

Grazing Out Heifers - What Are The Benefits And What Should It Cost?

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Summary

- Grazing heifers off the dairy farm can provide an opportunity to increase the economic farm surplus. This will not always be the situation.
- The benefits from grazing-off heifers are less for 50-50 sharemilkers than they are for farm owner operators or farm owners with 50-50 sharemilkers on.
- The main points dairy farmers need to consider when determining what they will pay for heifer grazing are:
 - How much money do they want to make from the exercise?
 - The market situation and the returns from alternative enterprises for the dry stock farmer.
 - What are the returns from an extra kilogram of liveweight above current recommendations?
- Current returns from alternative dry stock options indicate grazing charges could be lower than the price farmers are currently paying of \$1.10 to \$1.25 per kilogram of liveweight gain.

Introduction

Grazing dairy heifers off-farm has become common practice amongst New Zealand dairy farmers in the last 10 years. Grazing heifers off can provide an opportunity to increase the economic farm surplus by:

- purchasing extra feed for the milking cows
- growing heifers to high liveweights for milk production and longevity

It is often taken for granted that more money is made by grazing-off heifers. This is not always the case. This paper looks at how farmers assess the profitability of grazing out heifers, what determines heifer grazing prices, and what is the value of grazing heifers to liveweights above current recommendations.

Assessing the Profitability of Grazing-Off Heifers

Does grazing-off young stock guarantee an increase in Economic Farm Surplus?

The following table shows the economics of grazing heifers off for a 200 cow herd for an owner operator; farm owner with a 50-50 sharemilker; and the 50-50 sharemilker in the current economic climate.

Table 1: Economics of grazing heifers off the farm for owner operators, farm owners with 50-50 sharemilkers and for 50-50 sharemilkers.

	Owner Operator	Owner with 50% Sharemilker	50-50 Sharemilker
Herd size with heifers on	200	200	200
Heifers on	50	50	50
Herd size with heifers off	225	225	225
Heifers off	56	56	56
Production, kg MS/cow	290	290	290
Extra income			
MS, 7250 kg @ \$3.50	25,375	12,688	12,688
Cull cows, 5 @ \$270	1,350		1,350
Bobbie calves, 15 @ \$30	450		450
Total Extra Income	27,175	12,688	14,488
Grazing Expenses			
Grazing \$1.10/kg LW x 230kg = @ \$4.87 / week	14,168	7,084	7,084
Cartage	840	420	420
Inspection and admin. costs	300		300
Extra Cow Expenses			
Animal Health	1,100		1,100
Electricity	475		475
AB & herd testing	700		700
Feed	1,250		1,250
Shed	425		425
25 extra cows, \$800 @ 10%	2,000		2,000
Total Extra Costs	21,258	7,504	13,754
Profit from grazing-off	5,917	5,184	734
Return/heifer/week	\$2.28	\$1.99	\$0.28

Assumptions:

- One extra cow milked for every 2 heifers grazed off.
- As 25 extra cows are milked, 6 (25%) more replacement heifers are carried.
- Grazing charges \$1.10/kg liveweight (LW) putting on 230 kg over the year from 1 June to 31 May (equivalent to \$4.87/week).
- Per cow costs using NZDB Economic Survey of Dairy Farmers 1995/96 with feed costs at \$50/cow.
- Sharemilker and owner share the grazing costs 50-50.

Results

The outcome of this budget was determined by the percentage of income received and identifying who pays the capital and per cow costs. At average per cow production in New Zealand, owner operators and farm owners with 50/50 sharemilkers on make the most money out of grazing-off young stock. As for the 50-50 sharemilker, there appears to be little benefit in grazing-off heifers.

The 50-50 sharemilker pays half of the grazing-off, all the additional per cow and capital costs,

and receives half of the milk income. In this situation, grazing out heifers was marginal. Sharemilkers paying 100 percent of the heifer grazing charges were losing money and would be better off grazing their heifers at home.

In the current market situation there are fewer dry stock numbers. If farmers negotiated lower charges for heifer grazing their returns would increase. Is this happening? The price used in the budget was \$1.10 /kg LW gain for 230 kg of liveweight. Table 2 shows the impact of different grazing charges and milk prices on the profitability

Table 2: Sensitivity analysis for the 50-50 sharemilker in Table 1. Net return per year from grazing out heifers (\$).

Pay Out \$/kg MS	Grazing Charge \$/kg Liveweight Gain		
	\$0.90	\$1.10	\$1.30
3.30	1296	8	-1279
3.50	2021	733	-554
3.80	3109	1821	533

of grazing heifers out for the 50-50 sharemilker. At a \$3.50 payout an increase in grazing charges of only 6 cents/kg LW gain would make grazing-off unprofitable.

There are two factors not taken into account in the budget that can affect the profitability of grazing out heifers:

- if more labour has to be employed to manage an increase in cow numbers
- if alterations have to be made to the farm dairy to milk more cows

Either of these factors will reduce the economic benefits of grazing heifers off.

For a farmer who has traditionally grazed the young stock on the property, then grazes them off, what can be done to maximise profit? In the example in Table 1 approximately 13 percent more feed becomes available by grazing heifers off. To achieve increased production and efficient utilisation of feed from grazing heifers off, the stocking rate will have to be increased accordingly.

The budget in Table 1 shows the profitability of grazing heifers off, using a grazier. The principles are equally applicable to farmers owning or leasing runoffs to graze their heifers on. In assessing their viability, returns must be offset against the capital, fixed, and variable costs of the operation.

