

The above table cannot be taken to accurately represent the extent to which the various kinds of weeds are distributed throughout the various districts, inasmuch as many of the most noxious weeds—weeds that do the most injury to a crop of growing grain—produce seeds that fall at or previous to the time of harvesting, or are so small that they are almost entirely removed by the threshing machine and cleaning apparatus at the elevators before the grain is shipped.

Wild oats, ragweed, bindweed or wild buckwheat, lamb's-quarters, pigweed, cockle, smut, and other kinds of grain such as barley and oats are doubly objectionable in the wheat crop because they are more difficult to remove from the threshed grain, and if removed at all, the grain must have special cleaning, the cost of which must surely be borne by the producer. The seeds of most weeds of the mustard family including wild mustard, ball mustard, hare's ear mustard, tansy mustard, tumbling mustard, stinkweed and false flax are very small, and although the weeds may be present in abundance and do serious injury to the crop, their seeds are mostly left in the fields or are found with the elevator screenings.

In referring to the nuisance caused by impurities, Mr. David Horn, Chief Inspector of Grain, says (November 4, 1905): 'We have now inspected 20,000,000 bushels of this crop (crop of 1905) of which 85 per cent is high grade, that is, No. 2 Northern and better. We have never before had so much rejected for being mixed with wild oats, barley, cockle and ragweed. The terminal elevators cannot take this out without special cleaning and for this they have to make special charge. The percent-
ago of ears rejected in this way is nearly double what it was last year and last year was serious enough. This matter of foreign grain and impurities is becoming yearly more serious and cannot be too earnestly dealt with, the loss to the producer is so serious and the dissatisfaction on all sides is so aggravating.'

USE SEEDS THAT ARE KNOWN TO BE VITAL.

Seed of wheat, oats and barley, is usually taken from the general crop on the farm or procured from a neighbouring farmer. In either case some definite knowledge may be had as to whether the vitality of the seed has been injured. It is well known that even a hard frost is not fatal to the germ of unripened wheat. The vitality of oats or barley, however, is seriously injured if the grain be frozen before being fully ripened.

It is much to be recommended that all seeds used on the farm be first tested to determine the actual per cent of vital seeds, and particularly so when the origin of the seed is not known. Then if only 50 per cent of the seed will germinate, and better seed cannot be secured, a double quantity of it may be sown and thus a partial failure of the crop might be avoided with very little extra expense. Many of the farmers of Alberta experienced severe losses in their crop of 1904, because of neglect in this particular. Of those seeds that enter largely into commerce, the root crop and garden vegetable seeds are found most frequently to contain a considerable per cent of dead seed, in all probability due to old seed having been mixed with good fresh seed.

HOW TO MAKE GERMINATION TESTS ON THE FARM.

Perhaps the most satisfactory method of making germination tests on the farm is to count out one hundred average seeds and plant them in a pot or box of moist soil. After planting, the soil should be kept moist, but not wet, and about the temperature of an ordinary living room. Reliable tests of practically all kinds of seeds used on the farm may be made in this way during the winter months. The time required to get accurate results by this method would be approximately ten days for cereal grains and clover seeds, and from fourteen to twenty days with seeds of most grasses, root crops and garden vegetables.

Much quicker returns are to be had from germination tests between blotting paper or woollen cloths. Dip a piece of blotting paper or cloth in luke-warm water; allow