
RAPID PRODUCTION INCREASES POSSIBLE ON WANGANUI HILLS

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“Wairere”, Wanganui

“WAIRERE”, the property discussed in this paper, is 1,454 acres in extent, and situated 25 miles inland from Wanganui between the Whangaehu and Turakina rivers. It is hill country which would be classified as moderate to steep hills with an average rainfall of 41 in. The soil tends to be very light and sandy — described as Whangaehu sandy silt loam. Deep gorges reduce the productive acreage to approximately 1,300 acres. The 150 acres of gorges have adjacent to them 25 acres of flat which play an important part in the management of the property.

“Wairere”, when taken over in March 1960 in run-down condition, carried 2,050 ewe equivalents, and in its first year produced 19,100 lb of wool — 57 bales. Infestation with manuka was high and there was a mass of long, rank growth with bidi-bidi, such as one sees on under-grazed country. Grazing was largely restricted to ridge tops and gully bottoms.

During the winter just passed, 5,550 ewe equivalents were carried and 65,000 lb of wool is expected for the 1965-6 season. A planned increase of another 1,000 sheep for 1966-7 should see the target of 70,000 lb or 200 bales easily exceeded. The increases in stock and wool during the 1960-5 periods are shown in Tables 1 and 2.

The pattern of hill country development is now well established as seed, superphosphate and stock; debate centres round the amount of seed and superphosphate. This is really an extension of Sir Bruce Levy's adage — “more sheep, more dung and urine, more grass, more sheep”.

Development

Initial development consisted of cutting the scrub and getting seed on to the ground as soon as possible after the burn. Seed mixtures varied a little but in general there was a high proportion of clover with dogstail to assist the native natural recovery grasses in getting a quick cover, and ryegrass in smallish quantities. Establishment of ryegrass was not good but it is the ultimate in pasture. Heavy reliance was placed on subterranean clover, bearing in mind that it is a preparation for white clover.

TABLE 1: LIVESTOCK WINTERED

<i>Year</i>	<i>Total Sheep</i>	<i>Ewe-Equiv.</i>	<i>% Increase</i>
1960	2,055	2,050	-6.5
1961	1,921	2,196	31.3
1962	2,522	2,904	50.0
1963	3,785	3,576	31.4
1964	4,915	4,648	19.6
1965	5,953	5,579	

Total superphosphate to date 540 tons.

TABLE 2: WOOL PRODUCTION (lb)

<i>Year</i>	<i>Total</i>	<i>Per Acre</i>	<i>% Increase</i>
1960-1	19,100	14.7	33.0
1961-2	25,400	19.5	3.4
1962-3	26,250	20.2	22.2
1963-4	32,098	24.7	55.5
1964-5	49,936	38.4	30.2
1965-6 (expected)	65,000	50.0	

As the seed started to come away in late autumn, it received 3 cwt of aerial superphosphate, followed by 1½ cwt twelve months later. After a lag of two years, in some cases longer, a further 5 cwt of superphosphate has been applied and 7 lb of clover sown. After this initial ½-ton of superphosphate, a maintenance dressing of 2 cwt is put on annually. With the burns, a policy of putting on the stock before the grass grows has been adopted, on the assumption that it must grow. In this connection, the best paddock is one that has never had a spell, but has had the stock numbers built up continuously since it was cut out of scrub in the summer of 1962-3.

Special Aspects of Rapid Increases in Production

First, a production target in calculated steps, and preferably a near impossible one, is more than desirable. Any money lender has more confidence in a planned programme than one implemented as it becomes convenient. In 1960, it was thought that a target of 7,000 sheep on "Wairere" by 1967 was impossible. Actually it will be quite easily exceeded. Such a challenge is a tremendous spur.

There are many advantages in a rapid development programme. First, there is the satisfaction of achievement coupled with the financial return at an earlier stage. Where

a development programme is to cost £ 1,000, if that expenditure is incurred in one year, the return to that capital should be immediate. If, however, it is spread over five years, there is a lag before there is any appreciable return to the initial investment. Thus, when the money can be borrowed, rapid development is desirable, both in the interests of the individual farmer and of course in the national interest too.

During a development programme, finance is usually a limiting factor—this is the case at “Wairere”. Finance must therefore be channelled as nearly as possible to the end products of meat and wool. While money poured into bulldozed tracks and extensive subdivision is desirable, it is not essential. We relate paddock size to the number of sheep available to control surplus grass when required, that is, after the property has been fenced into the minimum number of paddocks, and stock numbers are of course related to speed of development. “Wairere’s” biggest paddock at 272 acres is slightly too big because we cannot, as yet, get 20 sheep per acre in there to control peak growth. Controlling peak growth with large mobs and set stocking in the interim has proved relatively satisfactory and very much cheaper than extensive subdivision.

The type of stock to carry is a problem. We have maintained a one-man ewe flock, 1,500 at present, reducing them to the better country as the carrying capacity has gone up, 1,000-odd hoggets and 3,400 wethers coming in on the harder country as the ewes and hoggets have been moved to better conditions. Cattle have been used only sparingly as required. We have been guided to some extent by the old maxim, “There is always money in sheep, sometimes in cattle and never in horses”. But breeding cows are used to control surplus spring growth on the ewe country, additional wethers when required for the wether country and a few bullocks where needed. In general, it seems that economics favour, if possible, an all-sheep policy. Under this system, the pasture can be grazed hard all the time without keeping that extra bite necessary for cattle.

