

Grains Tested at the Dominion Experimental Stations in 1891.

Ever since the establishment of the Dominion Experimental Stations, much attention has been paid to seed grains. Many new varieties have been imported, which have been tested side by side with the old and well tried sorts. Another most important work has been carried on, viz., cross fertilizing and hybridizing. We have no hesitation in saying Professor Wm. Saunders is the most suitable person in Canada, and probably in America, to conduct this work. Since 1889 he has originated, with the help of his assistant, Mr. W. T. Macoun, one hundred and fourteen crosses, ninety of which were wheat, sixteen barley and eight oats. To these must be added ninety-six new hybrid wheats and two of oats the results of the work of 1891, making 212 new varieties in all. Only such of our readers who have had experience along this line can form any idea of the amount of work entailed in order to produce one new sort. We know that it is very great. Few men have the scientific knowledge or patience to persevere in this line, yet it is by crossing and selection that sorts suitable to our soil and climate must be produced. Take, as an example of the results of selecting, the squaw corn, the only sort which ripens its seed in the Canadian Northwest. Mr. Mitchell, of St. Marys, by carefully selecting plump and uniform kernels of this variety from year to year for seven or eight years, has obtained a very good early ripening corn, which promises to be very useful in those parts of Canada where the season is short. Time, skill and patience will work similar changes by selecting, and still more striking changes by crossing, in our wheats, oats and barley. In order to form a correct opinion of the various sorts being tested at Ottawa, one of our staff visited the Central Experimental Farm, July 26th and 27th, 1891. At that time the earlier oats and barleys were just ready to cut, and the spring wheats were beginning to turn. We found several of Mr. Saunders's crosses very promising indeed. The spring wheats were strong growers, and appeared to be hardy and productive. The barleys were not so pronounced, generally speaking, but among them were some very promising samples. In the near future we expect Mr. Saunders will be able to distribute new Canadian barley and wheat of his own production that will be found most suitable to our soil and climate. One of the most promising of these is a cross between Ladoga and Red Fyfe, which has been named Abundance. It is a pure hard wheat which weighs 63 lbs. to the bush, as grown in Ottawa. This variety will be tested next year at all the experimental farms. It is a bearded wheat, a strong, vigorous grower, and is four or five days earlier in ripening than Red Fyfe.

A large number of varieties of each of the cereals are tested each year, both in field and plots. In 1891 sixty-nine different spring wheats, sixty-one oats, twenty-nine two-rowed barleys, and twenty-two distinct sorts of six-rowed barley were tested. Observations were taken and notes made each week during the season and after harvest. Each plot is separately threshed and the yield carefully weighed and measured. Reports of each sort are given in the annual report issued by the Department of Agriculture at Ottawa. By applying to Prof. Saunders, any Canadian farmer may have his

name put on the mailing list, and will then receive all the publications of the department free of charge. Upwards of twenty-one thousand farmers are now receiving these reports.

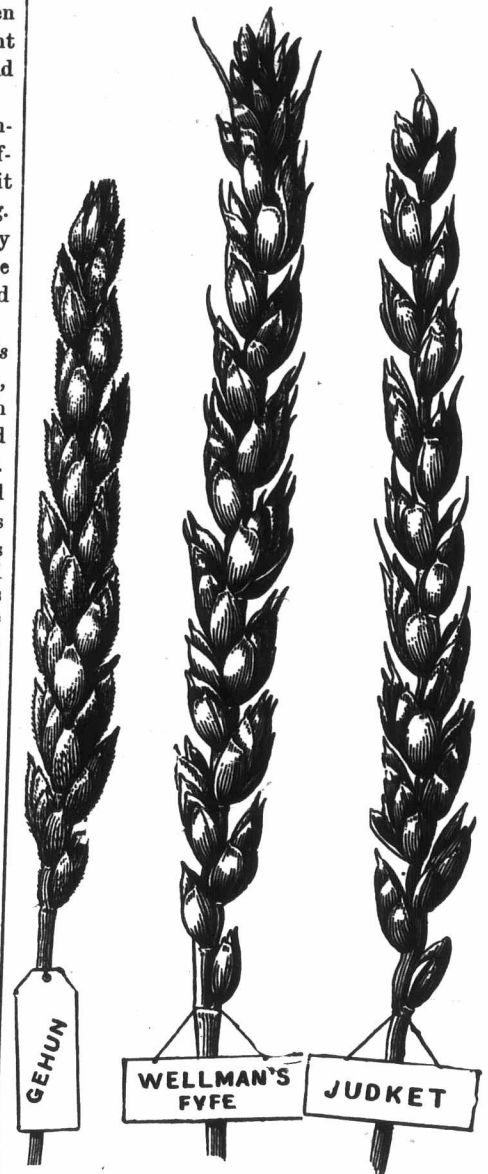
Although many of our readers are thus informed regarding the relative yields of the different sorts, we considered it essential to visit the farm and inspect the crops when growing. It is well known by farmers that the most heavy yielding sorts are not always the most profitable in the long run. Other considerations should always be taken into account.

