

WHEAT GROWING IN SOUTH OTAGO

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It is often said that farming is a way of life, and to a certain extent this is true. But it is only part of the story. Today's inflation rate, plus the increasing costs in farm maintenance and capital investment, as well as ploughing back finance into the farm, all make farming more than a way of life; it becomes a business enterprise.

Cash, hard cash must be provided and it can become available from two sources, profit or borrowing. To provide that profit every farmer must at some time take a realistic look at their own situation. Wool, fat lambs, beef, dairying, cropping, small seeds, berry fruits, deer are a few of the options available to farmers, and the course of action that is followed plus the management of the farmer, will provide that profit and probably the borrowing power as well.

The wheat growing areas of South Otago are the Milton Plains, and easy undulating areas of Warepa, Waiwera, Wairuna, Popotunoa and Clydevale.

Soil type, known as Warepa clay loam, is very similar throughout the region. Ten to twelve inches of top soil underlaid with pug clay; this clay prevents any drainage and the ground becomes very wet in winter or during any

wet spell.

However, there is a wonderful response to tile and mole drainage, and providing basic drainage procedures are followed mole drains will last at least 25 to 30 years.

The average rainfall is 900 mm spread evenly throughout the year. In the Wairuna area I have never seen a real drought; only on two or three occasions has there been any cause for concern. In fact, to my knowledge stock have not been moved out of Wairuna because of dry conditions.

Similarly wheat yields have not been effected to any extent by lack of moisture. On the other hand, there has been a lot of pressure to sow and harvest wheat because of damp weather.

THE FARM

Our farm of 250 hectares at Wairuna, is capable of carrying eighteen stock units per hectare (that is according to M.A.F.) I think you sleep better at night at fifteen stock units!

Topdressing of lime and fertiliser has been at the rate of two and a half tonnes of lime per hectare every four years (one ton per acre) plus 300 Kg of Serpentine Potassic Super each year (3 cwt per acre). As yet soil tests have not indicated the necessity to apply any trace elements.

In our farming exercise the decision to farm sheep, fattening cattle plus wheat growing is I believe complementary to each other.

At 125 metres above sea level (450 feet), spring is

late in arriving at Wairuna and plant growth can be slow; feed is at a premium during September lambing.

Fifteen to twenty hectares of swedes is grown each year, enabling all dry stock to graze on the swedes till at least the end of September.

The lambing over, the swedes eaten off, the ground can then be cultivated for wheat. Second and third crops complete the wheat area. A crop of barley harvested usually early February enables the paddock to be sown in grass to complete the rotation.

Indications are that a crop of peas may be grown after three wheat crops, then a further three sowings of wheat. The results have been very satisfactory, our intentions are to try one area this year in that rotation of peas followed by three further crops of wheat.

The rotation takes fifteen years to cover the complete farm. The areas in permanent pasture remain in pasture for ten or eleven years. Because of fertility build up, pastures become predominately ryegrass, with strong vigorous growth, unsuitable for fattening lambs.

After the swedes-wheat-barley rotation, clovers establish particularly well, ideal for fattening lambs and cattle for at least the first four or five years.

Canadian thistles are a weed problem on the farm, but after three or four weed sprayings in the cereal crops they are kept under control.

THE WHEAT GROWING SYSTEM

The growing of wheat, as against all sheep, is a matter

of costs and profits, plus available labour. Wool and lamb prices have fluctuated over the years creating financial problems for farmers. On the other hand, consistent yields of wheat, plus the known price up to eighteen months in advance, gives confidence in planning farm improvements and/or capital expenditure - or that holiday.

Cultivation and Sowing

So we have two areas to cultivate, one from swedes and one from wheat stubble. We will take the swede ground first, bearing in mind that no two years are ever the same. Plough, disc, dutch harrow, one or two runs of the vibratiller, sow with tine harrows behind the drill. The swedes grazed by cattle may require extra cultivation. Sowing usually takes place in October. Fertiliser is applied as Flowmaster Super at the rate of 125 kg per ha and seed sowing rate is 170 kg per ha.

Weeds are controlled by spraying in November. Besides thistles and fathen, other weeds are beginning to show up; docks, cornbind, willow weed and red shank. However, the spray manufacturers have done an excellent job and all these weeds can be controlled by one spraying. Wheat disease has not been a problem in the past so no measures are taken in respect of the first crop.

From wheat stubble, the straw is burnt and the ground ploughed (150-180 mm; 6-7 in. in depth) in April-May.

The winter elements (rain and frost) will do the major part of cultivation, so twice over the ground with the dutch harrows is all that is required to prepare a seed bed. Keep that fuel cost down and delay machinery replacement a year or two.

For second crops we use the same fertiliser and seeding rates. As an insurance against lodging and eyespot, benlate is added to the spray at 500 grams per ha.

