

might be unwilling to accept this responsibility on the score of expense, but the amount involved should be small under ordinary circumstances, and it would be reasonable to make provision for financial assistance from the Government in the unlikely event of trouble arising to a sufficient extent to involve active measures and considerable expenditure.

As a matter of fact, County Councils already possess powers enabling them to deal with noxious weeds. They also have powers to declare any plant, other than blackberry, not to be regarded as noxious weeds within their district, and this has been exercised to a sufficient extent in Otago and Southland to render the Noxious Weeds Act practically a dead letter in those provinces.

EXPERIMENTAL FARMS.

During the year three farms established and operated by the Department for demonstration purposes have been handed over to the Lands Department for settlement purposes. These were the Puwera Farm near Whangarei, the Galloway Farm in Central Otago, and the Waimaunga Farm near Reefton. The Puwera Farm was made on an area of the poorest type of gum land, and it demonstrated how, by suitable methods, this land can, at reasonable cost, be converted into good dairying land. The Galloway Farm, on arid and apparently barren country, proved that by properly applied irrigation practice luxuriant feed for dairy cattle could be produced and maintained; it became, in fact, of higher carrying-capacity than any other known South Island dairy-farm. The Waimaunga Farm helped to stimulate dairy-farming on the West Coast, where there are great possibilities for the further development of dairying. The Ashburton Farm, used largely for experimental and seed-certification purposes, has been vacated, and the work transferred to an area on the Lincoln College property, thus establishing a close association with the college.

This leaves only the Ruakura Farm existing as a State farm in the true sense, and the time has arrived when consideration should be given to utilizing a portion of this for settlement purposes. Some of the land, adjacent to the town of Hamilton, has a high potential value for other than farm purposes. This farm, like all others, felt the effects of the unfavourable season and the low prices ruling for produce in the past year, but nevertheless, gave a gross return of £9,213 from the year's operations, including fees paid by students. The Mamaku Farm which has been operated as an aid towards the elucidation of bush-sickness problems, is no longer needed for this purpose, and a commencement has been made towards opening it up for settlement.

Two other definite experimental areas are still being conducted, these being at Marton, where the work is confined to pastures and carried out in direct association with the Plant Research Station, and at Gore, where fertilizing and cropping demonstration work is conducted. Both are serving a useful purpose. The area in occupation at Marton has, however, been reduced. Apart from these, the Department is associated with useful subsidized farms at Dargaville, Winton, Stratford, and Waimate West, the subsidies in the case of the two last named having been met from the Moumahaki Endowment Fund.

LAND DEVELOPMENT.

The development of hitherto unoccupied pumice land in the Rotorua district on behalf of the Lands Department has been continued. Some 4,000 acres have now been grassed, with every indication of permanent success. One area has been reserved as a demonstration farm to illustrate practices best suited to the farming of this comparatively high-level pumice country where winter conditions are moderately severe. In the first season, following clearing and ploughing, dairying has been carried on with a return of butterfat of approximately 70 lb. to the acre. In the second season it is considered quite possible that the return will reach 100 lb. per acre, a figure considerably in excess of the average obtained from the land devoted to dairying in New Zealand. As the cost of bringing the land into dairying production, including buildings and stock, need not exceed £20 per acre, an average production of over 100 lb. of butterfat to the acre would represent a capitalized interest charge of 2½d. per pound, clearly indicating the scope for profitable utilization of such land.

The main lesson that has been learnt in the development of this country is the necessity for the adoption of modern methods of grassland management in their entirety, both in establishment and maintenance. The use of certified seed, rational top-dressing, rotational grazing, shelter, adequate winter-feed provision, and surface cultivation after establishment, are the essential grassland practices that must be followed. With their full adoption the future in front of suitable high-altitude pumice country can be regarded as satisfactory, but there must be no slacking in management in the early years of development, otherwise the position could well become reversed.