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DEPARTMENT OF AGRICULTURE

CENTRAL EXPERIMENTAL FARM

OTTAWA, CANADA

RESULTS OBTAINED IN 1896 FROM TRIAL PLOTS OF
GRAIN, FODDER CORN AND ROOTS

BULLETIN No. 26

JANUARY, 1897

To the Honourable
The Minister of Agriculture

SIR,—I have the honour to submit for your approval bulletin 26 of the Experimental Farm series, prepared by myself. In this bulletin will be found the results of a large number of experiments which have been carried on at all the experimental farms during the season of 1896, with oats, barley, spring wheat, pease, Indian corn, turnips, mangels, carrots and potatoes, in uniform plots. This work has been undertaken with the object of gaining information as to the relative productiveness and earliness of the many varieties under test. The results show wide variations in the weight of the crops grown and point to the importance of greater care being exercised by farmers in choosing varieties of seed for sowing.

I trust that the information given, covering the experience gained under most of the more important climatic variations found in the Dominion, will be useful to farmers everywhere throughout Canada.

I have the honour to be,
Your obedient servant,

WM. SAUNDERS,
Director Experimental Farms.

OTTAWA, 4th January, 1897.

View of the plots of grain at Central Experimental Farm, Ottawa.

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RESULTS OBTAINED IN 1896

FROM TRIAL PLOTS OF

GRAIN, FODDER CORN AND ROOTS

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

Director Experimental Farms.

In March, 1896, Bulletin 24 of the Experimental Farm series was published, dealing with the results obtained in 1895 from a large number of test plots similar to those now reported on, at each of the experimental farms with many varieties of oats, barley, wheat, pease, Indian corn, turnips, mangels, carrots and potatoes. In order to place in the hands of the farmers of Canada information which may be valuable for them to study before the planting season approaches, the present bulletin is issued in advance of the Annual Report of the Experimental Farms and will be found to contain, in a form convenient for reference, the experience gained from similar work carried on during the season of 1896.

The experiments referred to have been continued with more or less completeness since 1891 on all the Experimental Farms, where the important crops named have been grown side by side on land of fairly uniform character. In preparing for this work much care has been taken to have the seed of each variety chosen, uniform in quality and true to name. A sufficient quantity has been grown or procured at the Central Experimental Farm, and from thence distributed to the branch farms. Suitable instructions have been given as to the preparation of the land, the time and manner of sowing or planting each variety, the quantity of seed to be used; also that the land selected for this purpose be as uniform as possible, with an available area sufficient to include all the varieties of one sort of grain, so as to admit of the plots being arranged side by side and all sown on the same day.

These experiments were planned for the purpose of ascertaining the relative productiveness of the many varieties in cultivation, of all the more valuable farm crops, when grown under similar conditions; also their periods of ripening in the different climates of Canada.

In the following pages particulars are given of the crops produced at each of the Experimental Farms from all the varieties sown, also the average of the crops obtained at all the farms. The time required for the

maturing of the different sorts is also shown, and the varieties in every case are arranged in the order of their productiveness at the Central Experimental Farm at Ottawa.

At the Central Farm most of the crops have been good during the season of 1896. They have also been exceptionally good at the branch farms at Nappan, N.S., and at Indian Head, in the North-west Territories. At the branch Experimental Farm at Brandon they have been above the average; but at the farm at Agassiz, B.C., the season has been unfavourable and the returns are below the average of past years.

OATS.

Fifty-eight varieties of oats have been tested during the season of 1896. The size of the plots on which they were grown was one-tenth of an acre each at Brandon, Man., and Indian Head, N.W.T., and one-twentieth of an acre each at Ottawa, Ont., Nappan, N.S., and Agassiz, B.C. The quantity of seed sown of each variety was in the proportion of two bushels per acre, and the dates of sowing were as follows:—Ottawa, 30th April and 1st May; Nappan, 5th May; Brandon, 14th May; Indian Head, 5th May, and at Agassiz on 15th April. The average crop of all the varieties of oats grown on these plots at each of the farms we find to be as follows:—At Ottawa, 62 bush. 17 lbs.; at Nappan, 74 bush. 30 lbs.; at Brandon, 63 bush. 17 lbs.; at Indian Head, 76 bush. 19 lbs., and at Agassiz, 46 bush. 22 lbs. The average return given by the whole of the varieties at all the farms is 64 bush. 23 lbs.

UNIFORM TEST PLOTS OF OATS.

Number.	Name of Variety.	Yield of the several Experimental Farms, Season of 1896.						Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Banner	85	10 99	14 100	94	4 54	24 86	24	94	106	104	105	122 106½
2	Golden Beauty...	80	76	16 76	26 89	24 44	9 73	15	93	106	112	106	120 107½
3	Americ'n Triumph	78	18 84	4 57	32 97	22 48	8 73	10	95	119	113	106	127 112
4	Columbus	77	2 83	18 60	30 89	26 57	2 73	22	92	106	105	104	118 105½
5	White Russian...	76	6 88	8 70	20 79	4 46	16 72	4	94	106	110	101	181 105½
6	Holstein Prolific	76	6 72	8 82	22 103	28 53	18 77	21	91	109	96	105	120 104½
7	Mennonite	75	30 93	85	89	4 50	25 78	25	92	110	99	106	123 106
8	Golden Giant	74	24 71	6 76	6 75	10	72	16	101	119	119	115	113½
9	Brandon	73	28 82	12 70	63	28 41	6 66	8	94	110	113	110	123 111
10	Hazlett's Seizure.	73	18 58	28 62	32 75	20 45	10 63	8	93	109	103	104	120 105½
11	Bavarian	72	22 38	28 73	8 91	16 58	8 66	30	94	106	104	105	120 105½
12	Abundance	72	12 70	20 80	89	14 40	70	16	92	109	98	105	112 103½
13	Buckbee's Illinois	72	12 95	30 70	20 70	55	30 72	32	94	110	110	113	123 111
14	Giant Cluster	71	26 74	4 44	24	45	30 59	4	101	119	112	111	119 112½
15	Improved Ligowo	71	16 84	4 78	18 92	32 50	20 75	18	89	106	104	96	120 103
16	Early Archangel.	71	16 65	30 61	16 85	30 50	20 67	2	89	106	102	101	120 103½
17	Doncaster Prize.	71	6 62	16 37	12 95	10 51	11 63	17	102	106	119	106	120 110½

Among cross-bred s are the fol Oxford, Ki varieties ar at Brandon Agassiz, 43 all the farm The Gold Head and t received in

Number. Name

18 Oderbr
19 Russell
20 Americ
21 Rennie
22 Flying
23 Early
24 Crownw
25 White
26 Pense
27 Lincoln
28 Ey Gold
29 Wallis
30 Welcom
31 Miller
32 Cream
33 Abyssin
34 Master
35 Joannette
36 Early
37 Rosedale
38 Victoria
39 Poland
40 Scotch
41 Bonanza
42 Oxford
43 Winter
44 Prize Clu
45 King
46 Medal
47 Scottish
48 Imported
49 White
50 Early Ma
51 Siberian
52 Wide Aw
53 White M
54 Prol Bkt
55 Olive
56 Coulommi
57 Early
58 Cal. Prolifi

UNIFORM TEST PLOTS OF OATS—Continued.

Number.	Name of Variety.	Yield of the several Experimental Farms, Season of 1896.						Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
18	Oderbrovoh.....	70	20 84	24 57	22 72	22 55	10 68	6	95	108	110	106	123 108
19	Russell.....	70	20 89	14 67	22 62	33 41	13 66	13	95	110	110	114	119 109
20	American Beauty	69	14 76	16 78	18 89	24 50	20 72	32	92	108	104	103	127 106
21	Rennie's Prize...	68	8 61	26 68	18 66	26 37	7 60	17	89	100	94	97	119 99
22	Flying Scotchman	68	8 66	6 66	26 60	10 42	12 62	26	90	106	96	98	120 102
23	Early Gothland...	68	8 77	18 56	6 85	10 61	26 69	27	94	109	113	106	119 108
24	Crownwell.....	68	8 79	14 52	32 61	16 55	10 63	16	94	110	113	115	119 110
25	White Schonen...	66	6 97	2 75	20 84	14 55	30 75	24	93	116	110	105	113 105
26	Pense.....	65	30 104	24 39	24 71	6 42	32 64	30	96	109	113	115	123 111
27	Lincoln.....	65	20 79	14 ..	62	2 47	7 63	19	95	106	....	104	127 108
28	Ey Golden Prolific	64	24 33	18 88	18 95	30 61	20 68	28	96	106	110	105	128 109
29	Wallis.....	62	32 82	12 72	32 84	14 51	26 70	30	92	106	110	105	118 106
30	Welcome.....	62	12 58	28 62	2 70	10 50	5 60	25	89	109	97	95	115 101
31	Miller.....	62	12 74	4 66	26 59	16 38	26 60	10	96	106	110	111	128 110
32	Cream Egyptian.	61	26 69	14 62	2 71	6 44	9 61	25	94	106	97	94	122 102
33	Abyssinia.....	61	6 77	2 65	74	24 50	10 65	22	95	106	110	111	122 108
34	Master.....	61	6 90	73	18 62	2 52	32 47	32	94	110	110	115	120 109
35	Joanette.....	60	30 88	8 54	14 77	32 34	9 63	5	96	110	111	111	119 109
36	Early Etampes...	60	30 84	14 44	14 79	14 54	24 64	26	96	116	119	111	119 111
37	Rosedale.....	60	20 82	32 60	30 66	16 42	12 62	22	94	108	110	109	119 108
38	Victoria Prize...	60	.. 50	75	20 70	.. 41	8 59	12	88	109	94	94	113 99
39	Poland.....	60	.. 60	20 60	30 64	4 37	22 56	22	92	100	101	97	119 101
40	Scotch Hopetown	60	.. 62	.. 16	26 63	18 40	.. 48	15	105	109	113	112	123 112
41	Bonanza.....	59	24 81	6 68	8 67	22 51	8 65	20	88	106	96	94	112 99
42	Oxford.....	59	24 38	28 55	20 68	18 40	26 62	23	95	110	111	115	123 110
43	Winter Grey.....	59	14 61	26 87	12 64	24 46	30 64	..	88	108	86	97	106 97
44	Prize Cluster.....	58	28 50	.. 47	22 67	2 38	24 52	22	101	109	98	97	123 105
45	King.....	58	8 85	10 47	2 77	32 31	26 60	2	99	106	105	113	127 110
46	Medal.....	57	22 83	18 50	10 67	22 41	8 60	2	94	110	119	115	128 113
47	Scottish Chief...	56	11 55	30 80	30 60	10 44	4 59	17	88	108	107	98	113 102
48	Imported Irish...	56	6 67	22 64	4 57	12 40	10 57	4	88	99	98	97	112 98
49	White Wonder...	56	6 47	24 1	26 73	8 38	12 51	10	89	106	86	93	113 97
50	Early Maine.....	55	10 77	22 49	4 92	12 47	2 64	10	96	110	116	106	123 110
51	Siberian.....	55	.. 49	14 71	6 71	16 39	14 57	10	98	119	119	113	113 112
52	Wide Awake.....	54	4 84	24 70	20 90	.. 47	7 69	11	92	106	110	104	112 104
53	White Monarch...	52	32 67	22 56	16 92	2 42	32 62	14	102	106	110	106	118 108
54	Prol Blk Tartarian	52	2 72	32 57	32 80	.. 41	13 62	9	97	106	110	111	123 109
55	Olive.....	49	14 86	.. 45	.. 81	6 46	16 61	20	98	110	112	112	113 109
56	Coulommiers.....	47	32 83	18 54	14 58	16 44	14 58	5	105	119	120	115	128 117
57	Early Blossom...	45	30 84	24 58	18 70	6 48	3 61	16	96	109	105	113	119 108
58	Cal. Prolific Black	45	10 83	18 57	2 84	24 44	24 63	2	96	106	113	111	127 110

