

Rearing replacement heifers

Heifers are a substantial investment on a dairy enterprise (Table 1). As heifers make up the future of your dairy herd, it is important that they are set up well to survive longer in the herd so one can receive a return on the investment. How well heifers are grown and their body condition at first calving can have a significant impact of their reproductive success and milk production in first and second lactations.

Table 1. Typical costs of rearing a heifer to 24 months of age (excluding labour)

Cost at birth	\$320 (6 straws semen, energy cost to make calf, risk of death of cow)
Feed to weaning	\$90-250 (depending on level of concentrate used)
Risk of death—calf	\$10 (if 3%)
Cost of joining	\$370 (assuming feed costs 2c/MJ)
Joining costs AI	\$40-\$80
Cost of calving	\$400
Risk of death—cow	\$35 (if 2%)
Animal health	\$50 (eg/ drenching, vaccinating)
TOTAL	APPROXIMATELY \$1300-\$1500

(Dairy Australia, 2013)

Factors to consider when achieving well grown heifers;

1. Target weight

Attempt to monitor **weight and height** of your heifer until they enter the milking herd. Recording weight alone is misleading information to assess growth because it only accounts for muscle growth whereas height represents skeletal growth and tissue deposition. Improved skeletal development results in taller heifers that are less prone to calving difficulties (dystocia).

Target weight is described as “the weight of a heifer at various stages of her growth to achieve a weight at calving which will maximise her productivity and longevity”. The recommended weight at first calving is 85% of your mature cow live weight.

For example for a herd with an optimal mature weight of 550kg → heifers need to be 468kg at the time of first calving with a 5.5 body condition score.

2. Heifer fertility

Most farm operators use age as an indicator to know when heifers cycle (begin oestrus activity). However, recent studies have shown that live weight is a better indicator to follow. These heavier heifers have also shown to conceive and get in calf faster.

3. First calver fertility

Heifers have a few hurdles to overcome once in the milking herd such as continue to grow to compete with older cows, stress through change in hierarchy as they enter the dairy, recover quickly from their calving, start producing milk and get in calf again. Optimise live weight to ensure heifers achieve higher reproductive performance. Focusing on the fertility of these heifers can improve the genetic and financial sustainability of your dairy herd.

4. Production

Heavier live weight heifers at first calving corresponds to better second and third lactations. These heifers produce more milk due to – increased dry matter intake, ability to support milk production as well as growth, better able to utilise body reserves early in lactation to support milk production and are better able to compete with mature animals for feed. Australian studies show for a heifer calving 50 kg heavier than her herd mates there is an increase of 1041 litres of milk, 38.5 kg butterfat and 42.5 kg protein (81 kg MS) over the first three lactations.

The success of your heifer rearing practices can also be measured using the ratio of milk production of first calvers to mature cows. The target is for a production ration of >80% of mature cows. Anything less indicates that there is room for improvement in your system.

5. Longevity

The survival rate of heifers that enter the herd at their optimal target weight is much higher. Well grown heifers are less likely to be culled as they have better fertility, better immunity etc. This in turn reduces replacement costs.



6. Nutrition

Traditionally weaners have been placed in the back paddock or on agistment. It is important to pay closer attention to them to ensure their nutritional requirements are met. Well managed heifers give you the best returns in terms of production.

- **Weaning to nine months of age.**

Gut fill can occur and limit intake at this age so focus on **high energy and protein diets**, such as our **Rex James Weaner**. It is easier to maximise on energy efficiency when heifers are young. Focus on lean growth opposed to overly fat heifers.

- **From nine months to mating at 15 months of age.**

Focus on heifers achieving puberty (43-47% mature live weight) one to two months pre-mating and continued growth to improve reproductive performance.

- **15 months of age to 24 months.**

Liveweight should be gained over this year targeting 85% of mature liveweight at 22 months and 5.5 body condition score pre-calving. "Cow condition reflects how well an animal has been fed for the last 6-8 weeks where body weight relative to liveweight targets is how well the heifer has been fed over her life" (Dairy NZ, 2013).

Whether you leave heifers in an out block or supplement heifers with concentrates, it is unwise to ignore the macro and micro-mineral needs of them. Give them the option of a vitamin and mineral lick so you don't have any metabolic issues as a result of mineral deficiencies.

Contact us to find out more about our newly formulated vitamin and mineral licks and all things heifers

