

VARIETY AN IMPORTANT FACTOR IN DETERMINING VALUE OF GRAIN SEED.

Professor C. A. Zavitz, O.A.C., Guelph, Ont.

One variety not as good as another. Some of the varieties of Grains and Potatoes that have proved best in an experience of 25 years recommended.

WHEN at my home on a 200-acre farm in Middlesex county, where we grow practically all classes of farm crops, including from eight to 20 acres of corn annually, I did not consider that variety was a very important factor in crop production. I did not know but what, possibly, one variety might give the best results in one year, and another variety in another year. After having studied many varieties, however, during the past 25 years, and having watched the records of some of these varieties under varying conditions for several years in succession, I am thoroughly convinced that much depends upon variety, and if we are going to secure the best results it is important that we secure the most suitable varieties for our own particular soils and conditions. If we did not have such a strong faith in this work we would not spend so much time at the Ontario Agricultural College in trying to secure through importation, selection and hybridization the very best varieties for cultivation in Ontario, and then distribute the highest quality of seed of these varieties for experimentation, and for cultivation throughout the various parts of the Province. Some of the most extensively grown varieties of farm crops in Ontario at the present time were introduced by the Ontario Agricultural College, and distributed through the medium of the Ontario Agricultural and Experimental Union. In 1912, upwards of 5,000 Ontario farmers cooperated in the carrying out of this experimental work.

THE BEST BARLEY

According to information gleaned throughout Ontario in 1912, fully 94 per cent of the barley which is grown in this province is either the Mandschouri or the O.A.C. No. 21. The Mandschouri barley was imported by the Ontario Agricultural College in the spring of 1889. The seed was carefully selected and tested at the college in each of five years. Its record for the five years' experiment was so good that it was introduced into the cooperative experimental work, and distributed throughout Ontario. This variety also gave excellent returns through the province, and experimenters soon increased the seed, and the variety rapidly entered into field cultivation and became a noted variety in Ontario, and spread from Ontario to other places. In 1903 we had a nursery plot of about 10,000 plants at the College. From this nursery plot 50 of the best plants were selected, and tested out separately. As a result of this work the O.A.C. No. 21 proved to be the most desirable variety, and this was distributed in connection with cooperative experiments five years ago, and it is now increasing very rapidly throughout the province. Practically all of the prizes which have been awarded to standing crops of barley in the field crop competitions of Ontario and in the threshed grain at the principal exhibitions during the last two years have gone to samples which have belonged to the O.A.C. No. 21 variety. Of the 28 entries of barley at the Provincial Winter Fair at Guelph in December last, 23 were the O.A.C. No. 21 and four were the Mandschouri variety.

Of all the grain crops of Ontario, oats are grown more extensively than any of the others. The market value of the oat crop of Ontario now amounts to about \$38,000,000 annually, and yet there is room for wonderful improvement in this important cereal. We are growing decidedly too many varieties, and it is difficult for oatmeal millers and other buyers to obtain uniform samples. We have been looking for an oat which would be a leader in the province. The Banner oat has been the most extensively grown variety, but it is rather thick in the hull, it does not yield enough an acre, and the straw is only of medium strength. The Siberian, which the College imported from Russia over twenty years ago, is the second most extensively grown oat in Ontario. It does better in some localities than the Banner, but not quite as well in others.

Ten years ago we had a hand planted nursery plot of over 9,000 plants of the Siberian variety. We selected some of the best individual plants,



The Best Market for at Least Part of the Milk

"What substitute can I get for milk for my calves?" is an altogether too common query as soon as the cheese factories open. If the calves are of the right breeding to grow into profitable milk cows, we cannot afford to stint them on the calves than on that sent to the factory. With veal at a good price some farmers claim to get a good return for their milk fed to calves marketed in that way.

—Cut courtesy I. H. C. Service Bureau.

and have tested them out in the same way as we tested the plants of barley. As a result of that work we found that the O.A.C. No. 72 variety gave us the best results. We sent choice seed of this variety to three hundred of our experimenters in the spring of 1911. When the returns were received in the autumn we found that the O.A.C. No. 72 had taken the lead throughout the province. Many of these experimenters carefully saved the seed, and sowed it all in the spring of 1912. Although there is now a big demand for these oats those who have the seed are apparently holding on to it for sowing this year, and by next autumn I expect there will be a good supply of pure seed in Ontario. One man recently sold 100 lbs. of this seed for \$25. The O.A.C. No. 72 oats grow a good length of straw, are comparatively free from rust, and usually stand well. The grain is white in color, and is of good quality, being thinner in the hull than the Siberian, the Banner, the Lincoln and many of the other varieties. We hope that this oat will prove of great service in Ontario.

Winter wheat, or fall wheat, is grown on about

three-quarters of a million acres of land in Ontario annually, and the most extensively grown variety in the Province at the present time is the Dawson's Golden Chaff. In 1881, Robert Dawson had a field of the White Clawson wheat which was very badly lodged. When walking over the field Mr. Brown found one plant which was standing erect, and it had a different appearance from the surrounding plants. He saved the seed of this one plant, and soon had enough for sowing in his own fields and for selling to his neighbors, who called the wheat the "Dawson's Golden Chaff." Mr. Dawson's name soon became the household word throughout Ontario, and the wheat has become known in many places as a variety of very stiff straw, of beautiful appearance, and of high yielding qualities. Unfortunately, the grain is somewhat soft, and not as good a producer of flour for bread production as some of the other varieties. It is used very extensively in combination with the hard spring wheat of the West, and there has been a considerable demand for it for the manufacture of breakfast foods, biscuits and pastry. Some selections from the Dawson's Golden Chaff, such as the American Wonder and the American Banner, gave a slight increase in yield of grain per acre. All the highest yielding grains in Ontario at the present time are of the Dawson's Golden Chaff type.

The annual market value of the potato crop of Ontario is about \$12,000,000, while that of the husking corn is about \$10,000,000. We believe that the value of the potato crop could be greatly increased annually if the farmers would grow only a few of the very best varieties and pay more attention to the seed which they use. There are far too many varieties of potatoes grown in Ontario, in fact, from the enquiries which I have made in each of the past few years I have never had less than fifty varieties of potatoes mentioned as grown quite extensively in different counties in Ontario. I think it is very unfortunate that agents representing seed firms, particularly in New York State, are going through the province from house to house, and from year to year, selling different varieties of potatoes in small quantities. It is practically impossible for the farmers to get anything but a local market for their potatoes. Buyers cannot get a sufficient

uniformity of potatoes grown in the different sections to place in car load lots to ship to the larger markets. While it is true that it requires a few varieties to meet the conditions of the different soils throughout Ontario, we believe that these varieties could be confined to a very small number.

The Rural New Yorker No. 2 is the most extensively, and the Empire State the second most extensively grown varieties in Ontario at the present time. Both of these are good varieties, especially the Empire State, but in a season like 1912 it is only an average variety in its resistance to rot. We have another variety of late potatoes, known as the Davies' Warrior, which we have been testing and selecting at the College for some time, and which is exceedingly promising. In seven years' experiments at Guelph it has given the highest yield per acre of all other varieties, and in the two years that we have used it in the two years that we have used it in connection with the cooperative experiments over Ontario it has taken the lead in yield per acre through the pro-

(Continued on page 13)