



Managing a fodder shortage

High demand and successive years of low production has created a fodder supply shortage across Australia's dairying regions, creating headaches for farmers sourcing feed.

When pasture is limited and supplies of fodder, or more precisely long fibre, are reduced, the temptation can be to just go and buy whatever feed is available. However, carefully planning likely feed requirements and actively managing bought feed quality, supply and price risks is the best approach. This can help reduce the cost of buying feeds and ensure that stock's nutritional needs are met with reduced feeding risks.

Tips for success

Here are some tips for success as you progress through the five steps involved in managing a fodder shortage.

Step 1. Calculate your monthly feed demand and feed deficit

Guesstimates aren't good enough. You need to do a monthly feed budget to ensure you know what quantities of each feed you need to buy each month to meet your milk production and liveweight targets.

When doing your monthly feed budget, ensure it:

- is based on an accurate head count
- uses realistic ME requirements of your different classes of stock
- includes good estimates of pasture and other home-grown feeds available
- makes allowance for feed wastage based on your feeding system
- is free from errors.

If necessary, seek help from an adviser.



Step 2. Calculate your bought-in feed requirement for each month

Consider immediate and longer term options for closing your feed gap, including:

- Stimulating more growth of winter pasture and crops
- Feeding more grain/concentrates safely
- Extending your forage reserves with alternative fibre sources
- Drying off early and culling cows

Determine what feeds you can buy to fill each month's feed deficit:

- What are their dry matter, metabolisable energy (ME), crude protein (CP) and neutral detergent fibre (NDF) contents? What are their effective fibre values?
- How do they compare in terms of dollar value per unit energy and per unit protein?
- What limits are there on the daily feeding rates of specific feeds?
- What risks (eg. ruminal acidosis, mycotoxins (fungal toxins), chemical residues) need to be managed when using specific feeds?

Formulate diets for each class of stock—milkers, dry cows, yearlings and calves—that:

- are nutritionally balanced, meeting daily energy and protein requirements for target milk production / growth rates within animals' appetite limits
- will maintain sound rumen function
- make realistic allowances for feed wastage, based on your feeding system.

If necessary, seek help from a nutrition specialist.

Revise your feed budget when circumstances change (e.g. available feeds, number of animals to be fed).

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Step 3. Buy feeds

Work out what you can afford to pay (break-even and target feed prices).

When assessing a particular feed to buy, firstly check its physical quality, making sure that you have a representative sample. Things to look for:

- An unusual appearance or consistency
- Material too wet or too dry
- Any contaminants or foreign materials, which may reduce nutritional value or cause digestive problems
- Signs of mould, which can increase the risk of mycotoxins (fungal toxins).

Then look beyond the price tag, and see how each feed stacks up in terms of its relative cost per unit energy and protein using feed analysis.

Increase certainty of feed supply and predictability of feed costs by confirming verbal agreements with feed suppliers by mail, fax or email (i.e. in writing). The key points you need to cover are:

- Quantity
- Quality
- Price
- Delivery period
- Delivery point
- Payment terms.

A pro-forma that covers all these key points is the Grain Trade Australia (GTA) Contract Confirmation, which can be used for any feed, not just grain. (To download a blank copy, go to www.dairyaustralia.com.au/fodder-shortage).

Ensure you obtain a vendor declaration form from each feed supplier. (To download a blank copy, go to www.dairyaustralia.com.au/fodder-shortage).

Ensure that the quality and quantity of each load of feed delivered to your farm is as specified in the purchase agreement. If not, you have the right to reject it.

In case a dispute arises weeks after delivery regarding feed quality, it is good practice to collect a small, representative sample of each load of feed as you receive it, put it in a press-seal plastic bag and store for at least 2–3 months in a cool, dry place protected from vermin.

Maintain regular communication with feed suppliers (particularly if supply starts to look doubtful).

It's not what you pay for your feed, it's what you get for your money that counts



