

NUTRITION AFTER MAJOR ENVIRONMENTAL EVENTS

SOUTH-EAST AUSTRALIA

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Major or catastrophic environmental events (e.g. floods, bushfires, droughts) cause significant turmoil and upheaval to the nutritional management of dairy herds.

With silage and hay reserves, as well as pastures or crops often severely affected or completely destroyed, farmers in these situations are faced with both immediate and medium-term decisions around herd nutrition.

The following list provides some guidelines for farmers to consider in this period that are aimed at limiting the negative impact of the flooding events on the short-term productivity and nutritional status of the animals.

This should also assist in enabling farms to get back to 'normal' more quickly once resown pastures and crops emerge and are available for grazing in the following weeks and months.

- Provide sufficient feed to meet maintenance needs for all classes of livestock as a minimum
- If pasture and fodder access and availability are very limited, you may be forced to consider using alternative fibre options which you may not have used before. Many alternative fibre sources are suitable for feeding to dairy stock provided they are supplemented with high energy feeds and protein sources as part of a balanced diet. They vary widely in nutritive value, digestibility, effective fibre value, and may present risks such as ruminal acidosis, mycotoxins and chemical residues. So you need to be careful. Refer to fact sheets 'Facts on alternative fibre sources' and 'A to Z of fibre sources'.
- Milk yield response will be lower from these types of forage sources.



- It is possible to limit the negative effect on milk yield for a period by feeding slightly more concentrate than normal in the dairy (or via a TMR/PMR if available). Some rules of thumb are:
 - Most lactating cows will have a daily DMI of 14–22kg DM/cow/day depending on breed, size and production level.
 - It is possible to provide up to 50 per cent of the daily diet as concentrate in a relatively safe manner. In practice, this will be around 6–7kg concentrate/day for Jersey cows and up to 10kg concentrate for larger Holstein Friesians.
 - If approaching 50 per cent of the total daily diet as concentrate, try to feed a slowly digestible starch grain source if possible. This reduces the risk of acidosis in these animals.
 - Sorghum and maize grain have the slowest starch degradability rate in the rumen.
 - Barley grain is intermediate by comparison, while wheat grain is rapidly degradable compared to the others mentioned.
 - A minimum of 50 per cent of the total milking herd diet should still come from palatable forage sources such as silage, hay or grazed pasture (if available).
 - At higher concentrate levels (more than 7kg/day), if you can provide one of the more slowly degradable starch grains in your concentrate mix, it will be safer for rumen stability.

- It is important to have a source of accessible and palatable fibre available for the herd soon after exiting the dairy if feeding increased grain levels to try maintain production. Keep forage feeding stations such as ring feeders full with clean forage, avoid putting new forage on forage that is spoilt, ensure plenty of space to reduce competition and keep feeders moving to minimise soiling and risk of environmental mastitis.
- Access to clean drinking water without limitations is important.
- Wholesale rapid changes to the diet are to be avoided where possible to safeguard rumen stability. This may be unavoidable after a catastrophic environmental event, but you should still try to control and limit major changes in the diet where possible.
- If choosing to increase concentrates, a good rule of thumb is to only increase the feeding level by 1kg per cow/day. For example, if increasing from 3kg grain fed in the dairy/day to 8kg grain/day, do it gradually over a 5 to 7-day period. Do NOT do this in the space of one or two days.
- Increased concentrate feeding will make the diet more expensive. But it should also give a greater milk yield response which will offset this cost increase, and in a couple of months when newly sown pastures are back in the diet and available for grazing, it will be possible to return to pre-catastrophic event levels of concentrate feeding having maintained lactation momentum in the herd. Protein availability in the diet is likely to be limited in most cases unless access to a forage protein source like lucerne or vetch is possible. Donated fodder is likely to be moderate to poor quality ryegrass or cereal hay with insufficient protein available to meet herd protein requirements.
- Consideration should be given to offering a couple of kilos of a high-quality protein source as a part of the concentrate mix. Canola meal is a good option here – it has a higher level of bypass protein which will assist in boosting the milk yield response. Lupins if available may be another very useful source of protein concentrate. Both can be fed safely and efficiently in a dairy grain mix with minimal wastage.
- Other protein and energy sources such as dried distillers grains are available and can form a large proportion of diets. DDG has moderate levels of good quality protein and energy and has lower acidosis risk.
- Urea may be offered as a protein source in some circumstances, particularly if the forages in the diet are extremely fibrous and low in energy and protein, however urea can be risky to animal health if fed incorrectly. Here, nutritional advice is **essential**.
- Fibrous concentrate (high digestible NDF) options can be suitable if aiming to push close to or exceeding that threshold of 50 per cent concentrate in the total diet. They will be lower risk for poor rumen stability than starch based sources but will still offer reasonably good levels of energy. Examples include soya hulls, barley combings, PKE and wheat mill run.
- Some feed companies will offer pelleted grain rations which are often useful at higher concentrate feeding levels. The ingredients in the pellets are heat-treated which may slow the rate of starch degradation in the rumen and make it safer from a rumen health perspective. Close consultation with your mill-nutritionist will allow them to make safer rations for higher levels of feeding.
- These formulations should also aim to deliver more consistent mineral and additive inclusions and allow smaller scaled enterprises to access more expensive ingredients without large inventory costs.
- Seek nutritional advice about additive options. These may include mycotoxin binders to protect against undesirable mycotoxins in donated or bought in forages, and bi-carb or Acidbuf to buffer the rumen pH, especially if feeding high levels of cereal grains like wheat or barley. Antimicrobial rumen modifiers such as Eskalin and Tylan (on veterinary prescription), Monensin and yeasts can reduce risk of rumen dysfunction and acidosis and may improve feed conversion efficiency.

Dealing with herd nutrition in the aftermath of a major environmental event is daunting and challenging. These tips may assist in minimising the damage and effects on overall productivity in the recovery phase. The aim is to return expediently to the pre-environmental event herd nutrition status in following months once pasture and crops have been re-established. As always, the support and advice of a trusted nutrition advisor is highly recommended during this process.

FOR FURTHER INFORMATION

Contact your herd nutritional adviser or search the Feed and Nutrition pages of dairyaustralia.com.au