Effects of farm monitoring on Northland's small beef cattle farms

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Abstract

Results from the MRDC-ANZ monitor farm programme in the Far North (Omatua Farm Ltd) have involved the adoption or continued use of on-farm technologies such as crossbreeding, yearling mating, regrassing, supplementary feeding, subdivision, fertiliser use, stock policy evaluation and monitoring animal growth rates. These results have substantially improved farm productivity and profitability. Farm business planning has been a significant part of the monitor farm process, leading to a 12% increase in yearly beef produced off the monitor farm. Small farms like Omatua Farm Ltd make up 63% of the beef cattle and sheep farms in the Far North District Council. The potential of the farm monitor-business planning approach on these farms is to improve gross annual income by $20 000. Without improvements in productivity and profitability an increasing amount of beef cattle farm land in the area is likely to end up in an alternative land use.

Keywords: business planning, farm management technologies, monitor farm, small beef cattle farms

Introduction

Small sheep and beef cattle farms, those between 10 and 150 ha, are socially important to the Far North District Council. (FNDC). The results of the Meat Research Development Council (MRDC) monitoring programme on Omatua Farm Ltd indicate the potential increases in farm productivity and profitability for these small farms.

Rhodes & Aspin (1993) detailed the implementation of the National MRDC monitor farm programme. Omatua Farm Ltd, Puketona, became part of this programme in October 1992.

Method

Farm monitoring is a process by which information is obtained, discussed and then relevant pieces are put to use by farmers. Group monitoring pulls together farmers, extension personnel and scientists who, through the building up of farm information by monitoring, improve their understanding of the monitor farm.

The Farm Monitor Programme (FMP) on Omatua Farm Ltd has involved the drawing up and implementation of the Farm Business Plan. This outlines farm objectives for the next 1-3 years. For each objective a monitoring programme is put into place. This business plan is regularly updated: formally once a year, informally as required, which may be every 2 or 3 months.

An important objective for Omatua Farm Ltd has been in beef production: to produce animals to specific listed quality criteria and to increase beef carcase sales per year to greater than 45 000 kg by July 1995.

Cattle growth rates, liveweights are an important aspect of farm monitoring.

Physical information on Omatua Farm Ltd includes the effective grassed area of 195 ha. The livestock policy is based on a breeding cow herd and finishing all progeny, in addition to purchasing and finishing some weaners.

Table 1 Livestock numbers.

Livestock Class	30 June 1992	30June 1995
Spring calving cows	a 2	129
Autumn calving cows	50	0
R 2 yr Heifers -in calf	46	42
R 1 yr Heifers	39	91
R 1 yr Steers	41	95
R 2 yr Steers	40	0
R 1 yr Bulls		2
R 3 yr Steers	23	0
B Bulls	50	6
Autumn born calves	2	
Total Head	373	365

The importance to the FNDC of those small sheep and beef cattle farms of similar, or smaller, size to Omatua Farm Ltd has been considered. Twenty small cattle farms, between 20-l 60 ha, were surveyed in 1994, 10 in 1995 (Ussher & Smith 1995). During the 1995 survey, financial returns were assessed for the 1994-95 year, plus a forecast for 1995-96. The likely changes to farm policy, farm expenses and family drawings were discussed and conclusions drawn. The discussion involved both the farmers surveyed, plus agribusiness

servicing personnel. The importance of off-farm income was discussed and highlighted.

Results

The key factors that have produced improved beef production on Omatua Farm Ltd can be grouped as follows:

- Farm business planning, which includes monitoring.
- On farm management technologies. The management technologies important to Omatua Farm Ltd include cross-breeding, yearling mating, regrassing, supplementary feeding, subdivision, fertiliser application, stock policy evaluation, monitoring animal growth rates.

Results from changes put in place on Omatoa Farm Ltd are illustrated in the improved liveweights achieved by 18- to 20-month steers (Table 2). Per head liveweights have increased from 480 to 600 kg.

Table 2 Weight improvements 18- to 20-month steers.

Date	Average Weight	Number of Steers
1 April 1991	460	55
1 April 1992	500	47
1 April 1993	530	40
1 April 1994	600	48
1 April 1995	589	55

Total beef sales by Omatua Farm Ltd are presented in Table 3.

Table 3 Changes in beef sales by year.

Year Ending June	Beef Sales kg	Increase Over Base Year kg	% Increase on Base Year (1992)
1992	35 554		
1993	32918	-2 637	- 7 %
1994	47 004	+11 450	+32%
1995	54 772	+19 218	+54%

The reduction in 1993 was largely influenced by the carry-over of some finishing cattle for disposal early in the 1994 year.

