



Gwydir Valley demonstration of the application of the latest digital technologies for precise automated irrigation

1. What is the project about?

Automation of irrigation in the Australian cotton industry has the potential to improve water productivity, whilst addressing challenges of optimising irrigation and managing labour resourcing. This project will provide growers with commercially relevant information about how to best utilise irrigation monitoring tools and decision support systems to optimise surface irrigation. It will also provide advice on the installation and management of automated and autonomous irrigation systems.

Whilst the focus is on surface irrigation systems project activities will leverage existing and future work at the Keytah Systems Comparison site to provide information on pressurised systems such as overhead lateral move systems and subsurface drip systems. The project will improve the prototypes trialled in 2017-2018 and will provide growers with an improved understanding of the merits of the latest digital technologies for precise automated irrigation across all four systems.



The project sites are located on Keytah near Moree.

2. Why do irrigators need to know about it?

Growers are seeking objective commercially relevant information regarding the options available and the approaches needed to successfully install and manage automated irrigation systems. There is interest in the fit of such technology into surface irrigation systems, both siphon and bankless. These systems remain the most relevant in northern irrigation systems.



3. How will the research benefit irrigators?

The project will extend key learnings from the Keytah Systems Comparison site and will consider the design specifications and engineering considerations in the adoption of automated surface irrigation. It aims to further explore the infrastructure necessary to convert a typical siphon system into an automated system and will identify the requirements for retrofitting a bankless system with automation.

It will include a review of measurement tools and decision support systems designed to enhance the efficiency of water use in irrigation, improve productivity and support more precise utilisation of limited resources. The project will also field test new sensors and systems.



4. Key results to date

Optimising irrigation timing and application can provide significant improvements in irrigation performance. There is more yield and GPWUI variation between seasons than there is between systems. The critical message is that optimisation of the irrigation system, with sensors and automation or remote-control technologies is essential to improve performance.

For further information or project progress updates, contact: Lou Gall, Project Leader T: 0427 521 498 E: lou.gall@gvia.org.au