yrs..	43	15

An average crop for the six varieties of 45 bushels 4 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dunham, 4 yrs..	52	7	4. Sidney, 7 yrs...	44	37
2. Logan, 4 yrs..	48	41	5. French Chevalier, 7 yrs..	43	40
3. Harvey, 4 yrs..	45	..	6. Newton, 7 yrs..	41	15

An average crop for the six varieties of 45 bushels 47 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier, 9 yrs..	59	12	4. Sidney, 7 yrs..	56	40
2. Danish Chevalier, 9 yrs..	58	33	5. Jarvis, 5 yrs..	55	25
3. Canadian Thorpe, 9 yrs..	56	1	6. Clifford, 5 yrs..	54	..

An average crop for the six varieties of 56 bushels 13 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dunham, 6 yrs..	45	25	4. Canadian Thorpe, 9 yrs..	42	32
2 Harvey, 5 yrs..	45	10	5. Beaver, 9 yrs..	41	36
3. Jarvis, 5 yrs..	43	28	6. French Chevalier, 9 yrs..	41	15

An average crop for the six varieties of 43 bushels 16 lbs. per acre.

SIX-ROWED BARLEY.

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

The length of time they have been under trial is stated in each case.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury, 9 yrs..	52	45	4. Yale, 5 yrs..	50	33
2. Claude, 5 yrs..	51	5	5. Odessa, 9 yrs..	50	13
3. Mansfield, 5 yrs..	51	3	6 Brome, 5 yrs..	49	3

An average crop for the six varieties of 50 bushels 43 lbs. per acre.

The six varieties of six-rowed barley have averaged the heaviest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Odessa, 9 yrs..	53	29	4. Brome, 5 yrs..	49	3
2. Mensury, 9 yrs..	52	9	5. Stella, 9 yrs..	48	32
3. Royal, 3 yrs..	49	3	6. Trooper, 9 yrs..	48	5

An average crop for the six varieties of 50 bushels 7 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury, 9 yrs..	53	6	4. Garfield, 5 yrs..	50	24
2. Yale, 5 yrs..	52	8	5. Oderbruch, 9 yrs..	48	34
3. Albert, 5 yrs..	51	32	6. Odessa, 9 yrs..	48	..

An average crop for the six varieties of 50 bushels 33 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mansfield, 4 yrs	59	40	4. Argyle, 4 yrs	56	22
2. Yale, 4 yrs	56	39	5. Nugent, 7 yrs	53	20
3. Mensury, 7 yrs	56	26	6. Common, 7 yrs	53	3

An average crop for the six varieties of 56 bushels per acre.

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

	Per acre Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Claude, 4 yrs	66	47	4. Rennie's Improved, 8 yrs	58	20
2. Odessa, 8 yrs	63	4	5. Trooper, 8 yrs	57	46
3. Mensury, 8 yrs	59	12	6. Mansfield, 5 yrs	57	30

An average crop for the six varieties of 60 bushels 26 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Claude, 5 yrs	47	..	4. Brome, 5 yrs	45	28
2. Albert, 5 yrs	46	30	5. Mansfield, 6 yrs	45	27
3. Yale, 5 yrs	45	40	6. Argyle, 6 yrs	44	43

An average crop for the six varieties of 45 bushels 44 lbs. per acre.

TEST OF VARIETIES OF SPRING WHEAT FOR A SERIES OF YEARS.

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

The length of time they have been under trial is stated in each case.

In Canada the bushel of wheat is 60 lbs.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian, 5 yrs..	39	34	7. Wellman's Fife, 9 yrs	33	39
2. Clyde, 5 yrs..	35	9	8. Rio Grande, 9 yrs..	33	29
3. Laurel, 5 yrs..	34	58	9. White Fife, 9 yrs..	33	15
4. Preston, 9 yrs..	34	44	10. Huron, 9 yrs..	33	11
5. Goose, 9 yrs..	34	3	11. Red Fife, 9 yrs..	33	7
6 Monarch, 8 yrs..	33	47	12. Weldon, 5 yrs..	33	2

An average crop for the twelve varieties of 34 bushels 20 lbs. per acre.

