

suffered from sheet wash and rill erosion, while the contoured slopes have absorbed the rain and have lost no soil. Similarly, the strip cropping has given evidence of the variable capacity of crops to assist in the absorption of rain and consequently the preventing of soil loss.

The farm is now a productive unit and is claiming the interest of farmers, who already are requesting assistance in the establishment of trials on their own farms.

Tara Hills, North Otago

This run is typical of the severely eroded high-country areas in the South Island, on which the sunny lower slopes—so important for wintering sheep—have been depleted of vegetation and have suffered severely from erosion. In common with many such runs, it presented a rather hopeless appearance, due to overburning in the past, severe infestation of rabbits, or the bare eroding lower slopes and flats. Positive action has been taken to control fire and rabbits, but the latter is proving to be difficult. To make possible reduction in grazing pressure on the hills, the flock was heavily culled from 2,000 ewes to 800, and 100 acres of flat land was prepared and irrigated.

Subdivision fencing has been increased to make possible controlled grazing and spelling. Supplementary feed from irrigated lucerne and clover has reduced the grazing in the winter country. Where the rabbits have been excluded, surface sowing and spelling have given promising results.

The effects of management on the rate of regeneration of these natural grasslands is being studied on the experimental area, while the development of various grasses, trees, and shrubs are being investigated in trial plots. An extensive system of multi-row shelter-belts has been planned, and with the completion of fencing and rabbit-netting, planting has now begun.

MID-DOME, SOUTHLAND

This area of approximately 800 acres of high country fronting on to the Lumsden-Queenstown Highway has improved in appearance considerably during the past favourable season. A cottage has been erected for the caretaker, and the first phase of new management has begun by isolating the block by wing fencing to spell it, and by a thorough attack on the rabbits. Already a botanical survey has been made of the area, and surface sowing of grasses and clovers has been done on an experimental scale. Direct sowings of lodgepole pine (*Pinus murrayana*) seed were made at the heads of two gullies, of tree lucerne in one gully, and of brush wattle on shingle fans. Rabbits, however, did considerable damage, particularly to the tree lucerne. A small nursery to raise grasses and shrubs likely to be useful has also been established. Here there is an opportunity to demonstrate what effect catchment and management has on arresting the movement of shingle from the hillside into the streams and thence into rivers.

CO-OPERATIVE AND EXPERIMENTAL WORK WITH DEPARTMENTS AND CATCHMENT BOARDS

Considerable experimental and demonstration work has been undertaken as a team effort by departmental officers and Catchment Board staff in the various catchment districts, and is referred to in detail later in the reports of district activities.

CONSERVATION SURVEYS

Sufficient experience has been gained from small surveys carried out to emphasize the need for similar surveys in many of the problem catchments in the country. A survey party of two specialists has commenced work in the Pohangina Catchment, as the Council and the Manawatu Catchment Board are very concerned with the erosion and flooding aspects of this catchment. Methods and standards are being developed