

clover, which are kept fertile by intensive grazing and the lavish use of artificial fertilizers. Such areas are the Manawatu and the Waikato district.

Good-quality pastures are more numerous. They occur in parts of North Auckland, in the coastal belt from New Plymouth to Otaki. In each area of this kind the grass differs due to cultural and soil factors, but cocksfoot is very common. Farming, too, is varied, with sheep as numerous as cattle. Fattening ewes and lambs is also important.

Most of the North Island and much of the South Island pastures fall into the third class, described as "surface-sown." A typical area is that from Palliser Bay to East Cape, which has been reclaimed from forest and scrub for sheep-station country. These pastures are produced either by disturbance of the original vegetation—*e.g.*, by fire—or by sowing. In time the sown types usually revert to a mixture of native and exotic grasses. This pasture is used for both sheep and cattle, and the holdings range from 1,500 acres to 8,000 acres.

In most cases this last type of pasture shows a gradual return to its original state. Erosion is common, and the original inhabitants, fern and scrub, creep back to such an extent that the annual rate of deterioration is almost 100,000 acres. In all, there are 4,500,000 acres of fern, scrub, and second growth, in which the deterioration is so great as to be a national problem. A few years ago this land was covered in forest: now it is a scene of desolation, slip scarred and scrub covered, with its population, both human and animal, being withdrawn. Parts of Hawke's Bay and the high-country tussock of the South Island

are examples of this terrain, although the South Island, being originally tussock, has not suffered the same transformation as the northern areas. Overstocking, burning, and rabbits, however, have so depleted the tussock that erosion is rife.

Even to-day roughly 16 per cent. of the total area of New Zealand is under forest, two-thirds of which is in State control. Five hundred mills yearly cut out 30,000 acres, but the time is approaching when this wasteful "single crop" economy will be replaced by better methods. Unfortunately, much of the exotic forest is insignis pine situated in remote localities. It is of poor quality and mostly of one age class.

In the last twenty-five years several factors have been at work to change the agricultural position—*e.g.*, the large-scale export of apples, the trade in chilled beef, the export of pig meat, and the use of irrigation. It is safe to say that the area under pasture is now at a maximum, and the changes which will follow this war will probably be towards a decline from this point. It is by no means certain that we shall be able to rely to the same extent on our exports of butter, wool, frozen meat and, cheese as before. The threat of margarine and synthetic fibre is too real to be ignored. Thus, a diverse agriculture is indicated, practised in a declining area. At the same time, the abandonment of hill country useless as pasture would make possible an afforestation plan which would heal the soil scars of the North Island and possibly would help to prevent any further expansion of the South Island's rocky wastes. New Zealand must conserve her soil fertility and exploit to the full the natural advantages which are hers.

