

DRILL TESTS.

To make these tests more comprehensive, Mr. Bedford this year furnishes us with the following table, showing four years' averages of drill tests; it shows in wheat a difference of five bushels per acre in favor of the drills as against broadcast sowing, and no less than eleven bushels in the case of barley. This should convince the most skeptical:

Wheat.	Years Included.	Average Yield per Acre.	Average Days Maturing.
Common Drill.....	1890, 1891, 1892, 1893	30 44	128
Press Drill.....	1890, 1891, 1892, 1893	30 39	128
Broadcast.....	1890, 1891, 1892, 1893	25 18	130
Barley.			
Common Drill.....	1890, 1891, 1892, 1893	57 45	112
Press Drill.....	1890, 1891, 1892, 1893	53 44	112
Broadcast.....	1890, 1891, 1892, 1893	46 37	112

BLUESTONE AS A PREVENTIVE OF SMUT.

These tests were continued as in previous years with like results. To the almost universal use of bluestone is due, to a very large extent, the absence of smut in this year's crop. Where only a few pounds could be disposed of a few years ago tons are now sold.

Variety.	How Treated.	Yield per acre.	Weight per bushel.	Smutsy heads.	Head with no smut.
Very smutty Red Fife	1 lb. B stone to 5 bu.	27 30	58	10	1890
" " " "	" " " " 10 "	25 50	58	12	1892
" " " "	No	20	55	306	1896

THE CUTTING OF WHEAT AT DIFFERENT STAGES OF RIPENESS.

For this test plots one-tenth of an acre were used, soil being black loam, summerfallowed the previous year; sown 1½ bushels per acre, with common drill, on May 5th.

During the past few years tests have been carried on to determine the proper stage to cut wheat. In 1892 it appeared to make little or no difference what stage the wheat was in, but this year there being no frosts, which had interfered in previous years, the test shows a very considerable loss, both in quantity and weight, if cut previous to the "dough" stage.

Both Red Fife and White Connell were tried, with much the same results.

Variety.	Stage when cut.	No. days from sowing.	Date of cutting.	Yield per acre.	Weight per bushel.
Red Fife.....	Early milk stage	94	Aug. 7	16 20	45 1/2 lbs
" " " "	Late " "	97	" 10	24 10	54 1/2 "
" " " "	Dough stage	101	" 14	28 20	58 "
" " " "	Ripe yellow	108	" 21	28 40	60 "
White Connell.....	Early milk stage	94	" 7	15 40	48 "
" " " "	Late " "	97	" 10	20 20	53 "
" " " "	Dough stage	101	" 14	28 58	"
" " " "	Ripe yellow	108	" 21	29 60	"

TESTS OF EIGHTEEN VARIETIES OF BARLEY.

The first three on the list are good, stiff-strawed varieties:—

Variety.	Length of straw.	Kind of head.	Length of head.	No. days maturing.	Ripe.	Yield per acre.	Weight per bushel.
Odesa.....	37 1/2	6	2 1/2	85	Aug. 9	57 4	48
Mensury.....	40	"	3 1/2	86	" 10	54 18	47
Sharp's Imp. Chevalier.....	36	"	3 1/2	90	" 14	53 6	48
Kniver.....	39	"	2	90	" 14	51 2	47
Golden Grains.....	36	"	3 1/2	90	" 14	48 48	48
Duckbill.....	36	"	3 1/2	90	" 14	48 26	48
Goldthorpe.....	36	"	3 1/2	90	" 14	47 44	48
French Chevalier.....	36	"	4	90	" 14	46 42	47
Baxter's.....	36	"	2 1/2	90	" 14	45 30	45 1/2
Danish Chevalier.....	33	"	2 1/2	90	" 14	45 10	48
Oderbruch.....	36	"	2 1/2	90	" 14	44 38	45
Canadian Thorpe.....	36	"	2 1/2	90	" 14	44 38	45
Rennie's Improved.....	33	"	2 1/2	90	" 14	43 16	47
Common six-rowed.....	32	"	2 1/2	93	" 14	43 6	49 1/2
Prize Prolific.....	33	"	2 1/2	90	" 14	42 14	47
Thanet.....	41	"	5 1/2	90	" 14	40 10	45
Patschova.....	31	"	3 1/2	83	" 14	39 28	42
Guymalaya.....	37	"	3 1/2	85	" 14	31 2	55

TEST OF TWELVE VARIETIES OF PEAS.

