Heifer Grazing Options

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A nationwide survey by LIC in February 2015 found that from 105,000 animals, 73% were more than 5% underweight at 22 months.

Heifers represent the future of your dairy herd. How well heifers are grown, and their body condition at first calving, have a big impact on their reproductive performance and milk solids production in their first season.

Well grown heifers

- **Have improved milk production** - heifers reaching their target liveweight will produce 8.5 kg MS more in their first lactation than if they are 10% below their target liveweight.
- **Have greater lifetime productivity** - heifers reaching their target liveweight will have 5% better 6 week in-calf rates and 15% lower empty rates. This equates to $35 economic benefit per heifer compared to heifers 10% below theri target liveweight.
- **Have reduced replacement costs**

Using InCalf data for a mob of 50 heifers, the potential gain of moving them from 10% under their target liveweight to achieving their target is $3875 at a $5/kg MS milk price.

Liveweight targets for heifers

Age	Percentage of mature liveweight (%)	Weight (if 475 kg adult)
3 months	20	95
6 months	30	145
9 months	40	190
15 months	60	285 (mating target)
22 months	90	430

Achieving the 30, 60 and 90% targets is more important than the pattern of growth. It can be difficult to achieve the daily required growth in winter, but compensation is possible in the spring. You can calculate the growth rate for your heifer group by determining their current weight and next weight for age target. An example calculation:

At 3 months old a group of heifers averages	=	105 kg
Aim at 6 months old	=	160 kg
50 kg/90 days	=	0.6 kg/day growth rate

Most dairy farmers and advisors can recognise whether heifers are in good or poor condition, but few can judge whether they have actually achieved their target liveweights for their particular age.

InCalf recommends weighing every 3 months. Individual liveweight BVs are of low reliability, in part due to identification (some 23% have incorrect parentage).

Grazing heifers off-farm. How does it stack up?

If heifers are grazed on the milking platform the number of cows milked will need to be reduced by around 0.7 cows for every extra heifer to match the extra feed needed.

The value of running heifers on the milking platform depends on the milk price, production/cow, and the price of grazing. Another consideration is the facilities and infrastructure/fencing on the home farm as a suitable young stock rearing location.

Young stock can become a forgotten group on a dairy unit, with a lack of attention given to their needs.

The decision to graze young stock away from home needs to acknowledge the additional risks around quarantine control for a range of conditions. Theileria, BVD, TB and drench resistant parasites can all be brought back from grazing to become established on the dairy farm.

If young stock are reared at home, production will be down and this will be a consideration if the farm is to go on the market; the purchaser will look at current production levels.

In 2013, DairyNZ facilitated a series of meetings nationwide to gather information from dairy farmers, graziers and advisors, as to what constituted 'good' dairy replacement grazing. Farmers were surveyed about the current level of payments being made for grazing and how these figures were arrived at.

In some cases, there was a 'race to the bottom' in terms of pricing. A grazier may have been charging a price that was designed to undercut existing grazing prices to attract clientele, to help diversify income stream on a dry stock operation. This then set a 'benchmark' price that bore no relationship to the cost of what was being provided i.e. a constant source of adequate, good quality dry matter. When a drought or some other crisis ensued, there was no margin for the grazier to provide supplementary feed.

The ideal is a 'win –win' situation. The dairy farmer receives back from grazing a quality heifer that has met all the industry targets for liveweight and reproductive performance. The grazier has been well compensated for the heifer they have grown, which has allowed them a margin to provide good quality and safe facilities. The grazier will also be required to provide quality reporting on a regular basis, so the dairy farmer is kept informed of the progress of the heifers at grazing.

Some of the 'old school' graziers surveyed were reluctant to weigh stock, preferring to 'eyeball' them because they believed they were accurate. Some were also reluctant to use

electronic recording systems. Now, with the use of compulsory electronic ID systems, the use of technology at heifer grazing locations should be able to increase.

One regular point of contention is the fact that underweight young stock were delivered to the grazier in the first instance and then the grazier was required to play 'catch –up' to get the heifers to meet targets along the way. The fairest way to overcome this situation, is that the grazier has the 'right of refusal' to accept these animals in the first place. Some dairy farmers use the system where the grazier visits the young stock at the home dairy farm the day prior to departure, where the stock are weighed and any poor animals can be rejected. These then get left behind when the other animals go away. If the dairy farmer can get these up to target, they are then transported separately to grazing. Because all parties know in advance that this is the situation, poor animals are dealt with earlier at home.

