

## REPORTS FROM BRANCHES

### AGRONOMY DIVISION

Director : Mr. J. W. HADFIELD

#### FUNCTIONS

The Agronomy Division, at Lincoln, is responsible for improvement in field and vegetable crops (exclusive of wheat-breeding), and approaches this objective by pure-line seed-production, plant-breeding, and plant-introduction.

#### PURE-SEED PRODUCTION

The pure seed raised by this Division from single plant selections is taken over by the Department of Agriculture, the Canterbury Agricultural College, or by selected merchants; sometimes it is for further increase, but the bulk is for distribution by the Department of Agriculture under a system of seed certification.

The Division maintains stocks of the following agricultural seeds for distribution :—

*Wheat*.—S.S. Tuscan, Tainui, College Hunters, Hunters II, Dreadnought, Cross 7, Hilgendorf, W.R.I. Yelder, Marquis, Fife Tuscan, Jumbuck.

*Oats*.—Gartons Abundance, Algerians, Duns, Binder, Achilles.

*Barley*.—Chevallier, Spratt Archer, Golden Archer, Plumage Archer, Culture 9, Newal, Wong, Pioneer, Prefect.

*Ryecorn*.—Black Winter, N.I.A.B.

*Garden Peas*.—Onward, Greenfeast, English Wonder, Little Marvel, Greencrop, William Massey.

*Field Peas*.—Harrisons Glory, Mammoth White, Mammoth Blue, White Prolific.

*Linseed*.—Cheyenne, Rio.

*Linen Flax*.—Russian Seln. II, Russian Seln. III, Liral Crown.

*Brassicas*.—Calder swede, T.H. kale, chou Moellier (giant), chou Moellier (medium), giant rape, B.L.E. rape, club-root-resistant rape.

*Lupins*.—Sweet Blue, Sweet White, Sweet Yellow, Bitter Pink.

*Lucerne*.—Strain B (New Zealand certified).

*Pasture Species*.—Clovers: Broad red, Montgomery, white. Grasses: Short-rotation rye, Italian rye.

#### PLANT INTRODUCTION

A vast amount of material introduced from overseas is either under observation or under yield trial, and much of it is being used in crosses—*e.g.*, S172 oat with very stiff straw is used to give resistance to lodging. The barley varieties Kenia and Maja are useful parents in producing a barley suitable for direct heading. Many of the linseed and linen-flax varieties are highly resistant, and some even immune to the races of rust present in New Zealand. Some useful material, particularly of lupins, has been obtained from Germany.

A close watch is maintained on overseas literature, and through personal contact with workers overseas it is possible to obtain valuable material for trial and breeding.

#### BREEDING AND SELECTION

*Oats*.—The main difficulty experienced in the growing of oats in Otago and Southland is the lodging of the crop, and two crosses, Resistance × Onward and Resistance × Algerian, are now in F11 and are being grown in replicated trials at the Division and