

GEOPHYSICAL SURVEY

Full co-operation was achieved during the year with the State Hydro-electric Department, State Forest Service, Tourist Department, and Mines Department.

The dam-site at Cobb Valley was examined by magnetic, seismic, and electric methods. Two possible dam-sites were suggested and a diversion tunnel route indicated.

Holes were drilled for the State Forest Service at Whakarewa and steam obtained under great pressure at a depth of 200 ft.

GRASSLANDS DIVISION

The work of the Division has continued to expand and is becoming keenly appreciated both in New Zealand and overseas.

PLANT BREEDING

Work has been concentrated on the improvement of nucleus-stock seeds and, in particular, persistency characteristics of short-rotation rye-grass. Some success has been achieved.

BLIND-SEED DISEASE

Work has continued in attempting to combine the resistance to blind-seed disease of some otherwise inferior agronomic types of perennial rye-grass with the desirable agronomic characteristics of pedigree perennial rye-grass. Some progress has been made in selection and breeding resistance to blind-seed disease, but such work must be regarded as a long-term project.

STRAIN ECOLOGY

There is a continued high demand for strain testing for certification. Sufficient nucleus seed of the more important grass species is being produced annually to supply the stocks for admission into the higher grades of certified seed. The superiority of New Zealand strains against overseas strains of the same species has been amply demonstrated. Extended co-operative trials have been undertaken with the Department of Agriculture.

PASTURE ECOLOGY

These trials have demonstrated the following points:—

- (a) Significance of clover to high grass-production in pasture.
- (b) Low phosphate response in a low-legume sward.
- (c) High potential carrying-capacity of good pasture swards under controlled grazing management.

HILL COUNTRY OVER-SEEDING TRIALS

The significance of clover to hill pastures, and particularly those that are being top-dressed, is under trial. Present indications are of a good take and promising results on the wet and more shaded country, but poor results on dry and sunny slopes. Trials are under way in Poverty Bay, lower Hawke's Bay, Wairarapa, Manawatu, King-country, and back Taranaki.

SOIL CONSERVATION

Collaborative trials are under way with Poverty Bay, Manawatu, Rangitikei, and Wairarapa Catchment Boards. Additional specialized work has been planned and undertaken at Te Awa and a further 130 acres has been acquired for grazing management trials and run-off records.