Soil clay loam, one-tenth acre plots, sown with common drill, on summerfallow, on May 5th.

Variety.	Amt. sown per acre.	Apparent thickness.	Length of straw.	Length of pods.	No. days maturing.	Ripe.	Yield per acre.	Weight per bushel.
Golden Vine.....	2 1/2	Right	41	in.	101	Aug. 14	36 20	65
Prince Albert.....	2 1/2	Thin	49	"	114	" 21	32 40	64 1/2
Multiplier.....	2 1/2	"	49	"	99	" 21	31 30	63
Crown.....	2 1/2	Right	34	"	110	" 23	30 50	64
Mummy.....	3	"	41	"	108	" 21	29 50	63
Prussian Blue.....	2 1/2	"	38	"	115	" 28	29 50	62
Potter.....	2 1/2	Very thin	38	"	96	" 28	29 30	63
Pride.....	3	Thin	38	"	115	" 28	27 64	64
White Marrowfat.....	3 1/2	"	44	"	111	" 24	26 30	62
Black Eye.....	3 1/2	"	49	"	116	" 29	25 50	62
Canadian Beauty.....	3 1/2	"	48	"	115	" 29	18 40	63 1/2
Centennial.....	3	"	48	"	115	" 29	18 40	63 1/2

TEST OF THIRTY-NINE VARIETIES OF WHEAT.

It will be noticed that Goose wheat takes the lead, but this variety is only fit for feed. This year the White Connell yields less than the Red and White Fife. Harrison's Bearded is one of the varieties that has done well at the Guelph Experimental Farm. The early maturing Hybrid varieties, Stanley, Stonewall, Preston, Albert and Trial, ripened just in time to suffer from the hot weather of July and August, and were also badly threshed out by the fierce wind of August, which has greatly reduced the yield. Sown in the valley 3rd May; soil, black loam; summerfallow; sown with common drill; 1½ bushels per acre; bluestone; no smut.

Variety.	Length of straw.	Kind of head.	Length of head.	No. days maturing.	Ripe.	Yield per acre.	Weight per bushel.
Goose.....	47	b'd	3	113	none	Aug. 24	36 10 62 1/2
Harrison's Bearded.....	44	"	3	107	"	" 18	32 40 62
Rio Grande.....	47	"	3	110	"	" 21	31 40 61
Pringle's Champlain.....	40	"	3	107	little	" 18	31 30 60
Gehum.....	34	bald	2 1/2	107	none	" 18	30 62
Preston.....	38	b'd	3	103	"	" 14	30 59
Red Fife.....	41	bald	4	110	"	" 21	29 60
Old Red River.....	44	"	4	110	"	" 21	29 59
White Russian.....	41	"	4	110	"	" 21	29 58
Huston's.....	39	"	4	110	"	" 21	29 58
White Fife.....	42	"	3	103	"	" 18	27 30 55
Albert.....	42	b'd	3	103	"	" 18	27 10 59
Green Mountain.....	39	bald	2 1/2	107	"	" 21	29 60
Azima Russian.....	41	b'd	3	113	"	" 21	29 60
White Connell.....	39	bald	4	110	"	" 21	29 60
Great Western.....	47	b'd	4	111	"	" 22	29 60
Red Fern.....	43	"	4	103	little	" 14	25 59 59
Emporium.....	47	"	4	107	"	" 18	25 40 60
Hungarian Mount.....	38	bald	5	105	"	" 16	25 60 61
Golden Drop.....	42	"	4	103	"	" 14	24 40 59
Stanley.....	45	b'd	3	103	"	" 14	24 57
Ladoga.....	44	bald	4 1/2	110	"	" 21	23 50 58
Wellman's Fife.....	41	b'd	3	101	"	" 12	23 50 60
Colorado.....	44	b'd	3	101	"	" 12	23 57
Campbell's Triumph.....	42	bald	3 1/2	110	"	" 21	22 10 60
Crown.....	45	bald	4	109	"	" 20	22 59
Alpha.....	42	b'd	3	101	"	" 12	22 57
Stonewall.....	40	"	3 1/2	103	"	" 14	21 56
Manifold.....	42	"	3 1/2	103	"	" 16	20 57
No. 1.....	42	"	3 1/2	103	little	" 16	20 57
Campbell's W. Ch.....	41	bald	4	104	"	" 15	19 40 57
Trial.....	42	b'd	3	104	none	" 15	19 57
Black Sea.....	42	"	3	104	"	" 15	18 57
Abundance.....	42	"	4	107	little	" 18	17 56
Ottawa.....	40	"	3	104	"	" 15	17 56
Beta.....	41	"	3	104	"	" 15	16 50 56 1/2
Carleton.....	43	"	3	104	none	" 15	16 40 56
Anglo-American.....	37	"	4 1/2	123	badly Sept.	31 7	32

