VARIwise Project Update - August 2026

Advancing the adoption of climate-smart, innovative irrigation control technology for the cotton and dairy industries

1. Project aim

This project is transitioning VARIwise, a precision irrigation optimisation and control system, from a research tool to a commercial-ready tool that can be integrated into any automated irrigation platform.

Increasing climate variability is expected to place pressure on water availability and cost. In research trials, VARIwise delivered 10% water savings and 5% productivity gains in cotton and pasture systems. Additional benefits included reduced labour requirements and lower energy pumping costs.

VARIwise uses data from infield sensors and online sources, predictive yield modelling and an optimisation process to recommend irrigation dates and depths considering impacts on predicted yield.

2. Progress toward a saleable tool

Adoption of precision irrigation technologies has historically been limited by several barriers, including:

- poor interoperability between irrigation hardware and sensor systems
- limited access to ongoing technical support
- low awareness of the value proposition and practical benefits

Working closely with irrigation technology companies, consultants and growers, the project team have now overcome the interoperability barrier and refined VARIwise into a format (API) that can easily interface with any on-farm sensor and irrigation system.

The next phase focuses on improving saleability by ensuring VARIwise aligns with farmer needs and commercial expectations. Key activities underway include:

- **Replicated plot trials** comparing VARIwise with alternative irrigation approaches at commercial cotton and dairy pasture sites, led by on-site consultants and farmers
- **Broad-scale demonstration trials** designed to address adoption barriers and build confidence
- **Economic case studies** using cotton and dairy site data to quantify the value proposition
- **Field days and farm walks** to support grower engagement and knowledge transfer

Project partners are CRDC, the University of Southern Queensland, the University of Tasmania, Swan Systems Irrigation and AgLogic. The project is being supported by funding from the Australian Government's Climate-Smart Agriculture Program's Partnerships and Innovation Grant and CRDC.

Further information - contact
Associate Professor Alison McCarthy; Uni Southern Queensland
Email: mccarthy@usq.edu.au T: +61 7 4631 2189