Among the varieties included in the above list there are ten of the cross-bred sorts which have been produced at the experimental farms, they are the following: Brandon, Russell, Crownwell, Pense, Miller, Master, Oxford, King, Medal and Olive. The average crops obtained of these new varieties are, at Ottawa, 62 bush. 24 lbs.; at Nappan, 86 bush. 12 lbs.; at Brandon, 56 bush. 29 lbs.; at Indian Head, 67 bush. 21 lbs.; and at Agassiz, 43 bush. 9 lbs. The average yield, taking the results obtained at all the farms, is 63 bush. 12 lb. per acre.

The Golden Giant was omitted at Agassiz, the Giant Cluster at Indian Head and the Lincoln at Brandon for the reason that the seed was not received in time for sowing.

The twelve varieties of oats which have produced the largest crops during 1896 at the several experimental farms are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Banner.....	85 10	7. Mennonite.....	75 30
2. Golden Beauty.....	80 ..	8. Golden Giant.....	74 24
3. American Triumph.....	78 18	9. Brandon.....	73 28
4. Columbus.....	77 2	10. Hazlett's Seizure.....	73 18
5. White Russian.....	76 6	11. Bavarian.....	72 22
6. Holstein Prolific.....	76 6	12. Abundance.....	72 12

An average yield of 76 bush. 10 lbs. per acre.

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

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Pense.....	104 24	7. Russell.....	89 14
2. Banner.....	99 14	8. Oxford.....	88 28
3. White Schonen.....	97 2	9. Joannette.....	88 8
4. Buckbee's Illinois.....	95 30	10. White Russian.....	88 8
5. Mennonite.....	93 ..	11. Olive.....	86 ..
6. Master.....	90 ..	12. King.....	85 10

An average yield of 92 bush. 10 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Banner.....	100 ..	7. Abundance.....	80 ..
2. Early Golden Prolific.....	88 18	8. American Beauty.....	78 13
3. Winter Grey.....	87 12	9. Improved Ligowo.....	78 18
4. Mennonite.....	85 ..	10. Golden Beauty.....	76 26
5. Holstein Prolific.....	82 22	11. Golden Giant.....	76 6
6. Scottish Chief.....	80 30	12. White Schonen.....	75 20

An average yield of 82 bush. 17 lbs. per acre.

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

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Holstein Prolific.....	103 18	7. Early Maine.....	92 12
2. American Triumph.....	97 22	8. White Monarch.....	92 2
3. Early Golden Prolific.....	95 30	9. Bavarian.....	91 16
4. Doncaster Prize.....	95 10	10. Wide Awake.....	90 ..
5. Banner.....	94 4	11. American Beauty.....	89 24
6. Improved Ligowo.....	92 32	12. Abundance.....	89 24

An average yield of 93 bush. 24 lbs. per acre.

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

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Early Gothland.....	61 26	7. Cromwell.....	55 10
2. Early Golden Prolific.....	61 20	8. Oderbruch.....	55 10
3. Bavarian.....	58 8	9. Banner.....	54 24
4. Columbus.....	57 2	10. Early Etampes.....	54 24
5. White Schonen.....	55 30	11. Holstein Prolific.....	53 18
6. Buckbee's Illinois.....	55 30	12. Master.....	52 32

An average yield of 56 bush. 14 lbs. per acre.

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

	Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.
1. Banner.....	86 24	7. Golden Beauty.....	73 15
2. Mennonite.....	78 25	8. American Triumph.....	73 10
3. Holstein Prolific.....	77 21	9. American Beauty.....	72 32
4. White Schonen.....	75 28	10. Buckbee's Illinois.....	72 32
5. Improved Ligowo.....	75 18	11. White Russian.....	72 4
6. Columbus.....	73 22	12. Wallis.....	70 30

An average yield of 75 bush. 10 lbs. per acre.

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Number.	Name
1	Bolton
2	Newto
3	Danish
4	Canad
5	Kinve
6	Pacer
7	Victor
8	Sidney
9	French
10	Nepear
11	Thane
12	Beaver
13	Prize
14	Duck-b
15	Califor
16	Monek
17	Rigid.

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Beaver,

It will be seen that the Banner oat is the only variety which appears among the twelve best sorts at each of the farms, and that it stands at the head of the list of the twelve varieties which have averaged best at all the farms. This prolific oat has also given at Indian Head, during the past season, a crop of 1,958 bush. from twenty acres of land, an average of 97 bush. 21 lbs. per acre. The Holstein Prolific appears among the best twelve sorts at four of the farms, and Abundance, Bavarian, Early Golden Prolific, Mennonite and White Schonen among the best twelve at three of them.

In the list of the twelve sorts which have given the best results throughout the Dominion, there are seven of those which are first in productiveness at Ottawa, five of the best twelve at Nappan, eight of the best twelve at Brandon, five of the best twelve at Indian Head, and five of the best twelve at Agassiz.

BARLEY.

The trial plots of barley for 1896 have included seventeen different sorts of two-rowed barley and nineteen of six-rowed. The plots were of the same size as those sown with oats. The quantity of seed sown in each case was two bushels per acre, and the following were the dates of seeding:—Ottawa, 5th May; Nappan, 9th May; Brandon, 19th May; Indian Head, 16th May, and Agassiz, 20th April.

UNIFORM TEST PLOTS OF TWO-ROWED BARLEY.

Number.	Name of Variety.	Yield at the several Experimental Farms, Season of 1896.						Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.
1	Bolton	51	2 27	44 43	16 55	40 27	4 41	29	91	103	87	96	112 97
2	Newton	51	2 22	4 47	44 68	36 18	16 41	30	94	111	93	98	112 101
3	Danish Chevalier.	50	10 26	32 41	12 61	22 40	.. 43	44	96	111	99	100	112 103
4	Canadian Thorpe.	49	28 17	24 32	34 65	.. 42	24 41	22	94	111	100	102	106 102
5	Kinver Chevalier.	49	8 26	12 32	44 42	24 38	28 37	42	95	111	99	101	112 103
6	Pacer	48	6 28	16 30	20 46	2 16	32 33	44	91	111	107	102	112 104
7	Victor	46	32 26	32 32	24 60	40 24	8 38	8	91	110	92	100	112 101
8	Sidney	46	12 26	32 37	34 61	42 22	4 38	44	90	110	87	100	107 98
9	French Chevalier	45	43 31	12 41	2 73	16 44	8 47	6	97	111	89	101	112 102
10	Nepean	45	30 42	4 30	10 57	24 15	40 38	12	91	111	99	100	106 101
11	Thanet	44	28 32	4 35	30 50	30 25	40 37	36	95	111	99	102	112 103
12	Beaver	44	8 33	16 29	28 66	32 37	4 42	8	94	105	87	98	107 98
13	Prize Prolific ..	41	42 33	16 36	32 52	4 29	8 38	30	95	111	99	101	113 103
14	Duck-bill	39	28 28	33 ..	.. 60	20 28	12 39	12	94	105	..	100	106 101
15	California Prolific	39	28 31	12 23	46 63	46 25	26 36	40	94	111	101	100	113 103
16	Monck	36	42 17	10 33	6 57	44 16	12 32	13	95	111	108	103	113 106
17	Rigid	34	38 19	8 33	6 60	20 20	.. 33	24	95	111	89	84	117 99

The above list includes eight hybrid sorts which have been produced at the experimental farms; these are Bolton, Pacer, Victor, Sidney, Nepean, Beaver, Monck and Rigid. The average crops obtained from these eight

varieties are: at Ottawa, 44 bush. 9 lbs.; Nappan, 27 bush. 30 lbs.; Brandon, 33 bush. 36 lbs.; Indian Head, 58 bush. 18 lbs., and at Agassiz, 22 bush. 7 lbs. The average crop, taking the results obtained from these hybrids at all the farms, is 37 bush. 12 lbs. per acre.

The plot of Duck-bill barley at Brandon was so badly injured by a wash of water that no estimate of the crop could be given.

The six varieties of two-rowed barley which have produced the largest crops at the several experimental farms during 1896 are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. Bolton.....	51 2	4. Canadian Thorpe.....	49 28
2. Newton.....	51 2	5. Kinver Chevalier.....	49 8
3. Danish Chevalier.....	50 10	6. Pacer.....	48 6

An average yield of 49 bush. 41 lbs. per acre.

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

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. Nepean.....	42 4	4. Thanet.....	32 4
2. Beaver.....	33 16	5. French Chevalier.....	31 12
3. Prize Prolific.....	33 16	6. California Prolific.....	31 12

An average yield of 33 bush. 42 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. Newton.....	47 44	4. French Chevalier.....	41 2
2. Bolton.....	43 16	5. Sidney.....	37 34
3. Danish Chevalier.....	41 12	6. Prize Prolific.....	36 32

An average yield of 41 bush. 15 lbs. per acre.

