Infrastructure for Heifer Grazing

This Infosheet covers:

- Infrastructure requirements for grazing heifers, including: fresh water, fencing, subdivided paddocks, and cattle yards with vet race and weigh scales.

Key points

- A farm’s infrastructure should be appropriate for the unique requirements of heifer grazing.
- The correct infrastructure will support farmers in rearing heifers to reach their liveweight targets, as well as making management easier.
- Heifers need unrestricted access to clean water, supplied continuously to troughs through a reticulated system.
- Paddocks need to be subdivided into suitable sizes so that pasture quality can be maintained. Any dangerous areas should be fenced off.
- Yards should be constructed to enable safe and efficient animal management. They should be set up so the heifers can be weighed regularly.

Infrastructure requirements

For a farm to run smoothly and safely it needs infrastructure specifically designed for the enterprise. A heifer grazing system requires:

- an abundant supply of clean water, preferably via a reticulated system,
- subdivided paddocks with adequate fencing to avoid misadventure, and
- cattle yards with a vet race and weigh scales.

FARMER VIEWPOINT

Growing heifers to target weights requires changes in infrastructure compared to drystock farming. Since taking on dairy heifers we’ve split paddocks, put in more water troughs, added lanes, started winter cropping, and renewed pasture—some paddocks were 16 hectares and now they’re 4 hectares. If pre-grazing pasture covers are high enough we’ll still split the paddocks again with break fences.

Contract Grazier, 1,200 heifers, Middlemarch, Otago
Water supply

Heifers need unrestricted access to a continuous supply of clean water, ideally from troughs supplied via a reticulated system (particularly since some dairy companies’ right of supply requires all dairy animals to be excluded from waterways). A lack of suitable water will reduce heifers’ feed intakes which will impact on their growth rates. Failure to supply this water is a breach of the Dairy Cattle Code of Welfare.

Calves can drink 25 litres of water per day, and R2 heifers 30 - 45 litres per day, and a dry dairy cow can drink her daily water allowance in 4 hours. It is suggested that a peak water flow of 10 L/head/hour should be appropriate for heifers.

If the water system is reticulated, animal health treatments, such as minerals or zinc sulphate, can be delivered through the water supply. Inadvertent treatment of other stock must be prevented when using this method.

Avoid putting water troughs where access is difficult, such as on slopes or erodible areas.

FARMER VIEWPOINT

Don’t choose the cheapest option, buy the best fit for purpose option. Moving from sheep farming to putting cattle on, we put in a lot of troughs and subdivided the paddocks to 3 hectares. We first put in low troughs but all the heifers stood in them, so what saved us $50/trough at first ended up costing us $200/trough when we replaced them with higher ones.

Contract Graziers, 720 heifers, Oamaru, North Otago

More information


Fencing and subdivision

Heifers need a consistent supply of high quality feed to grow at the rates necessary to reach liveweight targets. Paddocks should be grazed out within 3-4 days to manage feed quality and quantity. Subdivide paddocks or set appropriate mob sizes to achieve this aim. If heifers spend longer than 3-4 days in a paddock they will start to “back graze” which will suppress pasture regrowth. If they are unable to graze all the feed on offer in 3-4 days, then the pre-grazing pasture cover was probably too high for optimal quality (winter feed management may differ from these guidelines).

Heifers are curious, and are more prone to misadventure than older cattle, so any risky areas should be securely fenced off; this includes dangerous plants and rubbish that they may be tempted to chew.

**FARMER VIEWPOINT**

I think heifers need to be shifted daily so paddock subdivision needs to be small enough to for mobs to graze the paddocks out in 24 hours.

*Dairy farmer, 750 cows, Awanui, Northland*

Smaller paddocks are easier to maintain pasture quality and heifers grow at higher growth rates the more often they’re shifted.

*Contract grazier, 1,000 heifers, Patea, Taranaki*

Subdivision can make grazing management easier and spread the nutrients more evenly over the paddocks. Our farm used to be split into 5-7 hectare paddocks, but we cut that down to 1.3 hectares to reduce break feeding.

*Contract Grazier, 1,250 heifers, Mangakino, Waikato*

Subdivision has made grazing management easier. When we bought the farm it was 220 hectares with paddock sizes ranging from 3 to 40 hectares, now the farm is split into 6-7 hectare paddocks.

*Contract Grazier, 400 heifers, Matawai, Gisborne*

**Yards and scales**

Well designed and built cattle yards are essential for the safety of heifers and the people working with them. They simplify the following activities:

- treatments such as animal health, artificial insemination (AI) and pregnancy diagnosis;
- identifying heifers e.g. reading ear tags; and
- weighing.

Facilities that allow safe weighing should be a high priority as liveweight is the only objective measure of heifer performance. Scales should be placed on a race with a clean, flat, hard base to provide a firm surface for accurate weighing. A roof over the work area will protect people from the weather and improve the work environment. It can also improve weighing accuracy, or offset the lack of a concrete floor, by protecting the ground so that the surface is maintained in good order.

Weigh scales are an essential tool for heifer graziers. If you do not own a set, some veterinary practices offer portable scales for rent or client use, and heifer monitoring services are also available. Grazing or weighing companies and some stock agents also offer this service. Hiring a third party can reduce capital expense and some farmers find it useful to have outside input.
Features to consider when building or upgrading cattle yards:

- **Concrete floors.** Some graziers have reported hoof rot flare-ups a couple of days after stock were in muddy yards. With a concrete floor these issues disappeared. Designing the layout is an important step to carry out before concreting a yard. Rain run-off needs to be managed so that boggy/muddy areas are not just relocated and to prevent run-off from entering drains or waterways. Run-off can be collected in an approved system or directed into a grassy area to capture the nutrients.

- **Stock flow.** Circular holding pens with a central swinging gate can improve stock movement through yards. Adjustable races that narrow or widen to adjust for animal size prevent smaller animals from turning in the races and creating blockages in animal movement and sliding gates for races aids flow.

- **A raised walkway for people along the length of the race.** To allow easy access to animals for drenching or injections.

- **A drop top rail.** This allows easy access if working with young animals.

- **A crush or head bail.** To restrain heifers when carrying out tagging, sampling, or animal health procedures. Bails should hold a heifer securely, but also have a quick release for both operator and animal safety.

- **Multi-way drafting.** Drafting underachieving animals during weighing for further assessment or preferential treatment is often essential.

- **A solid sided loading ramp, ideally with a level platform at the top.** Ramps should be 800 mm wide, have a non-slip surface, and have 20 degrees of slope or less. Facing them to the north or south is useful so that animals never have to walk directly into the sun. These ramps help to prevent stock from being spooked or distracted.

- **A water trough in the holding yard, depending on the wait between yarding and weighing or transport.** Water access is important when weighing if animals are away from water for more than 3 hours, since gut fill and water can make up to 12 % of body weight.

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**FARMER VIEWPOINT**

*Take time to plan and think through any yard upgrades. Every time you put more concrete in your yards you need to think about where the storm water runoff is going to go so you don’t end up with swampy spots. We also added a ring race around our farm to make weighing more efficient. Before we could weigh 3 or 4 mobs of heifers in a day at best, but now we can weigh 5-6 mobs in an afternoon. The race also makes it safer when the kids are on farm.*

Contract Grazier, 1,000 heifers, Patea, Taranaki

*It is impossible to weigh heifers without yards so we helped our grazier build a set one winter.*

Dairy farmer, 680 cows, Winton, Southland

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**More information**

- For more about weighing heifers see Heifer Infosheet: Weighing Systems for Heifers.