The twelve varieties of spring wheat which have averaged the largest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian, 5 yrs..	30	58	7. Hungarian, 8 yrs..	27	34
2. Preston, 9 yrs..	30	17	8. Pringle's Champlain, 9 yrs.. ..	27	17
3. Laurel, 5 yrs..	29	57	9. Plumper, 6 yrs..	27	12
4. Clyde, 5 yrs..	28	26	10. Rio Grande, 9 yrs..	26	40
5. Huron, 9 yrs..	28	3	11. Monarch, 9 yrs..	26	29
6. Wellman's Fife, 9 yrs..	27	46	12. Colorado, 9 yrs..	26	28

An average crop for the twelve varieties of 28 bushels 1 lb. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Norval, 5 yrs..	39	52	7. Wellman's Fife, 9 yrs..	35	56
2. Laurel, 5 yrs..	39	44	8. Early Riga, 5 yrs..	35	52
3. Roumanian, 5 yrs..	39	4	9. Monarch, 8 yrs..	35	30
4. Clyde, 5 yrs..	38	56	10. White Connell, 9 yrs	35	22
5. Byron, 5 yrs..	37	11	11. Rio Grande, 9 yrs..	35	5
6. Red Swedish, 5 yrs..	35	59	12. Weldon, 5 yrs..	34	32

An average crop for the twelve varieties of 36 bushels 55 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian, 4 yrs..	45	15	7. Laurel, 4 yrs..	34	26
2. Goose, 8 yrs..	41	58	8. White Russian, 8 yrs..	33	59
3. White Fife, 8 yrs..	36	36	9. White Connell, 8 yrs....	33	47
4. Crov · 8 yrs..	35	30	10. Rio Grande, 8 yrs..	33	24
5. Monarch, 8 yrs..	35	17	11. Clyde, 4 yrs..	33	20
6. Red Fife, 8 yrs..	34	44	12. Wellman's Fife, 8 yrs..	33	6

An average crop for the twelve varieties of 35 bushels 57 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian, 4 yrs..	44	55	7. Stanley, 8 yrs..	41	41
2. Preston, 8 yrs..	43	31	8. Red Fife, 8 yrs..	41	33
3. Huron, 8 yrs..	43	16	9. Wellman's Fife, 8 yrs..	41	31
4. Weldon, 4 yrs..	42	40	10. Pringle's Champlain, 8 yrs.. ..	41	25
5. Red Fern, 8 yrs..	42	20	11. Hungarian, 7 yrs..	40	45
6. Percy, 8 yrs..	41	50	12. Rio Grande, 8 yrs..	40	41

An average crop for the twelve varieties of 42 bushels 11 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian, 5 yrs..	37	33	7. Plumper, 6 yrs..	34	32
2. Red Swedish, 5 yrs..	36	15	8. Fraser, 5 yrs..	34	29
3. Clyde, 5 yrs..	36	2	9. Crawford, 5 yrs..	34	18
4. Blair, 6 yrs..	35	33	10. Colorado, 7 yrs..	33	54
5. Early Riga, 5 yrs..	35	19	11. White Russian, 7 yrs..	33	34
6. Laurel, 5 yrs..	34	50	12. Preston, 9 yrs..	32	49

An average crop for the twelve varieties of 34 bushels 56 lbs. per acre.

TEST OF VARIETIES OF PEASE FOR A SERIES OF YEARS.

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

The length of time they have been under trial is stated in each case.

In Canada the bushel of peas is 60 lbs.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Crown, 8 yrs..	37	23	7. Carleton, 7 yrs..	35	22
2. Pride, 8 yrs..	36	41	8. Picton, 6 yrs..	35	10
3. English Grey, 5 yrs..	36	37	9. King, 7 yrs..	35	2
4. Early Britain, 7 yrs..	36	35	10. Arthur, 8 yrs..	34	59
5. German White, 6 yrs..	35	30	11. Paragon, 8 yrs..	34	59
6. Pearl, 5 yrs..	35	25	12. Agnes, 7 yrs..	34	42

An average crop for the twelve varieties of 35 bushels 41 lbs. per acre.

