

weed seeds per pound, or enough to sow 8,000 per square rod at $1\frac{1}{4}$ bushels per acre. From Quebec—home-grown seed sown without cleaning. Average of all samples: 50 noxious and 220 other weed seeds per square rod. These figures show how much work still remains to be done by good cleaning machines. Why is the work not done better?

1st. Many farmers have no fanning mill and do not clean their grain. Let a farm be as clean and well cultivated as it may be and the crop grown a good one, it is still a fact that cleaning the seed will soon pay for a good cleaner. A fanning mill costs, say, \$30; a man needs to make only \$1 an acre on 30 acres to pay for the machine. The figures quoted show that this can easily be done any year, and in many cases \$2 or \$3 an acre.

There are many machines that it is doubtful economy for the small farmer to buy, but there can be little doubt of the fanning mill.

The poorly equipped fanning mill is responsible for a lot of inferior and dirty grain being sown. All mills are not well equipped with screens when they are bought, extra ones have not been secured, or as is often the case, the mills have been in use for 15 to 40 years, and few screens remain. Without a proper complement of screens it is impossible to do good work. A mill equipped originally to separate chaff and wheat will probably be of little use in cleaning some of the up-to-date mixtures and with an old mill particularly it is frequently difficult to get new screens. Another difficulty in the way of securing a proper equipment is the lack of information as to what kinds to buy to do certain work. To buy a number and experiment is too expensive, so that the mill is frequently allowed to do the best work it can with a small range of screens.

Even with a good assortment of screens in good repair, many machines do poor work on account of not being adjusted and operated to the best advantage. The selecting and adjusting of screens warrants more attention than it ordinarily receives; and a little time spent in trying out various screens independent of the instructions accompanying the mill will usually well repay for the trouble. In operating, nothing is of greater importance than the air blast, as it is the scale by which is weighed the heavy and light seed. It should be strong enough to carry over the back all light grains, big or little, and not too strong to blow over much good grain. It is particularly essential that the blast be regular. If the speed is reduced even momentarily, lighter grains are sure to fall where they do not belong; if too strong, there will be a loss of good grain. Where gasoline or electric power is available, it will prove more satisfactory than the steadiest man power.

Capacity of Milling Secondary

The capacity of a mill frequently gets more attention than it deserves. All other things being equal the mill that will clean faster than another is the better mill, but in seed cleaning, speed is of secondary importance. Efficiency is of much greater importance. Take oats, for example. It takes say 90 bushels for a 10 acre field; we expect a yield of 60 bushels per acre or \$30 worth of oats, or \$900 from the field. A fast mill will clean the 90 bushels required in 15

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The Value of Variety in Crop Production

And a List of Varieties that have been Proved the Best for Ontario Conditions

PROFESSOR C. A. ZAVITZ, GUELPH, ONT.

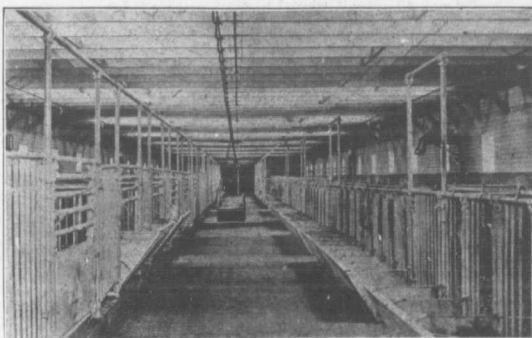
THE farmer who does not secure the very best varieties of crops for his farm is certainly living below his opportunities. There is at the present time but little excuse for the farmer who is not wide awake to the value of the varieties which will best meet the conditions of the system of farming which he is carrying out. The experimental work at the Ontario Agricultural College, the system of cooperation of the Experimental Union, the organization of the Canadian Seed Growers' Association, the plans of the Agricultural Societies and other factors are helping to make it comparatively easy and to give the best encouragement for the production of only the very best varieties.

