Younger or Lighter Calf Management

This Infosheet covers:

- The benefits of preferentially treating younger and lighter heifers.
- Options to accelerate heifer growth.
- Managing heifers that are significantly lighter than the mob average.

Key points

- Later born and lighter heifers can struggle to meet liveweight targets. Appropriate management can help to compensate.
- Any of several management strategies can be used to accelerate growth. Early intervention will give the best results.
- Individuals significantly behind the mob average liveweight need closer scrutiny to identify the cause and initiate prompt action.

Benefit of preferential treatment

In seasonally calving herds all heifers are expected to be fertile and mated at the same time, but their birth dates typically span 4 to 6 weeks. This means that later born calves need to grow faster than older calves to meet the minimum weight required for puberty so that they are ready for the mating start date (MSD) (see Table 1). To achieve this their weight- for-age targets should be based on their MSD, and they may end up being younger than 15 months of age at MSD.

Table 1. Example of the growth rates required for calves with the same birth weight but different birth dates to meet a target weight of 309 kg (60 % of mature liveweight) at MSD on November 1st.

<table>
<thead>
<tr>
<th>Required growth rate from birth to MSD</th>
<th>1-Aug-13</th>
<th>Birth date 1-Sep-13</th>
<th>15-Sep-13</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0.62 kg/day</td>
<td>0.67 kg/day</td>
<td>0.69 kg/day</td>
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An Irish study investigated the relationship between age and body weight at the planned start of mating (PSM) on puberty and lifetime productivity. Although there was a relationship between age and puberty, age didn’t affect lifetime productivity. Heifers’ body weight at PSM had a far greater influence.  

The study also indicated that the heifers’ farm of origin had a larger effect than their birth date on lifetime productivity. This indicates that while birth dates have an influence on animal performance, how heifers are managed on-farm can compensate for late calving.

Farmer experience suggests that the range of weights in a heifer mob remains similar, or widens, as heifers age. Lighter animals will not catch up, unless they are treated preferentially to increase their growth rate.

The percentage difference in animal weights may remain the same, but the difference in weight will become more obvious as animals age. For example, if a mob has an average weight of 100 kg a 10 % difference of 10 kg will not be so obvious as a 10 % difference in a mob with a 400 kg average weight where there will be a 40 kg difference.

Early intervention is the most effective strategy.

**Options to accelerate growth**

Increase milk intakes

- Calves are more efficient at using the energy obtained from milk to put on weight than that from pasture or concentrates. They can use about 86 % of the energy in milk to meet their maintenance requirements and 69 % for growth. In contrast, they can use about 75 % of the energy in a good calf meal to meet their maintenance requirements and 57 % for growth.
- The feed required for growth increases with age.
- A 100 kg heifer requires 22 MJ ME for 1 kg of liveweight gain while a 200 kg heifer requires 27 MJ ME. Increasing the rate of gain early is the most efficient strategy.
- Wean later born animals off milk at a heavier weight
- Feeding milk for longer, and weaning calves at a heavier weight, gives them the opportunity to use the extra energy they can gain from milk to catch up with older calves. Add an extra 4-5 kg to the minimum weaning weight for every extra week later a calf is born so they reach similar weights as the older animals.

Feed meal for longer post-weaning and/or increase the protein content of feed

- Animals will eat more if a feed has a higher crude protein content.
- Young animals have a small rumen. Grass is a bulky feed and fills the rumen quickly. This is an issue when pasture has a very low dry matter or is otherwise of poor quality at weaning. Concentrates are less to likely limit intakes in younger animals because they are less bulky.

Improve feed quality post-weaning

- Delay relocation and keep weaned calves on the milking platform for longer.
- Run younger and lighter animals separately and feed them preferentially.
- Use leader/follower grazing. Allow calves to graze selectively before a less sensitive stock class follows to graze out the paddock.

Preferential management when contract grazing

- Any specialised care for light heifers should be planned and negotiated before stock are relocated. A grazier may not be able to provide preferential care, or wish to supply the extra labour and supplements. If the grazier is willing to manage light animals preferentially then the stock owner’s requirements and expectations, and any extra payment for supplements and the labour associated with feeding out, will need to be discussed.

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Be cautious about rearing small or sick calves, they often struggle to meet target liveweights.

Dairy farmer, 750 cows, Awanui, Northland

Dairy farmers should be responsible for younger or smaller calves. We wean our Jersey calves at 90 – 100 kg, in early November. The little calves are kept at home because you can’t expect a grazer to get a ‘silk purse out of a sow’s ear’.

Dairy farmer, 360 cows, Hawera, Taranaki

Put extra effort into the later born calves because they are born on the back foot. We put in extra effort for later born animals and try to get them outside in sheltered paddocks as quickly as possible. We’ve found that once calves are outside most of the health problems also disappear.

Dairy farmer, 265 cows, Palmerston North, Manawatu

Dairy farmers should be responsible for animals that aren’t up to target weights, or are unwell. They should be kept at the dairy farm—not sent to a contract grazer.

Dairy farmer, 200 cows, Te Awamutu, Waikato

Managing animals that are otherwise significantly lighter than the mob average

- Assess the animal
  Are there animal health issues, or is the animal a different breed? On average, Jerseys are 10 % lighter than J x Fr cross animals which are 7 % lighter than Friesians. If an animal is lighter than the mob but a smaller breed than no different management may be required.

- Review the options
  Is treatment necessary? Does the animal require alternative management, what options are available, what is the agreement with the grazer? Should it be culled?

- Take action
  If an individual is continuously unwell, unthrifty or not competing in the mob a prompt decision to cull may be the most economical and best welfare option.

More information

- On managing lighter heifers see Heifer Infosheets Identifying Low Growth in Heifers and Mating Underweight Heifers.