The twelve varieties of pease which have averaged the largest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Arthur, 8 yrs..	36	37	7. Crown, 8 yrs..	33	15
2. Paragon, 8 yrs..	35	29	8. English Grey, 4 yrs..	33	3
3. Kent, 7 yrs..	34	53	9. Mackay, 8 yrs..	32	37
4. Duke, 7 yrs..	33	49	10. Macoun, 7 yrs..	32	25
5. Prussian Blue, 9 yrs..	33	29	11. Pearl, 5 yrs..	32	22
6. Golden Vine, 7 yrs..	33	24	12. Mummy, 8 yrs..	32	17

An average crop for the twelve varieties of 33 bushels 38 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Crown, 8 yrs..	38	25	7. Nelson, 6 yrs..	31	20
2. Pride, 7 yrs..	34	9	8. New Potter, 8 yrs..	31	12
3. Agnes, 7 yrs..	32	14	9. Blk-eyed Marrowfat, 8 yrs.. ..	30	44
4. Archer, 6 yrs..	31	57	10. English Grey, 5 yrs..	30	39
5. Centennial, 8 yrs..	31	46	11. Chancellor, 6 yrs..	30	8
6. Early Britain, 6 yrs..	31	26	12. Carleton, 7 yrs..	29	27

An average crop for the twelve varieties of 31 bushels 57 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Pride, 8 yrs..	46	..	7. King, 6 yrs..	43	13
2. Mummy, 8 yrs..	44	45	8. Trilby, 7 yrs..	43	13
3 German White, 5 yrs..	44	6	9. Pearl, 4 yrs..	42	32
4 White Wonder, 6 yrs..	43	28	10. Alma, 6 yrs..	42	27
5. Crown, 7 yrs..	43	16	11. Victoria, 6 yrs..	42	6
6 Carleton, 7 yrs..	43	14	12. Archer, 6 yrs..	42	..

An average crop for the twelve varieties of 43 bushels 22 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1 Paragon, 7 yrs..	44	56	7. Picton, 5 yrs..	40	57
2. Gregory, 6 yrs..	43	38	8. Pride, 7 yrs..	40	19
3. English Grey,, 4 yrs..	42	7	9. German White, 5 yrs..	40	18
4. Crown, 7 yrs..	42	4	10. Bruce, 4 yrs..	40	12
5 Early Britain, 6 yrs.,, ...	41	45	11. Wisconsin Blue, 4 yrs..	40	8
6. Carleton, 7 yrs..	41	31	12. Macoun, 7 yrs..	40	3

An average crop for the twelve varieties of 41 bushels 30 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. German White, 6 yrs..	38	35	7. English Grey, 5 yrs..	37	31
2. White Wonder, 7 yrs..	38	28	8. King, 6 yrs..	37	23
3 Bruce, 5 yrs..	38	14	9. Lanark, 6 yrs..	37	15
4. Pearl, 5 yrs..	38	12	10. Picton, 6 yrs..	36	57
5. Fergus, 5 yrs..	37	37	11. Gregory, 6 yrs..	36	55
6. Early Britain, 7 yrs..	37	35	12. Arthur, 8 yrs..	35	54

An average crop for the twelve varieties of 37 bushels 33 lbs. per acre.

TEST OF VARIETIES OF INDIAN CORN FOR A SERIES OF YEARS.

The six varieties of Indian corn which have produced the heaviest crops for a series of years, taking the average of the results obtained on all the experimental farms, are the following :—

The length of time they have been under trial is stated in each case.

In Canada the ton is 2,000 lbs.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1 Early Mastodon, 6 yrs..	20	753	4. Salzer's All Gold, 4 yrs..	19	836
2. Superior Fodder, 4 yrs..	19	1,561	5. Red Cob Ensilage, 9 yrs...	19	103
3. Thoroughbred White Flint..	19	934	6. Early Butler, 7 yrs..	18	1,018

An average crop for the six varieties cut green for ensilage of 19 tons 867 lbs. per acre.

