DOWNLANDS FARMING

By J. A. HURST

Since 1945 I have farmed the property of 868 acres known as "Braeside" in the Waihaorunga district 21 miles inland from Waimate. This property was farmed for the previous 25 years by Mr Sidney Hurst, who was largely responsible for its development and is still interested in it. When I discuss farming policy in connection with this property I can truthfully use the pronoun we, as most decisions are arrived at after a good deal of discussion.

The rainfall averages about 25ins., but fluctuates between 15 ins. and 40ins. The contour is easy to steep downs with an altitude of 1100 to 1400ft. The soil is partly clay loam derived from. loess and partly silt loam derived from Ngapara sands. It is free working and except in the sandier and very sunny faces or bare knobs stands dry weather well. The natural vegetation is snowgrass on shady faces and fescue tussock and silver tussock' on the sunny faces. There was probably a good deal of matagouri scrub in the original -vegetation.

The climate is intermediate between, or rather it tends to fluctuate between, the coastal and interior types of climate. We are much more subject to northwest wind than is the coast, and these may have a desiccating effect on crops and pastures. Correspondingly we have less easterly wind and weather. Supplementary feeding of ewes is usually necessary for between 2 and 3 months. The property is well watered by small permanent streams, one of which is harnessed for water power.

Our cultivation programme for this year is as follows :-

1. First season from grass: 15 acres of linseed, 72 acres of forage crops.
2. Second season from grass: 12 acres of chou moellier for seed, 15 acres of wheat, 15 acres sown to lucerne, 7 acres of forage crop.
3. Third season from grass: 45 acres of turnips and grass. Total 181 acres.

In' this 'district it has always been a problem to maintain satisfactory pastures and Mr S. Hurst used Certified strains of grass and clover as soon as they became available. These brought about a great improvement in the permanence of pastures. He first tried topdressing with superphosphate in 1934, but the results- were disappointing. In 1935 he installed a small lime plant on an adjacent property and the response to the combination of lime, an annual dressing of superphosphate, and Certified strains of grasses and clovers was indeed gratifying. I should say here that Mr D. Wraight of the Department of Agriculture in Timaru has been most helpful and encouraging in any matters connected with lime and lime plants and is a mine of information on the subject. Since 1935 we have sown about 2500 tons of lime on this property.

Although the potential and actual pasture growth has increased a great deal, the limiting factor in pasture production was recognised to be effective rainfall. With this in mind and under the guidance of Messrs Leitch and Stafford, we adopted the following policy.

We decided to sow Certified seeds, nourish them well with lime and superphosphate, but to be careful not to build up stock numbers beyond what could comfortably be carried in a dry season. The surplus growth of normal seasons would be taken as a small seeds harvest.

This policy worked very well for about 12 years, particularly during the fertility build-up phase. We have handled as much as 180 acres a year of seeds. harvest. Until recently the returns from small seeds compared favourably with those from sheep and arable farming. The relative returns from small seeds are not now so satisfactory and we are now feeling our way toward increased stocking.

We have our problems. I would list them as follows :-

1. Uneven and unreliable pasture growth! tied in, of course, with uneven and unreliable effective rainfall. Counters we used are:-

(a) Supplementary. crops for lamb fattening and. wintering of stock.
(b) A small seeds harvest,
(c) Forage conservation, at present hay, but we: are watching the silage position.
(d) Irrigation. We have a pond which holds. about 10 acre-feet of water and we can get.

water over about 50 acres below this. Unfortunately, we cannot count on being able to replenish it in a dry season. Even this small amount of water has proved valuable in dry seasons.

2. Soil Erosion: This is quite a serious problem. In the first phase, whenever the soil is cultivated it moves downhill.

Then rilling occurs frequently on newly sown crops and pastures. This, in my opinion, makes white cropping of steep slopes a highly undesirable practice. We have about 20 acres of steep ground in contour furrows as an observation trial. The results are encouraging and we are following with great interest the experimental work being conducted by the South Canterbury Catchment Board at Adair.

Thirdly, strong north-west gales may shift loose soil from exposed faces, particularly in early spring.

However, we consider that there is practically no loss of soil from land in good pasture.

The third problem I would mention is deterioration of pastures.. None of our paddocks is flat., Most of them are ridges and in spite of liming and top-dressing, the grass tends to run out on those parts of the paddocks where the stock graze but do not camp. The sheep camps, on the other hand, remain highly satisfactory permanent pastures. If we could correct this condition, it would considerably lessen the need for pasture renewal, but in that case we would have to make other arrangements for supplementary feed. Other causes of pasture deterioration are drought, grass-grub and porina. The life of our pastures varies from 2 years minimum to 9 years maximum, with about 6 or 7 years the average.

The last and most important problem I wish to discuss is unthriftiness in sheep. This shows itself as scour in lambs in late spring and early summer. We are unable to get more than 20 per cent of lambs away fat off the mothers. Years ago, 40 to 50 per cent was quite common on this farm and in this district. Mr C. W. H. Tripp gave a careful description of this condition at the 1950 conference in Invercargill, and there was a good but inconclusive discussion following his address. We have unsuccessfully tried copper, cobalt and potash as mineral supplements. We have come to consider that the immediate cause of this scour in lambs is a falling away in the milk supply of the ewe.

The real cause, we think, is in the nature. of the pasture. We are of the opinion that under our conditions ewes do not appear to milk well on pastures principally composed of perennial ryegrass once the ryegrass makes a seed stalk.

Assuming this to be the real cause, we are trying the following as correctives and I must emphasise that we have not got this trouble solved yet: —

(a) Mixed pastures. This is limited by our small seeds programme.

(b) Early lambing, the idea being to lengthen the period during which the ewe will milk well.

(c). Control by cattle and topping.

(d) Late spring topdressing with sulphate of ammonia. This is experimental only, but is prompted by the observation that ewes preferentially graze cattle urine patches.

(e) Supplements.

I strongly suspect that this' trouble is widespread on South Island second-class land. It warrants more attention than it appears to have had both from the people who develop our grasses and those who show us how to use them.

We need a ryegrass with the stamina of perennial ryegrass and palatability of short rotation ryegrass.

Unfortunately, we have not been able to get much help in tracking this problem down. I am satisfied that this is not a disease problem but a management problem, and sheep husbandry is the Cinderella of the agricultural sciences as far as extension work is concerned. My own view is that stock management and pasture management cannot be separated on the farm, and consequently should not be separated in the advisory services of the Department of Agriculture. I am not criticising personalities, but a system of organisation which in my opinion is due for an overhaul.

In conclusion, I must say that these are small matters compared with the overall picture of increased production which we now have compared with the pre-Levy era. This property used to carry 1200 sheep and a few cattle ; there were occasionally a few acres of harvest. It now carries 1900 sheep, 60 head of cattle, and we will this year have 66 acres of small seeds and 42 acres of cash crops, which comprise :

15 acres of wheat,
15 acres of linseed, and
12 acres of chou moellier for seed, and. the end is not yet in sight.

I like the system of farming that has developed here in South Canterbury for the following reasons:

1. It is flexible, in that stock farming, small seeds, and arable farming can be expanded or contracted as the situation requires.
2. It is conservative in the sense that soil resources are increased rather than depleted.
3. It provides a good and thoroughly interesting living for myself, my family, and those who work with me,