

SOIL CONSERVATION

Te Awa.—Pasture improvement by oversowing and top-dressing, planting of hillside with various types of trees, and debris-dam construction have been the main features of this work.

Botanical analyses reveal that there has been a 20 per cent. improvement in the pasture cover of the hillsides where recently sown grasses and clovers have established. No. 1 white clover is proving extremely valuable on this country. The results indicate that substantial improvements in hill-country pastures can be obtained by the surface sowing of suitable species without tillage or cultivation.

Poverty Bay.—A member of the staff is now stationed in Gisborne to undertake pasture research on areas of eroding country which have been differentially treated with seeds mixtures and fertilizers. Further seedings have been made this year and experimental tree-planting of hillsides has been carried out.

Varying degrees of success in the establishment of grasses and clovers on slips and eroded areas have resulted from the numerous seeding trials made to date. The influence of soil fertility on establishment is quite apparent and top-dressing with artificial nitrogenous fertilizers has been highly beneficial. Work in connection with soil conservation is being conducted in collaboration with the Soil Conservation and Rivers Control Council and appropriate Catchment Boards.

AERODROME TURFS

Advice in connection with maintenance and management of aerodrome surfaces has been given and applied, and there has been a steady improvement in the condition of the fields since these have been converted from "pasture" to "turf."

The reconversion of some "turf" fields back to "pasture" has been carried out where necessary.

Modifications of management and maintenance methods have been successfully and economically applied to certain aerodromes for civil aviation needs.

GREENKEEPING RESEARCH

There is a renewed interest in this work and numerous inquiries relative to the technical and scientific aspects of greenkeeping are being dealt with regularly. In January of this year the first post-war greenkeepers' conference was held in Palmerston North.

POLLEN FOR MEDICAL INSTITUTIONS

The service of supplying grass pollens to medical institutions has been increased, and this season 838 grams were supplied from 10 pasture grasses.

PLANT DISEASES DIVISION

Director: Dr. G. H. CUNNINGHAM

I. PLANT DISEASES INVESTIGATIONS

Tree-tomato Mosaic.—Field surveys have shown the disease is widely distributed throughout areas where the host is grown. Experimental and symptomatic evidence suggest that possibly three viruses are involved. All are transmitted by artificial inoculation and all have a wide but differing host range amongst solanaceous hosts. Two strains are transmitted by insects. This disease is not seed-transmitted.

Rhubarb-mosaic.—This disease has been artificially transmitted from rhubarb to dock and dock to dock. It is also carried from dock to dock by aphides, but so far attempts have failed to transmit the disease back to rhubarb by insects or inoculation.

Lettuce-mosaic.—Prevalent in Auckland and Hutt Valley commercial areas. The virus has been found to be seed-carried, and is also transmitted by artificial inoculation.