

(h) *Sugar-beet*.—In a 10-acre field of sugar-beet in the Waimate district that has been sown to investigate the mechanical handling of the crop a variety trial and other miscellaneous trials have been established.

(i) *Onions*.—Two trials have been begun with preparations which have proved effective in delaying sprouting of potatoes to see if they will have a similar effect on onions.

(j) *Lucerne*.—Nine lucerne trials include comparisons of a selected strain of lucerne now being produced under certification with ordinary commercial strains and sowings of a special variety of lucerne reputed to be well adapted to grazing.

(k) *Lupins*.—The 7 lupin trials compare various "sweet" varieties of lupins with brassica crops such as rape and chou moellier in respect of their green-fodder production and their value as lamb-fattening crops. Sweet lupins would appear to be promising crops in those districts where for various reasons the brassica crops are difficult to grow satisfactorily.

(l) *Peas*.—A trial of the manuring of peas has been in progress in the Gisborne district.

(m) *Maize*.—Eight of the 13 trials now in progress compare various lines of hybrid maize from the United States, some of which have in past years yielded very well in comparison with local types. Five manurial trials are also open. Experimental work with maize is giving very promising results.

(n) *Potatoes*.—Of the 46 trials in progress, 27 are variety trials which compare a large number of well-known and newly-selected varieties in a wide range of soils and districts. These trials have been conducted over the past two seasons and are a most valuable series not only for the information they supply, but also as a means of demonstrating less-known varieties to both field officers and farmers. Six manurial trials compare various times of application of sulphate of ammonia, 5 "strains" trials compare the same variety of potato produced in different districts, 3 trials examine the effect of spacing of tubers and size of seed on the production of seed potatoes, 2 trials are of the sprout-inhibiting preparations which are showing promise, and 3 are of a tuber treatment said to control potato-scab disease.

(o) *Other Crops*.—These include trials with tangier pea, rye-corn, kudzu, chicory, and crop mixtures.

(3) *Miscellaneous Trials*

(a) *Pampas-grass*.—The 4 field trials include comparisons of so-called "strains" of pampas-grass, manurial treatments, intercultivation treatments, and the interplanting of pampas-grass with various species. A report has been published in the *Journal of Agriculture* of the results of a survey of farmers' pampas-grass plantations.

(b) *Weed Control*.—The growing importance of chemical methods of weed control after the introduction of the hormone type and other types of weed-killers is reflected in the 156 experiments now open. A comprehensive summary of the results of the Division's research to date, together with reports from other New Zealand research workers, was published in the *Journal of Agriculture*. A large field of research has been opened up with these new chemicals and they appear to be a promising line of attack on the weed problem. Nevertheless, it is felt that a more balanced approach to this most important problem is needed. Such an attack contemplates not only the use of chemicals in weed control, but also the control of weeds through stocking and farm management generally, by fire, by biological means, from the results of botanical studies,