

During the year the work was reorganized to enable more samples to be handled, and when additional equipment comes to hand there should be no difficulty in handling an even greater number of samples expeditiously. The total number of rye-grass samples received for strain testing was 3,486, including 2,983 officially drawn samples representing lines entered for certification and 503 samples for preliminary tests. The total number of officially drawn samples of white-clover seed entered for certification by the picro-acid test was 5,616. One hundred and twenty-one samples were submitted for "preliminary" tests. Tests for the information of the Department's field officers, the agronomist, and farmers brought the total number of picro-acid tests up to 7,262. Trial plots of white-clover samples which were laid down by the Grasslands Division in 1945 gave satisfactory confirmation of the laboratory classification.

*Pre-harvest Examination of Rye-grass Seed.*—Substations established in Christchurch and Timaru for the examination of rye-grass seed for blind-seed disease examined 4,057 samples, the majority of which were affected by the disease to an extent sufficient to involve some financial loss to the growers in the harvesting of seed.

*Moisture Tests.*—Only 17 samples of wheat were received for pre-harvest moisture-content tests. In good harvesting weather such as was experienced this year few farmers feel the need of the assistance of moisture test in judging the condition of grain. Moisture tests were also carried out on Chewings-fescue and crested-dogstail seed. These tests are being requested with increasing frequency, and are used to indicate the suitability of seed for shipment or long storage.

#### FIELD EXPERIMENTAL WORK

The past year has seen a considerable expansion of activities, although to some extent this expansion has been limited by a shortage of trained field officers. Nevertheless, the number of field experiments in progress has increased from 331 at the commencement of the year to 580 at the present time. A large number of trials now open are complex experiments of a modern design that call for increased field-work and statistical analysis.

The Statistical Section is undertaking a greatly increased volume of work not only on account of the experiments now in progress, but also in the analysis of data which has accumulated during the war. The design and analysis of trials not included in this summary but carried out at the Soil Fertility Research Station, Hamilton, are an important and increasing section of the work, and it is anticipated that in the near future similar work will be carried out for the Winchmore Irrigation Research Station, Ashburton, and for the projected Otago-Southland Experimental Farm.

At the Marton Experimental Area a wide range of experimental work is being carried out. While the emphasis at this area remains on pasture trials, a portion of the farm is now devoted to experiments with crops. The intensive experimental activities on this area continue to yield valuable information, as they have over the past twenty years. At the Dargaville Demonstration Farm a programme of field experiments, which includes several pasture mowing trials, is to commence shortly. Together with investigations into the "ironstone" soils in co-operation with the Soil Fertility Research Station, this work will commence a more intensive attack on the problems of soil and pasture as found in North Auckland. The programme of experimental work at the Stratford, Waimate West, and Winton Demonstration Farms has also been expanded.