



## Subprogram 2: Optimising livestock and pasture management for intensive dairy and beef through more controlled pasture allocation.

### Why is this project being undertaken?

Subprogram 2 will quantify and document how virtual herding (VH) technology can be used in grazing livestock systems to increase pasture utilisation through more regular and/or more tightly controlled stock movement.

VH offers an effective way to increase consumption of home grown feed through better control of grazing, leading to enhanced farm productivity and profitability, without altering the current footprint of these enterprises.

This subprogram will apply VH technology in a practical setting, with the overall aim of improving animal and pasture productivity whilst maintaining high animal welfare standards.

### Who are the main partners?

The Tasmanian Institute of Agriculture (TIA) will lead this subprogram.

Experiments will primarily be conducted at the TIA dairy research facility (TDRF) in Elliott, Tasmania. The trial animals will be selected from the TIA research herd of approximately 350 cross-bred dairy cattle, all of which are naive to VH technology. Trials may also be conducted on commercial farms following the successful establishment and documentation of VH usage protocols developed in the controlled setting at Elliott.

The subprogram is being led by Dr. Megan Verdon and supported by TIA research fellow Mark Freeman, TIA Dairy Centre leader Dr. Richard Rawnsley and TIA technical staff. The TIA team is working collaboratively with researchers in the other subprograms to ensure VH technology is implemented to its full potential in livestock production systems.

### What will the project achieve?

Several possible and practical applications for VH technology have been identified. These include using VH to shift grazing fronts, more accurately control pasture allocation, and allow flexible paddock layout. Experiments in this subprogram will establish how VH technology can be used to improve the productivity and profitability of livestock enterprises through optimising herd grazing management. Subprogram 2 will also assess the behaviour and welfare implications of VH technology in a practical, 'on farm' setting, using welfare assessment protocols established in subprogram 1.

### How is the research being done?

TIA will conduct experiments on-site at TDRF, and potentially on commercial farms, to quantify and demonstrate how VH can be applied to:

- > Increase pasture utilisation through regular stock movement.
- > Improve face management of forage crops.
- > Manage temporal changes in respect to feed allocation to enhance feed intake.
- > Modify paddock layout (particularly with regard to seasonal challenges such as waterlogging).
- > Increase productivity from remote farm areas such as heifer rearing blocks.

### Subprogram 2 Contacts

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