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

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. French Chevalier.....	73 16	4. Canadian Thorpe.....	65 ..
2. Newton.....	68 36	5. California Prolific.....	63 46
3. Beaver.....	66 32	6. Sidney.....	61 42

An average yield of 66 bush. 28 lbs. per acre.

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

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. French Chevalier.....	44 8	4. Kinver Chevalier.....	38 28
2. Canadian Thorpe.....	42 24	5. Beaver.....	37 4
3. Danish Chevalier.....	40 ..	6. Prize Prolific.....	29 8

An average yield of 38 bush. 28 lbs. per acre.

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

Per Acre. Bush. Lbs.		Per Acre. Bush. Lbs.	
1. French Chevalier.....	47 6	4. Newton.....	41 30
2. Danish Chevalier.....	43 44	5. Canadian Thorpe.....	41 22
3. Bolton.....	42 8	6. Bolton.....	41 2

An average yield of 42 bush. 42 lbs. per acre.

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Number.	Name.
1	Odessa
2	Royal
3	Champ
4	Mensu
5	Baxter
6	Troop
7	Sunna
8	Phoeni
9	Excels
10	Pioneer
11	Stella
12	Comm
13	Nugen
14	Oderbr
15	Rennie
16	Vangu
17	Petsch
18	Succes
19	Surpri

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The average crop of all the varieties of two-rowed barley at each of the experimental farms we find to be as follows: At Ottawa, 45 bushels; Nappan, 28 bush. 12 lbs.; Brandon, 35 bush. 6 lbs.; Indian Head, 59 bush. 6 lbs., and at Agassiz, 27 bush. 35 lbs. The average return given by the whole of the varieties at all the farms is 39 bush. 2 lbs. per acre.

UNIFORM TEST PLOTS OF SIX-ROWED BARLEY.

Number.	Name of Variety.	Yield at the several Experimental Farms, Season of 1896.						Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.
1	Odessa	69	8 22	44	32	24	62	24	25	..	42	20	86
2	Royal	62	4 29	8	41	42	61	40	25	22	44	4	86
3	Champion	61	12 47	44	52	4	53	16	20	..	46	44	32
4	Mensury	61	2 61	32	59	18	71	42	28	15	56	22	87
5	Baxter's	60	.. 36	12	36	22	65	..	23	16	45	10	83
6	Trooper	58	46 47	44	40	40	67	14	22	24	47	24	85
7	Summit	58	46 42	4	29	38	59	18	24	28	42	46	86
8	Phoenix	58	36 26	12	42	14	58	..	15	..	40	3	82
9	Excelsior	57	24 38	8	43	46	54	18	23	36	43	26	82
10	Pioneer	56	32 30	..	..	..	..	16	26	12	40	15	89
11	Stella	55	.. 42	4	42	14	55	30	19	28	42	44	83
12	Common	54	38 25	40	55	..	63	36	29	8	46	34	83
13	Nugent	50	10 47	44	45	20	55	20	15	8	43	30	88
14	Oderbruch	48	26 37	4	34	28	65	10	28	16	42	36	88
15	Rennie's Improved	47	4 17	44	39	18	55	20	19	28	35	42	83
16	Vanguard	46	32 37	4	40	30	55	10	16	32	39	12	81
17	Petschora	45	40 17	44	33	26	58	16	17	44	34	34	80
18	Success	43	46 44	20	35	30	50	..	15	20	37	42	80
19	Surprise	41	2 56	32	38	36	52	12	18	36	41	24	89

Among the varieties included in these tests of six-rowed barley are nine of the hybrid sorts, which have been originated at the experimental farms. These are Royal, Trooper, Summit, Phoenix, Pioneer, Stella, Nugent, Vanguard and Surprise. These nine new varieties have given the following average crops: At Ottawa, 54 bush. 12 lbs.; Nappan, 39 bush. 43 lbs.; Brandon, 40 bush. 11 lbs.; Indian Head, 57 bush. 2 lbs., and at Agassiz, 20 bush. 42 lbs. The average results of all the tests of six-rowed barley at all the farms is 42 bush. 22 lbs. per acre.

The Pioneer barley was omitted at Brandon for the reason that the seed was not received in time for sowing.

The six varieties of six-rowed barley which have produced the largest crop at the several experimental farms during 1896 are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

Per Acre.		Per Acre.	
Bush. Lbs.		Bush. Lbs.	
1. Odessa	69 8	4. Mensury	61 2
2. Royal	62 4	5. Baxter's	60 ..
3. Champion	61 12	6. Trooper	58 46

An average yield of 60 bush. 21 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Mensury.....	61	32	4. Nugent.....	47	44
2. Surprise.....	56	32	5. Champion.....	47	44
3. Trooper.....	47	44	6. Success.....	44	20

An average yield of 51 bush. 4 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Mensury.....	59	18	4. Nugent.....	45	20
2. Common.....	55	.	5. Excelsior.....	43	46
3. Champion.....	52	4	6. Stella.....	42	14

An average yield of 49 bush. 33 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Mensury.....	71	42	4. Oderbruch.....	65	10
2. Common.....	68	36	5. Baxter's.....	65	..
3. Trooper.....	67	14	6. Odessa.....	62	24

An average yield of 66 bush. 37 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Common.....	29	8	4. Oderbruch.....	28	16
2. Mensury.....	28	16	5. Pioneer.....	26	12
3. Baxter's.....	28	16	6. Royal.....	25	22

An average yield of 27 bush. 31 lbs. per acre.

The six varieties of six-rowed barley which have produced the largest crops, taking the average of the results obtained on all the experimental farms and hence may perhaps be regarded as the most promising sorts for general cultivation are :—

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Mensury.....	58	22	4. Common.....	46	34
2. Trooper.....	47	24	5. Baxter's.....	45	10
3. Champion.....	46	44	6. Royal.....	44	4

An average yield of 47 bush. 29 lbs. per acre.

The average crop of all the varieties of six-rowed barley tested at each of the experimental farms we find to be as follows :—At Ottawa, 54 bush. 29 lbs. ; Nappan, 37 bush. 15 lbs. ; Brandon, 41 bush. 17 lbs. ; Indian Head, 58 bush. 40 lbs., and at Agassiz, 22 bush. 14 lbs. The average return given by the whole of the varieties at all the farms is 42 bush. 42 lbs. per acre.

SPRING WHEAT.

Thirty-nine varieties of spring wheat have been under trial during 1896. These were sown in plots of $\frac{1}{10}$ th acre each at Brandon and Indian Head and $\frac{1}{20}$ th acre each at Ottawa, Nappan and Agassiz. The quantity of seed sown of each sort was in the proportion of one and one-half bushels per acre and the dates of sowing were as follows :—At Ottawa, 30th April ;

Nappan
at Agassiz

Name

Number.

1 Hunga
2 Preston
3 Stanley
4 Alpha
5 White
6 Monar
7 Colora
8 Golden
9 Beauty
10 Rio Gr
11 Progre
12 Red Fi
13 Beaudr
14 Goose.
15 Dawn
16 Crown.
17 Advan
18 Vernor
19 Huron
20 Pringl
21 Black S
22 Heriss
23 Percy
24 Captor
25 Red Fe
26 White
27 Ladoga
28 Admira
29 Old Re
30 Dion's.
31 Wellma
32 Empori
33 Cam. W
34 White
35 Blenhei
36 Dufferi
37 Gehun.
38 Rideau
39 Counte

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Nappan, 25th April ; Brandon, 8th May ; Indian Head, 2nd May, and at Agassiz, 18th April.

UNIFORM TEST PLOTS OF SPRING WHEAT.

Number.	Name of Variety.	Yield of the several Experimental Farms, Season of 1896.						Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.
1	Hungarian.....	24	20 31	46	30	50	38	30	..	31	20	96	129
2	Preston.....	24	.. 47	..	..	..	41	50	29	40	35	37	95
3	Stanley.....	23	.. 49	..	..	..	40	30	21	40	31	50	95
4	Alpha.....	22	50 42	20	24	30	40	50	23	..	30	42	95
5	White Russian.....	22	30 48	20	26	40	40	30	..	..	34	30	101
6	Monarch.....	22	10 56	40	32	30	41	10	23	40	35	14	100
7	Colorado.....	22	.. 40	20	27	50	36	50	..	..	31	45	96
8	Golden Drop.....	21	40 36	40	18	30	42	..	18	10	27	24	96
9	Beauty.....	21	30 40	40	25	50	39	20	16	40	28	28	99
10	Rio Grande.....	21	20 45	40	38	30	39	..	16	40	32	14	101
11	Progress.....	21	10 37	22	22	30	43	10	17	..	28	14	95
12	Red Fife.....	20	40 38	..	..	26	40	41	20	23	20	30	..
13	Beaudry.....	20	20 37	20	19	20	43	10	19	10	27	52	96
14	Goose.....	19	40 47	40	38	30	45	50	21	20	34	36	102
15	Dawn.....	19	40 45	..	..	24	10	36	..	30	58	91	119
16	Crown.....	19	20 44	40	27	40	39	50	23	40	31	2	96
17	Advance.....	19	20 44	..	..	28	10	39	26	19	..	29	59
18	Vernon.....	19	10 33	20	25	10	37	30	20	..	27	2	97
19	Huron.....	19	.. 45	..	..	28	10	44	40	18	40	31	6
20	Pringle's Champ'n.....	19	.. 41	40	29	20	42	30	23	20	31	10	100
21	Black Sea.....	17	40 39	40	18	30	38	50	..	28	40	92	119
22	Herisson Bearded.....	17	30 32	..	..	26	30	38	20	29	20	28	44
23	Percy.....	17	20 42	20	20	40	40	10	20	20	28	10	96
24	Captor.....	16	40 38	20	25	..	40	20	19	20	27	56	97
25	Red Fern.....	16	40 46	40	24	20	43	30	27	40	31	46	100
26	White Connell.....	16	40 44	..	..	25	..	43	..	28	20	31	24
27	Ladoga.....	16	20 47	..	..	18	50	39	10	23	20	28	56
28	Admiral.....	16	10 31	40	22	30	43	30	22	..	27	22	97
29	Old Red River.....	15	40 45	40	28	10	38	50	27	20	31	8	101
30	Dion's.....	15	.. 41	40	24	..	38	50	19	10	27	44	100
31	Wellman's Fife.....	14	50 50	..	..	26	10	42	..	25	..	31	36
32	Emporium.....	14	40 38	..	..	24	30	44	..	28	20	29	54
33	Can. White Chaff.....	14	40 39	20	23	30	39	10	26	10	28	34	97
34	White Fife.....	14	20 39	20	29	10	41	..	19	40	28	42	102
35	Blenheim.....	14	.. 42	40	23	40	41	10	22	10	28	44	95
36	Dufferin.....	13	30 41	20	24	30	43	30	25	..	29	34	94
37	Gehun.....	9	.. 39	..	..	24	10	46	20	18	20	27	22
38	Rideau.....	..	.. 43	20	21	40	43	10	19	20	31	52	..
39	Countess.....	..	.. 34	40	25	20	46	50	24	..	32	42	..

