



Australian Government  
Department of Agriculture



Department of  
Primary Industries



# NATIONAL LIVESTOCK METHANE PROGRAM

## PROJECT FACT SHEET

# Genetic technologies to reduce methane emissions from Australian beef cattle

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### About the project

This project will provide new knowledge about the genetic variation of methane production in Australian cattle. By assessing the methane production of animals from the major cattle breeds the project will identify the relationship between methane production traits and other traits typically sought after in breeding cattle, such as growth rate and feed conversion efficiency.

This will allow for the first time methane emissions to be costed into the profit indices used in the national genetic evaluation system BREEDPLAN®, which is used by cattle producers to describe the genetic merit of cattle.

### What does it mean for producers?

Using the knowledge from this project, Australian cattle producers will be able to select and buy bulls to breed cattle with profitable traits for their production system while naturally producing less methane.

The technology is science-based and being developed in such a way so that producers who use them may be potentially entitled to claim carbon credits under the Carbon Farming initiative (CFI) and the future Emissions Reduction Fund (ERF).

## Location(s):

Research is being undertaken in four locations across south-eastern Australia:

1. NSW DPI Beef Industry Centre, UNE, Armidale, NSW
2. University of New England (UNE), Armidale, NSW
3. NSW DPI Agricultural Research Centre, Trangie, NSW
4. VIC DPI, La Trobe R&D Park, Bundoora, VIC.



*A steer being measured for methane production: NSW DPI*

## 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](http://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 (CH<sub>4</sub>) 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.