In this respect, the gorges on “Wairere” could be a blessing in disguise. In the winter of 1964, 25% of our cattle were lost. As a result, cattle are now reduced to a minimum. It is possible that we may do without them completely in the future. The deciding factors will be control of surplus growth among the ewes whose numbers cannot be boosted in the spring, and the possible recurrence of coarse weeds in the future which will not be controlled by sheep. The

gorges have meant greater reliance on sheep rather than cattle and hence the wethers for development.

The economics of the wether are interesting. There is no doubt that, early in development, their ability to stand up to hard grazing all the year round is a very big advantage. But once pasture and weed growth are under control, their attractiveness depends on availability of labour and wool prices. It appears, under our conditions, that until the country gets to the stage of carrying three ewes, two wethers are equivalent to one ewe: *i.e.*, three ewes equal six wethers. Thereafter, the amount of grass that will grow becomes a limiting factor and the ratio of 2 : 1 declines. Country that will carry five ewes carries only eight wethers so that the ewe becomes more profitable. "Wairere" is now at the stage where, with some of the country carrying six wethers per acre, it would be better to carry ewes.

Finance for stock rather than for development is a continuing problem. Many farmers are frightened to borrow too much money and for very sound reasons, taxation one of them.

Borrowing money should be profitable, and, once the project starts to show results, those with money to lend lend more confidently. Before development begins, the financial aspect may look and probably is impossible, but in fact it need not be. It was a well-known Rangitikei farmer who said, "If you can borrow money at 6% and make it earn 8%, you borrow it." And in the same vein, a Mangamahu farmer maintains one should "never be frightened of a mortgage on land".

Shortage of finance has in many cases induced farmers to experiment with cheaper methods. Many have tried what are for them heavy rates of seed and manure — 3 lb of clover and 2 cwt of superphosphate — and on the basis of their results have condemned development expenditure as unprofitable. If they had ventured just a little more seed and fertilizer they too could have joined the ranks of those of us who have confidence that hill country development is worth while. At the same time, it is possible that some of the very heavy rates of seed and superphosphate recommended are not necessary in our higher rainfall conditions, bearing in mind that 1 lb of white clover per acre is 15 seeds per square foot.

Two of "Wairere's" biggest problems are the time taken to get from A to B owing to dissection by gorges and under-runners (partially collapsed underground water courses)

which are traps for stock, particularly newborn lambs. To reduce labour to a minimum, ewes are shorn twice a year so that they do not require regular riding for cast ones. In a further effort to reduce labour, the tugging harness and crayon have been used so that the only ewes requiring attention at lambing time are the mobs actually lambing. This year, by using teaser rams prior to tugging, lambing has been very much concentrated. This practice, combined with the use of the harnesses, has enabled all the ewes to be lambed on 25 acres of flat, followed by shedding back on to the hills. Shepherding time has been reduced to a minimum, as have lambing losses. Indeed, at the time of writing, it appears that the lambing percentage will be about 10% better than ever before. The critics of such a system claim with some justification that, if there is a real storm, the concentration of lambing ensures a much higher loss of lambs than in normal circumstances. This is not entirely true in our case because all that happens is a shift of the early trickle of lambs we normally experience, to give a few additional lambs during the peak time. With the future requiring that one man shepherd many more ewes, it appears such methods could have a place on most properties. Forward projections indicate that 2,500 ewes will be the one-man economic unit by the turn of the century.

While admitting that underrunners are a problem, we have endeavoured to tackle them in association with the Catchment Board Farm Plan Scheme. Over the last four years, 2,500 willow and poplar poles have been planted with a view to arresting the formation of further under-runners, filling in the present ones and reducing a potential erosion threat.

At the present stage of development, with all the scrub cut and the treatment of 7 lb of clover seed and 5 cwt of manure about half-way to completion, we are in a position to review what has been done and consider whether doing the job again would see any variations. At this stage, the only change would be to concertina the various operations and get the initial half-ton of superphosphate on sooner — dependent, of course, on finance. Regrowth manuka has been no problem except where the burn following initial cutting was unsatisfactory. Stock health has improved noticeably as development has proceeded with no special problems as yet.

In the future, production increases will continue at a less rapid rate with the ultimate ceiling only a guess. The greatest immediate scope for increase probably lies in

adopting the hogget policy commended by F. E. T. Suckling at Te Awa, *i.e.*, the grazing of hoggets in conjunction with grown sheep and at high stocking rates once the country has reached the state of "good order". Thereafter, possibly more manure than the 2 cwt maintenance and expenditure on internal access — for convenience. It may be found that to achieve very high production, further subdivision would be necessary. Whether or not this would be economic, time will tell.

Conclusion

In conclusion, then, the pattern of development has been that which it is fair to say was pioneered by Suckling at Te Awa and which has proved successful on much of the North Island hill country.

