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NEWS FROM THE TASMANIAN INSTITUTE OF AGRICULTURE

Media Release

Chiefs of Staff, News Directors

Wednesday 26 August 2015

Research to beat the heat

Infrared heaters will be used to simulate the high temperatures associated with heat waves as part of an impressive new field trial currently being setup at the Tasmanian Institute of Agriculture's (TIA) Dairy Research Facility in Elliott.

The trial is part of a project being led by PhD candidate Adam Langworthy to find ways for pasture species to beat the heat over the hot Australian summer.

Adam has received funding from CSIRO and Dairy Australia to do the research and the trial plot of two hectares is one of the biggest ever undertaken by a PhD student at TIA.

"Heat waves in Australia can have damaging effects on perennial ryegrass, including production losses and in some cases grass death. This is a big problem, as perennial ryegrass is what most dairy farmers throughout South Eastern Australia use," Adam said.

"Southern Australian dairy farming systems are particularly vulnerable due to perennial ryegrass making up 60-70 per cent of the dairy cow's diet."

"When I visited Victoria at the end of my undergraduate degree I saw first-hand the damaging effects heat waves can have on dairy farms and this really motivated me to focus my research in this area."

The trial is quite novel and will involve two experiments.

"We will test different levels of heating and irrigation on these plants over the summer months to see how they can tolerate the heat and to see if irrigation can be used as a tool to help mitigate the effects of heat," Adam said.

"For this experiment I am building outdoor heating systems that will simulate the high temperatures associated with heat waves, with irrigation being applied at different frequencies."

"The frequencies will be chosen to represent what would be possible with the different types of irrigation that are widely used on dairy farms."

The heaters have been adapted from a system in the USA and will increase the temperature of the soil underneath the pastures by 8 degrees, turning a 30 degree day into 38 degrees on the site.

The heaters being used on the paddock will be equivalent to running 18 standard 1000kw electric heaters and will use so much power that the trial has to be run in stages.

"We will have three heating rings, each with six 1000 watt heaters inside, so it will draw a reasonable amount of power," Adam said.

"The second experiment will look at how we can manage both grazing and irrigation over summer to maximise the survival and growth of not only perennial ryegrass, but other species that I have identified from the first phase of my project to be tolerant to hot conditions."

The trial is set to run from December to the end of February.

Adam's research exploring the impacts of climate change on pasture varieties was recently recognised nationally with the Dairy Research Foundation's 2015 Emerging Scientists Award.

Adam will be presenting on the first stage of his project at the upcoming Australian Agronomy Conference that is being hosted by TIA in Hobart from 20-24 September 2015.

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Information released by:

The Tasmanian Institute of Agriculture

Phone: 61 3 6226 6385

Email: tia.comms@utas.edu.au