

No. 21.—*Black Tartarian*.—Not as good as Rosedale. In the plot the yield was at the rate of 22 bush. per acre.

No. 22.—*Badger Queen*.—A poor, early sort. Yield per acre, 27 bush. 29 lbs.

No. 23.—*Victory Prize*.—A very early, promising sort. Yield per acre, 18 bush. 33 lbs. A field of this variety, after being badly beaten by hail and much of the grain threshed out, gave 32 bush. per acre.

No. 24.—*Giant White Side*.—Straw medium, stands up well; heads long; should yield well, though in the plot it only gave at the rate of 21 bush. 24 lbs.

No. 25.—*Banner*.—Not as promising when growing as last named. Yield per acre, 37 bush. 17 lbs. A large field yielded 44 bush. 31 lbs. per acre, after being badly beaten by a hail storm.

No. 26.—*Giant Swedish*.—A vigorous grower, straw stiff and stands well; is a promising sort. Yield of this variety not yet ascertained.

No. 27.—*Rennie's Prize White* is one of the best early kinds, second only to Prize Cluster. It lodges under certain conditions. Yield per acre, 25 bush. 13 lbs. A field yielded 39 bush. 23 lbs.

No. 28.—*Prize Cluster* seems to be a favorite at Ottawa. It is evidently the best early oat on the Farm. It seems to be inclined to lodge, which is a troublesome quality. Yield per acre, 28 bush. 28 lbs. A large field yielded 48 bush. 24 lbs. per acre, after being much beaten by a hail storm.

No. 29.—*Bonanza*.—An early white oat. Yield per acre, 23 bush. 20 lbs. A field of this variety yielded nearly 39 bush. per acre.

No. 30.—*Challenge White Canada*.—A strong growing early sort, but weak in the straw. Yield per acre, 24 bush. 14 lbs. A field yielded 34 bush. 12 lbs. per acre.

## TESTING SEEDS.

Prof. Saunders and his staff are now busily engaged in testing the vitality of a large number of samples of seed grain, which are coming in from different parts of the Dominion. He will be pleased to receive samples from every farmer who desires to know the germinating power of the grain he may be keeping for seed. Such samples can be sent free through the mail, and they should contain about an ounce of grain, and it would be well that they be forwarded as promptly as possible, so that the officials may get through with this work in good time.

## THE DISTRIBUTION OF SAMPLES.

Of seed grain for test is also going on, and as long as the supply lasts the department will send to any farmer who may desire to try them, one or two of the most promising sorts for trial. Write to Professor Saunders for what you desire.

## MIXED CROPS.

The growing of mixed crops is attracting a good deal of attention in many parts of America. The following is the result of several experiments tried at the Central Experimental Farm, Ottawa. Each of the plots was a measured acre:

No. 1.—Wheat,  $\frac{1}{2}$  bush.; barley,  $\frac{3}{4}$  bush.; oats, 1 bush.; peas,  $\frac{3}{4}$  bush.; flaxseed, 2 lbs. Total yield straw and grain, 4,945 lbs.; weight of grain threshed, 1,728 lbs.

No. 2.—Wheat, 1 bush.; barley, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,860; weight of grain threshed, 1,595 lbs.

No. 3.—Wheat, 1 bush.; oats, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,975 lbs.; weight of grain threshed, 1,518 lbs.

No. 4.—Barley, 1 bush.; oats, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 5,180 lbs.; weight of grain threshed, 1,795 lbs.

No. 5.—Barley, 1 bush.; oats, 1 bush.; wheat, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,864 lbs.; weight of grain threshed, 1,808 lbs.

No. 6.—Wheat,  $\frac{1}{2}$  bush.; peas,  $\frac{1}{2}$  bush.

Total weight of straw and grain, 5,175 lbs.; weight of grain threshed, 1,871 lbs.

No. 7.—Barley,  $\frac{1}{2}$  bush.; peas,  $\frac{1}{2}$  bush. Total weight of straw and grain, 4,870 lbs.; weight of grain threshed, 1,435 lbs.

