

Central Otago— a Changing Grassland Scene



S. H. SAXBY, Assistant Director, Extension Division, Department of Agriculture, Wellington, the author of this article, has been closely associated with efforts to find means of restoring the depleted areas of Central Otago. Here he describes how at last the face of the land is changing.

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FOR many years the low-rainfall areas of Central Otago have been of note for their rich historical interest, their rabbits, and their large area of grey, mat-forming scabweed. For a long time also investigations have been carried out with the object of replacing the scabweed with useful pasture plants, but though much information was secured on grasses which would grow provided they were protected from grazing by sheep and rabbits, it was never possible for any of this information to be put into practice by those who farmed the land.

COLD winters and hot, dry summers were thought to be one of the major factors limiting improvement, yet within the fenced-off areas a surprising variety of grasses and clovers would grow and survive. Climate was

one limiting factor, but the most important and destructive one was the rabbit. Rabbits were so plentiful and so voracious that they left the ground denuded except for the patches of scabweed, which were quite unpalatable to sheep and rabbits. For many years grasses and clovers have been tried out by the Extension Division of the Department of Agriculture at Earnscliffe, Wanaka, Ardour Valley, the Dunstan Range, Pisa Flats, Bannockburn, Springvale, Ophir, Fruitlands, Hawea Flat, and many other places. Hardly ever could the information secured be put into practice because of the ever-present hordes of rabbits.

Under these conditions the work was discouraging to those who were carrying it out and whose only hope was that some day the rabbit would be destroyed. The work was carried on under considerable difficulties, always with the rather forlorn hope that the time would come when the rabbit would be so reduced that the information gained would be put into practice.

For years the fenced-off, rabbit-free areas, whether large or small, stood out as monuments of unfulfilled hopes in an apparently endless sea of scabweed, rocks, and rabbits.

Dramatic Change

Today all this is changing: The rabbit has been made worthless through the action of the Rabbit Destruction Council. Rabbit boards have carried out a concentrated plan of destruction. As a result rabbits have been so reduced that in many areas they are no longer the chief agent limiting the growth and survival of palatable plants. A few rabbits are still seen, but only in the early morning and in the evening. No longer are the roads littered with the carcasses of rabbits run over by night travelling cars; no longer do the hawks obtain easily secured meals on the roads.

This wholesale destruction of the rabbit is now effecting, certainly slowly, a transformation in the depleted country of Central Otago.

For many years scabweed has been regarded as a worthless plant—quite unpalatable and therefore of no use. If rabbits can be kept down, there is little doubt that, in retrospect, the

value of the scabweed will be appreciated, because over the years it has acted as a caretaker of the soil. As the result of wind and water erosion enormous quantities of soil have been blown and washed away, but the scabweed has played a very important part in soil retention. Its spreading habit has not only provided a windproof blanket for the soil, but over the years has trapped at least some of the wind- and waterborne, dusty soil. Unquestionably the much maligned scabweed has been a blessing in disguise.

A visitor now passing through this country after an absence of a few years is amazed to find that the sea of dull grey scabweed he has so long associated with this depleted area no longer dominates the landscape. In spring and autumn he sees a tinge of green over the hills and flats; in summer he sees the thin brown veneer of sun-dried grass. The face of Central Otago's problem lands is changing from year-round grey to alternating green and brown as one season follows another.

Scabweed Being Replaced

The scabweed is still there, but it is being overtopped by grasses, mainly annuals. Hairgrasses and brome grass are increasing rapidly and the not very useful haresfoot trefoil is spreading slowly. A community of annuals is gradually replacing the scabweed.

Dead and dying scabweed is abundant. This soil- and moisture-conserving organic matter provides an excellent seed-bed in which plants can establish. A mild winter in 1956 and the wet summer which followed both did much to speed up the ingress of this annual vegetation.

The information gained from years of experiment during the period of rabbit infestation can now be put into practice. Many of the trials laid down by the Department of Agriculture have included a wide range of drought-tolerant pasture species as well as some of the commonly used plants, such as ryegrass, crested dogtail, and cocksfoot. In many places cocksfoot, white clover, and red clover have established and grown well. There has, however, always been the suspicion that some unusual conditions were favouring their survival.