The six varieties of Indian corn which have averaged the heaviest crops at the several experimental farms for a series of years are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Early Mastodon, 6 yrs..	23	1,309	4. Red Cob Ensilage, 9 yrs..	23	600
2. Giant Prolific Ensilage, 9 yrs.. ..	23	1,162	5. Selected Leaming, 8 yrs..	22	1,010
3. Thoroughbred White Flint, 9 yrs.	23	1,012	6. Superior Fodder, 4 yrs..	22	640

An average crop for the six varieties cut green for ensilage of 23 tons 289 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Early Mastodon, 6 yrs..	20	1,925	4. Thoroughbred White Flint, 9 yrs.	18	616
2. Superior Fodder, 4 yrs..	20	837	6. Red Cob Ensilage, 9 yrs..	17	453
3. Salzer's All Gold, 4 yrs..	18	950	5. Mammoth Cuban, 6 yrs..	17	1,603

An average crop for the six varieties cut green for ensilage, of 18 tons 1,731 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Thoroughbred White Flint, 9 yrs.	21	1,179	4. Champion White Pearl, 9 yrs....	19	541
2. Early Mastodon, 6 yrs..	20	165	5. Longfellow, 9 yrs..	18	1,772
3. Angel of Midnight, 9 yrs..	19	625	6. Superior Fodder, 4 yrs..	18	1,323

An average crop for the six varieties cut green for ensilage, of 19 tons 1,267 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Salzer's All Gold, 4 yrs..	17	1,493	4. Early Butler, 7 yrs..	13	1,694
2. Superior Fodder, 4 yrs..	14	1,876	5. Angel of Midnight, 9 yrs..	13	1,260
3. Early Mastodon, 6 yrs..	14	74	6. Giant Prolific Ensilage, 9 yrs.....13		837

An average crop for the six varieties cut green for ensilage of 14 tons 1,206 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Cob Ensilage..	24	966	4. Superior Fodder..	22	1,127
2. Early Butler..	23	1,163	5. Pride of the North..	21	1,958
3. Early Mastodon..	23	292	6. Mammoth Cuban..	21	1,483

An average crop for the six varieties cut green for ensilage of 22 tons 1,831 lbs. per acre.

TEST OF VARIETIES OF TURNIPS FOR A SERIES OF YEARS.

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

The length of time they have been under trial is stated in each case.

In Canada the ton is 2,000 lbs.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Perfection Swede, 8 yrs..	32	263	4. Selected Purple Top, 8 yrs..	31	486
2. Imperial Swedo, 5 yrs..	32	107	5. Magnum Bonum, 4 yrs..	31	75
3. Halewood's Bronze Top, 7 yrs..	31	553	6. Hall's Westbury, 7 yrs..	31	72

An average crop for the six varieties of 31 tons 927 lbs. per acre.

The six varieties of turnips which have averaged the heaviest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Kangaroo, 4 yrs..	36	1,590	4. Drummond Purple Top, 6 yrs....	35	1,445
2. Magnum Bonum, 4 yrs..	36	1,056	5. Selected Purple Top, 8 yrs.. ..	35	1,148
3. Elephant's Master, 4 yrs..	36	95	6. Carter's Elephant, 9 yrs..	35	583

An average crop for the six varieties of 34 tons 486 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Kangaroo, 4 yrs..	41	1,407	4. Magnum Bonum, 4 yrs..	40	107
2. Elephant's Master, 4 yrs..	41	789	5. Perfection Swede, 8 yrs..	38	411
3. Imperial Swede, 5 yrs..	40	573	6. Halewood's Bronze Top, 7 yrs..	38	65

An average crop for the six varieties of 39 tons 1,892 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Hartley's Bronze, 8 yrs..	26	721	4. Skirvings, 9 yrs..	24	1,901
2. Magnum Bonum, 4 yrs..	25	94	5. Selected Purple Top, 8 yrs.. ..	24	1,573
3. Perfection Swede, 8 yrs..	25	11	6. Hall's Westbury, 7 yrs..	24	1,472