No. 8.—Oats,  $\frac{1}{2}$  bush.; peas,  $\frac{1}{2}$  bush. Total weight of straw and grain, 4,830 lbs.; weight of grain threshed, 1,495 lbs.

The land on which these crops were grown was a light, sandy loam, which was in hay when the farm was purchased. This was ploughed under after one crop had been taken off it, and has since been cropped with wheat, oats and rye without receiving any manure.

The observant reader will notice that some of the varieties that we have not recommended have exceeded in yield sorts recommended; this, however, does not alter our opinion of their relative merits. A variety which may be most suitable for general cultivation, being hardy, productive and of good quality, may under certain conditions give a less yield per acre than a very unpromising variety. In many parts of the province of Ontario the soil is extremely variable. A great difference existed among the plots at Ottawa on this account. In comparing the yields here this must be taken into consideration. As an example of this, the attention of the reader is directed to the Rosedale oat, one of the best kinds in Canada to-day, which yielded in the plot not quite 28 bushels per acre, while in the field its average exceeded 33 bush. per acre. The yield in a small, well kept test plot, should exceed that in field culture, but in this case, as in several others, it falls far behind the average in the field.

## Manitoba Experimental Farm, Brandon, Man.

Wheats grown on upland prairie, summer-fallowed. Size of plots, one-fifth acre. Sown with press drill:—

VARIETY.	Sown.	Headed.	Ripe.	No. days Maturing	Yield per Acre.
Red Fyfe.....	Ap. 8	Jly 22	Ag. 19	133	52 55
Old Red River.....	" 8	" 9	" 18	132	47 35
Pringle's Cham-plain.....	" 8	" 6	" 18	132	44 55
Campbell's White Chaff.....	" 8	" 4	" 17	131	43 45
Chilian White.....	" 8	" 3	" 19	133	43 00
Wellman's Fyfe.....	" 8	" 5	" 20	134	23 18

Wheats grown on upland prairie, summer-fallowed. Size of plots, one-tenth acre. Sown with press drill:—

VARIETY.	Sown.	Headed.	Ripe.	No. days Maturing	Yield per Acre.
Red Fyfe.....	Ap. 8	Jly 5	Ag. 19	133	45 05
Green Mountain.....	" 8	" 13	" 20	134	42 20
Hungarian Mountain.....	" 8	" 10	" 19	133	42 00
Assiniboine.....	" 8	" 5	" 19	133	38 10
Hard Calcutta.....	" 8	" 30	" 15	129	30 20

Wheat sown in the valley; soil, clay loam. Size of plots, one-tenth of an acre. Common drill. Seven pecks per acre:—

VARIETY.	Sown.	Headed.	Har-vested.	No. days Maturing	Yield per Acre.
Rio Grand.....	Ap. 13	Jly 25	Ag. 31	140	Bush. lbs. 36 10
Pringle's Cham-plain.....	" 13	" 23	" 30	139	34 40
White Connell.....	" 13	" 29	" 1	141	34 30
Defiance.....	" 13	" 27	" 1	141	34 10
Saxons.....	" 13	" 23	" 30	136	33 50
Red Fern.....	" 13	" 25	" 31	140	32 30
Judket.....	" 13	" 14	" 27	136	32 20
Russell Hard Tag.....	" 13	" 27	" 2	142	32 10
*Red Fyfe.....	" 13	" 27	" 2	142	29 40
*White Fyfe.....	" 13	" 25	" 1	141	29 10
Gebum.....	" 13	" 23	" 30	131	29 10
Indian Hard Calcutta.....	" 13	" 11	" 25	134	27 20
*Ladoga.....	" 13	" 20	" 26	135	22 30
Colorado.....	" 13	" 19	" 27	136	20 30
Australian.....	" 13	" 23	" 26	135	15 50

\*Slightly injured by wind.