Among the varieties included in these tests of spring wheat there are eighteen cross-bred sorts which have been originated at the experimental farms. These are Preston, Stanley, Alpha, Monarch, Beauty, Progress, Dawn, Crown, Advance, Vernon, Huron, Percy, Captor, Admiral, Blenheim, Dufferin, Rideau and Countess. These have given the following average crops : At Ottawa, 19 bush. 18 lbs. per acre ; Nappan, 42 bush. 11 lbs. ; Brandon, 25 bush. 7 lbs. ; Indian Head, 41 bush. 16 lbs., and at Agas-

siz, 21 bush. 57 lbs. per acre. The average yield taking the results obtained from all the farms is 29 bush. 57 lbs. per acre.

Preston, one of the cross-bred sorts between Ladoga and Red Fife which heads the list this year of the twelve best varieties at all the farms occupied the same position last year. This year, however, the record with this variety is not complete for the reason that there is no report from Brandon. As the three heaviest yielding varieties at Brandon have given an average of 36 bush. 30 lbs. per acre, it is highly probable that Preston would have given as good a record had it been sown and for that reason it has been included in this list. There are three other varieties with incomplete records, viz., Countess, 32 bush. 42 lbs.; Rideau, 31 bush. 52 lbs. which were omitted at Ottawa and Colorado, 31 bush. 45 lbs., omitted at Agassiz which would have similar claim to be included in this special list, but for the reason that the best yields of wheat obtained at Ottawa and Agassiz would not have been sufficient if added to the returns from the other four farms to have given these latter varieties that high standing. Besides the omissions referred to, Hungarian, White Russian and Black Sea, were left out of the tests at Agassiz for the reason that the seed was not received in time for sowing.

The twelve varieties of spring wheat which have produced the largest crops at the several experimental farms during 1896 are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Hungarian.....	24	20	7. Colorado.....	22	..
2. Preston	24	..	8. Golden Drop.....	21	40
3. Stanley.....	23	..	9. Beauty	21	30
4. Alpha.....	22	50	10. Rio Grande.....	21	20
5. White Russian.....	22	30	11. Progress.....	21	10
6. Monarch.....	22	10	12. Red Fife.....	20	40

An average yield of 22 bush. 16 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Monarch.....	56	40	7. Ladoga.....	47	..
2. Wellman's Fife.....	50	..	8. Red Fern.....	46	40
3. Stanley.....	49	..	9. Old Red River.....	45	40
4. White Russian.....	48	20	10. Rio Grande.....	45	40
5. Goose.....	47	40	11. Huron.....	45	..
6. Preston	47	..	12. Dawn.....	45	..

An average yield of 47 bush. 48 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Rio Grande.....	38	30	7. Huron.....	28	10
2. Goose.....	38	30	8. Advance.....	28	10
3. Monarch.....	32	30	9. Old Red River.....	28	10
4. Hungarian.....	30	50	10. Colorado.....	27	50
5. Pringle's Champlain.....	29	20	11. Crown.....	27	40
6. White Fife.....	29	10	12. Red Fife.....	26	40

An average yield of 30 bush. 27 lbs. per acre.

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1. Countess
2. Gelum
3. Goose
4. Huron
5. Empor
6. Duifer

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

	Per Acre. Bush. Lbs.			Per Acre. Bush. Lbs.	
1. Countess	46	50	7. Admiral	43	30
2. Gehum	46	20	8. Red Fern	43	30
3. Goose	45	50	9. Beaudry	43	10
4. Huron	44	40	10. Rideau	43	10
5. Emporium	44	..	11. Progress	43	10
6. Dufferin	43	30	12. White Connell	43	..

An average yield of 44 bush. 13 lbs. per acre.

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

	Per Acre. Bush. Lbs.			Per Acre. Bush. Lbs.	
1. Dawn	30	..	7. Old Red River	27	20
2. Preston	29	40	8. Campbell's White Chaff	26	10
3. Herisson Bearded	29	20	9. Dufferin	25	..
4. White Connell	28	20	10. Wellman's Fife	25	..
5. Emporium	28	20	11. Countess	24	..
6. Red Fern	27	40	12. Monarch	23	40

An average yield of 27 bush. 2 lbs. per acre.

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

	Per Acre. Bush. Lbs.			Per Acre. Bush. Lbs.	
1. Preston	35	37	7. Wellman's Fife	31	36
2. Monarch	35	14	8. White Connell	31	24
3. Goose	34	36	9. Pringle's Champlain	31	10
4. Rio Grande	32	14	10. Old Red River	31	8
5. Stanley	31	50	11. Huron	31	6
6. Red Fern	31	46	12. Crown	31	2

An average yield of 32 bush. 23 lbs. per acre.

The average crop of all the varieties of spring wheat tested at each of the experimental farms is as follows:—At Ottawa, 18 bush. 28 lbs.; Nappan, 41 bush. 46 lbs.; Brandon, 25 bush. 41 lbs.; Indian Head, 41 bush. 10 lbs., and at Agassiz, 22 bush. 34 lbs. The average return given by the whole of the varieties at all the farms is 29 bush. 56 lbs. per acre.

PEASE.

Twenty-five varieties of pease have been under test during 1896. These were sown in plots of $\frac{1}{10}$ th acre each at Brandon and Indian Head and $\frac{1}{20}$ th acre each at Ottawa, Nappan and Agassiz. The quantity of seed sown per acre varied from two to three bushels, depending upon the size of the pea. The dates of sowing were as follows:—At Ottawa, 23rd April; Nappan, 6th May; Brandon, 11th May; Indian Head, 9th May, and at Agassiz, 1st Ap.

The twelve varieties of pease which have produced the largest crops at the several experimental farms during 1896, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Creeper	45	50	7. Black Eyed Marrowfat...	42	..
2. Canadian Beauty	44	20	8. Duke	42	..
3. Agnes	44	20	9. Crown	41	30
4. Bruce	44	..	10. Golden Vine.....	40	40
5. Mackay	44	..	11. New Potter.....	40	20
6. Kent.....	43	20	12. Prince Albert.....	40	20

An average crop of 42 bush. 44 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Crown.....	51	..	7. Creeper	45	..
2. Large White Marrowfat....	47	..	8. Agnes.....	45	..
3. Bedford	47	..	9. Prince.....	45	..
4. Carleton.....	45	40	10. Pride.....	44	20
5. Daniel O'Rourke.....	45	20	11. Macoun	44	20
6. Paragon.....	45	..	12. Kent.....	40	40

An average crop of 45 bush. 26 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Carleton	62	..	7. Trilby	55	40
2. Kent.....	61	40	8. Mummy	55	40
3. Mackay.....	60	40	9. Crown	55	..
4. Prince.....	60	40	10. New Potter.....	54	40
5. Agnes.....	59	40	11. Prince Albert ..	52	40
6. Pride.....	56	..	12. Creeper.....	52	..

An average crop of 57 bush. 11 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Carleton	56	40	7. Centennial.....	40	30
2. Mackay	45	..	8. Golden Vine.....	40	20
3. Multiplier	45	..	9. Prince Albert.....	40	10
4. Paragon	43	20	10. Crown.....	40	3
5. Duke.....	43	..	11. Macoun	40	..
6. Trilby.....	41	40	12. Agnes.....	40	..

An average crop of 42 bush. 58 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Arthur,	27	20	7. Creeper.....	18	40
2. Agnes.....	21	40	8. Bruce	18	20
3. Carleton	20	40	9. Daniel O'Rourke....	17	40
4. New Potter	20	..	10. Prince Albert.....	16	40
5. Centennial	20	..	11. Golden Vine.....	15	40
6. Bedford.....	18	40	12. Prince.....	15	..

An average crop of 19 bush. 11 lbs. per acre.

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

	Per Acre.			Per Acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Carleton.. ..	44	..	7. Paragon.....	38	32
2. Agnes.....	42	8	8. Creeper.....	38	24
3. Mackay	40	52	9. Duke.....	37	52
4. Crown.....	40	2	10. Centennial.....	36	56
5. Prince.....	39	24	11. Pride.....	36	50
6. Kent.....	38	32	12. New Potter.....	36	46

An average crop of 39 bush. 11 lbs. per acre.

The average crop of all the varieties of pease tested at each of the experimental farms is as follows:—At Ottawa, 40 bush. 10 lbs. per acre; Nappan, 39 bush. 17 lbs.; Brandon, 49 bush. 35 lbs.; Indian Head, 37 bush. 42 lbs. and at Agassiz, 15 bush. 48 lbs. The average return given by the whole of the varieties at all the farms is 36 bush 30 lbs. per acre.

INDIAN CORN.

Twenty varieties of Indian Corn have been under trial during 1896, all planted on the same day on uniform soil in rows three feet apart, and the plants thinned out to six or eight inches apart in the row. The dates of planting were as follows:—Ottawa, 23rd May; Nappan, 22nd May; Brandon, 23rd May; Indian Head, 23rd May, and Agassiz, 18th May. All were cut green and put into the silo for winter feeding of stock. The dates of cutting were Ottawa, 10th September; Nappan, 9th September; Brandon, 19th August; Indian Head, 31st August; Agassiz, 29th September. The yield per acre has been calculated in each case from the weight obtained from two rows each 66 feet long.