Factors Determining the Market Value of Heifer Grazing

Payout

The price of grazing should not be relative to payout! This year there will be a predicted 11 percent drop in the Dairy Board base payment from \$3.60 to \$3.20/kgMS. If the grazing price was relative to payout, how many graziers would

be prepared to drop their price this year? Alternatively, if the payout goes up, how many dairy farmers are happy to pay more for grazing? Dairy farmers need to take advantage of higher payouts, not line the pockets of others with their profits.

What the payout will determine is the breakeven cost of putting on extra liveweight over and above recommended targets. This is covered later.

Hype!

People organising grazing contracts have a vested interest in the grazing of dairy heifers, thus affecting grazing prices. If dairy farmers were more united when determining grazing contracts they would be dictated to less by the graziers and middlemen.

Market Situation

There are two ways to look at the market situation:

- what is the availability of grass on dry stock farms?
- what are alternative land uses and the returns for the dry stock farmer?

The returns from alternative land uses have a greater influence on heifer grazing price than the availability of grass.

The enterprise a farmer chooses to be involved in depends on: their facilities, capital requirements, returns, management skills and personal preference. Currently, velvet production from red stags is one of the most profitable options available. When taking into account capital requirements and labour, this enterprise would financially out-perform dairying. However, not all farmers are set up to run deer, have the capital required to buy high quality stags, or have the skill to farm them. Farmers cannot necessarily change from one enterprise to another between years.

Table 3: Shows the gross margins for different enterprises. Gross margins take account of an enterprise's variable costs and subtracts them from the income.

Gross Margins for Different Enterprises						
	Maize Grain	Bull Beef	Deer Finishing Unit	Velvet	Dairying	Heifer Grazing
Unit Price for Produce	\$230/Tonne	\$1.80/kg	\$6.20/kg	A grade \$160/kg B grade \$140/kg C grade \$130/kg	\$3.50/kg MS	\$1.10/kg LWG
GM/SU		\$33.17	\$24.01	\$91.47	\$100.63	\$54.17
GM/ha	\$745	\$663	\$480	\$1829	\$2013	\$1083

Assumptions:

- Calculated using the 1996 Lincoln Financial Budget Manual, with product returns at April 97 prices.
- All gross margins include the cost of feed and interest on capital stock value.
- The gross margins are calculated on Manawatu silts with a carrying capacity of 20 stock units(SU)/ha to compare both livestock and cropping alternatives.
- Enterprises can be compared on a stock unit only basis for land with different carrying capacities.

Comparison of alternative enterprises for dry stock farmers in the current economic climate provide few options with a gross margin over \$750/ha or \$37.50/SU. This will change with different product prices. For bull beef gross margins to be as good as heifer grazing, the bull schedule would have to lift to \$2.30/kg, 50 cents higher than the current price.

Heifer grazing at \$1.10/kg liveweight gain for 230 kg is equivalent to \$4.87 per week and has a gross margin of \$1083/ha or \$54.17/SU. Why is there such a big gap between this and other land options? If heifers were to achieve a gross margin more in line with other livestock options (Table 3) of approximately \$750/ha, the grazing charge would be \$3.71 per week or \$0.85/kg LWG.

Why is it we don't see grazing prices at these levels?

When talking to dairy farmers they are prepared to pay more than the \$0.85/kg LW gain because:

- Heifers cannot be treated like bulls. They have to be well fed all year round and supplements and/or nitrogen fertiliser may be required to achieve this.

- The grazier is responsible for someone else's stock which are part of the dairy farmers future.
- You can't play the grass market with grazing heifers as with other stock classes.
- Once a good grazier is found farmers do not want to lose them.
- There are charges involved if using a grazing company or consultant.
- Dairy farmers don't want to send the dry stock farmer bankrupt, but don't want to be ripped off either.

The difference of 25 to 45 cents/kg liveweight gain between heifer grazing and other land alternatives was high. Dairy farmers need to ask what is a realistic difference?

The Value of Extra Liveweight

For reproductive performance and survivability it critical that heifers reach, at least, target weights as outlined in John Penno's 1997 Ruakura Conference Paper.

What is the value of growing heifers above the recommended liveweights? From the work of John Penno at DRC, and others, it appears that for every extra kilogram of liveweight at calving you can expect a heifer to produce an extra 0.30

kg milksolids (Penno 1996). At a \$3.50/kg milksolids payout the breakeven price for every extra kilogram of liveweight is \$1.05 (0.30 kg x \$3.50/kg MS).

To make a profit from growing heifers above recommended weights, farmers have to pay less than \$1.05 per kilogram of liveweight gain for extra liveweight. Usually the opposite happens and a higher bonus is paid for liveweight over and above the initial target. If this was the case in Table 1 there would be no benefit from growing heifers to above recommended liveweights as the expected returns would be less than the cost of \$1.10/kg liveweight gain.

Conclusion

There are opportunities to increase the economic farm surplus through grazing-off heifers. However, this may not be the case for 50-50 sharemilkers or farmers paying high per kilogram and weekly grazing charges.

When determining the returns from grazing-off heifers and the price to pay, farmers need to look at their own situation as well as what is happening out in the market place. The current economic climate suggests:

- Charges for liveweight gain of 85 cents /kg is more in line with alternative land options.
- \$1.05/kg liveweight gain or over is unlikely to be economic for additional liveweight above recommended targets.

When looking at the returns from grazing out heifers the questions to ask are:

- Am I currently making a profit from grazing out my heifers?
- If heifers were at home, would I make a profit by grazing them out?
- How much profit do I want to make from grazing them out?
- Am I paying too much for my grazing now?
- If the answer is yes, what can I do about it?
- How do I determine what I pay?

References and Acknowledgements

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