

## BEEF CATTLE FARMING IN SOUTH WESTLAND

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*Weheka*

**WE** farm at Fox Glacier on the plains of the Fox and **Cook** rivers and their tributaries, the Clearwater River and others. The source of the main stream is the Fox Glacier which can be seen from the farm. Fox Glacier is 90 miles from the railhead at Ross; the road is good in parts and is being improved. Ross is 180 miles from the Addington market. This distance increases costs; the transport charge involved in sending a truck of bullocks to Addington is £34. Transport cost for lambs is 7s. 6d. per head to the freezing works, and for fertilizer from Hornby, £5 13s. 10d. per ton. Thus, the total cost of superphosphate at Fox Glacier is £15 ~~5s.~~ 10d. per ton.

The annual rainfall is 160 to 200 inches spread evenly throughout the year. Most of the rain is in heavy falls, and the sunshine figures are higher than generally thought. The climate otherwise is mild. There are moderate frosts but conditions for grass growth are good. Visiting farmers and grassland experts are always pleasantly surprised by the pastures and stock.

The land is all formed from schist rock silt and sand brought down by the glaciers and rivers from the Southern Alps. In some places, the river has left behind very stony unworkable patches and in other places there is a deep deposit of silt. For most parts the drainage is good.

The property is in several separate blocks:

**Block No. 1:** The homestead block of 50 acres which is mostly stony and only a small part of which is cultivable.

**Block No. 2:** The main block of 529 acres which carries most of the stock. It has 350 acres of silt and the remaining 180 acres are riverbed gravel. Four hundred acres of this area have been cultivated.

**Block No. 3:** 200 acres of river flat mostly stony — 2 j acres have been cultivated.

**Block No. 4:** 186 acres — about 30 acres are silts and the remaining area is part stony with very rocky ridges **running** through it. Some of this area is in second growth.

**Block No. 5:** 360 acres — about one-third of this area is under grass, the rest is bush, hill and swamp. It is also subject to flooding and erosion.

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We also have an eighth share in commonage riverbed of 3,000 acres but the stock carried on this area is not very great.

At the time of taking over, sixteen years ago, those parts of the farm on which heavy timber had been felled were rough with stumps and logs. Some areas were in "second growth". The stock, then, comprised: 60 breeding cows with calves; 26 2½-year heifers; 60 1&months cattle; 4 dry cows ; 2 bulls (making a total of 244 head including calves) ; 380 breeding ewes; 6.5 ewe lambs; 15 wether lambs, etc. (a total of 460) ; and three horses.

After about six years, when most of the "second growth" had been cleared, a tractor, plough discs and roller were purchased.

The first year, sixteen acres were stumped and cultivated and sown with soft turnips and grass. This policy was continued for three seasons, but each year the area worked was increased. Then a change was made to growing ridged swedes before sowing down to permanent pastures.

There have been some very good crops and farmers visiting from Southland have said reluctantly that some of them were as good as the best grown in their province.

The double cultivation — to crop and then from crop to grass — is necessary to level the ground. The ground is left so it will drain freely and can be mowed and topdressed at speed. Before the stumps and logs are removed, it is impossible to work the country with implements at all.

The largest areas sown down, in any one year, were in 1960 when 45 acres were sown in swedes, 18 acres in soft turnips and grass, and 40 acres in new pastures — a total of 103 acres. Similar areas have been sown for four seasons. The poor season in 1963 reduced the crops considerably. Twenty-six acres were sown in swedes, 18 acres in soft turnips and 28 acres in new pastures, but the crops were poor and we were unable to carry all the fat cattle through the winter. This reduced returns by about E600.

The method of clearing the land is, first, to hire a bulldozer to push out the stumps and trees that have to be removed. Any timber useful for fencing is then cut away. A front-end loader fork on a diesel wheel-tractor is used to stack all heavy stumps and logs for burning. All smaller pieces of timber and roots are hand-loaded on a tractor trailer. These are thrown on the stacks of heavy timber and stumps so the fire will burn out cleanly. No timber or rubbish stacks is left on the paddocks,

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To cultivate, first a rotovator is used, which cuts five feet wide and two or three inches deep. It chops up all rushes and rubbish and levels the stump holes and bumps for ploughing. A semi-swamp plough is used which turns two 18 in. furrows 9 to 10 inches deep. When discing, a railway iron leveller is used after each cut. With the tandem discs, three cuts are sufficient for a seedbed to ridge swedes. When the ground is ready to ridge, 1 ½ tons of lime per acre are applied. This is followed by 4 cwt of manure mixture which is ridged in with the swedes.

The ground is ploughed (after the swedes are grazed) and worked to a seedbed, and 1 ½ tons of lime and 3 to 4 cwt of superphosphate per acre are applied before sowing to permanent pasture. Three hundredweights of superphosphate is topdressed every year on to the established pastures. Superphosphate has been increased with the recent grass sowings, and this has proved advantageous.