UNIFORM TEST PLOTS OF INDIAN CORN GROWN IN ROWS.

Number.	Name of Variety.	Yield at the several Experimental Farms, Season of 1896.											
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1	Pride of the North.....	20	1,672	17	1,310	23	200	10	900	11	.....	16	1,216
2	Leaming.....	20	1,527	17	650	24	400	9	1,250	11	.....	200	16 1,205
3	Cuban Giant.....	19	1,349	20	975	20	1,800	11	1,100	20	.....	1,433	18 1,331
4	Rural Thoroughbred White Flint.....	19	42	19	1,050	24	400	9	1,800	9	.....	700	16 798
5	Red Cob Ensilage.....	18	736	12	640	23	200	10	680	8	.....	966	14 1,044
6	Compton's Early.....	16	670	17	620	19	500	11	110	11	.....	1,700	15 322
7	Pearce's Prolific.....	16	525	16	175	26	800	8	1,820	6	.....	1,570	14 1,778
8	Giant Prolific Ensilage.....	16	234	14	1,150	19	1,600	9	1,800	8	.....	1,600	13 1,676
9	Champion White Pearl.....	15	1,944	14	1,590	18	1,400	8	1,600	6	.....	1,000	12 1,906
10	Longfellow.....	15	1,364	16	725	30	500	7	1,290	14	.....	1,700	16 1,915
11	Mammoth Eight-rowed Flint.....	15	1,073	14	1,700	19	500	9	1,140	8	.....	500	13 982
12	White Cap Yellow Dent.....	15	601	12	640	16	1,000	9	810	12	.....	300	13 270
13	Sanford.....	15	274	18	850	23	200	11	550	8	.....	866	15 548
14	King of the Earliest.....	14	858	15	1,360	22	.....	9	920	7	.....	800	13 1,585
15	Early Huron Dent.....	14	96	12	1,850	21	900	10	900	7	.....	720	13 493
16	Canada White Flint.....	14	24	16	560	24	1,500	9	1,580	8	.....	1,233	14 1,379
17	Angel of Midnight.....	13	1,443	16	175	36	600	9	1,580	13	.....	1,500	17 1,859
18	Country Gentleman.....	10	1,853	7	1,840	20	1,800	9	1,580	4	.....	1,900	10 1,794
19	North Dakota.....	10	1,635	.....	26	800	8	1,600	6	836	13	.....	218
20	Mitchell's Extra Early.....	10	1,635	11	825	21	900	9	150	3	.....	1,340	11 570

The records of the test of varieties of corn are complete with the exception of the North Dakota which was omitted at Nappan because the seed did not arrive in time for planting.

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The six varieties of Indian corn which have given the heaviest crops at the several experimental farms, during 1896, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Pride of the North.....	20 1,672	4. Rural Thoro'bred White Flint	19 42
2. Leaming.....	20 1,527	5. Red Cob Ensilage.....	18 736
3. Cuban Giant.....	19 1,349	6. Compton's Early.....	16 670

An average crop of 19 tons 332 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Cuban Giant.....	20 975	4. Pride of the North.....	17 1,310
2. Rural Thoro'bred White Flint	19 1,050	5. Leaming.....	17 650
3. Sanford.....	18 850	6. Compton's Early.....	17 630

An average crop of 18 tons 911 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Angel of Midnight.....	36 600	4. North Dakota.....	26 800
2. Longfellow.....	30 500	5. Canada White Flint.....	24 1,500
3. Pearce's Prolific.....	26 800	6. Rural Thoro'bred White Flint	24 400

An average crop of 28 tons 100 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Cuban Giant.....	11 1,100	4. Early Huron Dent.....	10 900
2. Sanford.....	11 550	5. Pride of the North.....	10 900
3. Compton's Early.....	11 110	6. Red Cob Ensilage.....	10 680

An average crop of 10 tons 1,707 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Cuban Giant.....	20 1,433	4. White Cap Yellow Dent.....	12 300
2. Longfellow.....	14 1,700	5. Compton's Early.....	11 1,700
3. Angel of Midnight.....	13 500	6. Leaming.....	11 200

An average crop of 13 tons 1972 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Cuban Giant.....	18 1,331	4. Pride of the North.....	16 1,216
2. Angel of Midnight.....	17 1,859	5. Leaming.....	16 1,205
3. Longfellow.....	16 1,915	6. Thoroughbred White Flint..	16 798

An average crop of 17 tons 387 lbs. per acre.

The Cuban Giant which stands at the head of this list is a large growing dent variety which does not mature well at any of the experimental farms and hence is much less valuable for fodder than the other sorts which stand below it in the list.

The average weight, cut green, of all the varieties of Indian corn tested at each of the experimental farms is as follows:—At Ottawa, 15 tons 1,377 lbs. per acre; Nappan, 15 tons 772 lbs.; Brandon, 23 tons 200 lbs.; Indian Head, 9 tons 1,558 lbs., and at Agassiz, 9 tons 1,043 lbs. The average return given by the whole of the varieties at all the farms is 14 tons 1,290 lbs. per acre.

TURNIPS.

Fourteen varieties of turnips have been under test during 1896, all sown on drills or on the flat in rows, $2\frac{1}{2}$ feet apart. Two sowings were made at each farm about two weeks apart. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were as follows:—At Ottawa, 15th October; Nappan, 23rd October; Brandon, 8th October; Indian Head, 6th October, and Agassiz, 26th October. The yield per acre in each case has been calculated from the weight of roots gathered from two rows each 66 feet long.

UNIFORM TEST PLOTS OF TURNIPS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		
		Sown May 8.	Sown May 22.	Sown May 27.	Sown June 5.	Sown May 18.	Sown May 25.	Sown May 30.	Sown June 13.	Sown May 9.	Sown May 23.	First Sowing.	Second Sowing.	
		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	Hartley's Bronze.....	5	90 30	1,710 34	150 32	1,800 31	700 19	808 23	332 18	960 17	1,200 17	1,000 30	494 23	1,656
2	Carte's Elephant.....	41	335 28	1,090 34	150 35	500 19	940 16	1,628 19	280 14	1,580 13	400 14	600 25	821 21	1,860
3	Purple Top Swede.....	40	1,180 29	740 38	1,500 35	500 26	1,460 16	472 24	840 21	1,560 15	712 13	244 20	348 23	303
4	Mammoth Clyde.....	37	250 25	215 34	1,500 34	150 25	556 25	160 20	920 16	460 12	1,558 12	992 26	1,887 22	1,195
5	Perfection.....	37	250 21	570 37	1,200 29	750 28	1,420 23	738 23	1,520 19	1,336 13	576 13	1,016 28	1,193 21	880
6	Giant King.....	36	600 25	1,535 29	400 20	400 20	1,976 17	320 18	1,500 18	1,800 22	20	216 25	808 22	1,300
7	Prize Purple Top.....	34	1,630 22	220 27	990 31	1,450 17	1,640 18	1,224 19	1,900 17	1,728 15	588 23	1,190 20	1,908	1,908
8	Marquis of Lorne.....	33	600 23	1,190 30	1,450 30	1,100 18	1,062 18	360 19	280 15	1,680 15	888 15	1,238 23	874 20	1,652
9	Junco or Monarch.....	33	330 21	1,615 29	1,650 30	1,100 19	1,48 16	1,792 18	660 13	940 24	280 22	1,760 24	1,822 21	241
10	Prize Winner.....	32	1,395 23	860 28	400 32	1,800 27	1,968 18	1,488 21	1,560 19	1,613	136 13	1,368 24	1,492 21	1,106
11	Selected Champion.....	32	1,010 20	1,910 34	160 23	1,600 25	1,012 19	280 21	240 19	1,640 12	1,256 12	904 24	1,134 20	885
12	East Lothian.....	31	425 21	1,230 28	1,140 29	750 26	1,724 16	208 18	430 16	700 17	1,200 18	80 24	982 20	594
13	Sutton's Champion.....	30	1,380 22	880 30	1,450 30	1,570 21	1,206 19	280 19	280 14	1,580 17	1,408 15	448 23	1,975 20	952
14	Skirving's.....	28	485 21	1,670 32	1,800 29	750 25	1,876 25	1,480 21	1,560 18	1,752 12	1,784 12	1,432 24	705 21	1,417

The crops from the successive growings of turnips at the experimental farms have averaged as follows:—

	Tons.	Lbs.
Central Experimental Farm, Ottawa, Ont., first sowing.....	33	573
do do second sowing.....	24	388
Experimental Farm, Nappan, N.S., first sowing.....	35	1,476
do do second sowing.....	31	1,022
Brandon, Man., first sowing.....	23	1,558
Experimental Farm, Brandon, Man., second sowing.....	19	695
Indian Head, N.W.T., first sowing.....	20	1,311
do second sowing.....	17	924
Agassiz, B.C., first sowing.....	16	227
do second sowing.....	15	994

Average crop from all the plots at all the farms, first sowing, 26 tons 629 lbs.; second sowing 21 tons 1,205 lbs.

It will be seen that the first sowing of turnips at each of the experimental farms has given the larger crop, the average of all the sowings at all the farms is 4 tons 1,424 lbs. per acre more from the first sowing than it is from the second.

The six varieties of turnips which have produced the heaviest crops at the several experimental farms during 1896 are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Hartley's Bronze, 1st sowing...	45 90	4. Mammoth Clyde, 1st sowing....	37 250
2. Carter's Elephant "	41 355	5. Perfection "	37 250
3. Purple Top Swede "	30 1180	6. Giant King "	36 600

An average crop of 39 tons 1,117 lbs. per acre.

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

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
2. Purple Top Swede, 1st sowing..	38 1550	4. Hartley's Bronze, 1st sowing...	34 150
1. Perfection "	37 1200	5. Selected Champion "	34 150
3. Carter's Elephant, 2nd sowing..	35 500	6. Prize Winner, 2nd sowing.....	32 1800

An average crop of 35 tons 888 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Hartley's Bronze, 1st sowing...	31 700	4. East Lothian, 1st sowing.....	26 1724
2. Perfection "	28 1460	5. Purple Top Swede "	26 1460
3. Prize Winner "	27 1968	6. Mammoth Clyde "	25 556

An average crop of 27 tons 1,644 lbs. per acre.