Among the spring wheats, No. 1, *Campbell's White Chaff*, and No. 2, *Campbell's Triumph*, were growing side by side. The habits of growth were much the same; both were good, pure and early. On July 25th both were turning in color. No. 1 was the best and most promising, and seemed to be more decided in type; the head is thicker, closer and squarer. Here both sorts were quite free from rust, and promised to yield well. When threshed their respective yields were: No. 1, per acre, 25 bush. 13 lbs.; a large field averaged 28 bush. 51 lbs. per acre, weighing 58 lbs. per bushel. No. 2, per acre, 15 bush. 35 lbs.; a field crop yielded 23 bush. 58 lbs., weighing 59½ lbs. per bushel.



No. 3.—*Ladoga* was at about the same stage of ripeness, and promised a good yield; was free from rust, to which it is liable in the southern sections of Ontario. In appearance it was not as good as No. 1. Yield per acre, 21 bush. 7 lbs. A field crop yielded 28 bush. 32 lbs. per acre, weighing 60½ lbs. per bushel.

No. 4.—*Red Fyfe* was not as good as No. 1, but better than No. 3. In appearance it was the same as No. 2, but not so early. Yield per acre, 22 bush. 35 lbs.



No. 5.—*Gehun*, an Indian variety, very weak in the straw, and did not seem suitable for general cultivation in Ontario, though in 1890 it far outyielded any other sown on the Government farm at Indian Head; it is also early. The straw may improve; it is worthy of a trial on a small scale, but unless the straw becomes stiffer it will never be worthy of an important place among Canadian wheats. Yield per acre, 12 bush. 40 lbs.

No. 6.—*Anglo Canadian* is a new hybrid put out by Messrs. James Carter & Co., the well-known English seedsmen. It is a coarse growing, rather late bearded variety, being about a week later than *Ladoga*. In 1890 it gave a very small yield, viz., 5½ bush. per acre at the Central Farm, but did better at Brandon, where it produced at the rate of 26 bush. per acre; at Nappan, N. S., 29½ bush.; at Agassiz, B. C., 35 lbs. from 1 lb. sown; at Indian Head, 16½ bush. per acre. This sort is said to have done well in England. Yield per acre, 15 bush. 27 lbs. A field crop yielded 20 bush. 42 lbs. per acre.

No. 7.—The plot of *White Fyfe* looked promising, but not as good as No. 1 or as early. At Ottawa in 1890 it was fourth in yield among the sorts tried; at Nappan it came third, being a tie with *Anglo-Canadian*; at Brandon it yielded 26 bush., being excelled by several plots of *Red Fyfe* and two or three other sorts. Yield per acre, 26 bush. 7 lbs. A field crop of this variety gave 29 bush. 30 lbs. per acre, weighing 58 lbs. per bush.

No. 8.—*Wellman's Fyfe* is a very strong, thrifty grower, producing an abundance of straw; the head is long and open, and is reported to have yielded well in some sections in 1891. Yield per acre at the Central Experimental Farm, 27 bush. 7 lbs.