

and from plant-competition research. Specialists in weed-control research would appear to be necessary. The spectacular results sometimes achieved by chemical methods of weed control have frequently overshadowed other more practicable and less-costly means open to the farmer.

(c) *Cultivation Practices*.—This class includes a miscellany of trials such as the effect of burning of stubble from cereal crops before ploughing, placement of fertilizer trials, and methods of sowing pasture seeds.

(d) *Casting Worms*.—The 79 plantations of casting worms will be inspected during the coming year by a specialist officer of the Rukuhia Soil Fertility Research Station. To date the results from the majority of the plantations have not been encouraging.

(e) *Blind-seed Disease of Rye-grass*.—Research work on the control of this disease is being carried out in collaboration with other interested Departments. The trials of the Extension Division include the use of various therapeutants, the comparison of various manurial dressings, the effect of time of shutting up the pasture for seed, and the effect of different amounts of clover bottom growth in the sward. A comprehensive survey of field crops to investigate the factors associated with a high incidence of the disease has been conducted during the past season.

(f) *Insects and Insecticides*.—These trials include studies of the effects of the liberation of parasites of the weeds St. John's wort and bidi-bidi and trials with various insecticides against grass-grub, crickets, and other insects.

(g) *Abnormal Clover Seed Investigation*.—The investigation of the factors associated with a high proportion of red and white clover seeds giving abnormal growths in laboratory germination tests has involved the collection of seed samples from selected paddocks under a number of different conditions. A comprehensive trial has been conducted with various settings of the header harvester to examine the threshing operations likely to give high percentages of abnormal seeds. Various surveys have also been conducted. Most of the samples of seed are now awaiting detailed analysis at the Seed-testing Station, Palmerston North.

(4) *Soil Conservation Research*

A study of the foregoing lists of experiments conducted by officers of the Extension Division will show that a great number of trials could be classed as soil conservation research. This applies more particularly to top-dressing trials and oversowing trials on hill-country pastures. Research into problems associated with the production and maintenance of highly-productive hill-country pastures is also research into methods of conserving soil, for a vigorous turf is to a considerable degree a preventive of soil erosion. The long-range view of maintenance of soil fertility must involve the conservation of soil.

Nevertheless, there is a need for more extensive research work into hill-country problems, and this is planned for the future. Associated with the indirect means of soil conservation envisaged above, more attention will require to be paid in certain areas to direct methods of erosion control such as spaced tree-planting, gully control, and wind-erosion control.

Close collaboration is maintained with other interested bodies through the Soil Conservation and Rivers Control Council. The Field Crop Experimentalist is a member of research committees associated with that Council and a great deal of research work of a collaborative nature is being planned and conducted through the Council's organization. Fields Instructors as members of Catchment Boards are also actively assisting in the research activities of those Boards. A new and special study that is being closely followed up is the distribution of fertilizers from aeroplanes. A considerable amount of research associated with this project is being planned and conducted by the Extension Division.