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## CURRENT MANAGEMENT OF KERERU STATION

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KERERU Station is situated 40 km west of Hastings. The western boundary adjoins Crown land on the Ruahine Range. It comprises 2429 hectares made up of permanent pasture (1613 ha), lucerne and grain (79 ha) and gullies (732 ha) .

In the early days the property was part of the Otaranga block purchased by the Government in 1857 (MacGregor, 1970). Since then many owners have battled wild dogs and pigs, and in the recent past, rabbits; up until the early forties rabbits were kept under good control by a rabbitier, but then they increased enormously and became a major pest. The light soils on Kereru were subjected to severe wind-blow caused by imprudent cultivation and cropping in the thirties and forties. The effects of this are still in evidence. Before the advent of aerial topdressing, scrub regrowth was also a problem to be reckoned with.

The geography of Kereru is such that it is farmed basically in two blocks-the Homestead and Thorn Flat. The property is broken by an extensive gully system through which run many tributaries of the Ngaruroro River.

I took over the management of Kereru Station seven years ago, having previously farmed in South Canterbury.

### DEVELOPMENT

In recent years, an extensive fencing programme has isolated the steep, weed-infested gullies from the arable areas, resulting in better pasture utilization on the improved areas and easier mustering in the gullies.

In earlier years, stock used to travel for miles up these gullies and graze only the more palatable areas. Now the 732 ha of *gullies* are in sixteen blocks, varying in size from 15 to 90 ha. They **are now** paying their way.

The cleaner areas grew a predominance of danthonia with browntop thriving on the more shaded **areas**. These were grazed cut hard in **the** winter with cows, and 5 kg cocksfoot and 2 kg

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\*Awarded Grassland Memorial Trust Award for Extensive Grassland Management 1975.

white clover per hectare oversowed. The carrying capacity has nearly trebled with comparatively low rates of fertilizer. These gullies now winter 800 to 900 breeding cows for 3½ months prior to calving. After weaning, the ewes go in and clean up until the gates are closed again in February.

Other gullies were badly infested with gorse and blackberry and the development of these has been more costly, involving expensive chemicals applied by helicopter. These blocks, totalling 150 ha, were sprayed, grazed hard, oversown as above, and permanently set-stocked with 1200 Perendale ewes which have contained weed regrowth. A dense sward of clover and cocksfoot now includes increasing amounts of volunteer ryegrass. It is intended to reserve these blocks for sheep only, as lax grazing will invite weed reinfestation.

Because Kereru runs up to the Ruahine Range, the soils in this area contain a fair proportion of volcanic material from the Taupo eruptions. They therefore require more fertilizer in the initial stage of development than the more fertile soils formed on limestone/loess. Because this did not happen in the early days the back blocks on Thorn Flat rapidly reverted to scrub. Development of the last paddock in this area is now being completed and with the assistance of 800 kg/ha of superphosphate, clover and grass, there is now a magnificent sward comparable with any other pasture on the station.

#### TOPDRESSING

The majority of the soils (80%) on Kereru are free-draining and volcanic in origin. Unless adequately topdressed and grazed, pastures quickly revert to inferior species.

In 1972 these soils were given a booster dressing of 625 kg/ha of superphosphate, and a further dressing of 900 kg has since been applied. Maintenance of the low P fixing soils should require only about 250 kg, and a little more nearer the ranges.

#### SUBDIVISION

There are 108 arable paddocks on the station, averaging about 16 ha in area. Considering the size of the station, this is probably intensive enough. The flats are more intensively fenced than the hills because management is more diversified on these soils. Providentially they are also close to the homestead. To cope with the stock work are four sets of sheep yards, four sets of cattle yards and two woolsheds.

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## STOCK AND STOCK MANAGEMENT

Last year the station wintered 1377 breeding cows and heifers; 1080 other beef animals, and 14 500 Coopworth ewes including 4200 hoggets. This is equivalent to 25 000 stock units, or 14.7 per arable hectare.

This spring 800 cows (250 of which are heifers) were artificially inseminated using Angus, South Devon, Simmental and Charolais semen.

The main aim is to utilize pastures fully with animals which will give the highest possible return. So far the results have been pleasing.

The A.I. breeding programme started in 1972 with the screening of 800 Angus cows, and the bulls bred from what is now an elite herd of 70 cows are used on the main herd. Some are sold.

By the use of exotic semen it is intended to grade up to two purebred herds—South Devon using Angus cows as base, and Simmental using Angus × Hereford dams.

