

of sheaf and a “ binder versus puller ” trial of harvesting methods. Sheaves from these trials are now being processed by the Linen Flax Corporation for straw, fibre, and seed yields, and fibre quality, but field observations confirmed the promising results secured with the new-type coulter in last year’s trials.

(g) *Peas*.—Two trials in the “ dusting ” of pea-seed with various organic mercurial dusts and some of the newer treatments indicated that these last-mentioned introductions are likely to prove very valuable in ensuring better field germinations and establishment of peas.

(h) *Linseed*.—Three variety trials with the varieties Bison, Walsh, Rio, and Golden Viking compared with New Zealand Commercial were sown in North and Mid-Canterbury. Results are not yet available.

(i) *Sugar-beet*.—No trials were laid down last year, due to the late arrival of seed, but an investigation into the costs of growing sugar-beet using modern machinery for sowing, intercultivating, and harvesting will be commenced during the coming season. This work is being undertaken in co-operation with the Department of Industries and Commerce.

(j) *Maize*.—Ten trials were laid down in the Dargaville, Bay of Plenty, and Gisborne districts this year, though two of these experiments have been ruined by birds. These trials include manurial trials, liming trials, and varietal trials with the recently introduced “ Pfister ” types from the United States. There is also a maize-selection area for selection work which is being undertaken by the Agronomy Division.

(k) *Potatoes*.—No trials were laid down this season, but a programme of manurial and varietal trials as well as tests of new tuber treatments for improved sprouting is planned for next year.

(l) *Other Crops*.—These include trials with new lucerne strains selected by the Agronomy Division of the Department of Scientific and Industrial Research, trials with the promising sweet yellow and sweet blue lupins, and trials with onions. Work with onions includes a test to determine the longevity of the onion-smut-disease organism in the soil and a yield and storage test on various strains of onions.

(3) *Miscellaneous Trials*

(a) *Weed Control*.—An officer attached to the Soil Fertility Research Station, Hamilton, has been appointed to investigate weed-control problems generally, and extension work in other districts is carried out with his co-operation and assistance. Insufficient quantities of the “ hormone ” weed-killers have been available to date and only preliminary work has therefore been undertaken, but with the promise of adequate supplies in the future an extensive series of trials is planned for the coming year. Other very promising results have been secured with kerosene spraying of carrot crops, but farmers should secure advice regarding this before adopting it on a large scale. Trials have also been made with the “ D.N.C. ” (dinitro-ortho-cresol) type of weed-killers, and results will be published shortly.

Great advances have been made in weed-control work generally, and many promising materials for this purpose have been developed. Experimental work with these materials will indicate their uses and limitations under New Zealand conditions.

(b) *Pampas-grass*.—Five detailed grazing and palatability trials of various so-called “ strains ” of pampas-grass have been established, and should commence to give results shortly. In view of the wide divergence of opinion over the value of this plant to the farmer, it is intended to carry out a survey of the success or otherwise of farmers’ plantations now established and the uses made of such plantations. There is no doubt, however, that pampas-grass is a valuable fodder plant under suitable climatic conditions and management.

(c) *Feed Flavour of Milk and Cream*.—With the co-operation of the Dairy Division and factory-managers, an investigation into the causes of “ feediness ” in cream was commenced in the Tauranga and Whakatane areas last spring. An endeavour was made to correlate pasture growth and composition with feed taint and also to test ways