Coordination of the National Agricultural Manure Management Program

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This project manages, directs and coordinates the NAMMP research projects to deliver greenhouse gas mitigation options across the intensive livestock industries that should lead to the development of new Carbon Farming Initiative methodologies for Australian agricultural industries.

Background

The National Agricultural Manure Management Program (NAMMP) is a nationally coordinated program of research and development focused on the estimation of the agricultural greenhouse gas emissions abatement potential for various manure management systems. This important research will underpin the development of new Carbon Farming Initiative (CFI) methodologies for Australian agricultural industries.

The NAMMP consortium is managed by Australian Pork Limited who have an agreement with DAFF to manage the program that began in July 2012 and will run until June 2015.

NAMMP includes four research projects which are being conducted by researchers from the University of Western Australia, the Department of Agriculture Fisheries and Forestry Queensland and Feedlot Services Australia Pty Ltd. These projects are listed on this fact sheet. A separate fact sheet is available for each project.

NAMMP is supported by funding from the Australian Government Department of Agriculture, Fisheries and Forestry through its Carbon Farming Futures Filling the Research Gap Program, and by funding from: Australian Pork Limited; Meat and Livestock Australia; Australian Egg Corporation Limited; Chicken Meat Program of Rural Industries Research and Development Corporation; and, Dairy Australia. Also supporting the projects are the Department of Agriculture and Food Western Australia, University of Western Australia, Department of Agriculture Fisheries and Forestry Queensland, University of Queensland, Feedlot Services Australia Pty Ltd and the University of Wollongong.
The livestock industries in NAMMP make up a combined account of 84% of manure management emissions. Design and management changes provide a great opportunity to significantly reduce emissions from manure over a relatively short time frame.

Projects under the National Agricultural Manure Management Program (NAMMP)

Program Coordination
(Australian Pork Limited [APL])

This project manages, directs and coordinates the NAMMP research projects to deliver greenhouse gas mitigation options across the intensive livestock industries, leading to the development of Carbon Farming Initiative methodologies.

Research Projects

Mitigating the Greenhouse Gas Potential of Australian Soils Amended with Livestock Manure
(The University of Western Australia [UWA])

This project is evaluating the effectiveness of different mitigation strategies at reducing GHG emissions following the application of piggery, poultry or feedlot manure to land by measuring carbon dioxide, nitrous oxide and methane fluxes from soils following amendment using laboratory and field studies.

Advancing Livestock Waste as Low Emission — High Efficiency Fertilisers
(Queensland Department of Agriculture, Fisheries and Forestry [QLD DAFF])

The project is developing information for reducing greenhouse gas (GHG) emissions from intensive livestock production and increasing emission-offsets through innovative managements for land-applied manures from intensive livestock production (egg, chicken meat, pork, beef) and fertiliser formulations (manure+smart-sorber technologies).

Pork Greenhouse Gas Mitigation
(Feedlot Services Australia Pty Ltd)

Pig farmers have two attractive options to reduce GHG from conventional piggeries where pond covering is not feasible; i) change to deep litter housing, or ii) change to short HRT effluent treatment. This project is quantifying differences in GHG from each system using open path FTIR and a full mass balance for N and VS.

Poultry Greenhouse Gas Mitigation
(Feedlot Services Australia Pty Ltd)

This project addresses knowledge gaps in GHG estimation based on changed feeding (dietary N) or manure management in the chicken meat and/or egg industries. Emission measurement is done using open path FTIR and a full mass balance for N and VS at commercial facilities.
National Agricultural Manure Management Program

Objectives

As a priority, the NAMMP is focused on the successful delivery of GHG abatement opportunities across the manure supply chain in the intensive livestock industries that will underpin the development of Carbon Farming Initiative methodologies.

Research under NAMMP is of direct benefit to the Australian livestock industries. The research and development outcomes will contribute to development of policies and cost-effective mitigation strategies that decrease national agriculture emissions with minimal impact on productivity and profitability.

Program outcomes will include the provision of baseline data, which will be used to improve modelling capacity. This baseline data will include nitrous oxide emissions from piggeries and poultry operations, and emissions from soils with manure and fertiliser application.

By leveraging the combined efforts from a cross-sectoral consortium, the NAMMP will facilitate timely development of methodologies for the Carbon Farming Initiative (CFI), a carbon crediting scheme.

Activities

The project lead for NAMMP is Australian Pork Limited (APL). APL has four key functions as project lead:

- to provide scientific leadership and co-ordinate research activities across the NAMMP network;
- to co-ordinate communication and data sharing within the NAMMP network and across the other programs under the Filling the Research Gap program, including through the conduct of technology workshops;
- to collate, review and synthesize findings of projects under the NAMMP to report on progress and outcomes at the program level to the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF); and
- to coordinate and facilitate milestones and associated non government funding sources.

Outcome

The focus of the combined NAMMP cross-sectoral consortium of this project will allow for emission mitigation and the development of CFI methodologies. This collaborative research and development will generate emission factors (based on excreted nitrogen and volatile solids) which can be used to validate the factors recommended by the DIICCSRTE. This will assist in quantifying emissions and identifying risks / benefits for the industry and allow for correct emission estimation for the national inventory, National Pollutant Inventory (NPI), CFI methodologies and Life Cycle Assessment research.
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