

# NATIONAL LIVESTOCK METHANE PROGRAM

## PROJECT FACT SHEET

# Plant selection to reduce methane emissions in southern grazing systems

<b>Lead organisation</b>	The University of Western Australia
<b>Lead researcher</b>	Associate Professor Phil Vercoe
<b>Funders</b>	Department of Agriculture, Meat & Livestock Australia, The University of Western Australia, CSIRO, SARDI, Australian Wool Innovation
<b>Communication contact</b>	Diana Jasudasen P: 08 6488 3756 E: <a href="mailto:diana.jasudasen@uwa.edu.au">diana.jasudasen@uwa.edu.au</a>

### About the project

There is currently little information about methane-reducing potential of the Australian temperate pasture feed-base. This project will identify pasture species that can be used to reduce methane emission in southern grazing systems.

Forty commercial and experimental species have been assessed in order to create the first database of information about annual growth patterns, the methane-reducing potential and nutritive characteristics of temperate pasture species. Plants tested will include annual and perennial pasture legumes and grasses.

A sub-set of 10 of the most promising species will undergo further analysis to quantify more precisely their impact on methane emission and productivity in different environments.

### What does it mean for producers?

The information generated by this project will assist livestock producers in temperate regions select pasture species and farming practices that lower methane emissions and maintain or improve productivity.

In addition, the information may also be used to develop and validate methodologies that producers could potentially use to claim credits under the Carbon Farming Initiative (CFI) and the future Emissions Reduction Fund (ERF).

## Location(s):

This research project is being undertaken at the following four locations across southern Australia:

1. SARDI Waite Institute (SARDI), Urrbrae, SA (main nursery)
2. UWA Shenton Park Field Station, Perth, WA (nursery)
3. CSIRO/UWA, Floreat, Perth, WA (laboratory and field analyses)



*Researcher Dr Alan Humphries inspects trial crops at SARDI's Waite Institute.*

## 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.