

AGRONOMY SECTION

During the last year a reorganization of departmental activities relating to seeds and seed-production has taken place, resulting in the establishment of an Agronomy Section. This Section has absorbed most of the work undertaken under the heading of crop utilization, in addition to carrying on the work involved in seed certification and seed-production generally.

The 1945 harvest was not a favourable one. Perennial rye-grass seed crops were severely attacked in most districts by the blind-seed fungus. Thus, while yields were slightly lower than usual, the germination of the seed harvested has been much below the general average for this seed. The Italian rye-grass and cocksfoot crops proved to be rather better than normal, as also did the brown-top, chewing's fescue, and crested dogstail seed crops.

The acreages of red and white clover closed for seed-production were much larger than usual, but owing to the very adverse conditions experienced in the late summer and autumn of 1945 the yield per acre of each of these seeds was far below any experienced during the past twenty years. Total production accordingly showed an appreciable reduction compared with that of some of the war years.

The high level of the pea acreage grown in the 1943-44 season was maintained in the following season, but, though the yields were also higher, seasonal conditions affected the quality of the product very adversely.

As a result of the activities of the linseed-oil-extraction plant in Dunedin, the acreage devoted to the production of linseed for oil-extraction purposes has increased several-fold, and in the 1945 harvest over 4,000 acres were saved for this purpose. At the same time a reasonable area was sown to linen flax for the production of fibre, surplus seed from which industry was also diverted for oil-extraction purposes.

The 30,000 acres planted in potatoes gave promise of an excellent harvest, but continued wet weather and widespread attacks of late blight, followed by flood conditions in South Canterbury, caused heavy loss of tubers.

The acreage of onions harvested in 1945 was approximately double the normal pre-war area. This abnormal crop presented certain storage difficulties, but these were finally overcome by the use of buildings situated on the Addington and Palmerston North Showgrounds.

Contract Growing of Seeds.—In this work close liaison is maintained with the Agronomy and Grasslands Divisions of the Department of Scientific and Industrial Research. The procedure followed is to take over from either Division the nucleus lots of new material and multiply these on selected farms under a system of contract growing before the material is released into commerce. By this means strict control over the material is maintained until supplies are increased sufficiently for release into commerce. The returns from the sale of seed grown under contract are shared with the Divisions producing the nucleus material, and thus a useful contribution to the initial cost of selection is provided.

This scheme was first inaugurated in 1935, and at the present time six species of grasses and clovers and seven varieties of field-crop seeds are being grown under contract. The extent of these operations is evident from the fact that the total area at present under contract approximates 650 acres.

Seed Certification.—In the early years of the seed-certification scheme the supply of the variety or strain for certification purposes depended mainly on a source being available under conditions of nature. Thus, Hawke's Bay and Poverty Bay perennial rye-grass became the basis for certified seed of this species, the supply of certified seed potatoes depended on the availability of good crops already in production, and so on. With the development of a plant breeding and selection programme by the Plant Research Bureau of the Department of Scientific and Industrial Research, selected strains have replaced the "natural" strains in most of the seeds now coming under certification. Thus, the production of seeds under certification becomes the third and final stage in the development of a new strain or variety, preceded by the two steps involving selection and multiplication under contract respectively.