# FEED WASTAGE - TECHNICAL PRINCIPLES & PRACTICES

**What are some key options to make more profit per cow through reducing feed wastage?**

To achieve an increase in Dairy Operating Profit (or EBIT) of $100 per cow per year means making around 30 cents more profit per cow per day. Some options:

- Moving from paddock feeding of a partial mixed ration to a permanent feedpad with designed troughs will typically reduce wastage from 25 to 5%, an increase in Dairy Operating Profit of $200 per cow per year. Average capital costs for a feedpad will range from $100 to $250 per cow.
- For a farm feeding $600 per cow per year in byproducts, moving from ground stored wastage of 15% to shed storage wastage of 1% will save $84 per cow per year. This saving will be offset by storage shed capital costs which typically can be around $150 per cow.
- Feeding round bale silage on the ground especially during wet conditions can lead up to 35% wastage. Feeding in round feeders can potentially reduce wastage to 5%. For a herd feeding 1.5 tonnes dry matter per year of silage at a cost of $250 per tonne, this represents a potential saving of $112 per cow per year minus the capital cost of feeders.

**Table 1. Feed wastage rates with commonly used feed-out methods**

| Feed-out method used | Wastage rate | | |
|---|---|---|---|
| | Min. | Typical | Max. |
| a) In the dairy shed at milking | 0% | 1% | 2% |
| b) In grazing paddock, on pasture | 5% | 15% | 25% |
| c) Using temporary feed-out area, feeding on bare ground, in ring feeders, old tractor tyres or under a fence line | 5% | 25% | 35% |
| d) Using semi-permanent feed-out facility with a compacted surface and low-cost feed troughing | 5% | 10% | 20% |
| e) Using permanent feedpad with a compacted surface and purpose-built feed troughing | 2% | 5% | 10% |
| f) Using permanent, fully developed feedpad with concrete surfaces | 1% | 3% | 5% |

Note - These figures assume dry conditions. They may not reflect the full range of wastage rates that might occur under wet conditions.

## Feed Losses

Feed losses on farm occur during:

1. delivery and storage of feeds
2. mixing of diets and
3. feed-out to cows.

Of these, losses during feed-out are the most significant. They include losses due to trampling, leaf shatter, chemical and physical deterioration, faecal and urinary contamination and refusal.

Feed wastage rates vary between different feed-out methods. Low capital cost feed-out methods usually waste much more feed than high capital cost methods, and vice-versa, as shown on page 2.

Make realistic allowances for feed wastage when developing your feed budget.

If significant quantities of hay, silage or mixed rations are fed out on farm, investment in feeding infrastructure and equipment to reduce waste may be money well spent. To explore this, use the dairybiz+100 Feed Wastage partial budget tool.

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% Feed likely to be wasted at feed-out

*Capital cost

**Up to 30%**

**<$50/cow**

Temporary, relocatable feed-out area. Forages or mixed rations are fed out on the bare ground in the paddock, in hay rings or old tractor tyres or under an electric fence line etc

**$50-100/cow**

Semi-permanent feed-out area. Compacted surface and low-cost troughing, such as conveyor belting and second-hand feed or water troughs.

**$100-250/cow**

Permanent, basic, feed-out facility. Compacted surface and concrete feed troughs or cement strip under electric wires.

**<5%**

**$250+/cow**

Permanent, fully developed, feed-out facility. Cement surfaces and feed alley. May be covered by a roof.

** Capital Cost - This cost/cow is an estimate for the feed-out area only, not the associated equipment, including carts, wagons and tractors, as these may already exist or may be borrowed, leased or purchased, depending on individual preferences.*

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# WAYS TO MINIMISE WASTE

## A. Feed ingredients / rations

- Pay close attention to chop length when cutting hay/ silage – if it is too long, the cows will sort through it and waste more.
- Offer cows fresh, palatable, high-quality feed at all times. Discard any spoiled/mouldy feed ingredients.
- If feeding a Partial Mixed Ration (PMR) using a mixer wagon, ensure the mix is not under or over processed. Follow the manufacturer's instructions. Use ration conditioners such as water, molasses or oil to reduce fines, sorting of feed and rejection or wastage of feed.

## B. Feeding management

- Sequence feeds carefully during each 24-hour period.
- Clean feed-out surfaces regularly.
- If feeding out on pasture, avoid long pastures.
- Consider cows' social order (aggressive versus less dominant cows).
- Adapt to the prevailing weather conditions (feed wastage may be much higher under wet conditions versus dry conditions).

## C. Feeding infrastructure design

- Use hay feeders that encourage cows to keep their heads in the feeder opening, reach for feed, and not easily back away and drop hay on the ground, e.g. a slatted bar design on a ring feeder that forces cows to rotate their heads when entering or leaving the feeder.
- If using troughs:
  - Ensure you provide adequate space for the number of cows (reco: at least 75cm/cow).
  - Aim for a trough height that allows cows to eat with their head in their natural grazing position – about 10-15cm above the ground. This position also helps cows produce more saliva to help buffer their rumen.
  - Ensure trough surfaces are smooth to avoid build-up of waste feed, moulds, odours and are easy to clean.
  - Consider concrete aprons around troughs to prevent mud and slush reducing feed palatability.

## Further Information & Support

*For further information on feed wastage, including:*

- *findings of a study of feed wastage rates on 50 commercial dairy farms across Australia, and*
- *guidelines for measuring feed wastage on your own farm*

*- go to www.dairyaustralia.com.au and type 'feed wastage' into the search field.*

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