

pure seed of superior pedigreed varieties of cereal grains, which may be originated at the experiment station from time to time, for many local tests, in order to determine their areas of adaptability and to introduce them into general culture in those areas.

The experiments conducted are in connection with wheat, corn (maize), oats, barley, lucerne, red clover, and liming of land, &c.

In 1914 there were over a thousand co-operators at work, each conducting an experiment on his own farm.

In the wheat experiment two proven quite superior varieties to the parent varieties, and two commercial varieties in tests made at the experiment station, were distributed. For No. 1 experiment $1\frac{1}{2}$ bushels seed of one variety was provided, and for No. 2 experiment 5 lb. seed of each of two varieties. No. 1 experiment required two plots, 1 acre each in size—one plot to be sown with the variety commonly grown in the locality, the seed for which the farmer provided, the other plot to be sown with the new variety provided by the experiment station. No. 2 experiment required three small plots, each one-twentieth of an acre in size—one plot to be sown with the locally grown wheat, and the other two plots with the two new varieties furnished by the experiment station. The experiment station charged the farmer 10s. for the seed-wheat of the new varieties supplied. No special preparation of the land was required, but both plots had to be treated in the same way, and the seed had to be sown at the same rate and on the same day so as to make a fair comparison. It was particularly stipulated that no farmer need apply unless he was prepared to make the test carefully and report results on forms furnished, and in his application for the experiment was required to sign an agreement to that effect.

Oat Experiments.—Experiment No. 1: Two special varieties of oats besides the variety usually grown by the farmer were required to be sown on three plots each one-twentieth of an acre in size. The seed was supplied free, the experimenter paying carriage to farm. Experiment No. 2: This experiment required two plots each 1 acre in size: $2\frac{1}{2}$ bushels of seeds of a special variety was furnished by the association for one plot, for which the experimenter had to pay 12s. to cover the cost of seed and carriage; the seed for the other plot was to be supplied by the experimenter, the variety usually grown in the district. Only one of these $2\frac{1}{2}$ -bushel plots to be given in each county.

Barley Experiments.—Testing two special varieties against the variety usually grown, three plots each one-twentieth of an acre in size being required. Seed furnished free; experimenter to pay carriage.

Corn Experiments.—A comparison with special variety against the variety usually grown. Two plots, quarter-acre each, required. Seed free.

Lucerne Experiments.—No. 1: A test of application of lime and inoculated soil. Four plots, each one-twentieth of an acre in size. Seed and inoculated soil furnished free; carriage to be paid by experimenter. No. 2: Inoculation of soil and seed sown at different dates. Four plots, each one-twentieth of an acre in size. Seed and inoculated soil furnished free; carriage to be paid by experimenter.

Red Clover Experiments.—No. 1: Seeding clover with oats as a nurse-crop, using different quantities of oats per acre. Three plots, each one-twentieth of an acre in size. Clover-seed furnished free; carriage of seed paid by experimenter. No. 2: Same as previous experiment excepting that plots may be any size. This experiment is designed for men who prefer to furnish their own seed and use larger plots. The association furnished instructions only.

Lime Experiments.—Applications of ground limestone or limestone-dust to the soil to study its effects on succeeding crops, particularly clover. Two plots of equal size, each plot being from 1 to 2 acres. To any group of farmers at a single shipping-point who will club together to conduct this test a car of limestone will be shipped free, the farmers to pay freight only, and each farmer to take an equal share of the limestone for an experiment on his farm. Complete instructions are furnished, and farmers undertaking this experiment are asked to report on it for two seasons at least.

The association points out that these tests are for the benefit of the farmer, for the benefit of the locality, and for the benefit of the State, and asks that these be conducted according to simple instructions furnished by the Director of Experiments, Iowa Agricultural Experiment Station.

Experimenters are asked to make the plots exactly the right size, and to be as accurate as possible with the work throughout; to keep the plots and roadways clean and neat, so that they will feel like inviting their neighbours to see the test; and that they make close and accurate observations themselves, call the attention of as many as possible of the neighbouring farmers to their experiments, and discuss the results with them. They are also asked to be careful to prevent the mixing of varieties, so that if the new variety proves good the association can handle their crop for pure-seed purposes.

Dairy Farms at Waterloo.

My visit to these farms was at the instigation of Mr. W. W. Marsh, of Waterloo, Iowa, State Commissioner at the Panama Pacific Exhibition, San Francisco, who, being aware of my mission through the United States, kindly arranged for me to visit his dairy farms (fifteen in number) in the rich agricultural district of Waterloo. Mr. Marsh is a prominent member of agricultural institutions, and well known throughout the States as one who takes a keen interest in all phases of agriculture, besides being a breeder and owner of the finest purebred Guernsey herds in the United States. He rendered great service to my mission by using his personal influence with persons in agricultural institutions prior to my visiting these, in a manner preparing the way for me and making my journey eastward very pleasant, for which courtesy I desire to express my sincere gratitude.