Feed type: Co-products



Pile of mouldy grape marc

Feed storage and mixing areas can be busy places—think safety first



Roll-over tarp



Concrete block bunkers



Bunker with pitched sliding roof

	How to calculate	Example	Remember this
Dry matter	Cents per kg DM = $\frac{\text{Price } (\$) \text{ per tonne of fresh feed} \times 10}{\text{DM percentage}}$	Citrus \$41/t delivered, 18% DM: $\$41 \times 10 = 22.7\text{¢}$ per kg DM 18	Feed values can change between loads. Get a feed test on a representative sample. Wet feeds can 'shrink' by up to 25% after delivery.
Energy	Cents per MJ ME = $\frac{\text{Price } \text{¢ per kg DM}}{\text{MJ ME per kg DM}}$	PKE 38¢ per kg DM, 11.5 MJ ME: $38 = 3.3\text{¢}/\text{MJ ME}$ 11.5	Think about securing a proportion of your required tonnage of energy-dense concentrates on contract so there are no surprises.
Protein	Cents per kg CP = $\frac{\text{Price } \text{¢ per kg DM} \times 100}{\% \text{ CP}}$	Canola meal 46¢ per kg DM, 42% CP: $46 \times 100 = 109\text{¢}/\text{kg CP}$ 42	With little pasture, you will have little protein to work with. Make sure you have secured protein sources.
Fibre	Not often calculated per kg. Use a blend of fibre sources, including at least one with a high 'effective' fibre value to ensure cows' long fibre requirements can be met (Refer to feed.FIBRE.future fact sheets A, C and E)		

DM = dry matter; MJ ME = megajoules of metabolisable energy; CP = crude protein.

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Plan well, buy right, feed carefully



Feed-out areas can be sloped for minimal maintenance.



Stock pile dry effluent in preparation for spreading on paddocks.



Think about a solid waste spreader to distribute nutrients to poor paddocks.

Step 4. Store feeds

Don't wait until the truck arrives before you consider how you will manage risks around feed shrinkage, spoilage and / or contamination.

- Alternative fibre sources such as palm kernel meal and almond hulls may be prone to growth of fungi that produce mycotoxins (fungal toxins) if they are allowed to get wet.
- Feed contamination with stones and dirt can be a problem if you don't have a concrete base.

Consider inexpensive feed storage options, but beware higher feed spoilage and wastage costs.

Ensure the feed delivery area is safe (e.g clear of powerlines) and easy for vehicles to access.

Don't forget about your existing hay and silage supplies. They are too valuable to waste through poor storage.

Step 5. Feed diet to herd

Consider your feed-out area / facility and feeding equipment.

- Consider improvements you can readily make which will help you better control feed wastage.
- Check that there is adequate area, feed trough space and access to drinking water for the number of animals using the feed-out area / facility.
- Consider the limits your front-end loader, silage cart or mixer wagon places on the types of feeds you can safely and effectively use and work within them.
- 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.
- If you don't have a mixer wagon and must feed 2 or 3 fibre sources separately, consider how you will best do this to regulate cows' feed intakes, and avoid excess competition and wastage.

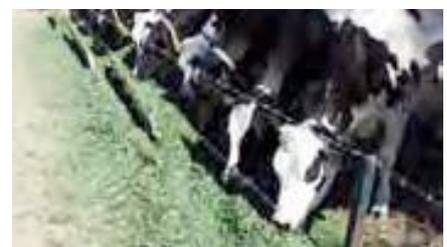
Using mouldy feed ingredients will increase risk of mycotoxins



Poorly sealed silage pit with a thick layer of poorly fermented silage under plastic.



Pile of mouldy grape marc.



Pile of mouldy grape marc. Feed wastage during feed-out.



High feed wastage can occur when using troughs that are not well designed.



This cow is sorting fine from coarse particles from this poorly mixed ration.

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Step 5. Feed diet to herd

Consider your feeding management.

- Offer cows the right amount of feed at the right time of the day—don't overfill troughs.
- Sequence feeds carefully during each 24-hour period.
- Offer cows fresh, palatable, high-quality feed at all times. Don't put fresh feed on top of old feed.
- Clean feed-out surfaces regularly.
- Discard any spoiled/mouldy feed ingredients.
- 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).

Do these quick checks:

- Check that the cows are eating the diet. Palatability can be improved by mixing more tasty ingredients. Liquids can help carry and mix powdered ingredients, reducing feeding losses and feed sorting. Adding water in a mixer wagon helps when most ingredients used are dry.
- Watch the tail end of the herd after milking for signs of health problems such as ruminal acidosis. Pay particular attention to your first calvers as they may be the first to show signs that something is wrong. Do an acidosis risk assessment.
- Check that the people mixing and feeding out know what they are doing, and are comfortable with the tasks they must perform. Measurement and calculation errors can be costly.
- Don't forget the calves and yearling heifers. Check that they meeting your target daily growth rates. If not, change their diet.

Ensure milk production levels achieve budget and feed usage stays within budget.

Review and re-plan when circumstances change.

Consider your effluent system. Can it cope with having cows in a smaller area for a longer period of time each day? Make changes if necessary.

Be prepared to manage the increased risk of mastitis, lameness, ruminal acidosis and other herd health problems associated with new feeds, diets, feeding practices and smaller feed-out areas.