

BRANCH REPORTS

AGRONOMY DIVISION

The general programme of field-crop improvements reported in previous years was continued. To provide nucleus stocks of pure seed for certification purposes, reselected lines of the main varieties of wheat, oats, malting barleys, rape (new type certified B.L.E.), kale, and garden peas were grown.

Additional hybrid material is still under test in the following crops :—oats, barley, kale, swedes, lucerne, lupins, garden peas, and field peas.

Some of the points of interest arising from the breeding programmes are as follows :—

One of the new varieties of oats being tested exhibits a high degree of resistance to lodging.

The aim of the breeding programme with barley is to produce a type for direct heading and select a suitable green-feed type.

Two winter types of rye-corn performed well in comparison with various lines of green-feed barley and oats. Wong barley also showed distinct promise.

The club-root-resistant strain of rape distributed last year has shown excellent resistance in field trials, and it is anticipated there will be a great demand for seed.

The "Dryland" variety of swede has proved most suitable for areas of low rainfall and has been taken over by the Department of Agriculture for multiplication and distribution.

The main effort with lucerne is now being directed towards the development of a satisfactory grazing type.

Work continues on the development of varieties of linseed and linen flax immune to New Zealand strains of rusts.

Supplies of the new sweet flowering lupin were distributed to the Department of Agriculture, and reports suggest that it is slightly more vigorous than the sweet blue lupin, from which it was derived.

The breeding-work on garden peas and field peas has been carried forward as reported in 1947 report.

SPECIAL ACTIVITIES

Potato Research Section.—A survey has been made of the main potato-growing areas to find the requirements of each district and the problems needing urgent attention. A wide range of local commercial varieties, some pre-war hybrids, and much new material from Great Britain, Germany, and the United States of America will form the basis of the breeding programme. The latter will include breeding for blight resistance, resistance to virus diseases, frost resistance, and characters of high yield, quality, drought resistance, and adaptability to New Zealand conditions.

Inadequate glasshouse space is stultifying the whole programme.

Vegetable Research Section.—A wide range of vegetable varieties is being grown to obtain material for selection and breeding and also to test stocks for New Zealand seedsmen.

OTHER ACTIVITIES

Weed Control.—Agroxone has now replaced Sinox in our routine spraying of nucleus-seed crops of linen flax and linseed for control of fat-hen and other weeds. It is less sensitive than Sinox to variations in temperature and humidity, is not so readily washed off by rain following application, and does not stain hands and clothing.

The problem receiving most attention is the control of such troublesome perennial weeds as Californian thistle and blackberry, and in this considerable progress has been made. Many factors influence the results, notably the time of year and stage of growth at which the weed-killer is applied, amount of soil moisture present, and possibly humus-content of the soil and general nutrient status.