Seven-and-a-half miles of new fencing have been erected replacing old fences and further subdividing the paddocks. Temporary fences are also erected to control grazing. Fortunately, there is a good supply of totara fencing timber on the farm.

Cattle are grazed only on swede and turnip crops. About three acres of crop are break-fenced off, and the cattle given an area of rough pasture for a run-off with water available — about 50 steers to each break with swedes or turnips available all the time. They are hay-fed each morning.

Fat steers and steer calves are usually fed this way for three or four months in the winter. Feeding the cattle in this manner has enabled sheep numbers to be increased considerably. The new grass pastures are grazed with sheep for about twelve months until the ground becomes firm. The breeding cows are grazed on the commonage and rougher blocks and some of them are fed hay in the late winter. This season, 2½-thousand bales of ryegrass and clover hay were harvested.

The calving percentage is 98, and lambing percentages fluctuate from 115 to 135. Most of the cattle are sold on the farm at 2 years of age. Last season (1963), steers averaged £53 per head. Some 2-year steers sent to the Addington market averaged over £60 per head.

The sheep are large and generally in fat condition. The average clip is 11 ½ to 12 lb for Romneys and 11 to 11½ lb for Romney-Cheviot cross. There are two shearings a year — the first week in December and the first week in May.

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More stock could be run on the property, but, because of the distance from the market, we are more interested in producing high quality animals as the cost is the same to send out a poor beast as a good one.

Since cultivating, cropping and topdressing were begun, stock numbers have more than doubled. They are, at present, 400 cattle and 1,340 sheep. Cattle on the farm now comprise : 120 breeding cows; 20 2 ½-year replacement heifers (for breeding) ; 16 1 ½-year replacement heifers (for breeding) ; 10 rising 2-year fat heifers ; 90 rising 2-year fat steers ; 136 1-year mixed-sex cattle ; and 14 mixed-age bulls. A small Hereford stud accounts for the high number of bulls.

### Economics

The big question is, "Has it paid to develop the land?" It appears to have paid handsomely. Net figures are difficult to estimate accurately because most of the profits are being put back into the land. However, we consider we are making a reasonable living as well as doing our duty to the land.

Gross takings have doubled in the last six years and all development costs have been met out of farm income. It is certain also that, had clearing and cultivating not been initiated, production would not have increased. It is intended to continue with the development of the farm, for, apart from the increased returns, there is considerable satisfaction in doing a job in which one is interested. When the breaking-in of all the workable country is completed, a smaller area of crops will be grown. The new pastures have a large growth period and it is hoped that it may later be feasible to feed silage to beef stock in winter.

The economics of our method of farming can most easily be assessed by considering the 400-acre block which has been developed. The total increase in stock numbers is entirely the result of improvement of this block. The increase in cattle (not counting calves) is 254 head, and in sheep, 880, making an equivalent of 430 extra cattle carried. Before development, this block carried 100 cattle easily; it is now carrying 530, or 4 to three acres. Carrying-capacity has therefore increased 400% through cultivation, cropping and topdressing.

Valuing the return from beef at £16 per head a year, the land formerly returned £4 per acre a year. Since development, the land is returning £21 6s. 8d., showing an increase of £17 6s. 8d. per acre a year.

The costs of initial development have been estimated as follows :

	<i>Per Acre</i>		
	<i>£</i>	<i>s.</i>	<i>d.</i>
Clearing, stumping, levelling by hired bulldozer	5	5	0
Removing stumps, timber	4	5	0
Hoeing, ploughing, discing and levelling	4	17	6
Sowing crop	1	2	6
Lime	3	10	0
Super and manure	4	10	0
<i>Total cost to crop</i>	<u>23</u>	<u>10</u>	<u>0</u>

The following spring, the crop paddocks are sown to permanent pasture at costs as follows:

	<i>Per Acre</i>		
	<i>£</i>	<i>s.</i>	<i>d.</i>
Ploughing, discing, levelling	4	0	0
Lime	3	10	0
Super-phosphate	3	10	0
Seed	3	0	0
<i>Total cost</i>	<u>14</u>	<u>0</u>	<u>0</u>

The total cost to permanent pasture is thus £37 10s. per acre. Where fencing is required, this is an additional cost.

On present market values and allowing for current high rates of taxation and continued topdressing, the costs of development can be recovered in six years.

## Problems

### ( 1 ) TRANSPORT COSTS

Some of the high costs of transport have already been quoted.

Lime at Ross costs £1 5s. 6d. per ton, and freight is £2 12s. per ton, making a total of £3 17s. 6d. However, a transport subsidy of £2 per ton applies to land being broken in which has not previously been limed. This reduces the cost to £1 17s. 6d. per ton.

