

and it is hoped to expand this work in the near future. The total number of trials with pasture species now open is 209, 96 of these being standard plot trials on ploughed land, 15 pasture-establishment trials, 71 investigating the introductions of clovers to and the improvement of hill-country pastures, 22 paddock trials with short-rotation rye-grass, and 5 trials of the regrassing of depleted country in Central Otago.

(2) *Annual Crops*

(a) *Wheat*.—The examination of the fertilizer requirements of wheat on different soils and under different farming conditions is progressing satisfactorily and is already giving valuable preliminary results. The wheat variety trials are designed to field test new wheat crosses bred by the Wheat Research Institute and are conducted in co-operation with the Institute. The method-of-sowing trials investigate a new type of sowing equipment. Of a total of 34 trials in the present season, 22 are variety trials, 9 are manurial, and 3 are method-of-sowing experiments.

(b) *Oats*.—Eight of the 9 trials now open are variety trials of recent introductions and new crosses bred by the Agronomy Division, Department of Scientific and Industrial Research, Lincoln, the remaining 1 being a method-of-sowing trial. Close co-operation is maintained with the Agronomy Division concerning work with all crops other than wheat.

(c) *Barley*.—In the present season, 16 variety trials with malting-barley varieties have been conducted. Other work has included 2 manurial trials and 1 method-of-sowing trial.

(d) *Cereal Green Feed*.—Six trials are in progress which compare the productiveness of green material of several barley, oats, and rye-corn varieties. Some new introductions are showing particular merit for different farming requirements.

(e) *Brassicas*.—Variety trials with locally produced and imported seed of various turnip and swede varieties total 27 and have confirmed previous results showing that the standard of the crops grown from New Zealand seed produced under Government supervision is at least as high as that from comparable imported seed. Two trials at the Marton Experimental Area examine methods of application and forms of boron which will control mottle-heart disease and not affect germination adversely. Three trials concern production of rape and swede seed, and 11 trials are simple demonstrations of the new club-root-resistant rape, which has been proved by earlier trials to merit its name.

(f) *Linen Flax*.—Of 4 trials now open, 2 are manurial trials, 1 is a variety trial, and 1 a method-of-sowing trial.

(g) *Linseed*.—Three variety and 1 manurial trial are in progress. This crop is growing in importance and experimental work with it is expected to be increased in future years.

(h) *Sugar-beet*.—A further 10 acres of sugar-beet has been sown, on which area it is hoped to continue the trials with machinery designed to lighten the labour demand of this crop. Various types of experiments have been sown in this field.

(i) *Lucerne*.—Of the 9 trials now open, 6 compare the selected strain of lucerne now being produced under certification with ordinary commercial types, and 2 are trials of a new "grazing lucerne" which may prove valuable in certain localities. One trial is a manurial experiment which includes various "minor" elements as well as the more common fertilizers and lime.

(j) *Lupins*.—The 7 lupin trials compare varieties of "sweet" lupins with other crops, such as rape, for stock-feeding, examining more especially their value as lamb-fattening crops.