In nearly all classes of farm crops there are

Experimental Farm at Ottawa have each made good records in the experiments at the College, and the former in the cooperative experiments throughout Ontario. The Marquis variety exhibited at this Fair received the Spring Wheat Championship. The Quebec No. 28 variety of Flint corn, and the Quebec No. 92 variety of Soy beans, both from the Macdonald College in Quebec are promising.

The season of 1915 was a very peculiar one for crop production in Ontario. The summer was cool and exceptionally wet. Even in this abnormal season, however, important lessons were obtained through experiments with farm crops. It is interesting to note that at the College the O.A.C. No. 27 variety of oats gave a yield at the rate of 103.5 bushels and the American Banner of 92.4 bushels per acre. In each of the past nine years in which these two varieties have been grown under similar conditions the O.A.C. No. 27 has surpassed the Banner in yield per acre in each year, the average for the whole period of nine years for the former being 90.7 bushels, and for the latter 72.5 bushels per acre.

Of the early varieties of oats O.A.C. No. 3 gave a yield of 76 and the Daubeney 73.5 bushels per acre in the past season. In each of the past nine years the O.A.C. No. 3 surpassed the Daubeney in yield of grain per acre, except in 1914. The average results in bushels per acre per annum for the whole period shows a yield of 82.3 for the O.A.C. No. 3 and of 74.6 for the Daubeney.



The Interior of the Calf Barn at Colony Farm, Essendale, B. C.

far too many varieties grown on the farms of Ontario. The number should be cut down as much as possible, and only the very best ones used. Great care, however, should be taken to know the varieties which will give the highest returns where they are to be grown. It is only possible to refer to a comparatively few varieties at this time. Many of the leading kinds under cultivation in Ontario at present were first tested at the Ontario Agricultural College and afterwards introduced over Ontario through the medium of the Ontario Agricultural and Experimental Union. Some of these varieties originated at the College, others were secured in Ontario, and still others were imported from different countries. Particular attention is drawn to the following outstanding varieties:

O.A.C. No. 73 and O.A.C. No. 3 varieties of oats; Mandscheuri and O.A.C. No. 21 barley; Dawson's Golden Chaff and Imperial Amber winter wheat; Mammoth White winter rye; O.A.C. No. 61 spring rye; Common emmer; Rye buckwheat; New Canadian Beauty and Early Britain peas; Pearce's Improved Tree beans; Hairy Vetches; Early Yellow soy beans; White Cap Yellow Dent and Wisconsin No. 7 Dent corn; Salzer's North Dakota flint corn; Golden Bantam sweet corn; Early Amber sorghum; Ontario Variegated and Grimm alfalfas; Yellow Leviathan mangels; Empire State, Davies' Warrior and Extra Early Eureka potatoes.

The Marquis spring wheat and the Arthur variety of field peas obtained from the Central

A portion of an address by Prof. Zavitz, at Guelph Winter Fair, December, 1915.

variety.

Varieties of Barley

In the barley experiments at the College throughout Ontario the O.A.C. No. 21 still occupies highest place in yield of grain per acre. This variety has become exceedingly popular throughout the province, and is supplanting nearly all other varieties, even the Mandscheuri which the College introduced about 25 years ago and which has done so much in the improvement of barley growing in Ontario. It is now estimated that about 96 per cent. of all the barley which is grown in Ontario belongs to the Mandscheuri or the O.A.C. No. 21 varieties. Of the 40 entries of barley at the Provincial Fair not a single name occurred except the O.A.C. No. 21. According to the report of the Bureau of Industries for Ontario the yield of barley per acre for the past 16 years as compared with the 16 years previous has had an increase of about 10 per cent. This increase in yield per acre throughout Ontario for the last period is compared with the first period of 16 years would amount to about thirty-five million dollars, sufficient to maintain the Ontario Agricultural College at its present cost of maintenance for approximately 190 years.

Desirable Potatoes

The potato crop in Ontario in 1915 was the lowest of any year since 1892, the average being only about 73 bushels per acre, according to the latest reports. The results of the experiments at the College for the past year are very interesting.

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