Cultivation is the same for third crops, but instead of superphosphate, D.A.P. is sown at the same rate, and again benlate in the spray.

Sowing time may be early September, depending on ground conditions. One important factor - the ground must be in the right condition. If there is any doubt, leave sowing a day or two but the first week in November is the latest wheat should be sown.

Diseases

Take-all is a serious wheat disease without any spray to control it at present and is showing up in crops with more than a three year rotation.

Wild oats is also beginning to appear, but hand roguing is keeping it in check. Time will tell if wild oats will re-appear after a ten year period in pasture.

Yields

Yields over a thirty year period have varied between just under 4 tonnes per ha to seven tonnes per ha. With the gradual build up of fertility over the last ten years, yields have been very consistent, so we now expect a minimum yield of 5 tonnes per ha.

Takahe has been a tremendous break through for our climate; a wheat that does not sprout with wet weather, it just sits and waits till the farmer and weather are ready. It has been responsible for pushing Otago - Southland from

the lowest wheat quality in New Zealand to the highest.

This year our yield was 5.4 tonnes per ha with a baking score of first crop 39, second crop 38 and third crop 41. The third crop had the highest yield, but on average there is no significant difference - any variation may be just the time of sowing or weather conditions immediately after sowing.

COSTINGS

In the following costs I have taken averages, - tractor 56 kilowatts at \$10 per hour; heading charges \$13 per tonne and drying \$8 per tonne. Wheat was headed with a moisture content of 20% high, 16% low.

No attempt has been made to allocate machinery overhead costs or depreciation on buildings.

Replacement of machinery has been taken into account in the hourly tractor cost; on the other hand, tax deductible depreciation has not been taken into consideration. As a comparison the sheep returns do not include labour costs.

All wheat grown has been of milling quality with the exception of 1968, the disastrous year of sprout. Late spring frosts in November - early December rub out any possibility of autumn sowing. Decidedly lower yields result from autumn sowing.

SUMMARY

Plough early. Sow only when ground conditions are right - the soil must move freely. Use the correct fertiliser. Have a soil test for nitrogen requirements (for a small charge this can be done at one of the fertiliser works).

COSTS PER HECTARE

Swede ground		5.4 tonnes wheat	
Ploughing	1 hour 10.00	includes increment	
Discing	3/4 hour 7.50	at \$146. per tonne	\$773.40
Dutch harrow	1/2 hour 5.00	Wheat levies	2.70
	1 hour 10.00		<u>770.70</u>
Drill	1 hour 10.00	Less costs	170.15
Seed treated 170 kg	32.50		<u>600.55</u>
Fertiliser \$60. per			
tonne	15.00		
Spray trident	12.50		
Tractor spray	1/2 hour 5.00		
Heading \$13 per			
tonne	31.20		
Drying \$8 per tonne	19.20		
Cartage 6 km	12.25		
	<u>\$170.15</u>		

Wheat stubble		5.4 tonnes includes	
Ploughing	1 hour 10.00	increment at \$146.	\$773.40
Dutch harrow	1/2 hour 5.00	Less wheat levies	2.70
Rotratiller	1/2 hour 5.00		<u>770.70</u>
Drill	1 hour 10.00	Less costs	183.90
Seed 170 kg	32.50		<u>586.80</u>
Fert: Super \$15.)			
D.A.P. \$220.)	35.00		
Spray Trident	12.50		
Benlate	6.25		
Tractor	1/2 hour 5.00	Av for 3 yrs	\$591.35
Heading	31.20		
Drying	19.20		
Cartage	12.25		
	<u>\$183.90</u>		

Sheep 15 per ha.	
Wool \$12.00 per head	\$180.00
20 lambs \$16.00	320.00
3 cast ewes \$10.00	30.00
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	\$530.00
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Costs

Replacements 3 two-tooths at \$30.00	\$90.00
Fert. and lime	46.00
Dip, drench etc.	15.00
Swedes at 25 cents per animal for 4 weeks	15.00
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	\$166.00
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Profit Sheep	\$364.00 per ha.
Profit Wheat	\$591.35 per ha.

Keep a watch for diseases. Three successive wheat crops does not weaken soil structure or lower fertility. Yields are maintained.

I said at the beginning that farming is a way of life. It's a great thrill and satisfaction to see the young lambs in the spring yet that satisfaction is tempered by the knowledge that those same young lambs have only a few short months to live.

I find it difficult to put into words the feeling that tugs at the heart when those same lambs, cast ewes and cattle leave for the freezer.

It is also difficult to express the complete satisfaction of sitting on a header, watching the wheat being thrashed

and the golden grains pouring into the grain tank. That is the profit that makes farming more than a way of life. The bank manager is pleased, Mr Muldoon as well, and that holiday - perhaps next year!