



Scaling irrigation management to support whole farm operations

1. What is the project about?

This project will develop a whole-of-farm scale gravity fed irrigation management system with the aim of increasing on farm water use efficiency. Engineering, agronomic and scheduling water use efficiency (WUE) technologies are available to irrigators, but their adoption and management continue to be a significant challenge. Water use efficiency (WUE) technologies typically target a single point (e.g. soil moisture at a location) or part of the farm (e.g. individual irrigation bays) and are rarely used at the whole-of-farm scale.

This project will enhance the growth and utilisation of pastures by scaling irrigation management to support whole farm operations. It will quantify the value of whole-of-farm irrigation scheduling and highlight the benefits of enhanced water management to industry.

2. Why do irrigators need to know about it?

Access to affordable water is an increasing issue for dairy irrigators in the Goulburn Murray Irrigation District (GMID) and the Macalister Irrigation District (MID) due to increased competition from other sectors and climate change.

Irrigation scheduling tools can support farmers make better irrigation and grazing management decisions boosting farm profit. To increase the use of these tools they must work at the farm level and deliver clear benefits to dairy businesses. This requires benchmarks to understand the yield gap and whole-of-farm approaches for water management. There is a need to test irrigation scheduling tools on-farm, and then for farmers and service providers to use these tools via development and training activities.



3. How will the research benefit irrigators?

The project will deliver an innovative approach to support complex decisions on irrigation scheduling at the farm level and over the season. The project will use a participatory approach that sets up a field to farm scale water management research and demonstration sites in the GMID with supporting industry and farmer development programs.

The aim is to move FROM irrigation scheduling at the bay level TO irrigation scheduling at the farm level.

The project builds on the success of the “Smarter Irrigation” Round 1 project RRDP1601 by integrating satellite-based irrigation scheduling and new irrigation bay designs into a farm water management system. The approach relies on minimal use of in-field sensors and will integrate farm irrigation scheduling with automated management of irrigation re-use systems.

4. Key results to date

For the 2018/19 irrigation season the project has designed a bay-scale irrigation management module which has been tested at three sites on a dairy farm in northern Victoria. Irrigation performance measurements undertaken during 2019/20 have showed promising results for the management module ability in supporting whole-of-farm irrigation automation.

For further information or project progress updates, contact: Andy McAllister, Project Leader T: 0409 863 212

E: andy.mcallister@ecodev.vic.gov.au