An average crop for the six varieties of 25 tons 295 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Perfection Swede, 8 yrs..	23	57	4. Halewood's Bronze Top, 7 yrs..	22	556
2. Imperial Swede, 5 yrs..	22	1,370	5. Hall's Westbury, 7 yrs..	21	1,916
3. Hartley's Bronze, 8 yrs..	22	1,145	6. Drummond Purple Top, 6 yrs....	21	1,211

An average crop for the six varieties of 22 tons 709 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Bangholm Selected, 7 yrs..	41	525	4. Hall's Westbury, 7 yrs..	39	512
2. Perfection Swede, 8 yrs..	40	653	5. Selected Purple Top, 8 yrs.. ..	39	457
3. Halewood's Bronze Top, 7 yrs....	39	1,052	6. Imperial Swede, 5 yrs..	38	1,704

An average crop for the six varieties of 39 tons 1,484 lbs. per acre.

TEST OF VARIETIES OF MANGELS FOR A SERIES OF YEARS.

The six varieties of mangels which have produced the heaviest crops for a series of years, taking the average of the results obtained on all the experimental farms, are the following :—

The length of time they have been under trial is stated in each case.

In Canada the ton is 2,000 lbs.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant Yellow Intermediate, 8 yrs.	32	454	4. Mammoth Long Red, 8 yrs.. ..	31	1,330
2. Yellow Intermediate, 8 yrs.. ..	32	238	5. Mam. Yellow Intermediate, 6 yrs	31	777
3. Lion Yellow Intermediate, 5 yrs..	31	1,972	6. Gate Post, 8 yrs..	31	314

An average crop for the six varieties of 31 tons 1,514 lbs. per acre.

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

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Prize Winner Yellow Globe, 4 yrs.	40	1,716	4. Half Long Sugar White, 4 yrs....	39	86
2. Mammoth Long Red, 8 yrs..	39	1,551	5. Lion Yellow Intermediate, 5 yrs..	38	407
3. Gate Post, 8 yrs..	39	422	6. Half Long Sugar Rosy, 4 yrs...	37	781

An average crop for the six varieties of 39 tons 160 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Prize Winner Yellow Globe, 4 yrs.	40	1,469	4. Giant Yellow Intermediate, 8 yrs.	36	1,965
2. Lion Yellow Intermediate, 5 yrs...	40	452	5. Half Long Sugar White, 4 yrs....	35	1,857
3. Mam. Yellow Intermediate, 6 yrs.	38	597	6 Half Long Sugar Rosy, 4 yrs.. ..	35	1,775

An average crop for the six varieties of 38 tons 19 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Selected Mamm. Long Red, 7 yrs.	32	1,899	4. Prize Mamm. Long Red, 8 yrs....	30	1,215
2. Mamm. Long Red, 8 yrs..	31	828	5. Giant Yellow Intermediate, 8 yrs.	30	893
3. Yellow Intermediate, 8 yrs..	31	669	6. Gate Post, 8 yrs.	30	17

An average crop for the six varieties of 31 tons 253 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Prize Winner Yellow Globe, 4 yrs	23	399	4. Selected Mamm. Long Red, 7 yrs.	22	1,003
2. Lion Yellow Intermediate, 5 yrs.	23	331	5 Gate Post, 8 yrs..	22	309
3. Yellow Intermediate, 8 yrs.. ..	22	1,219	6. Giant Yellow Intermediate, 8 yrs.	22	51

An average crop for the six varieties of 22 tons 1,219 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant Yellow Intermediate, 8 yrs..	35	218	4. Mammoth Long Red, 8 yrs..	34	703
2. Lion Yellow Intermediate, 5 yrs..	34	1,940	5. Selected Mamm. Long Red, 7 yrs.	33	1,476
3. Yellow Intermediate,8 yrs..	34	1,800	6. Mamm. Yellow Intermediae, 5 yrs.	33	587

An average crop for the six varieties of 34 tons 787 lbs. per acre.