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

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Purple Top Swede, 1st sowing..	24 840	4. Prize Winner, 1st sowing.....	21 1560
2. Perfection "	23 1520	5. Skirving's "	21 1560
3. Hartley's Bronze "	23 332	6. Selected Champion "	21 240

An average crop of 22 tons 1,342 lbs. per acre.

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

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Jumbo or Monarch, 1st sowing..	24 280	4. Sutton's Champion, 1st sowing..	17 1468
2. East Lothian, 2nd sowing.....	18 80	5. Hartley's Bronze "	17 1200
3. Prize Purple Top, 1st sowing...	17 1728	6. Marquis of Lorne, 2nd sowing..	15 1328

An average crop of 18 tons 1,014 lbs. per acre.

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

	Per acre. Tons. Lbs.		Per acre. Tons. Lbs.
1. Hartley's Bronze.....	23 1656	4. Giant King	22 130
2. Purple Top Swede.....	23 303	5. Carter's Elephant.....	21 1860
3. Mammoth Clyde.....	22 1195	6. Skirving's.....	21 1417

Average of 22 tons 1,093 lbs. per acre.

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MANGELS.

Thirteen varieties of mangels were under test during 1896, all sown on drills or on the flat in rows $2\frac{1}{2}$ feet apart. Two sowings were made at each farm, the second sowing about two weeks after the first. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were as follows.—At Ottawa, 15th October; Nappan, 23rd October; Brandon, 3rd October; Indian Head, 30th September, and Agassiz, 24th October. The yield per acre in each case has been calculated from the weight of roots gathered from two rows each 66 feet long.

UNIFORM TEST PLOTS OF MANGELS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Sown May 8.	Sown May 22.	Sown May 22.	Sown June 5.	Sown May 16.	Sown June 1.	Sown May 30.	Sown June 13.	Sown April 28.	Sown May 12.	First Sowing.	Second Sowing.
		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	Mammoth Long Red (Evans).....	40	1,840 35	1,610 29	575 21	1,800 36	1,920 32	1,208 15	300 12	1,080	.....	30	1,174 25
2	Gate Post.....	40	520 29	1,565 37	250 35	500 43	1,120 34	640 14	1,304 16	1,648 26	1,914 19	1,424 36	1,028 24
3	Yellow Intermediate.....	38	285 35	1,995 30	1,500 32	750 38	1,616 21	1,824 15	1,152 14	1,040 39	1,200 32	1,824 32	751 27
4	Giant Yellow Intermediate.....	37	685 32	1,395 28	940 25	1,100 32	1,618 33	792 15	756 11	1,628 23	532 18	1,664 29	1,302 24
5	Red Fleshed Globe.....	36	1,095 24	1,535 26	925 21	1,800 32	680 26	272 16	736 10	1,780	.....	1,859 30	1,852
6	Warden Orange Globe.....	36	985 27	1,200 33	1,200 34	1,000 30	720 26	1,328 13	1,720 16	1,528 23	728 26	536 27	1,071 24
7	Red Fleshed Tankard.....	36	605 23	475 20	1,245 18	1,230 29	1,661 14	1,832 15	888 13	400 22	1,818 19	1,804 25	621 17
8	Giant Yellow Globe.....	35	930 29	1,400 29	400 24	1,283 37	184 26	1,548 15	1,548 15	624 27	824 25	1,636 23	1,981 24
9	Golden Fleshed Tankard.....	34	505 31	370 23	550 36	500 31	1,888 27	1,176 15	228 11	176 26	1,592 25	600 26	525 24
10	Mammoth Long Red (Webb).....	32	1,725 28	650 27	750 33	720 52	1,600 34	1,168 15	1,812 11	440 35	224 33	.....	32
11	Champion Yellow Globe.....	31	975 28	1,420 24	545 20	150 41	1,688 28	1,298 16	736 12	24 22	1,672 17	1,024 27	723 21
12	Mammoth Long Red (Steele).....	30	519	1,985 25	1,000 21	1,800 43	1,120 35	1,016 15	1,152 14	512 27	296 24	224 28	734 23
13	Canadian Giant.....	25	1,430 20	1,910 21	1,500 26	500 37	960 34	1,121 13	400 13	1,436 22	.....	21	1,824 24

The Mammoth Long Red (Evans) and the Red Fleshed Globe were omitted at Agassiz, for the reason that the seed was not received in time for sowing.

The successive sowings of Mangels at the experimental farms have averaged as follows:—

	Tons. Lbs.	Tons. Lbs.
Central Experimental Farm, Ottawa, first sowing.....	.....	29
do do second sowing.....	35	588
do do first sowing.....	28	524
Experimental Farm, Nappan, N.S., first sowing.....	.....	1,344
do do second sowing.....	26	241
do do first sowing.....	33	1,992
do do second sowing.....	.....	24
do do first sowing.....	.....	21
do do second sowing.....	.....	24

Average crop from all the plots on all the farms: First sowing, 28 tons 1,192 lbs.; second sowing, 23 tons 1302 lbs.

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With the mangels also the early sown plots have given the larger crops, the earlier sowings having given an average of 4 tons 1,890 lbs. per acre more than that obtained from the later sowings.

The six varieties of mangels which have produced the heaviest crops at the several experimental farms during 1896, are the following :—

CENTRAL EXPERIMENTAL FARM OTTAWA, ONT.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Mamm. Long Red (Evan's) 1st sowing.....	40 1,840	4. Giant Yellow Intermediate 1st sowing.....	37 635
2. Gate Post, 1st sowing.....	40 520	5. Red Fleshed Globe, 1st sowing	36 1,095
3. Yellow Intermediate, 1st sowing.....	38 285	6. Warden Orange Globe, 1st sowing..	36 985

An average crop of 38 tons 560 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Warden Orange Globe, 1st sowing.....	33 1,200	4. Giant Yellow Globe, 1st sowing.....	29 400
2. Yellow Intermediate, 2nd sowing.....	32 750	5. Giant Yellow Intermediate, 1st sowing.....	28 940
3. Mamm. Long Red (Evan's), 1st sowing.....	29 575	6. Mamm. Long Red (Webb), 1st sowing.....	27 750

An average crop of 30 tons 102 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Mamm. Long Red (Webb) 1st sowing.....	52 1,600	4. Gate Post, 1st sowing.....	43 1,120
2. Giant Yellow Intermediate, 1st sowing.....	43 1,648	5. Champion Yellow Globe, 1st sowing.....	41 1,688
3. Mamm. Long Red (Steele), 1st sowing.....	43 1,120	6. Yellow Intermediate, 1st sowing.....	38 1,616

An average crop of 44 tons 132 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Warden Orange Globe, 2nd sowing.....	16 1,528	4. Mamm. Long Red (Steele), 1st sowing.....	15 1,812
2. Red Fleshed Globe, 1st sowing	16 736	5. Giant Yellow Globe, 1st sowing.....	15 1,548
3. Champion Yellow Globe, 1st sowing.....	16 736	6. Yellow Intermediate, 1st sowing.....	15 1,152

An average crop of 16 tons 252 lbs. per acre.

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Yellow Intermediate, 1st sowing.....	39 1,200	4. Mamm. Long Red (Steele) 1st sowing ..	27 296
2. Mamm. Long Red (Webb), 1st sowing.....	35 224	5. Gate Post, 1st sowing.....	26 1,944
3. Giant Yellow Globe, 1st sowing.....	27 824	6. Warden Orange Globe, 2nd sowing.....	26 536

An average crop of 30 tons 837 lbs. per acre.

UNIFORM TEST PLOTS OF CARROTS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Sown May 8.	Sown May 22.	Sown May 22.	Tons. Lbs.	Tons. Lbs.	Sown May 16.	Sown June 2.	Sown May 18.	Sown April 24.	Sown May 8.	First Sowing.	Second Sowing.
		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	White Belgian	31	1,470 20	1,250 16	900 12	1,850 23	860 16	1,000 12	948 19	865 18	1,300 20	1,409 16	1,872
2	Improved Short White	28	1,860 24	290 19	540 18	1,050 19	500 16	1,880 12	156 26	700 25	500 21	351 20	1,944
3	Iverson's Champion	28	1,040 24	510 17	1,250 15	550 25	380 20	480 13	131 13	400 23	933 19	1,050 20	1,618
4	Half Long White	28	760 27	1,880 18	1,600 14	200 24	1,280 20	40 13	1,832 24	400 19	1,306 22	473 20	1,856
5	Giant Yellow Intermediate	27	505 20	260 14	200 10	1,150 21	1,120 21	240 10	1,724 22	 23	1,665 19	110 18	1,829
6	Half Long Chanteny	27	110 22	1,870 18	1,030 12	1,850 22	440 13	400 13	1,192 19	133 17	1,200 20	185 16	1,330
7	Mammoth White Intermediate	26	1,730 24	1,535 19	1,360 18	1,600 22	1,980 16	1,000 13	268 22	 21	1,800 20	1,908 20	989
8	Giant White Vorges	24	1,830 20	315 15	550 11	1,500 24	1,500 20	1,800 11	1,394 20	1,060 19	1,600 19	861 15	1,304
9	Early Gem	24	840 21	295 17	1,300 14	200 27	1,880 18	1,400 10	1,648 19	1,333 18	665 19	1,960 18	1,400
10	Guerande or Oxheart	24	565 22	1,870 17	1,250 14	200 24	620 21	1,500 11	1,364 18	666 14	1,333 19	463 18	741
11	Carters Orange Giant	24	180 18	685 16	900 9	800 17	1,200 11	440 9	1,800 16	1,733 15	800 16	1,963 13	1,181
12	Scarlet Intermediate	20	1,305 17	980 10	210 11	1,500 20	1,800 12	200 10	592 9	1,921 9	1,077 14	767 12	1,439
13	Long Orange or Surrey	17	650 15	1,350 11	1,500 10	210 18	300 16	1,880 7	1,444 14	1,383 13	1,806 13	1,855 14	326
14	Long Scarlet Altringham	16	1,880 16	1,660 14	200 11	1,500 13	1,060 13	840 8	1,556 16	1,733 14	1,333 14	861 14	563

The successive sowings of carrots at the experimental farms have averaged as follows:—

	Tons.	Lbs.		Tons.	Lbs.
Central Experimental Farm, Ottawa, Ont., 1st sowing	25	202	Experimental Farm, Brandon, Man., 2nd sowing	16	1,571
do do 2nd sowing	21	484	do Indian Head, N.W.T., 1st sowing only	11	788
Experimental Farm, Nappan, N.S., 1st sowing	16	520	do Agassiz, B.C., 1st sowing	18	1,509
do do 2nd sowing	14	583	do do 2nd sowing	13	676
Brandon, Man., 1st sowing	21	1,780			

Average crop from all the plots on all the farms, excepting Indian Head: first sowing, 20 tons 1,005 lbs.; second sowing, 17 tons 1,328 lbs. per acre.

