
DEVELOPMENT OF CROWN LAND IN THE ROTORUA DISTRICT

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NOTES ON A FIELD TALK

The objective of land settlement operations of the Lands and Survey Department is to promote the settlement of unoccupied Crown lands. In carrying out this-objective it is our job to grass, fence, drain, water, erect' buildings, stock, and finally sub-divide and settle areas into economic farming units. Such improvements are expected to be sufficient only to allow the units to "tick."

DISTRICT

The district of our operations extends from Tauranga in the north-west to Opotiki on the north-east, and then based on Taupo in the south. It contains a very large area of vacant unsettled unimproved land suitable for development, of which a large area is Crown. It contains an area of undrained deep peat land, but more than 90 per cent. of the soils are made up of various pumice showers.. From a farming point of view the pumice country varies from good pumice which responds quickly and poorer pumice which is slower and more costly in consolidation and fertilisers. The contour varies, but in our development work to date 80 per cent. has been cultivated and 20 per cent. has been burnt and sown, etc. Practically the whole of the area was sick in the old days, but this has been overcome with cobalt and we use a large proportion of cobaltized fertiliser.

ALTITUDE

Altitudes vary from sea level at Bay of Plenty to 900 feet at Rotorua, 2,000 feet on Kaingaroa Plateaux, down to 1,200 feet at Taupo. We are 1,400 feet up here at Waikite. Rainfall is 50 to 55 inches and is fairly evenly distributed. Galatea (35 inches) is our lowest and driest. Waikite Block is of roughly 20,000 acres; 1,600 acres is old grass sown

39-40-41 and was starved for fertiliser during the war and this old grass carries 2,000 ewes, 1,000 dry sheep and 300 bd. cows. Development started up again last year and 300 acres were autumn sown, 800 just sown this spring, and a further 800 to 1,000 will be sown this coming autumn. This is typical of our many blocks. Contour here is a fair sample of all our blocks. This country is capable of doing 1 cow to 2 acres, and 110 to 120 lb fat to the acre is a fair average. Steeper hills are mixed dairy and sheep country.

METHODS

Prior to the war most of the cultivation work was done by our own gear, but now except for some seasonal work, the bulk of the cultivation is being done by contract, tendered- contracts in most cases covering the whole job.

Clearing depends largely on the type of scrub cover to handle. Manuka (not too big), manewa and tussock country is easiest. Broom is perhaps the most difficult. There is a certain amount of self-sown pine trees to deal with, and if these are not too thick we skid round them, leaving odd trees for shade, etc. In areas of light manuka and fern we burn standing, but in the main we crush with heavy rollers (old steam boilers water filled and fitted with cutting blades). One can always guarantee a good hot fire if scrub is crushed, which is very important. We are in a fire district. Permits are necessary from October till April and we are very much restricted and we must play safe; of course., the more countryside grassed the less the fire risk.

CULTIVATION

We try to make as good a job of cultivation as possible. We plough where possible and giant disc, as much as possible of any balance. We use mostly high-beamed 2-3 furrow semi-swamp ploughs. I personally like a good flat furrow, not too deep, say, 5 inches, and shallower if the country allows. Ploughs want plenty of clearance, We like country to be well ploughed; ploughing is three-quarters of any cultivation job. Lighter weight ploughs hold better on the hills. We always roll on the furrow-and the heavier the roller the better. We tandem disc, and if possible

at an angle to the furrow. We harrow with heavy tractor chain type harrows, the bigger and heavier the better. In hammocky country we use surface levellers, railway irons, etc. -Finally we roll with Cambridge type rollers and sow on the roller marks. We sow 3 cwt. of manure through mostly Munro type broadcasters (rotary spinners in steep country) and sow seed mostly through 18 foot double box force-feed sowers, covering the seed with brush or light chain harrows. We give a final roll if possible, but this is often missed, as seed has struck before we would be able to get back on to it to roll again.

TIMES OF SOWING-MAINLY

We sow in spring, mainly from the end of September to the end of October. Autumn sowing is from mid-February to mid-March. It is necessary to sow in both seasons on account of the large area to cover.

Fertilisers : To this. country phosphate fertilisers are 'everything; on new grass we use mostly super-phosphate, but we are taking some serpentine on account of its keeping qualities. For further top-dressing with new grass we apply:-

- 3 cwt. with the seed
- 3 „ following spring or autumn
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Seed mixtures (40-43 lb per acre) are:

- 6 „ clovers (red and white)
- 6 „ cocksfoot
- 2 „ dogstail
- A few lb Italian or short-rotation ryegrass.
- The balance is perennial rye.

The mixture varies according to the country. We sow paspalum in the Bay of Plenty and subterranean clover in poorer and drier soils. Our country is deficient in phosphates and nitrogen and we build the clovers with phosphates and depend on the clovers and stocking to build the nitrogen. Pastures are open and weak the first year. Heavy clover growth occurs in the second, third and fourth years with improved establishment of grasses. The pasture should be first-class in the fifth year if it has had good treatment. Stock management is very important, especially in the early stages. It should be given a quick

run pver with dry sheep at the start to tramp over it well and then be lightly grazed with cattle in the first year. In the second year grazing should be not too hard, but pastures must be held but not eaten out.

SOME OF OUR DIFFICULTIES

We need a lot of stock to control pastures. New pastures won't winter much. We are growing turnips and red clover.

We breed as much as we can, but must purchase some, and the stocking takes a lot of organisation. Much organisation is needed for large supplies of fertiliser; seed, **fencing**, and buildings. The transport position (mainly railway trucks) is a difficulty in this district, but it is our job to overcome these difficulties.