Petrol at Fox Glacier costs 4s. per gallon for regular grade in 44-gallon drum lots. Freight on farm machinery is 50% dearer than normal. Freight costs on general goods — approximately £6 per ton from Hokitika — apply, of course, to foodstuffs, and materials for maintenance of buildings and fences, etc.

**(2) CLIMATE**

Climatic conditions can be quite a drawback when one is trying to complete cultivation work and cropping on time.

**(3) EROSION**

Erosion by creeks and surface water scouring are added costs.

**(4) OPOSSUMS**

The opossum menace has increased to an alarming extent since the removal of the bounty. Up to 150 opossums have been shot in one night on a crop of swedes by two men. Opossums in such numbers can and do make large inroads into both crops and grass.

**(5) COMMUNICATION FACILITIES**

The telephone service is now less efficient than it was when the line was first erected in 1906. The opening of a new post office recently has resulted in the loss of the after hours service previously enjoyed. A 9 a.m. to 5 p.m. service is useless to farmers.

**(6) DISTANCE FROM FARM MACHINERY AGENCIES**

This can mean a delay of several days in obtaining urgently-needed parts in the case of a breakdown.

**(7) ADDINGTON MARKET**

Formerly the ruling market for the South Island, Addington, is now controlled by two buyers. This is likely to produce serious problems in beef marketing.

**Benefits**

Farming in South Westland is not all problems; there are many benefits also. The greatest asset is the grass-growing climate. Because drought does not occur, sufficient feed to carry the stock can be guaranteed. In most years, there is growth on topdressed pasture for 9½ months and it is possible to produce beef cattle equal to anywhere in New Zealand. Cattle which can travel 270 miles to Addington, and then to the market, must be of the finest quality.

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The totara bush on the property is an extremely helpful source of supply of fencing timber and timber for building repairs.

Gorse, blackberry and most other noxious weeds are absent from the Cook River flats and there is no deer problem.

Sufficient belts of natural shelter have been left in all the paddocks and the loss of sheep after shearing (even in May) is practically unknown.

Thanks to the healthy pasture, the drenching of sheep has never been necessary and such diseases as facial eczema are unknown even with the present high stocking rates.

Ewe hoggets grow big and healthy and it is common to get 85% of lambs from them. Lambs usually shear 5 to 5½ lb of wool in the first week of March.

The running of sheep with cattle has given a better return than would have been achieved by concentrating on either separately.

Finally, of particular benefit has been the assistance and co-operation received from the Department of Agriculture ; J. M. Lockhart, Farm Advisory Officer; and, earlier, Dr Owen McCarthy (formerly also of the Department) who advised us when we began the development programme.

### JOINT DISCUSSION

***Is Mr O'Malley's present topdressing programme based on experience or experiment?***

**MR O'MALLEY:** The programme was originally an experiment which was proved successful by Department of Agriculture soil tests taken some years later.

***Does Mr Williams consider he is understocked?***

**MR WILLIAMS:** I do not have my property understocked. I purchase stock as required to graze any surplus feed when the season is above normal.

***What is the future of the Haast area when the road connection is completed to Otago?***

**MR WILLIAMS:** I feel sure that the future is good for the Haast area and that the large areas of good land must have a great potential in the years to come. Freight costs will be the main drawback.

***In view of high cost of freight to Addington, would it be better to concentrate on dry sheep and wool?***

**MR WILLIAMS:** We would not get half the return from dry sheep that we get from ewes and lambs. We are able to grow and fatten good lambs and also get 11% to 12 lb of wool from our ewes and high lamb percentages.

***What is the proportion of land disturbed by gold dredging? Can anything be done about its rehabilitation?***

**MR DUNNE:** At a rough guess, about 4,000 acres have been torn up by either stacker or box-type gold dredges. Box-dredge tailings are usually left with a flat surface and therefore do not present the problems that stacker-dredge tailings do. As regards rehabilitation, both types can be regressed into second-class pasture. Stacker-dredge tailings need to be bulldozed one way only so as to leave the smaller particles, or "fines", on top. Round Ikamatua some trees have been planted successfully, though initial planting losses can be as high as 40%. Whether it pays is doubtful. Near Barrytown, dredge tailings are being used for self-feeding silage, and for hay to stock in the winter for which they are ideal.

**PROF. T. W. WALKER:** It would probably be advisable to sow some good lupins, etc., on tailings to assist rehabilitation.

***In view of the heavy liming advocated, has the use of molybdenum and copper been investigated?***

**MR DUNNE:** Extensive trials have been done throughout the West Coast and Buller on copper and molybdenum. Except on Matiri steep hill soils in the Maruia, no pasture responses to molybdenum have occurred. In fact, some soils (such as Harihari silt loams where Mr F. Wyatt farms) are naturally very high in molybdenum and the addition of more can cause serious stock troubles. Copper responds on pastures on Addison's pakihi soils and in peat-type swamps copper deficiency is prevalent in stock, particularly cattle.