The six varieties of carrots which have produced the heaviest crops at the several experimental farms during 1896 are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. White Belgian, 1st sowing ...	31 1,470	4. Half Long White, 1st sowing.	28 760
2. Improved Short White, 1st sowing	28 1,860	5. Giant Yellow Intermediate, 1st sowing	27 505
3. Iverson's Champion, 1st sowing	28 1,090	6. Half Long Chantenay, 1st sowing	27 110
An average crop of 28 tons 1,299 lbs. per acre			

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Mamm. White Intermediate, 1st sowing	19 1,950	4. Half Long Chantenay, 1st sowing	18 1,050
2. Improved Short White, 1st sowing	19 546	5. Early Gem, 1st sowing	17 1,300
3. Half Long White, 1st sowing.	18 1,600	6. Guerande or Oxheart, 1st sowing	17 1,250
An average crop of 18 tons 1,281 lbs. per acre.			

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Early Gem, 1st sowing	27 1,880	4. Half Long White, 1st sowing.	24 1,280
2. Iverson's Champion, 1st sowing	25 380	5. Guerande or Oxheart, 1st sowing	24 620
3. Giant White Vosges, 1st sowing	24 1,500	6. White Belgian, 1st sowing ...	23 860
An average crop of 25 tons 86 lbs. per acre.			

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

One sowing only.

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Half Long White	13 1,852	4. Iverson's Champion	13 131
2. Half Long Chantenay	13 1,192	5. White Belgian	12 948
3. Mamm. White Intermediate .	13 263	6. Improved Short White	12 156
An average crop of 13 tons 91 lbs. per acre.			

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Improved Short White, 1st sowing	26 700	4. Iverson's Champion, 2nd sowing	23 933
2. Half Long White, 1st sowing.	24 400	5. Mamm. White Intermediate, 1st sowing	22
3. Giant Yellow Intermediate, 2nd sowing	23 1,666	6. Giant White Vosges, 1st sowing.	20 1,060
An average crop of 23 tons 793 lbs. per acre.			

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

	Per Acre. Tons. Lbs.		Per Acre. Tons. Lbs.
1. Half Long White	22 473	4. Iverson's Champion	20 1,645
2. Improved Short White	21 351	5. White Belgian	20 1,409
3. Mamm. White Intermediate .	20 1,998	6. Half Long Chantenay	20 188
An average crop of 21 tons 10 lbs. per acre.			

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rows each 66

Number.	Name of Variety
1	Late Puritan ..
2	Holborn Abundant ..
3	I. X. L.
4	Dreer's Standard ..
5	Carman No. 1 ..
6	Clay Rose
7	American Wonder ..
8	Polaris
9	Everett
10	Burnaby Seedling ..
11	Empire State
12	Ideal
13	American Giant ..
14	Irish Daisy
15	Early Harvest
16	State of Maine
17	Rochester Rose
18	McKenzie
19	Pride of the Tal ..
20	Seedling No. 23 ..
21	Rural Blush
22	Brownell's Wonder ..
23	Hale's Champion ..
24	New Variety No. 1 ..
25	Monroe County ..
26	Seattle
27	Chicago Market ..
28	Flemish Beauty ..
29	Troy Seedling
30	Early Sunrise
31	Daisy
32	Orphans
33	Pride of the Mar ..
34	General Gordon ..
35	Brown's Rot-proof ..
36	New Queen
37	Crown Jewel
38	Money-maker
39	Vick's Extra Early ..
40	Peerless Junior
41	Delaware
42	Vanier
43	Russell's Seedling ..
44	Early Gem

POTATOES.

Eighty-three varieties of potatoes were under trial in uniform plots during 1896. The potatoes for planting were cut into pieces with two or three eyes in each and these were planted in rows $2\frac{1}{2}$ feet apart, the sets being a foot apart in the rows. The dates of planting were as follows:— At Ottawa, 21st and 22nd May; Nappan, 20th May; Brandon, 21st May; Indian Head, 18th May, and at Agassiz, 14th May. The yield per acre has been calculated in each case from the weight of tubers gathered from two rows each 66 feet long.

UNIFORM TEST PLOTS OF POTATOES.

Number.	Name of Variety.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		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	Late Puritan.....	455 24	308 ..	454 40	345 24	139 20	340 34
2	Holborn Abundance..	404 48	536 40	.....	283 48	44 ..	317 19
3	I. X. L.	377 51	490 ..	502 20	290 24	115 40	355 15
4	Dreer's Standard....	375 6	501 40	344 40	312 24	39 36	314 41
5	Carman No. 1.....	371 48	501 40	440 ..	345 24	161 20	364 2
6	Clay Rose.....	355 18	380 20	.....	279 24	205 20	305 5
7	American Wonder...	353 6	408 20	344 40	413 36	102 40	324 28
8	Polaris.....	351 4	441 40	473 ..	301 24	176 ..	348 45
9	Everett.....	350 54	280 ..	480 20	331 24	124 40	314 4
10	Burnaby Seedling....	346 30	511 ..	348 20	268 24	117 20	218 19
11	Empire State.....	344 18	536 40	454 40	389 24	96 48	361 22
12	Ideal	341 ..	361 40	326 20	294 28	109 16	286 33
13	American Giant.....	341 ..	408 20	308 ..	376 12	168 40	320 22
14	Irish Daisy.....	337 42	529 40	484 ..	301 24	130 32	356 40
15	Early Harvest.	337 42	396 40	366 40	314 36	102 20	303 36
16	State of Maine	336 36	466 40	410 40	321 12	95 40	326 9
17	Rochester Rose.....	327 48	550 ..	344 40	246 24	198 ..	333 22
18	McKenzie	320 6	490 ..	370 20	279 24	161 20	344 44
19	Pride of the Table...	317 54	273 ..	330 ..	250 48	.....	292 55
20	Seedling No. 230....	316 48	583 ..	341 ..	272 48	220 ..	346 43
21	Rural Blush.....	316 48	455 ..	531 40	294 28	154 ..	350 23
22	Brownell's Winner..	312 24	326 40	374 ..	369 36	146 20	305 48
23	Hale's Champion....	311 18	382 40	396 ..	239 48	132 ..	292 21
24	New Variety No. 1..	309 6	254 20	355 40	299 12	132 ..	270 4
25	Monroe County.....	308 ..	478 20	341 ..	316 48	164 16	321 40
26	Seattle.....	305 48	452 40	267 40	279 24	102 40	281 38
27	Chicago Market.....	304 42	429 20	396 ..	248 36	147 20	305 12
28	Flemish Beauty Seed- ling.....	304 42	.....	465 40	259 36	95 20	281 19
29	Troy Seedling.....	299 12	443 20	344 ..	310 12	103 58	300 8
30	Early Sunrise.....	294 48	408 20	517 ..	286 ..	110 ..	323 14
31	Daisy	293 42	473 40	458 20	297 ..	110 20	326 36
32	Orphans	289 13	396 40	242 ..	198 ..	146 40	254 31
33	Pride of the Market.	287 6	560 ..	469 20	301 24	183 20	360 14
34	General Gordon.....	286 ..	471 20	363 ..	276 42	176 ..	314 36
35	Brown's Rot-proof...	283 48	235 ..	275 ..	132 ..	.....	231 27
36	New Queen.....	282 42	420 ..	421 40	341 ..	66 ..	306 16
37	Crown Jewel.....	280 30	492 20	396 ..	332 12	132 ..	326 36
38	Money-maker.....	279 24	493 40	440 ..	332 12	205 20	360 7
39	Vick's Extra Early..	279 24	361 40	201 40	319 12	.....	288 14
40	Peerless Junior.....	275 ..	408 20	242 ..	237 36	103 24	253 16
41	Delaware	275 ..	413 ..	366 40	244 12	176 ..	294 58
42	Vanier	275 ..	408 20	344 40	243 36	161 20	287 35
43	Russell's Seedling....	275 ..	490 ..	242 ..	266 36	161 20	278 59
44	Early Gem.....	269 30	372 40	429 ..	310 12	145 50	305 38

