

Steering Committee for Project,

“Enhancing the profitability and productivity of livestock farming through virtual herding technology”.

Background

The Australian Government’s Rural R&D for Profit program is a competitive grants program with funding available over eight financial years (2014/15 to 2021/22). The objective of the program is to realise productivity and profitability improvements for primary producers, through:

- a) generating knowledge, technologies, products or processes that benefit primary producers;
- b) strengthening pathways to extend the results of rural R&D, including understanding the barriers to adoption; and
- c) establishing and fostering industry and research collaborations that form the basis for ongoing innovation and growth of Australian agriculture.

The project, “Enhancing the profitability and productivity of livestock farming through virtual herding technology” was one of the seventeen projects that were announced on July 1, 2016 that had received funding support from the Federal Government under Round 2 of the program.

This Project

The 4-year Project “Enhancing the profitability and productivity of livestock farming through virtual herding technology” received \$2.6 million from the Federal Government, plus another \$1.365 million from a number of Rural Research and Development Corporations and R&D providers. The project is a partnership between CSIRO, the University of Sydney, University of New England, the Tasmanian Institute of Agriculture and the University of Melbourne and involves the dairy, beef, wool industries and their respective RDC’s; Dairy Australia, Meat and Livestock Australia and Australian Wool Innovation. It also has in principle support and a financial contribution from Australian Pork Limited.

The project aims to evaluate the on-farm application of virtual herding (VH) technology, demonstrate its implementation, and quantify and extend its benefits across the major livestock industries in Australia. The project will investigate the behaviour of different livestock (dairy cows, beef cattle and sheep) in response to VH cues and controls. The studies will examine the potential to constrain animals to certain areas (better grazing management and environmental outcomes), autonomously herd animals, or moving individual or groups of animals in a herd differently to the rest of that herd. Fundamental

research involving behavioural observations and physiological measurements will be critical to ensure that the VH technology does not compromise the welfare of animals.

This project will also develop an understanding of the learning, management and ethical challenges faced by farmers that may implement VH on their farms. Overall, this project will ensure more efficient use of pasture, protect environmentally sensitive areas, improve the performance of livestock by better matching their nutritional requirements to feed availability, and reduce labour to enable significant productivity and profitability gains for Australian farmers.

The high-level expected outcomes of the project are:

- i) Knowledge of the behaviour of livestock in response to VH cues and controls, with a view to optimising the application of automated control technologies.
- ii) Guidelines and recommendations on how to apply VH technology in farming systems to optimise value capture and minimise animal welfare implications.
- iii) A step change in both pasture management and the way that livestock are herded and managed, enabling significant productivity and profitability gains for Australia's pastoral farmers.
- iv) Knowledge of the potential to autonomously manage livestock in grazing and mixed farming systems for improved productivity, profitability and environmental outcomes.

The Steering Committee

A core requirement of the Project is the establishment of a project Steering Committee which will provide oversight of the activities in the Project. The committee represents stakeholders and will include industry and RDC representatives as well as an animal welfare agency representative.

Membership of the Steering Committee

It is expected that the Steering Committee will meet face-to-face at least once every year of the project, which will be supplemented with telephone or video conferencing amongst the Committee, at least, every 6 months. Sitting fees and expenses will be offered to the industry representatives on the Steering Committee. The composition of the Steering Committee may include:

- Richard Romano, Program Manager, Dairy Australia (Chair)
- Paul Hemsworth, Director, Animal Welfare Science Centre. The University of Melbourne.
- Aubrey Pellett, dairy farmer member of Dairy Australia Precision Dairy Reference Group.

- John Marriott, Bestwool-Bestlamb Coordinator.
- Nigel Tomkins, R&D Manager, Grassfed Beef, Meat and Livestock Australia
- Anna Vaughan, Project Manager, Australian Wool Innovation.
- Heather Channon, Acting General Manager, Research and Innovation, Australian Pork Limited.
- Holger Meinke, Director of Tasmanian Institute of Agriculture.
- Drewe Ferguson, Research Director, CSIRO.
- Yani Garcia, Director, Dairy Research Foundation, University of Sydney
- David Lamb, Leader, Precision Agriculture Research Group, University of New England.
- Ian Reilly, Managing Director, Agersens Pty Ltd.

Role of the Steering Committee

The role of Steering Committee is to guide and direct the Project and make it accountable to the respective livestock industries. The responsibilities of the Steering Committee are to provide overall governance and advice to the Project team which includes, but is not limited to:

- Become familiar with the design, development, activities and implementation of the Project during its four year term.
- Monitor the key activities, deliverables and the achievement of Project outputs including, reviewing the 6-monthly progress reports to the Federal Government and ensuring that communication and extension plans for the livestock industries are developed and are achieved to the satisfaction of the stakeholders.
- Provide strategic advice on industry issues of relevance to the Project.
- Ensure the project's scope aligns with the requirements of the stakeholder groups.
- Advise and make decisions on any IP issues that may arise during the Project term.
- Attend, where possible and appropriate, the proposed annual Farmer Panel meetings at which industries will be presented with the progress, results and implications of the Project for industry.