TEST OF VARIETIES OF CARROTS FOR A SERIES OF YEARS.

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

The length of time they have been under trial is stated in each case.

In Canada the ton is 2,000 lbs.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate, 5 yrs..	23	1,257	4. Mamm. White Intermediate, 8 yrs	21	1,177
2. Giant White Vosges, 8 yrs.. ..	22	768	5. Improved Short White, 8 yrs....	21	1,135
3. Ontario Champion, 6 yrs..	21	1,659	6. Half Long White, 8 yrs..	21	517

An average crop for the six varieties of 22 tons 84 lbs. per acre.

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

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate, 5 yrs..	35	653	4. Improved Short White, 8 yrs....	29	1,207
2. Giant White Vosges, 8 yrs.. ..	30	1,446	5. Half Long White, 8 yrs..	29	230
3. Mamm. White Intermediate, 8 yrs	30	1,442	6. Ontario Champion, 6 yrs..	28	1,420

An average crop for the six varieties of 30 tons 1,400 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate, 5 yrs..	24	11	4. Giant White Vosges, 8 yrs..	22	1,058
2. Ontario Champion, 6 yrs..	22	1,655	5. Half Long White, 8 yrs..	21	851
3. Mamm. White Intermediate, 8 yrs	22	1,587	6. Long Yellow Stump Rooted, 4 yrs	20	1,291

An average crop for the six varieties of 22 tons 742 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate, 5 yrs..	15	1,763	4. Giant White Vosges, 8 yrs	13	1,357
2. Ontario Champion, 6 yrs..	14	1,920	5. Half Long White, 8 yrs..	13	1,357
3. Long Yellow Stump-rooted, 4 yrs	13	1,385	6. Mamm. White Intermediate, 8 yrs	13	1,211

An average crop for the six varieties of 14 tons 750 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. New White Intermediate, 4 yrs..	14	68	4. Half Long White, 8 yrs..	11	1,405
2. Ontario Champion, 6 yrs..	12	1,460	5. Improved Short White, 7 yrs....	11	1,343
3. Long Yellow Stump-rooted, 4 yrs	12	931	6. Giant White Vosges, 7 yrs.. ..	11	188

An average crop for the six varieties of 12 tons 566 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant White Vosges, 8 yrs..	33	1,259	4. Half Long White, 8 yrs..	30	240
2. Improved Short White, 8 yrs....	33	834	5. Ontario Champion, 6 yrs..	29	1,840
3. Mamm.White Intermediate, 8 yrs	30	849	6. White Belgian, 8 yrs..	29	668

An average crop for the six varieties of 31 tons 282 lbs. per acre.

TEST OF VARIETIES OF SUGAR BEETS FOR A SERIES OF YEARS.

The four varieties of sugar beets which have produced the heaviest crops for a series of years, taking the average of the results obtained on all the experimental farms, are the following :—

The length of time they have been under trial is stated in each case.

In Canada the ton is 2,000 lbs.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top, 6 yrs..	26	556	3. Red Top Sugar, 7 yrs..	24	79
2. Danish Improved, 7 yrs..	24	84	4. Improved Imperial, 7 yrs..	23	1,068

An average crop for the four varieties of 24 tons 932 lbs. per acre.

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

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Improved, 7 yrs..	29	795	3. Danish Red Top, 6 yrs..	28	1,860
2. Improved Imperial, 7 yrs..	29	10	4. Red Top Sugar, 7 yrs..	27	1,935

An average crop for the four varieties of 28 tons 1,650 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Top Sugar, 7 yrs..	28	387	3. Improved Imperial, 7 yrs..	26	1,694
2. Danish Red Top, 6 yrs..	27	1,919	4. Danish Improved, 7 yrs..	26	55

An average crop for the four varieties of 27 tons 514 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top, 6 yrs..	27	901	3. Red Top Sugar, 7 yrs..	23	639
2. Danish Improved, 7 yrs..	24	699	4. Wanzleben, 7 yrs..	22	1,021

An average crop for the four varieties of 19 tons 815 lbs. per acre.