A more accurate indicator of beef production changes, compared with kg of beef sales, is total beef produced.

This indicator of beef production is showing an average of 19.5% increase each year from the 1991/92 year.

The opening and- closing kg of liveweight is calculated by knowing the weight of each stock class as at 30 June each year. To this information is added the sales weight, then any stock purchase weight is deducted.

Table 4 Total beef production.

Liveweight	kg	1991/92	1992/93	1993/94	1994/95	
Opening	kg		145 326	146 662	161 264	149 530
Sales	kg		67 851	63916	93 346	104 569
Purchase	kg		800	1 760	9 065	10 340
Closing	kg		146 662	161 264	148 530	162 622
Beef Produced	kg		68 387	76 760	71 547	108 321

The combination of a cross-bred herd and high feeding levels is considered to be important in obtaining satisfactory weaning weights on Omatua Farm Ltd.

Table 5 Weaning weights of steers adjusted to 200 days (kg),

	Year and Time of Weaning				
	1991	1992	1993	1994	1995
Steers @ Weaning	18/3	6/4	2214	1613	2714
	267	287	275	284	328
Steers - Adjusted 200 day weight	248	256	235	260	273

Feeding allowances for cows and calves are high by district standards.

Table 6 Feeding levels.

Date	Pre-Graze Dry Matter/ha (kg)	Post-Graze
21 November 1994		
South Devon Cross Mob	3 138	1 580
Friesian Cross Mob	4 674	2013
9 February 1995		
South Devon Cross	2 200	1 400
Friesian Cross	3 000	2 500
Young Mob	3 200	1 400

It is considered that these generous feeding levels contribute to achievement of satisfactory' weaning weights.

Small farms

The analysis of the FNDC statistics indicate that small beef cattle farms (lo-150 ha) are socially important. They make up 63% of all beef cattle farms within the area.

A beef cattle farm is defined as any farm that earns more than 75% of its gross income from beef cattle.

The importance of beef farming to the FNDC is reflected by the fact that beef cattle farms make up 94%

of the combined total of sheep farms and beef cattle farms.

Currently for small beef cattle farms off-farm income is an essential buffer against very low beef prices. As a percentage of total income, this off-farm income injects $28 700 into each small farm. It accounted for 62% of total income for the 1994/95 year, and this is expected to increase to 69% for the 1995/96 year.

Table 7 Far North District Council beef cattle farm size grouping.

Farm Size ha	Year 1992 Number of Farms	Total ha within FNDC
1-9	127	669
1 o-1 50	886	50140
151-300	205	44215
301+	183	133258
Total All Beef Farms	1401	228282

It is expected that most beef cattle farms of 151 ha or larger will be very dependent on their farm income for financial survival. If the 205 beef cattle farms of an area between 150 and 300 ha increase beef sales by 50 kg/ha, this being 50% of the increase by Omatua Farm Ltd, the increase would be 2.2 million kg of beef produced.

Table 8 Potential revenue increase for FNDC.

Schedule Price ($)	Gross Revenue increase (million $)	Per Farm Revenue Increase ($)
1.50	3.3	16170
2.00	4.4	21 570
2.50	5.5	26960
3.00	6.6	32350

With high beef schedule prices, there is the potential to increase gross revenue for each of these 205 beef cattle farms by $32 000 per year.

Discussion

The delay and difficulty in assessing the response of farm performance to changes on farm is a major constraint to adoption of new technology on sheep and beef farms (Webby & Sheath 1991). Intensive on farm monitoring goes a long way in overcoming this major hurdle for beef farmers.

Through the results of its Farm Monitoring Programme, Omatua Farm Ltd has shown that considerable improvement in farm productivity and profitability is possible.

Although there is considerable potential to improve beef production and profitability in the FNDC area, whether this potential is tapped remains to be seen. It is expected that improvements in beef production will be considerably slower than those shown by Omatua Farm Ltd.

An important consideration for farmers, extension personnel and scientists is to accurately gauge whether the results on Omatua Farm Ltd can be readily replicated on most beef cattle farms throughout the FNDC area. A critical first step is for farmers to know accurately their own beef production in terms of kilograms of beef produced.

Without improvements in beef productivity and profitability, less land will be farming beef cattle in the future. Land sales will continue. Dairy conversions for running milking cows, or the associated dry stock, will continue to pressure the "better" beef cattle farms. Forestry will continue to pressure both the "poorer" beef cattle farms plus the "middle of the road" farms with sufficient size for forestry companies to be interested.

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