MANURED PLOTS.

To find the lasting power of manure; plots that were manured and cropped in 1892 were again cropped (without manure) in 1893, and yielded two bushels more per acre than plots not so treated. In every case the application of manure, whether fresh or rotted, appeared to produce more weeds.

TEST OF FORTY-FIVE VARIETIES OF OATS.

The Banner oat again heads the list, and Mr. Bedford considers this the best all-round oat for this Province. The new varieties tested this year are: Wide-Awake, Cave, Golden Beauty, Imported Irish, White Wonder, Scottish Chief, Oderbruch, Canadian Beauty and Columbus, all of which are white.

These test plots were situated in the valley, sown on clay loam, summerfallowed, sown with common drill, nine pecks per acre, on 6th of May. Size of plots, one-tenth of an acre.

Variety.	Length of straw.	Kind of head.	Length of head.	No. days maturing.	Ripe.	Yield per acre.	Weight per bushel.
Banner.....	41	Branching	9	98	Aug. 12	91 6 1/2	35
Abundance.....	40	"	8	98	" 12	85 35	
Rosedale.....	43	" Sided	8	97	" 11	82 22 35 1/2	
American Beauty.....	42	Branching	8	96	" 10	82 2 35	
Victoria Prize.....	43	"	8	96	" 10	79 4 42	
White Russian.....	42	"	8	97	" 11	77 2 38	
Early Gothland.....	42	Sided	7	96	" 10	76 16 35 1/2	
Welcome.....	41	Branching	7	96	" 10	76 6 41	
English White.....	38	"	10	95	" 9	75 20 34	
Challenge White.....	45	"	7	96	" 10	75 40	
Improved Ligowo.....	38	"	7	96	" 10	75 38 1/2	
Archangel.....	46	"	9	96	" 10	75 40 1/2	
Prize Cluster.....	41	"	8	90	" 4	74 4 41 1/2	
Cream Egyptian.....	45	"	8	90	" 10	72 2 40 1/2	
Bonanza.....	43	"	10	90	" 4	71 26 40	
Winter Grey.....	47	"	7	100	" 4	69 14 37	
Abyssinian.....	45	Sided	8	100	" 14	68 8 37	
Wide Awake.....	41	Branching	8	100	" 14	68 8 37	
White Dutch.....	40	"	11	93	" 7	67 22 38	
Imported Irish.....	44	"	7 1/2	96	" 10	66 17 37	
Imported Tartarian.....	47	Sided	8	100	" 14	66 16 35	
Rennie's Prize W.....	46	Branching	10	94	" 8	66 16 40	
Early Blossom.....	43	" Sided	8	103	" 17	66 6 35	
Early Etamps.....	39	Branching	6 1/2	101	" 14	66 6 34	
Cave.....	47	"	7	100	" 15	65 10 36	
Holstein Prolific.....	42	"	8	102	" 16	65 10 32	
Golden Beauty.....	41	"	6	98	" 12	64 24 31	
Joanette.....	42	"	8	98	" 12	64 24 31	
Blk. Tartarian Pro.....	38	Sided	7	100	" 14	64 24 33	
Black Coulommers.....	41	Branching	8	"	"	64 24 35	
Hazlet's Seizure.....	46	"	13	96	" 10	63 8 39 1/2	
Flying Scotsman.....	37	"	7	90	" 4	62 32 35	
Royal Doncaster.....	29	"	7	96	" 10	59 24 35	
White Wonder.....	43	"	11	93	" 7	59 4 41	
California Prolific.....	46	Sided	8	100	" 14	58 18 31	
Polad White.....	37	Branching	9	96	" 10	57 22 38 1/2	
Oderbruch.....	40	Sided	8	100	" 14	56 6 35	
Giant Cluster.....	35	"	8	100	" 14	54 14 28	
Scottish Chief.....	42	Branching	8	93	" 7	54 14 40	
Canadian Beauty.....	39	"	9	90	" 4	53 28 40 1/2	
White Hungarian.....	38	Sided	7 1/2	104	" 18	53 18 33	
American Triumph.....	47	Branching	9	102	" 16	53 8 32 1/2	
Siberian.....	43	Sided	8	102	" 16	51 16 36	
Swedish.....	36	"	7	104	" 18	47 2 31	
Columbus.....	42	Branching	7	100	" 14	31 6 34	

