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Options for delivery of methane reducing additives in temperate grazing systems

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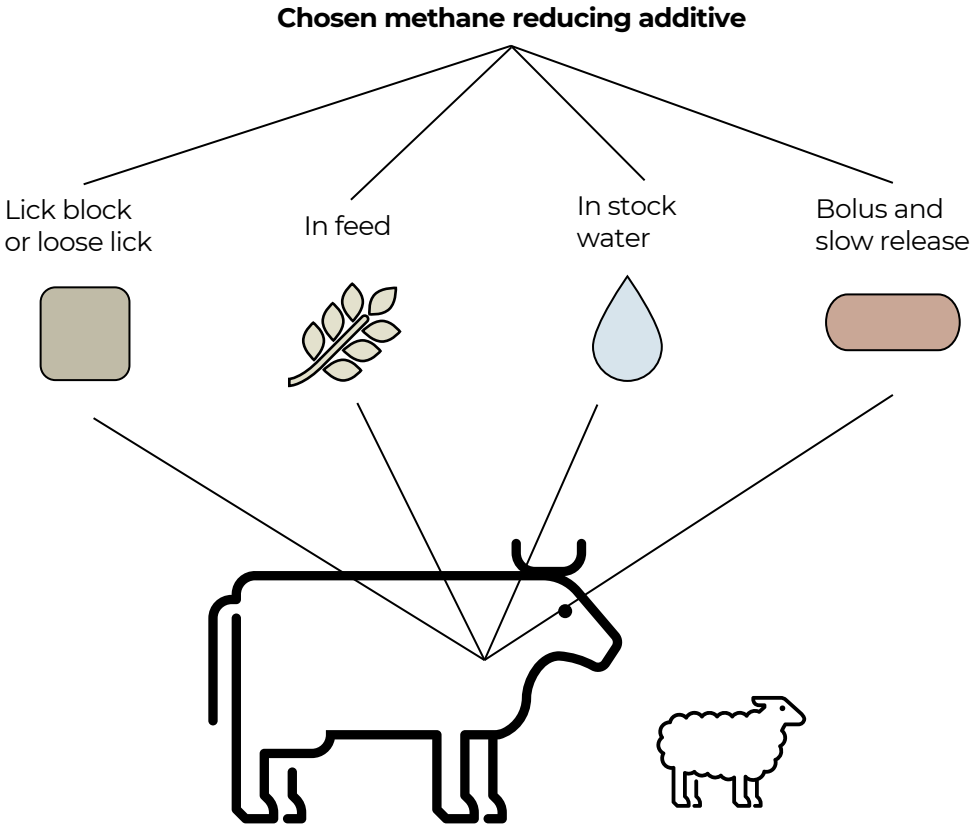
Background

Australian ruminant livestock production systems vary greatly across the country. They include vast and extensive systems to highly managed intensive systems, and a large range in between. Because of this diversity in production systems, it is highly likely that there will not be a 'one size fits all' solution to reducing enteric methane with the adoption of feed additives. This is understood by those companies that are developing additives with most, if not all developing several different ways in which they can get their product to a grazing cow or sheep. These include oil, solid, powder, and soluble options that can be included in different products and formulations for different delivery mechanisms to grazing animals.

The mechanisms that are either currently available, or will be soon include;

- Solids powder or liquids that can be incorporated into feed pellets or fed with grain.
- Lick blocks or loose licks that contain a methane reducing additive.
- Soluble products that can be dissolved and delivered to animals in stock water.
- Slow-release boluses or formulations that will deliver a controlled dose of additive over an extended period (still in development at time of publishing).



Options for temperate grazing systems

For the temperate grazing system there are several challenges because generally, the system is not extensive enough to be highly limited for options, but it is too extensive to add in extra labour and expense requirements. Therefore, there is a need to have several viable options and to find what works in the given system, and potentially also at what time of the year. Table 1, shows some of the potential delivery mechanisms that are currently being proposed and researched and their relative advantages and considerations.

Table 1. Advantages and considerations for adoption of different delivery mechanisms being proposed for grazing systems.

Mechanism	Advantages	Considerations
Feed	If you're feeding purchased pellets already as part of the diet this could be quite easy, as it can be incorporated in at the point of manufacture.	Not so easy if you are feeding grain harvested on-farm or not setup to supplementary feed.
Lick (E.g. block or loose)	Low infrastructure cost and nutrients that may be lacking in the diet can be provided at the same time.	Needs to be topped up and moved with stock movements. A certain level of wastage is also to be expected.
Stock water	Depending on how your water supply system works it can be done. Other nutrients that may be lacking in the diet can also be provided at the same time.	Can be impacted by season, with animals gaining a significant amount of their required water through pasture/feed at certain times of the year.
Slow release (E.g. Bolus)	It can be administered less frequently than the above. Potentially higher level of control over the dose.	Technology is not fully developed yet and there is potentially a higher risk associated with overdosing if things go wrong.

All options have both positives and negatives, so consider these, and see what will work best with the infrastructure and systems you already have. This is constantly developing area so keep an eye out for these developments as they become available.

KEY POINTS

- Consult a certified ruminant nutritionist to discuss options for additives.
- Find what fits your farm system to ensure it is easy to use.
- Trial with a small mob of animals in the first instance, and closely observe them.
- Always adhere to the feeding guidelines provided, paying particular attention to the feeding rates and the requirements for any adjustment period.

This resource has been developed through the Ag Innovation Fund (AIF) project titled , On-farm adoption of low emissions feed technologies for improved profitability of the Tasmanian livestock sector.

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