



Australian Government
Department of Agriculture



Department of
Environment and
Primary Industries



NATIONAL LIVESTOCK METHANE PROGRAM

PROJECT FACT SHEET

Supplements, forages and feeding strategies to reduce methane in southern livestock systems

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Lead researcher	Dr Joe Jacobs
Funders	Department of Agriculture, Department of Environment and Primary Industries Victoria, University of Melbourne, Dairy Australia, Meat & Livestock Australia.
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About the project

This project will quantify the potential of novel feeds supplements, forages and feeding strategies to reduce methane emissions from livestock in southern Australia, while maintaining or improving production and productivity.

A range of supplements not considered 'mainstream' by the dairy and sheep industry will be investigated, including citrus pulp, almond hulls and grape marc, as well as wheat fed at a higher level of intake than currently used on farm or treated to change its rate of digestion. The methane reducing potential of forages such as perennial ryegrass, brassica forages, plantain and chicory will also be explored.

Researchers will consider how any potential new supplements and strategies can be integrated into current sheep and dairy production systems in southern Australia.

What does it mean for producers?

The knowledge from this project will enable southern livestock producers to better understand how they can use a range of new supplements and feeding strategies in their production systems to lower methane emissions while maintaining or increasing productivity.

The results may also be used in the development and validation of methodologies that producers may use to potentially claim credits under the Carbon Farming Initiative (CFI) and the future Emissions Reduction Fund (ERF).

Location(s):

This research project is being undertaken at:

- Ellinbank Dairy Centre, Victoria;
- Dookie Agricultural College, Victoria;
- The University of Melbourne, Parkville, Victoria.



Dairy cows at the DEPI's Ellinbank Dairy Centre, Ellinbank, Victoria.

BACKGROUND FACTS ABOUT ...

The National Livestock Methane Program

The National Livestock Methane Program (NLMP) has been developed to provide producers with practical strategies and tools to help them lower methane emissions while increasing productivity and profitability.

The program consists of 16 research projects grouped into five streams including: measurement of methane, genetics, supplements, forages, and rumen microbiology. These projects commenced in mid-2012 and will run until May 2015.

The NLMP is funded by the Department of Agriculture. It is managed by MLA and receives support from 11 collaborating organisations. For more details on the projects and collaborators, please visit www.mla.com.au

The link between ruminant biology, methane and productivity

When cattle and sheep digest feed, between 2-10 per cent of the feed energy they consume is lost in the form of methane gas. This is caused by the activity of micro-organisms that naturally live in the animals' stomach (rumen) and assist with digestion.

The methane gas (CH₄) is belched out by the animal and into the atmosphere. Simply put, they are 'leaking' feed energy, rather than converting it to muscle. Scientists are working to reduce this loss of feed energy by developing treatments to lower methane emissions. Preliminary research results indicate that some treatments can reduce methane-related energy loss by more than 50 per cent.

Methane is also a potent greenhouse gas and in Australia about 10 per cent of all greenhouse gas emissions and two thirds of agricultural emissions come from methane produced by cattle and sheep. Knowledge and practices aimed at reducing methane emissions from livestock therefore serve the dual purpose of improving feed efficiency, productivity and farm income, while also helping lower Australia's greenhouse gas emissions.