It is essential to have a plan and preferably an ambitious one. Although finance may appear to be insuperable, it does appear that a planned programme which is reasonably well managed has a fair chance of drawing the necessary capital.

Rapid development, with borrowed money if necessary, gives a quicker return than development out of income but productive expenditure on seed, stock and manure is preferable to that on tracks and first-class, close subdivision.

Wethers have proved desirable and an economic proposition. At heavy stocking rates they reduce the necessity for cattle on dangerous cattle country.

A half-hearted development programme condemns the whole process which should be very rewarding in personal satisfaction. With an eye to the economics of the future, one should follow the most modern research in an attempt to establish its practicability before being forced to do so.

As a final thought, having put on seed and manure, it is imperative to have the confidence that more grass will grow. More stock are essential for a development programme to be economic. Sheepfarmers have too long lagged behind the dairy farmer in seeking production per acre; rather, they have sought the more aesthetic production per animal. One must first put the stock on, then wait for the grass to come to them. If the process is reversed, it will be found that everybody else is looking for stock too, with the usual price consequence. In the interim, there is a tendency for clover to be smothered.

DISCUSSION

Would Mr Tripe give an estimate of the capital cost of development and would he assess the possible costs of fencing his country?

Capital costs have been:

	£	s.	d.
			(per acre)
Scrub cut			6 0 0
Seed			3 10 0
Superphosphate			7 0 0
Stock			12 0 0
			<hr/> 28 10 0

Fencing has not been included in this costing because I do not consider it an expense essential to the achievement of a relatively high carrying capacity. We have done very little fencing. If we had, £1,000 a mile would have been an average cost of conventional hill country fencing in our area.

What happens to the surplus sheep—are there any sold or do they all just die?

We are certainly not candidates for S.P.C.A. action ! Losses throughout ewes, hoggets and wethers average about 2%. Sheep sales are normally cull 2-tooth ewes, cast-for-age 5-year ewes and occasionally a few store lambs. In addition, we have been selling fat cull wethers and fat lambs, if we wish to dispose of them, rather than holding them for wethers.

Why does Mr Tripe think in terms of sowing 10 lb clover seed when most evidence supports a much lighter rate? Would he please discuss this in terms of conditioning the land before seeding and the amount of fertilizer required to maintain the plants from this seeding?

The questioner seems to misunderstand me. I am, in fact, against 10 lb of seed per acre, bearing in mind that 1 lb of white clover seed is 15 seeds per square foot. However, I do feel that 3 lb is not enough especially if it includes the bigger seed of red and subterranean clovers. The conditioning of land for oversowing has consisted of close, even grazing without baring the ground completely. I feel that this is all that is required for good establishment under our conditions where the sward is still relatively open.

We sow 5 cwt of aerial superphosphate at or soon after seeding — this is late April normally — followed by an annual 2 cwt maintenance dressing. This has proved adequate but research could well show it to be too much or too little.

Could Mr Tripe elaborate on his comparison between ewes and wethers, i.e., the equivalence of these, and also give an idea of the relative profitability of the two?

I have merely generalized in my paper and feel that it would be difficult to lay down the law on this matter because of the many variables — lambing percentage on individual properties, the price of wethers related to ewes and the prices of wool, lambs and cast ewes. I can only repeat what I have said and add that for our present conditions, where we are developing on steep country, the wether is a profitable proposition.

Mr Tripe has stated that his largest paddock is 270 acres. What are the sizes of his other paddocks and has he further subdivision in mind?

Our nine main paddocks average 140 acres with the usual range of small, handy paddocks in addition. Further subdivision would probably be necessary to achieve very high carrying capacities. The economics of this would be doubtful if we can carry 5% ewe equivalents per acre with our existing subdivision.

This paper has described most admirably progress based on clover. Would Mr Tripe describe what the grasses and the clovers are?

Dependence at this stage is on white clover and the low fertility grasses but ryegrass is becoming increasingly apparent as the fertility increases,

We have sown mainly white clover with some subterranean, red and lotus. The grasses, rats tail, browntop, danthonia, dogstail and sweet vernal continue to flourish but are being increasingly substituted by the ryegrasses and cocksfoot.

Does Mr Tripe need any improved species, and if so, what?

While our aim is a ryegrass white clover sward, I am very happy with our present progress using largely other grasses. I certainly look forward to see results of better, high fertility grasses.

Is Mr Tripe using any lotus?

Yes, a little on the shady faces. It is probable that relating its high price to its usefulness, the money would be better spent on white or subterranean clover. Against this, there are very many seeds in a pound of lotus and I feel that dependence on white clover alone is not desirable.

Considering that Mr Tripe has stated that he does not wait for the grass before stocking up paddocks, would he give an assessment of this treatment on wear of sheep's teeth and compare the situation on his property with that at Te Awa?

At this stage, there appears to be little if any more tooth wear than there was prior to development. Tooth wear is no problem. I have observed, though, that on a neighbouring property where there is much less reliance on the poorer grasses, tooth wear is a much greater problem. However, since our soil type is very similar to Te Awa, troubles with teeth are anticipated in the future.