

Linseed.—Some forty-five varieties and selections are under trial. The outstanding introduction is Rio. It has proved, so far, highly resistant to wilt, immune from rust, and practically immune from browning. Seed yield is high and icdine number fair. It has the fault, however, of being rather short in the straw. The production of linseed-oil in New Zealand has lapsed in recent years, but the possibility of re-establishing the industry is under consideration, and for this reason steps are being taken to determine varieties more suitable than those grown in the past.

Vegetable Crops.—Investigations have been along the following lines:—

- (a) Investigations into the varietal characteristics of dwarf beans.
- (b) Seed production, with particular reference to Holmes's carrot, a variety used extensively in Taranaki for stock feed.
- (c) Building up of "Hawkesbury Wonder," a variety of dwarf bean showing some resistance to bacterial wilt.
- (d) Study of lettuce varieties, and an attempt to discover varieties resistant to botrytis. Imperial 847 and 44 have shown promise.
- (e) Preliminary studies of varieties of asparagus and their culture are designed to lead to selection for New Zealand conditions.

Co-operation with other Institutions.—Grasslands Division: An officer of the Grasslands Division is stationed at Lincoln, and facilities are made available for him to carry on his work. The Agronomy Division is also increasing seed stocks of herbage crops selected and raised by the Grasslands Division. The Grasslands Division is reciprocating by carrying out at Palmerston North certain cereal and other trials and the production of some brassica seeds for this Division.

Plant Diseases Division: An officer of the Plant Diseases Division is stationed here, and facilities are made available for him to carry out his work. The Agronomy Division obtains considerable assistance and advice from this officer and from his Division in Auckland especially in connection with diseases of linen flax, potatoes, and oats.

Fields Division, Department of Agriculture: Close contact is maintained between the two Divisions. The Agronomy Division is dependent upon the Fields Division for all field work carried out in connection with the trial of new varieties and selections. The Fields Division, on the other hand, looks to this Division to supply nucleus seed to be built up in connection with the scheme of seed certification.

Lincoln College: Lincoln College has priority in drawing supplies of pure seed wheat raised by this Division.

Wheat Research Institute: Our programme of work in connection with wheat is discussed fully with the Wheat Research Institute and is thus mutually helpful and avoids overlapping.

Entomology Division: An officer of the Entomological Division is already carrying out certain investigations utilizing the facilities offered by this Division, and he may be stationed here permanently in due course.

BOTANY DIVISION, WELLINGTON.

Director: Dr. H. H. ALLAN.

A. ROUTINE.

(1) *Identification of Specimens and Advice thereon.*

This work proceeded on the lines indicated in previous reports, over 1,600 specimens being dealt with. Several weeds not hitherto recorded were met with, but none are of very serious import. The "Handbook of Naturalized Plants of New Zealand" is now in the press, and should be of use to those interested in our weed flora.

(2) *Herbarium.*

Regular additions have been made, and the usual exchange material sent out. A valuable set of European weeds has been received from Dr. P. Aellen, and useful contributions made by the Auckland Museum, the Bailey Herbarium (Ithaca), and Messrs. R. M. Laing and H. Scarfe. Considerable advance has been made with the building-up of a seed herbarium.

(3) *Introduction of Plants*

Through the courtesy of Mr. R. O. Dalrymple, further supplies of Valonia Oak have been received. Seed of Giant Star Grass and related species were kindly forwarded by the Department of Agriculture, Kenya, and will be tested for erosion-control purposes in the warmer parts of the North Island. Seed of the high tannin species *Eucalyptus astringens*, *E. calophylla*, and *E. gomphocephala* were kindly sent by the Conservator of Forests, Perth, Western Australia. These have germinated well, and will be distributed to appropriate localities.

B. RESEARCH.

(1) *Sphagnum Resources.*

Reports were furnished on the nature of sphagnum, its utility as a surgical dressing, and methods of preparation. A survey, greatly assisted by the Director and officers of the State Forest Service, was made of the sphagnum areas of New Zealand. Some 347 samples have been examined, and graded as: Good, 71; fair, 97; inferior, 106; and useless, 73. Five areas of reasonable access and of considerable area, whence supplies could be obtained, were located. From these approximately 1,250 sacks of good and 1,420 sacks of fair material could be obtained. The gatherings are being subjected to botanical classification.