High quality feed wins

For profitability and for emissions

This fact sheet is part of the Profitable Dairying series - *Good business management reduces greenhouse gas emissions.*

The Australian dairy industry has committed to reducing greenhouse gas emissions intensity.

Cows on quality feed with a good feed conversion efficiency will burp less methane per L milk produced than cows on poor quality feed.

Feeding cows high quality feed is a win-win for farm profitability and managing emissions.

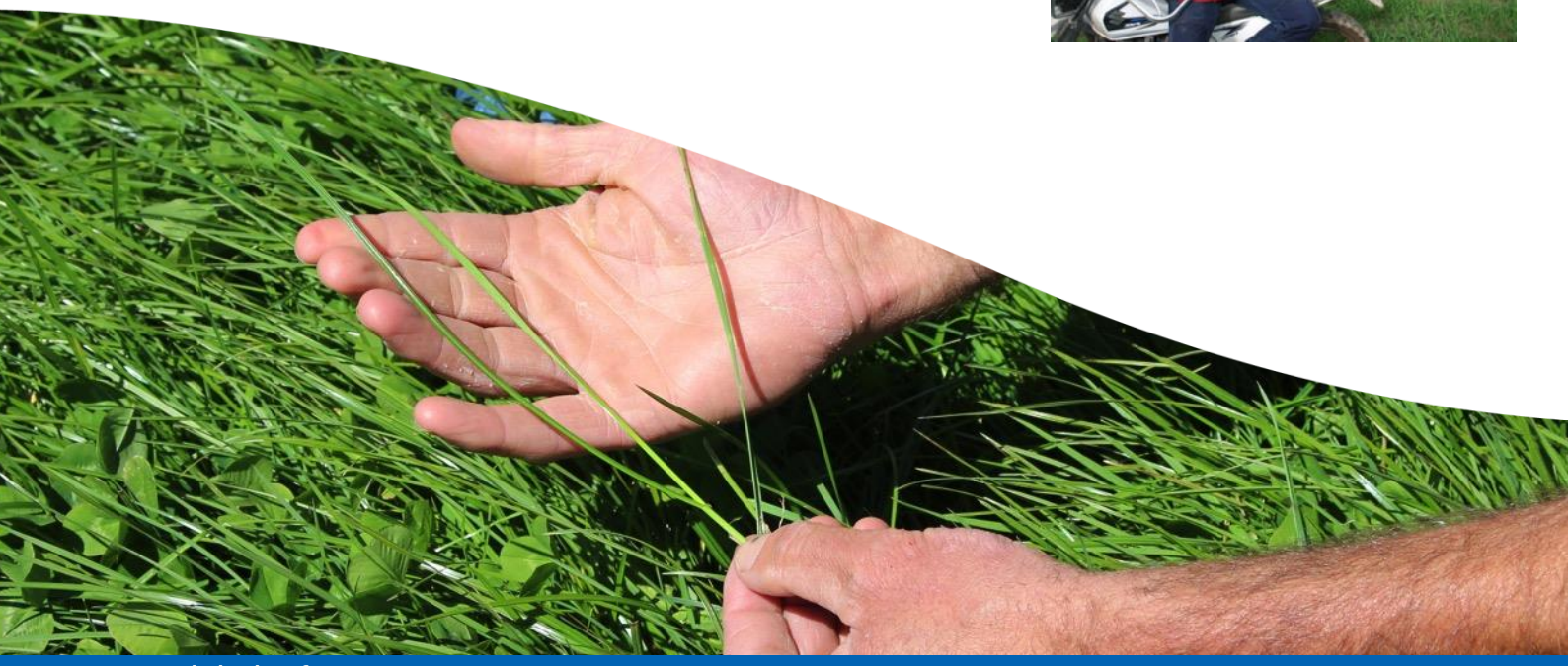
Feed the cows well

Cows on quality feed with a good feed conversion efficiency will produce less methane per litre of milk produced than cows on poor quality feed.

Enteric methane produced by methanogen bacteria in the rumen is the largest source of greenhouse gas emissions from dairy farms – around 55%. Approximately 6-10% of the energy consumed by cows is converted to methane released via burping. Forage quality has a major impact on methane production, being highest with low forage quality. It is a major source of energy loss for the cow, and if it could be minimised, milk production would likely increase.

Click here for more information.

"We farm in an unreliable climate. We need to be flexible with each season and grow as much quality grass as we can when water is available. The feedpad and TMR system give us control in uncertain seasons" Glen Dohnt, Monteith, SA



Tackling enteric methane emissions by improving diet quality

Any strategy that improves diet quality will tend to reduce methane production per L of milk, such as:

- Improving pasture quality through grazing management
- Increasing the portion of C3 (temperate) species such as ryegrass or fescue in the diet compared to C4 (subtropical) grasses such as paspalum or kikuyu
- Adding grain to a forage diet

However, while improvements in diet quality can reduce methane emissions per L of milk produced, they often act to increase total farm methane emissions. This is because milk production per cow increases, but cow numbers often go up to take advantage of the higher quantity and quality of feed.

Supplements and nutrition

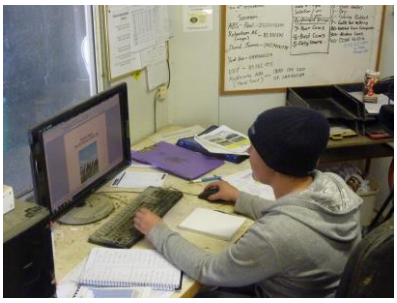
Profitable supplementary feeding requires careful balancing between maximising milk response and managing feed input costs. A range of tools and resources including the Hay and Grain report, transition cow management resources and information on supplementary feeds are available from Dairy Australia. For more information click here.

Feeding fats and oils

This has long been common practice in some herds - usually through high protein meals that are by-products from oilseed crops, and direct feeding of whole cotton seed. A review of feeding experiments showed that for each 1% increase in dietary fat, methane production was reduced by 3.5%. Inclusions of fats can boost production, and reduce emissions. The suppression of methane emissions seems most pronounced when pasture quality declines - ie summer and autumn in southern Australia, and this is likely to be the time when production responses to fats and oils are greatest. This strategy is limited by the fact that if total diet fat content (including the fat contained in the pasture and other forage supplements) exceeds 6-7% then intake and milk production will be suppressed.

Other feed additives

There is currently a huge research effort globally to look at options for reducing methane emissions. One of the feed additives being trialed in beef cattle in Canada as part of an international collaborative research effort is 3-nitrooxypropanol, commonly referred to as NOP. Initial trials with this chemical have been promising. Click here for more information.



Further resources:

Practices to reduce emissions on Australian dairy farms

Global Research Alliance on Agricultural greenhouse gases

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