MIXED CROPS GROWN FOR GRAIN.

This has been a favorable year for this crop, and the result has been a good yield of heavy peas. The pea crop is usually a good one on the Experimental, the great objection being the harvesting and threshing, and in order to overcome this difficulty a trial was made with mixing peas with other grains, cutting with a binder and threshing with an ordinary separator, but as shown by the accompanying table the yield of peas has not been very satisfactory.

Variety.	Pts per ac.	Date of sowing.	How sown.	Yield of mixture of grain per ac.	Proportion of peas per bushel.
Peas, Crown.....	8	May 5.	Press drill.	56 14	4 40
Oats, Prize Cluster.....	4	"	"	27 00	3 40
Peas, Crown.....	8	"	"	49 30	3 40
Wheat, Red Fern.....	4	"	"	61 29	1 10
Peas, Crown.....	8	"	"	46 4	1 10
Barley, Prize Prolific.....	4	May 16.	"	"	"
Oats, Holstein Prolific.....	8	"	"	"	"
Peas, Crown.....	4	"	"	"	"
Oats, Holstein Prolific.....	8	"	"	"	"
Peas, Golden Vine.....	4	"	Com'n drill.	"	"
Oats, Banner.....	4	"	"	"	"
Wheat, Red Fife.....	4	"	"	"	"

AVERAGES OF WHEAT YIELDS FOR FOUR YEARS.

The following very useful tables, showing the average yields of wheat, oats and barley for the last four years, cannot fail to be of interest to all.

Variety.	Years included	Average yield per acre.	Average days maturing.	Average weight per bushel.
		bu. lb.		lbs.
Blue Stem.....	1890, 91, 92,	34 42	134	57
Pringle's Champlain.....	1890, 91, 92, 93	33 18	125	58 1/2
White Connell.....	1890, 91, 92, 93	32 8	128	59
Rio Grande.....	1890, 91, 93	32 2	129	60
Hungarian Mountain.....	1890, 92, 93	31 57	125	60
Red Fife.....	1890, 91, 92, 93	31 56	130	57 1/2
Defiance.....	1890, 91, 92,	31 4	133	58
French Imperial.....	1890, 91, 92,	30 32	128	62
White Fife.....	1890, 91, 92, 93	30 22	128	63
Green Mountain.....	1890, 92, 93	29 29	130	61
Green Mountain.....	1890, 92, 93	28 34	121	60
Red Fern.....	1890, 91, 92, 93	28 33	125	59
White Russian.....	92, 93	28 10		58 1/2
Emporium.....	92, 93	27 40		59
Colorado.....	1890, 91, 92, 93	27 6	122	57
Wellman's Fife.....	1890, 92, 93	26 58	126	60
Old Red River.....	1890, 92, 93	26 6	124	60 1/2
Gebum.....	91, 92, 93	25 50	119	60
Campbell's White Chaff.....	1890, 92, 93	23 42	123	59 1/2
Golden Drop.....	1890, 92, 93	23 2	123	61
Ladoga.....	1890, 91, 92, 93	23 2	122	56
Campbell's Triumph.....	1890, 92, 93	22 36	120	59
Hard Red Calcutta.....	1890, 92,	18 42	120	61