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

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top, 6 yrs..	18	999	3. Improved Imperial, 7 yrs..	16	727
2. Red Top Sugar, 7 yrs..	16	1,827	4. Danish Improved, 7 yrs..	15	1,468

An average crop for the four varieties of 11 tons 503 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top, 5 yrs..	28	1,103	3. Danish Improved, 6 yrs..	24	1,402
2. Improved Imperial, 6 yrs..	25	162	4. Red Top Sugar, 6 yrs..	23	1,305

An average crop for the four varieties of 16 tons 1,995 lbs. per acre.

TEST OF VARIETIES OF POTATOES FOR A SERIES OF YEARS.

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

The length of time they have been under trial is stated in each case.

In Canada the bushel of potatoes is 60 lbs.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Uncle Sam, 4 yrs..	395	20	7. Late Puritan, 9 yrs..	374	48
2. Seedling No 7, 7 yrs..	393	33	8. Country Gentleman, 5 yrs..	373	59
3. Irish Daisy, 8 yrs..	386	25	9. Carman No 1, 9 yrs..	373	47
4. American Wodder, 9 yrs..	381	42	10. Burnaby Seedling, 8 yrs..	371	23
5. Rose No. 9, 7 yrs..	378	22	11. Penn Manor, 5 yrs..	364	58
6. American Giant, 8 yrs..	377	6	12. State of Maine, 9 yrs..	363	13

An average crop for the twelve varieties of 377 bushels 53 lbs. per acre.

The twelve varieties of potatoes which have averaged the largest crops at the several experimental farms for a series of years, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Late Puritan, 9 yrs..	436	32	7. Carman No. 1, 9 yrs..	398	4
2. Holborn Abundance, 9 yrs..	408	10	8. Burnaby Seedling, 8 yrs..	394	44
3. American Wonder, 9 yrs..	401	23	9. Country Gentleman, 5 yrs.	392	2
4. Uncle Sam, 4 yrs..	401	8	10. Rose No. 9, 7 yrs..	390	39
5. Dreer's Standard, 9 yrs..	398	50	11. Money Maker, 9 yrs..	386	36
6. Penn. Manor, 5 yrs..	392	38	12. State of Maine, 9 yrs..	379	48

An average crop for the twelve varieties of 399 bushels 13 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Irish Daisy, 8 yrs..	420	35	7. Troy Seedling, 9 yrs..	383	42
2. Holborn Abundance, 9 yrs..	408	18	8. American Giant, 8 yrs..	375	45
3. Seedling, No. 7, 7 yrs..	406	..	9. Penn. Manor, 5 yrs..	374	..
4. Vanier, 8 yrs..	400	15	10. Burnaby Seedling, 8 yrs..	371	45
5. Irish Cobbler, 7 yrs..	388	52	11. Vick's Extra Eearly, 8 yrs.. ..	368	47
6. Clay Rose, 9 yrs..	387	41	12. Everett, 9 yrs..	366	40

An average crop for the twelve varieties of 387 bushels 42 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Delaware, 8 yrs....	422	13	7. Empire State, 3 yrs..	385	22
2. Seedling No. 7, 7 yrs..	417	20	8. Burnaby Seedling, 8 yrs..	383	22
3. Maule's Thoroughbred, 6 yrs.. ..	412	30	9. Uncle Sam, 4 yrs..	381	57
4. American Wonder, 9 yrs..	404	54	10. Reeve's Rose, 7 yrs..	380	17
5. Irish Daisy, 8 yrs..	400	35	11. I. X. L., 9 yrs..	378	53
6. State of Maine, 9 yrs..	399	3	12. Late Puritan, 9 yrs..	377	52

An average crop for the twelve varieties of 395 bushels 23 lbs. per acre.