Dairy NZ has many good resources on its website related to heifer grazing (see References at end of document). These include various Farmfact documents (already used for figures in this paper). Included are questionnaires for 'Stock owner to grazier' and 'Grazier to stock owner'. These documents help to establish expectations prior to the commencement of a grazing relationship.

Federated Farmers have a legal contract, that can be purchased from their website, to cover most scenarios that may occur if there is argument about situations that may arise in the grazing arrangement.

DairyNZ also have available a partial budget (Excel spreadsheet) that helps calculate various scenarios for grazing price versus milk price changes. Included are provisions for: transport costs, interest, labour costs etc, to assist with making an informed decision about grazing options.

Am I getting value for money from my grazier?

When reviewing heifer grazing options, the value of grazing needs to be compared with its costs. Low cost grazing is not necessarily good value, just as paying 'top dollar' for grazing does not guarantee top results. Two examples below demonstrate cost versus value.

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Example 1

Lower cost of grazing with heifers coming back under target weight

Crossbred heifers are grazed off the milking platform from December for 78 weeks (to the following May).

Average start weight: 100kg
Grazing cost: $7.50/week for R1 (rising one year olds) (first 26 weeks); $9/week for R2 (52 weeks)

Heifers return to the milking platform at an average weight of 350kg, which is 50kg below target for their age.

Working out cost of grazing
26 weeks x $7.50/week = $195
52 weeks x $9.00/week = $468
Total cost of grazing = $663/animal

Weight gain
350kg on return - 100kg at start of grazing = 250kg Lwt gain/animal

Value of grazing per animal
Cost of grazing / weight gain = value of grazing/kg Lwt gain
$663 / 250kg weight gain = $2.65/kg Lwt gain

Example 2

Higher cost of grazing with heifers coming back above target weight

Crossbred heifers are grazed off the milking platform from December for 78 weeks (to the following May).

Average start weight: 100kg
Grazing cost: $10.50/week for R1 (first 26 weeks); $12.50/week for R2 (52 weeks)

Heifers return to the milking platform at an average weight of 450kg, which is 50kg above target for their age.

Working out cost of grazing
26 weeks x $10.50/week = $273
52 weeks x $12.50/week = $650
Total cost of grazing = $923/animal

Weight gain
450kg on return - 100kg at start of grazing = 350kg Lwt gain/animal

Value of grazing per animal

Cost of grazing /weight gain = value of grazing/kg lwt gain

$923/350 kg weight gain = $2.64/kg lwt gain

Although the second example is 30% more expensive upfront, the immediate value for money is similar and the long term benefits also make the value greater over time.

For many dairy farm businesses, the policy of grazing heifers off- farm remains a profitable strategy, even at relatively low milk price levels.

How much dry matter is required to rear a heifer?

By referring to the "Facts & Figures" booklet from DairyNZ, we can calculate the amount of dry matter required for 12 months' grazing and then divide by the grazing price to get a cost/kg DM.

A JxF with a mature liveweight of 450 kg will eat 2869 kg DM from 10 to 22 months of age (12 months). With 85% utilisation, it will have to be offered 3375 kg DM in that 12 month period.

If you have been charged $12.50 / week for that time = $650 for a year grazing.

$650/3375 kgDM = 19c/kg DM

Added value from graziers

Factors other than economics, such as your own workload and focus, also need to be considered when working out the value of grazing on the milking platform compared to off-farm.

The milking herd is the primary focus for dairy farm managers and heifers can become the forgotten stock class, whereas quality heifer graziers are highly focused on this stock class.

If you have a grazier who is doing a quality job, and returning heifers at or above target liveweights, breaking this realtionship during low milk price times may be difficult if not impossible to restore when better milk prices return.

References

- DairyNZ Farmfact (3-21): Feed requirements for grazing dairy heifers
- DairyNZ farmfact (3-22): Estimating mature liveweight for groups of dairy heifers
- DairyNZ Heifer liveweight targets
- DairyNZ Partial budget for grazing heifers on the milking platform
- DairyNZ heifer contract grazing
- DairyNZ Facts and Figures