Tests of some new wheats on backsetting. Size of plots, one-fifth of an acre. Sown with press drill. Six pecks per acre:—

VARIETY.	Sown.	Headed.	Har-vested.	No. days Maturing	Yield per Acre.
Blue Stem.....	Ap. 18	Jly 17	Sep. 2	137	Bush. lbs. 26 25
French Imperial.....	" 18	" 14	" 23	132	32 30
Red Fyfe.....	" 18	" 17	" 23	137	33 45
Waugh's Delhi.....	" 18	" 17	" 24	128	28 00
Kent Wheat.....	" 18	" 19	" 25	139	20 20

## WHEAT.

Test of disc harrow cultivation against spring plowing. Soil, rich black loam. Size of plots, one-half acre:—

PLOT.	Har-vested.	Yield.
1. Plowed in spring; harrowed with flat harrow and drilled; no weeds.....	Aug. 25	44 24
2. Stubble burnt off; wheat drilled in and harrowed with flat harrows, some weeds.....	" 26	40 00
3. Stubble burnt off; wheat "cut-away disc" harrowed in; quite weedy.....	" 27	39 12
4. Stubble not burnt off; wheat "cut-away disc" harrowed in; quite weedy.....	" 27	31 08

Test of cutting wheat at different stages of ripeness:—

VARIETY.	Sown.	Har-vested.	Color of straw when cut.	Stage when cut.	Yield per Acre.
Red Fyfe.....	Ap. 17	Ag. 19	Very green	In early milk.	Bush. lbs. 21 20
" " " 17	" 24	" 24	Green.	In late milk.	28 00
" " " 17	Sep. 6	" 6	Ripe.	Cured but frost-d.	31 20

Tests of varieties of oats grown on summer-fallow. Soil, rich black loam. Sown with nine pecks of seed; press drill. Size of plots, one acre:—

VARIETY.	Sown.	Headed.	Har-vested.	No. days Maturing	Yield per Acre.
English White.....	Mays 8	Jly 28	Ag. 29	118	Bush. lbs. 83 05
Banner.....	" 8	" 29	" 30	118	81 38
Early Racehorse.....	" 6	" 22	" 22	108	77 08
White Russian.....	" 6	" 23	" 31	118	74 14
Early Blossom.....	" 6	" 30	" 4	121	74 19
Archangel.....	" 6	" 23	" 25	110	72 29
Welcome.....	" 6	" 23	" 25	121	70 27
Holstein.....	" 6	" 30	" 5	122	69 00
Black Champion.....	" 6	" 31	" 9	125	68 30
Swedish.....	" 6	" 31	" 5	122	67 25
Glenrother.....	" 6	" 29	" 5	122	66 28
Winter Grey.....	" 6	" 21	" 23	108	66 26
Prize Cluster.....	" 6	" 27	" 26	110	66 08
American Triumph.....	" 6	" 31	" 7	129	64 02
Australian.....	" 6	" 29	" 4	110	59 26

Wheat.—Test of thick and thin sowing with common drill:—

VARIETY.	Sown.	Headed.	Har-vested.	Yield per Acre.
Red Fyfe, 4 pecks per acre.....	Ap. 16	Jly 20	Sep. 1	Bush. lbs. 33 20
Red Fyfe, 5 pecks per acre.....	" 16	" 20	" 1	36 25
Red Fyfe, 6 pecks per acre.....	" 16	" 20	" 1	38 55
Red Fyfe, 7 pecks per acre.....	" 16	" 20	" 1	39 55
Red Fyfe, 8 pecks per acre.....	" 16	" 20	" 1	39 05

Oats sown with common drill:—

VARIETY.	Sown.	Headed.	Har-vested.	Yield per Acre.
Welcome, 8 pecks per acre.....	Ap. 16	Jly 14	Ag. 18	Bush. lbs. 86 01
Welcome, 9 pecks per acre.....	" 16	" 14	" 18	87 12
Welcome, 10 pecks per acre.....	" 16	" 14	" 16	87 02
Welcome, 11 pecks per acre.....	" 16	" 14	" 16	78 13
Welcome, 12 pecks per acre.....	" 16	" 14	" 16	88 23