

## **NEWS FROM THE TASMANIAN INSTITUTE OF AGRICULTURE**

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# Media Release

## Chiefs of Staff, News Directors

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### Getting smarter with data on pastures

Researchers at the Tasmanian Institute of Agriculture (TIA) are using sensors and autonomous technology to develop a system that not only tells you when to irrigate your pasture, but then goes ahead and does it for you.

Not only will the system automatically irrigate pasture, it will also apply variable volumes of water to the same paddock, which could save farmers time, water and money.

Research and Development Team Leader at the TIA Dairy Centre and Chief Investigator on the project, Dr James Hills, said the end goal is an autonomous machine interface that collects information about the pasture, water use, soil and climate and then uses crop modelling processes to make decisions about when and where to apply water.

The development of this autonomous system is part of a bigger three year project that is looking at the use of irrigation water in pastures by collecting data on water use, energy use and pasture production from five sites across Tasmania.

The project is supported by funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural Research and Development for Profit program, Dairy Australia and TIA.

From the data collected at the five sites, the team will work with the farmers to make changes to improve water use efficiency and will continue monitoring the sites to measure the success of these changes.

Dr Hills says gathering this benchmarking data is an essential step to getting the most out of the new irrigation schemes.

“Significant investment in irrigation infrastructure in Tasmania from both Federal and State Government provides the opportunity to increase our agricultural productivity, but we need to make sure we are doing it properly and in a way that is going to be sustainable,” Dr Hills said.

“To introduce management strategies that increase efficiency we really need that baseline data. We need to know the facts and figures for water use to know how you can improve on that use.”

The five trial sites have been selected to give enough variability across different topography and soils that are likely to be irrigated.

Mr David McLaren, Project Officer at the TIA Dairy Centre, will be on the ground installing the sensors and data logging equipment at the sites and will also oversee the data collected in the field.

“A big part of the project will be to visualise that data, so that when it comes to making management decisions we can very quickly know what to do through a visual display of data, and not have to interpret numbers,” Mr McLaren said.

“The devices on site will have an interface that you can connect to from your smartphone or tablet so you can start to look at real-time values of pressure, temperature and energy without being physically on site, which is a real advantage.”

In its third year the project will trial an automation system at one of the sites to see how this type of system could be used to save farmers time and effort.

“We are very interested in how far we can go using a system with a machine interface as opposed to a human interface,” Dr Hills said.

To do this, the team has linked with The National Centre for Engineering in Agriculture at the University of Southern Queensland, who have developed a control platform called VARIWise.

The VARIWise system has been developed and tested in cotton, but this is the first time it will be applied to a pasture based system.

Installation of the sensor and logging equipment on the five sites will be completed in October.

TIA is a joint venture between the University of Tasmania and the Tasmanian Government.

**Information released by:**

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