Subprogram 3: Determine best sub-herd and individual animal management for dairy and beef production systems.

Why is this project being undertaken?

This subproject is being undertaken to determine the effect of age, breed and individual variation in animal response to virtual herding (VH).

In addition, we will determine whether individual variation can be reduced through the introduction of simple visual cues in a training protocol. We will also investigate if VH cues can be customised to control the movement of individual cows or groups within dairy and beef production systems to optimise feed consumption and movement of livestock.

Who are the main partners?

Most of the animal studies will be conducted on site at The University of Sydney Farms, Camden, NSW, using both dairy and beef cattle.

The two research scientists leading the project are Dr Sabrina Lomax and Dr. Cameron Clark. The University of Sydney will work with other project partners, including Agersens who will supply the prototypes of the virtual herding technology.

What will the project achieve?

This subproject will determine if variation in the response by individual animals can be reduced through the use of visual cues, and how these may be applied within a herd.

The results will inform on-farm training protocols for dairy and beef production systems. If individual response is minimised in the herd through training, we will investigate the application of customisable cues to control individual or group movement within a herd.

Any animal welfare implications of moving individual animals or sub—groups of animals from a herd using the virtual herding technology will also be investigated.

Our work has direct application for controlling the location of individual cattle within conventional and automatic milking systems and as such, the way we move animals around and offer pasture.

How is the research being done?

The University of Sydney will conduct field experiments to:

➢ Quantify how virtual herding cues can be customised and used to control individual cow movement within a herd to improve animal performance and welfare.

➢ Determine how virtual herding can be applied to control individual or sub-herd cattle location and movement

➢ Enhance cow movement to and from the dairy within automatic and conventional milking systems

➢ Optimise the virtual herding system to control cattle location and movement in specific situations to enhance individual feeding and pasture consumption and restrict cattle from environmentally sensitive areas in dairy and beef production systems.

Subprogram 3 Contacts

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