



# FARM AND DAIRY



We Welcome Practical Progressive Ideas

The Recognized Exponent of Dairying in Canada

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

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## Seed for 1917 Crop—Why We Should Conserve Our Supplies

\$50,000,000 Worth of Cereal Seed Needed—Sources Available—Rigid Selection Necessary—The Germination Test

ASSUMING that the acreage sown to the chief cereal crops in 1917 will be equal to that of 1916, how much grain will have to be set aside in Canada this winter for seed purposes? Taking the estimate of the census office at Ottawa as to the acreage sown last year and allowing for seed per acre, one and one-half bushels of wheat, two bushels of oats and one and three-quarter bushels of barley, the amount required for seed purposes will be in round numbers, 18,000,000 bushels of wheat, 20,000,000 bushels of oats, and 3,000,000 bushels of barley, a total of about 41,000,000 bushels of grain. Assuming further that the value of the grain sown will be equal to the ruling prices for the best grades of these three cereals for the last month, the total seed bill of the farmers for these three grains alone this year will be considerably over \$50,000,000, though our good friends, the crop statisticians, insist in putting this on the credit side of the ledger only, including it with the 1916 returns without charging it against the 1917 expense account.

In the faith that in due time the harvest shall reward him, the Canadian farmer will bury this \$50,000,000 worth of seed in the spring. In the same faith he planted in 1915. The seed was good, the weather favorable, and his reward was great; in number of bushels at least. In 1916 he again planted, but His time the fates conspired against him. The seed was not of the best, the planting was done under difficulties, and the weather man seemed to delight in forming, in each locality, those meteorological combinations which were most unfavorable to it. In Ontario and part of the eastern provinces the late wet spring, followed by drought, resulted in low yields and poor quality of grain, especially of oats. In the northern parts of the western provinces crops were considerably injured by frost. In the chief grain growing sections of Manitoba and Saskatchewan black rust practically ruined the wheat crop. Hail took its usual toll. In spite, however, of all these discouragements, the Canadian farmer will bury \$50,000,000 worth of choice grain in the spring, in the faith that things will turn out better next time.

But he will begin the season's work with a handicap. The unfavorable weather of last year depreciated the quality of the grain even more than its yield. Seed grain of the best quality is therefore difficult to obtain. Even should the weather conditions be as favorable as they were two years ago this is a serious matter, for under the best of conditions the seed used must be of strong vitality if good yields are to be secured. Not only must the germ be healthy and capable of rapid development, but the seed must be large and plump to give the young plant a start, for the seed is the storehouse in which the mother plant

has stored up food for carrying the young plant until it can forage for itself. It cannot do this until the leaves reach above ground. To carry the young plant over such a period requires abundance of vital strength and of stored up food. Hence the necessity of large, plump seed with vigorous germs.

### The Seed Wheat Situation.

Black rust has been stated as one of the causes of the inferior quality of wheat for this year's sowing. Unlike smut, this disease does not infect the new plant through the seed. The damage done is due to a lowering of the vitality or strength of growth of the seed. This, to a con-

siderable extent, is also true of damage due to frost. With wheat, injury from frost, rust, drought, or any other cause is more apparent than with most other grains. The extent of the injury is largely indicated by the kernels. If they are badly shrunken or shriveled, the indication is that there is a deficiency in reserve food, which will interfere with the early growth of the wheat crop and will tell in the yields the following harvest. Experiments conducted at the Ontario Agricultural College, showing one year's influence on grain selection in the crop, gave the following results with wheat:

	Weight per measured bus.	Average yield per acre per annum	
		Tons	Bush. per acre
Spring Wheat—			
Large plump seed. 59.1	1.4	21.7	
Small plump seed. 58.2	1.3	18.0	
Shrunken seed .... 56.9	1.2	16.7	
Fall wheat—			
Large plump seed. 59.4	2.6	46.9	
Small plump seed. 59.2	2.3	40.4	
Shrunken seed .... 59.1	2.1	39.1	

Experiments conducted in North Dakota after the rust outbreak in 1904 showed that the affected seed planted beside large plump seed gave a yield of straw and grain in favor of the good seed in the proportion of five to three. If the 12,000,000 acres that will be planted to wheat this year in Canada were made to yield three bushels per acre more on the average by the selection of good seed, the increased returns to the farmer would probably be enough to pay this year's seed bill for the three major cereal crops.

### Scarcity of Good Oat Seed.

In Ontario no grain suffered greater deterioration in quality as a result of the weather conditions of 1916 than did oats. In many places the grain obtained is altogether unfit for seed. An instance recently came to the attention of the writer which illustrates this very thoroughly. A farmer began feeding his chickens on oats only. After a few days he noticed that they were failing in flesh and becoming sickly; later some of them died. A careful examination did not show them to be diseased in any way and he applied for advice. The advice given was to change the ration so as to include some corn and barley. At once the condition of the chickens began to improve. As a matter of fact they were starving to death on the oats, which consisted of nothing but empty hulls, which though they had a certain amount of feed value for some farm animals, are useless for poultry feed. There is a danger that this spring will see much seed grain of little better quality than that fed to these chickens being sown in our fields, and from such seed what can the harvest be?

Experiments conducted at the Ontario Agricultural College (Continued on page 10.)



### Prizes for Essays on Dairy Act

ON Feb. 22, the ballot on the Dairy Standards Act will be published in Farm and Dairy. Thousands of the dairy farmers of the province will avail themselves of the opportunity to express their opinion on the dairy legislation afforded by this plebiscite. Not all of them have followed developments closely. It is desirable that the chief arguments for and against the Act be published in that issue, so that everyone can read them and be enabled to vote intelligently. Farm and Dairy has decided, therefore, to give those who think strongly on the Dairy Standards Act an opportunity of placing their views before the voters. It has been decided to offer two prizes of \$3.00 each, one for the best article favoring the Act and the other for the best article opposing it. For other contributions published we will extend the writer's subscription to Farm and Dairy for six months. Essays must not exceed 800 words in length, and must be in our hands not later than Wednesday, Feb. 14. Allow two days for the contributions to reach us.