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

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. American Giant, 8 yrs..	474	28	7. Carman No. 1, 9 yrs..	427	32
2. Uncle Sam, 4 yrs..	467	7	8. Lee's Favourite, 8 yrs..	420	47
3. Country Gentleman, 5 yrs..	457	40	9. Rochester Rose, 8 yrs..	419	37
4. American Wonder, 9 yrs..	446	30	10 General Gordon, 7 yrs..	415	45
5. Carman No. 3, 7 yrs..	438	27	11. Empire State, 9 yrs..	403	40
6. Bovee, 6 yrs..	429	6	12. Penn. Manor, 5 yrs..	403	32

An average crop for the twelve varieties of 433 bushels 41 lbs. per acre.

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

	Per acre. Bush.	L.		Per acre. Bush.	Lbs.
1. Uncle Sam, 4 yrs..	419	14	7. Brown's Rot Proof, 7 yrs..	364	14
2. Rose No. 9, 7 yrs..	406	3	8. Clay Rose, 9 yrs..	363	12
3. Seedling, No. 7, 7 yrs..	383	5	9. Cambridge Russet, 6 yrs..	358	1
4. Reeve's Rose, 8 yrs..	368	17	10. Vick's Extra Early, 7 yrs..	356	45
5. Bovee, 6 yrs..	366	27	11. Maule's Thoroughbred, 6 yrs...	353	38
6. Irish Daisy, 8 yrs..	366	4	12. Vanier, 9 yrs..	347	30

An average crop for the twelve varieties of 371 bushels 2 lbs. per acre.

CONCLUSIONS.

The evidence afforded by the results obtained from the comparative trial plots as given in this bulletin, shows that there are great differences in the relative productiveness of varieties even when grown side by side under similar conditions. It also shows, in that part of the bulletin devoted to the average of crops for a series of years, that this tendency to productiveness is in many instances a fixed quality manifested in the different climates of the Dominion, thus bringing these varieties near the top of the list from year to year. Among those sorts which have a remarkable record for persistent productiveness are the Banner oats, which have given for the past nine years (taking the average of the results obtained at all the experimental farms) 78 bushels 25 lbs. per acre; the Mensury barley, which has averaged for the same period 52 bushels 45 lbs., and the Preston wheat, which has given for nine years an average of 34 bushels 44 lbs. per acre.

Such facts point to the importance to farmers of choosing for seed those sorts which give the heaviest crops, so that farming in Canada may thus be made more profitable.

In this bulletin all the varieties which have been under trial for four or more years, are admitted into the comparative list with those which have been under trial for longer periods. As a result of this arrangement, some of the more promising of the recently introduced sorts have found their way into the lists of the best 12 or the best 6 varieties for weight of crop. It is, however, noteworthy that in most instances the larger part of these lists consists of varieties which have been under trial for 8 or 9 years, and which have maintained their prominence as productive sorts through the whole of that period.

During the past year the number of varieties under test has been reduced by discontinuing those which, after some years' trial, have not come up to a high standard of productiveness, retaining only the newer sorts and the best of the older ones in each case. This reduction in number permits of a more ready selection of varieties and brings out with greater prominence those of the highest excellence.

Provision has been made in connection with the distribution of samples for the improvement of seed (which takes place annually at the experimental farms) to have available considerable quantities of the very best and most productive sorts of cereals; so that any farmer in Canada who applies in good season, before March 1, may obtain a sample. These are sent out free by mail in cotton bags. The sample bags of oats contain 4 lbs., and those of wheat and barley, 5 lbs.; sufficient in each case to sow one-twentieth of an acre. Instructions accompany each sample. In many instances the 4 lbs. of oats, when carefully handled, have produced from 150 to 200 bushels by the end of the second year, showing that with attention and care any farmer may soon provide himself, under this liberal arrangement, with the best and most productive

strains of seed in sufficient quantities for a large area, at no cost to himself beyond that of his own labour.

That Canadian farmers readily avail themselves of these privileges, is seen from the fact that during the past six years 224,543 samples have been supplied to individual applicants : an annual average during this period of 37,424. The steady increase being made in the yearly average of crops in this country amounting in the aggregate to many millions of dollars, is no doubt due in large measure to the cultivation of improved and more productive varieties, brought about mainly by these annual distributions, by means of which more than 37,000 farmers have been led to join every year in these co-operative experiments with great profit to themselves and the country.