

AN INQUIRY

REGARDING THE

WHEAT, OATS, BARLEY, FLAX, AND ENSILAGE CORN USED FOR SEED IN CANADA

On its grain crops depend to a great extent the wealth and general prosperity of an agricultural country. Each year the yield and quality of the principal crops are not only of special interest to the farmers but are matters of national concern. It is therefore of the utmost importance that methods be followed that will produce maximum yields of the highest quality.

One of the principal factors toward this end is the use of good seed. In order that land may give the best returns for the cultivation received, it is essential that the seed be clean, strong in vitality, and of a variety or strain suitable to the conditions under which it is to be grown.

With the object of securing definite information in regard to the quality of the seed used on Canadian farms, an inquiry was instituted in the spring of 1913 with wheat, oats, barley and flax, and continued in 1914 with ensilage corn. Seed inspectors were instructed to visit farmers in their respective districts and procure samples of seed actually being put into the ground, together with information in regard to variety, source of supply, treatment for smut prevention, rate of seeding, cleaning and selection. Over 3,700 samples were forwarded to the seed laboratory at Ottawa where they were tested for purity and germination. The aim was to get samples representing the average seed used by farmers. This was done so far as possible but the results are not presented as an accurate record of conditions in detail in the different provinces or districts visited. It is recognized that the number of samples from some provinces is smaller proportionately than from others and that unintentionally inspectors may have occasionally secured extreme rather than representative samples. In some cases, as will be noted in detail later, samples were taken from lots that were yet to be cleaned before seeding, so that the summary of the purity test reports is incorrect to this extent as indicating the impurities that were in the seed when sown.

However, after making full allowance for all inaccuracies, it is clear that the value of the grain crops produced in Canada is enormously lowered each year through the use of poor seed. Surprisingly little attention is paid to choosing the most suitable varieties. The seed is seldom selected or graded, except to pass it through a fanning-mill once or twice, and often not even this is done; in many cases the mills are not equipped with proper screens and little improvement is effected. Much preventable loss is sustained through failure to treat seed for smut prevention. The number and variety of weed seed and other impurities in a large proportion of the grain and flax insures the introduction of numerous weeds and precludes the possibility of growing even reasonably clean crops which is essential for maximum yields and highest quality.

VARIETIES.

Experiments have repeatedly shown that certain varieties of grain give the largest yields in particular districts. In order to obtain the best results, it is important to study varieties and select those best adapted to the soil and climatic conditions under which they are to be grown. The lack of attention given to selection is indicated by the fact that over forty per cent of the farmers from whom samples of