



Meat & Livestock Australia's R&D Climate Change Projects

2008 saw the expansion of Meat and Livestock Australia's Climate Change research program initiated in 2007 with dedicated funding of \$2 million per year.

Ratification of the Kyoto Protocol and the release by the Government of policies for meeting greenhouse gas emissions reduction targets, in particular *Carbon Pollution Reduction Scheme (CPRS)*, emphasised the importance and the urgency of research to help livestock producers and the industry understand the best options for maintaining productivity and profitability in a future affected by changing climate and new emissions policies. The objectives of MLA's climate change research are providing industry and producers with the knowledge and tools to manage their greenhouse gas emissions and to adapt to climate changes, and to provide technical support for response by the peak councils and National Farmers' Federation to climate change policy development affecting the red meat industry.

ADAPTATION TO CLIMATE CHANGE

Research shows that hotter and, in many areas drier, conditions, and elevated levels of carbon dioxide in the atmosphere affect growth and quality of pastures, competition between species and factors such as spread of pests and diseases. The *Whole Farm Systems Ability & Tools (WFSAT)* project successfully developed a framework for modelling impacts on pasture, and funding has been applied for from Australia's Farming Future Climate Change Research Program (CCRP) to extend this collaborative project nationally in WFSAT 2, with successful projects to be announced shortly. Livestock Production Innovation also led the development of submissions for funding for Northern Beef Adaptation and Southern Livestock Adaptation.

SOIL CARBON

A project funded by MLA is being undertaken by Queensland Department of Natural Resources and Water entitled *Sampling methodology for estimating the impacts of pasture type and management on soil carbon in grazing lands*. This project focuses on the extensive grazing lands of northern Australia and aims to develop a robust sampling protocol for these highly variable soils and landscapes to assess the impact on soil carbon of

management practices including rotational grazing, and use of perennial legumes such as leucena. This project was included in a successful submission led by CSIRO Land & Water for CCRP funding allowing expansion of the sites sampled and clear alignment with national soil carbon research.

COLLABORATIVE STRATEGIC RESEARCH

- With other Research Development Corporations and departments of primary industries, MLA has supported Climate Change Research Strategy for Primary Industries (CCRSPI) and is represented on the steering committee and the stakeholder group. The strategy was published early in 2008 and CCRSPI took a coordination role for cross-sectoral projects.
- The Managing Climate Variability Program (MCV Phase 2) published its strategic plan late in 2008 setting out a program to improve the accuracy of seasonal climate forecasts and climate risk management tools to 2014.

TECHNICAL SUPPORT FOR POLICY DEVELOPMENT

MLA has provided technical analyses and information to NFF, Cattle Council of Australia (CCA), Sheepmeat Council of Australia, and Australia Meat Industry Council on major documents released by the Government on the CPRS and adaptation to climate change. MLA also participated in the Department of Climate Change Technical consultative group for the land-based sectors which examined the role of agriculture in an emissions trading scheme and impacts of possible changes in accounting rules. MLA contributed to several submissions on the Garnaut Review, CPRS and parliamentary enquiries coordinated by the NFF or CCA.

REDUCING EMISSIONS FROM LIVESTOCK

Priorities for livestock production systems is building capacity for accurate accounting of emissions, and the development of practical strategies for managing emissions while maintaining or increasing production. The greatest source of methane emissions is from the digestive process in sheep and cattle and this has been a major investment in 2008. Other issues of importance are



managing emissions from waste in feedlots, understanding the potential sequestration of carbon in vegetation and soils in grazing systems and adaptation to climate change.

MLA coordinated a successful submission for CCRP funding for *Reducing Emissions from Livestock*. This proposal included co-investment from Dairy Australia and Australian Wool Innovation and several state agencies of universities, with major funders being Department of Agriculture, Fisheries and Forestry through CCRP (\$11.25 million) and MLA (\$3.4 million). This program involves most of the research organisations in Australia with expertise in rumen function and biology as well as specialist projects, for measuring emissions from manure from feedlots.

The *Reducing emissions from livestock* Program includes research to develop more accurate and practical measurement techniques, evaluation of feed additives and supplements and function and activity of rumen systems, genetic selection for low methane phenotypes and looks at both short term gains and more strategic science that promises possible larger reductions. 🇺🇸



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