I have been a member of Beef Plan since it started. Data from this recording system highlight the characteristics being sought. Prior to this I was involved in the Beef Plan Pilot Scheme.

## NITROGEN

It is relevant to mention here that nitrogen fertilizer has been used with good results in the past and this spring, because of the herd size and grazing intensity around the yards, urea was used to boost and maintain feed during the critical A.I. period. This worked handsomely and will become an annual practice.

## SHEEP

Use of Border Leicester rams began in 1970 and the progeny have since been mated to selected Coopworth rams. All lambs are fattened, many on lucerne. The lambing percentage has not exceeded 103; this is being investigated.

Because the western boundary is 16 km from the homestead (which is sited almost on the eastern boundary), the station is farmed as two interdependent units. The homestead block is now largely grazed by hoggets, two-tooths and some cattle. Eight thousand ewes are mated to Coopworth rams for replacements and 1300 are mated to black face rams. The Perendale ewes are mated to the Dorset Horn (bred from a small stud on the station)

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and five-year-old replacements with chisel mouths are purchased annually.

Hitherto all sheep were wintered separately from the cattle. This year, however, an attempt is being made to farm the hoggets as above, which should have advantages from the points of view of pasture management and stock thrift.

Thorn Flat (777 ha) will winter the ewes under a system of rotational grazing, use being made first of the wetter soils to obviate pugging and pasture damage by large mobs of ewes. These wetter paddocks will be spelled for lambing feed.

Because the rainfall nearer the ranges is an evenly spread 1500 mm, the pastures on these freer draining soils make most of their growth in summer and autumn, guaranteeing every year a supply of feed to sustain a heavy stocking programme. Winters, however, are severe, and pasture regrowth very slow in July, August and September. Winter feed therefore comprises body fat plus pastures which can be used for only one hard grazing.

#### PASTURES AND CROPS

An endeavour is made to practise the Levy formulae in the management of the pastures, Topdressing, as discussed earlier, plus fencing and stocking have resulted in swards which are reasonably well balanced in ryegrass and clover.

Several ways of overcoming winter feed deficits have been attempted. 'Grasslands Paroa' ryegrass oversown in the autumn produced a tremendous bulk of feed during the winter of 1973, so much so that the answer seemed to have been found. However, so severe was the infestation of Argentine stem weevil the following spring, that the exercise was not repeated.

The intention now is to use prairie grass/lotus mixtures as permanent pastures for the rotational grazing of cattle. The friable Takapau silt loam flats are favoured by grass grubs and it is hoped the use of 'Grasslands Maku' tetraploid lotus will limit their activity. Hopefully, also the resistance to weevil attributed to prairie grass by Pantall (1961) will be borne out in practice on Kereru.

Maize was grown for silage in 1972 and the results were so impressive that an area has been grown every year since. Sown in early November in 35 cm rows, with 250 kg/ha superphosphate, the maize is harvested after the first frost (usually about the end of April). The silage is self-fed to young cattle and calving heifers at a concentration of 150 beasts per 100 tonne stack. This system

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has both simplicity and cheapness. Breeding cows clean up the paddock residue before it is ploughed for a cereal crop.

Each-year an area of oats is grown as a supplementary feed. Again the system is simple, involving only a small storage area, and the grain is easy to feed out. However, as the costs associated with these enterprises have escalated dramatically over the last year or two, even more emphasis may have to be placed on grass as a winter feed.

The soils on the terraces are ideal for lucerne production. Three cuts are obtained before autumn rains make harvesting difficult, then the paddocks are stocked with lambs at the rate of 75/ha. Topdressing incorporates both phosphate and potassium. Nearly two-thirds of the hay made on Kereru is lucerne.

#### WEEDS

Whilst pigs, rabbits, wild dogs and scrub were the main problems in the past, a major one today is nodding thistle. A lot of money has been spent endeavouring to contain it (\$5000 in 1974 and \$7000 in 1975), and continuing vigilance and expenditure will be necessary in the future. Station staff spray all the arable country in August/September, to minimise clover damage, and helicopters are used for control in the gullies.

#### CONCLUSION

Kereru has been farmed now for over 100 years. I am very conscious of the fact that I would not be able to grow high-producing pastures and graze these with highly productive animals were it not for the pioneering efforts put in by past owners, managers and workers. I see my task as building on to these past achievements made under harsher conditions than we experience now.

#### REFERENCES

- MacGregor, M., 1970. *Early Stations of Hawke's Bay*. Reed, Wellington.  
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