UNIFORM TEST OF POTATOES—*Concluded.*

Number.	Name of Variety.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.
45	Stourbridge Glory...	268 24	431 40	326 20	217 48	110 44	270 59
46	Early Rose.....	265 28	338 20	366 40	244 12	140 40	271 4
47	Pearce's Extra Early.	265 6	242 40	601 20	281 36	132 40	304 40
48	Satisfaction.....	264 ..	273 ..	293 20	206 48	145 40	236 46
49	Early Ohio.....	261 48	368 40	355 40	206 48	117 20	262 3
50	Earliest of All.....	260 42	168 ..	377 40	253 ..	95 20	230 56
51	Prize Taker.....	259 36	443 20	359 20	253 ..	102 40	283 35
52	Great Divide.....	256 18	415 20	438 20	261 48	110 ..	295 57
53	Northern Spy.....	255 12	478 20	377 40	270 36	126 8	301 35
54	Maggie Murphy.....	253 ..	380 20	363 ..	200 24	132 ..	283 45
55	Thorburn.....	249 42	525 ..	377 40	195 48	117 20	293 6
56	Early White Prize...	247 52	443 20	487 40	279 24	139 20	319 31
57	Early Six-weeks.....	247 30	410 40	377 40	224 24	73 20	266 43
58	Victor Rose.....	245 18	415 20	319 ..	312 24	117 20	281 52
59	Beauty of Hebron...	245 18	499 20	454 40	312 24	154 ..	333 8
60	Early Northern.....	242 ..	420 ..	513 20	242 ..	132 ..	309 52
61	Lee's Favourite.....	239 48	413 ..	418 ..	345 24	.. ..	354 3
62	Green Mountain.....	235 24	548 20	311 40	261 48	154 ..	302 14
63	Chas. Downing.....	233 12	490 ..	381 20	261 48	.. ..	341 35
64	Sharpe's Seedling...	231 44	332 ..	341 ..	292 36	108 32	261 10
65	Reading Giant.....	231 ..	462 ..	385 ..	246 24	117 40	288 25
66	Wonder of the World	229 54	361 40	447 20	272 48	73 20	277 ..
67	White Beauty.....	228 48	457 20	469 20	237 36	95 20	297 41
68	Clarke's No. 1.....	227 20	433 20	458 20	283 12	66 ..	294 38
69	Dakota Red.....	224 24	445 40	278 40	281 36	184 40	283 ..
70	London.....	221 6	382 40	399 40	376 12	80 40	292 4
71	Queen of the Valley..	217 48	466 40	396 ..	217 48	133 28	286 21
72	Seedling No. 214....	206 48	237 ..	201 40	224 24	95 30	193 4
73	Hopeful.....	204 36	396 40	282 20	220 ..	58 28	232 25
74	Lizzie's Pride.....	205 30	455 ..	436 20	369 36	70 20	306 57
75	Early Puritan.....	201 18	560 ..	506 ..	336 36	105 36	341 54
76	Freeman.....	199 6	361 40	322 40	217 48	146 40	249 35
77	Table King.....	198 ..	354 40	201 40	127 36	58 40	188 7
78	Record.....	198 ..	420 ..	333 40	187 ..	148 52	257 30
79	Burpee's Extra Early	195 48	168 ..	330 ..	312 24	117 20	224 42
80	World's Fair.....	189 12	466 40	484 ..	169 24	.. ..	327 19
81	Algoma No. 1.....	181 30	256 40	297 ..	246 24	.. ..	245 23
82	Harbinger.....	159 30	361 40	275 ..	237 36	95 20	225 49
83	Pearce's Prize Winner	159 30	459 40	498 40	314 36	88 ..	304 5

The following were omitted because the tubers did not arrive in time to be planted with the others; at Brandon, Clay Rose and at Agassiz Pride of the Table, Brown's Rot-proof, Vicks Extra Early, Lee's Favourite, Chas. Downing, Worlds Fair and Algoma No. 1.

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

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush. Lbs.		Per acre. Bush. Lbs.
1. Late Puritan.....	435 24	7. American Wonder.....	353 6
2. Holborn Abundance.....	404 48	8. Polaris.....	351 4
3. I. X. L.....	377 51	9. Everett.....	350 54
4. Dreer's Standard.....	375 6	10. Burnaby Seedling.....	346 30
5. Carman No. 1.....	371 48	11. Empire State.....	344 18
6. Clay Rose.....	355 18	12. Ideal.....	341 ..

An average crop of 368 bushels 55 lbs. per acre.

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2. Early Puritan
3. Pride of the
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3. American G
4. London.....
5. Brownell's V
6. Lizzie's Prid

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4. Rochester R
5. Dakota Red.
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1. Empire State
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3. Pride of the M
4. Irish Daisy.
5. I. X. L.....
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EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Seedling No. 230	583 ..	7. Irish Daisy	529 40
2. Early Puritan	560 ..	8. Thorburn	525 ..
3. Pride of the Market	560 ..	9. Late Puritan	513 20
4. Green Mountain	548 20	10. Burnaby Seedling	511 ..
5. Holborn Abundance	536 40	11. Dreer's Standard	501 40
6. Empire State	536 40	12. Carman No. 1	501 40

An average crop of 533 bush. 55 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Pearce's Extra Early	651 20	7. Pearce's Prize Winner	498 20
2. Rural Blush	631 40	8. Early White Prize	487 40
3. Early Sunrise	617 ..	9. World's Fair	484 ..
4. Early Norther	613 20	10. Irish Daisy	484 ..
5. Early Puritan	606 ..	11. Everett	480 20
6. I. X. L	602 20	12. Polaris	473 ..

An average crop of 506 bush. 35 lbs. per acre.

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

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. American Wonder	413 36	7. Vanguard	367 24
2. Empire State	389 24	8. Late Puritan	345 24
3. American Giant	376 12	9. Lee's Favourite	345 24
4. London	376 12	10. Carman No. 1	345 24
5. Brownell's Winner	369 36	11. New Queen	341 ..
6. Lizzie's Pride	369 36	12. Everett	336 36

An average crop of 364 bush. 39 lbs. per acre.

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

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Seedling No. 230	220 ..	7. Polaris	176 ..
2. Clay Rose	205 20	8. Delaware	176 ..
3. Moneymaker	205 20	9. General Gordon	176 ..
4. Rochester Rose	198 ..	10. American Giant	168 40
5. Dakota Red	184 40	11. Monroe Co.	164 16
6. Pride of the Market	183 20	12. Carman No. 1	161 20

An average crop of 184 bush. 54 lbs. per acre.

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

Per acre.		Per acre.	
Bush. Lbs.		Bush. Lbs.	
1. Empire State	364 22	7. Rural Blush	350 23
2. Carman No. 1	364 2	8. Moneymaker	350 7
3. Pride of the Market	360 14	9. Polaris	348 45
4. Irish Daisy	356 40	10. Seedling No. 330	346 43
5. I. X. L	355 15	11. McKenzie	344 45
6. Lee's Favourite	354 3	12. Early Puritan	341 54

An average crop of 353 bush. 6 lbs. per acre.

The average crop of all the varieties of potatoes tested at each of the experimental farms is as follows :—At Ottawa, 276 bush. 41 lbs. per acre; Nappan, 415 bush. 34 lbs.; Brandon, 380 bush. 49 lbs.; Indian Head, 277 bush. 14 lbs.; and at Agassiz, 125 bush. 7 lbs. The average return given by the whole of the varieties at all the farms is 295 bush. 5 lbs.

CONCLUSIONS.

The results presented in this bulletin show wide variations in the weight of crop obtained from different varieties of the same sort of grain, fodder, corn or roots, when grown side by side on similar soil and under like conditions. The extent of these differences are indicated in the accompanying table where the largest and smallest crops obtained from each class of product under test are given. As proof that these variations are not exceptional, the results obtained in 1895 are also presented.

	Season of 1896.			Season of 1895.		
	Largest Crop per Acre.	Smallest Crop per Acre.	Difference in Crop per Acre.	Largest Crop per Acre.	Smallest Crop per Acre.	Difference in Crop per Acre.
	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.
Oats.....	85.10	45.10	40.0	74.4	16.6	57.22
Barley, two-rowed.....	51.2	34.38	16.12	43.16	20.8	23.3
do six-rowed.....	69.8	41.2	28.6	58.6	32.14	25.26
Spring Wheat.....	24.20	9.0	15.20	30.40	13.40	17.0
Pease.....	45.50	34.0	11.50	40.10	30.20	9.50
Potatoes.....	455.24	159.30	295.54	385.0	133.50	251.9
	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
Indian Corn (cut green for silo).....	20.1672	10.1635	10.37	37.470	13.1280	23.1190
Turnips.....	45.90	28.485	16.1605	13.400	6.408	7.888
Mangels.....	40.1840	25.1480	15.360	37.976	22.682	15.294
Carrots.....	31.1470	16.1880	14.1590	29.1400	11.1100	18.300

These experiences show the importance of selecting for seed such varieties as have proven most vigorous and productive. Since nearly all the work undertaken at the experimental farms has for its main object the gaining and disseminating of such information as is likely to make farming in Canada more profitable, it is hoped that farmers generally will carefully consider and take advantage of the experience here recorded, and as far as is practicable make their choice of seed for next season's sowing from among those varieties which have given the best results in these tests.

Some idea may be formed of the gain which would accrue to the farmers of the Dominion from the addition of a single bushel of grain or ton of corn or roots per acre under crop of these farm products by referring to the following table where the acreage is given under cultivation with each crop in the single province of Ontario in 1896, and a calculation made of the money value of such addition at prices current in the markets of the east.

The acre
Industries

Oats.....
Barley.....
Spring Whe
Pease.....
Potatoes....

Indian Corn
Turnips.....
Mangels...
Carrots.....

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The acreage given is taken from bulletin 60 of the Ontario Bureau of Industries.

	Area under Crop in Ontario, 1896.	Estimated value per bushel.	Value of each Bushel per Acre of In- crease for Ontario only.
	Acres.	cts.	\$ cts.
Oats.....	2,425,107	25	603,276 75
Barley.....	462,792	35	161,977 20
Spring Wheat.....	255,361	75	191,520 75
Pease.....	829,601	50	414,800 50
Potatoes.....	178,985	20	35,797 00
		Per Ton.	Value of each Ton per Acre of Increase.
		\$ cts.	\$ cts.
Indian Corn (cut green for silo).....	178,962	1 50	268,443 00
Turnips.....	148,234	3 00	447,702 00
Mangels.....	36,101	3 00	108,303 00
Carrots.....	12,333	3 00	36,999 00

Particular attention is also called to the increase of crop had from early seedings of turnips, mangels and carrots.

As many of the more promising sorts of grain are not yet easily obtained, instructions have been given by the Hon. Minister of Agriculture to distribute this season as heretofore, in 3 lb. bags, all the surplus seed grain available from the crops harvested at the experimental farms. These bags will be sent free to farmers in Canada on application, but owing to the very large number who now apply, it is not practicable to send more than one sample to each applicant. Last year about 40,000 farmers sent requests for samples, of which 36,000 were supplied before the stock was exhausted, and more than 50 tons of choice seed grain were used in meeting this demand. The available stock this year is somewhat larger than in 1895, and the distribution as in the past will consist of samples of oats, wheat, barley, pease, corn and potatoes. No provision has been made for the distribution of turnip, mangel or carrot seeds.

It is desirable that each applicant should express his preference for the particular variety he desires to test and to name one or two alternative sorts in case the stock of the variety chosen should be exhausted. The new cross-bred and hybrid sorts are not yet available in sufficient quantity to admit of general distribution, but a limited number in each province can be supplied with samples of one pound each. The distribution is now in progress, and requests may be sent to the Central Experimental Farm, Ottawa, free of postage, at any time before the 1st of March, but after that date the lists will be closed, so that the applications then on hand may be filled before seeding begins. Those who apply for potatoes should also have their applications in before the date named, but the samples cannot be sent until danger of injury from frost is over.