Expression of Interest EOI

Part 1 – General Details

EOI ID	1073
EOI Title	Transforming water productivity in Australia's cotton systems/Strengthening water productivity in Australian cotton under a changing climate
Type of Research	Innovation
Expected Start Date	01/12/2026
Expected End Date	30/06/2029
CRDC Pillar	1. Paddock
CRDC Theme	1.2 Adaptive Systems
CRDC Outcome	1.2.5 By 2033, cotton-farming systems are better adapted to the future – limited water, more variable and extreme climate, and input constraints
EOI Close Date	30/07/2026

Part 2 – Expression of Interest Requirements

Issue to be addressed and project description:

Issue

CRDC is seeking ideas for water RD&E activities that will deliver against the CRDC Strategic RD&E Plan 2023-2028 outcome, *By 2033, cotton-farming systems are better adapted to the future – limited water, more variable and extreme climate, and input constraints.*

The purpose of this EOI is to seek RD&E ideas that directly address this challenge. All proposed activities will remain confidential to CRDC. Applicants whose preliminary proposals are assessed as having the greatest potential to deliver outcomes to improve water productivity in a climate-constrained future will be invited to develop a full research proposal.

Water availability is a major constraint on Australian cotton production systems. With climate change expected to intensify climate variability and further limit water access, improving water productivity is essential to sustaining cotton yields, meeting industry sustainability targets, and maintaining access to capital and markets.

Results from the Australian cotton water benchmarking program show an annual water productivity improvement rate of 8–9% between 1997 and 2007[i]. Since 2007 water productivity gains have largely plateaued, with year-to-year variation now driven more by climate than by management. This slowdown in improvement represents both a significant challenge for the industry and an opportunity.

The factors influencing on-farm water productivity are broad, with research showing that performance is shaped not only by irrigation decisions but also by system-level constraints such as delivery infrastructure, slope, soils, crop health, farming systems and labour availability. While new technologies, including emerging sensing, data and analytics capabilities, are increasing the availability of crop, soil and climate information, the challenge remains translating this into consistent, on-farm improvements in water productivity. The priority is to move to practical, system-level solutions that improve the timeliness, consistency and impact of water management within real-world farming constraints.

Project description

Given the diversity of factors affecting water productivity, and the emerging potential of new technologies, the scope of this EOI is deliberately wide. Concepts should consider both fully irrigated and semi-irrigated applications.

Scope

Proposals could address **but are not limited to** one or more of the following grower and stakeholder identified water RD&E priority areas.

-System interactions affecting water productivity e.g. interactions between waterlogging, disease, nutrition and irrigation management strategies

-Irrigation scheduling: Enabling technologies, tools and strategies including data driven decision support

-Optimising irrigation timing to maximise yield under both full and partial irrigation strategies

-Measuring on farm irrigation performance

-Novel approaches that deliver measurable improvements in water productivity

Projects must articulate how outputs will be adopted by growers and how they will contribute to long-term industry resilience under a potential future of increased climate variability.

Multi partner, interdisciplinary, and cross sector collaborations that bring together growers, researchers, technology providers, and service industries are encouraged.

Proposed activities involving data generation will need to address data governance issues and grower trust.

[i] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0011/1559504/Benchmark-cotton-water-prod-Australia-2022.pdf

Expected project outputs and outcomes:

Outcome: Project will deliver quantifiable improvement in water productivity.

Projects must deliver **practical, evidence-based outputs** that growers can use to improve water productivity.

Expected outputs could include but are not limited to:

- Clear, quantified insights showing how factors such as disease, nutrition waterlogging and soil

conditions interact with irrigation decisions

- Validated scheduling tools, frameworks or protocols that integrate soil, crop, climate and system data.

- Guidelines for prioritising water at critical growth stages under varying water availability and temperature scenarios.

- Simple, standardised methods growers can use to assess irrigation performance.

Successful projects will include measuring and report on impact.

Project Investment:				
Year	**2026/27**	**2027/28**	**2028/29**	**TOTAL**
Indicative budget (up to)	$350,000.00	$500,000.00	$300,000.00	$1,150,000.00

Additional guidance:

You must address the following criteria in your application:

Project title:

- Provide a concise, outcome orientated title that clearly signals the innovation, insight or improvement your project will deliver.

Project summary

- Issue to be addressed
  - The knowledge gap and/or adoption gap being addressed and why it is a priority for industry
  - Key research objective(s)
- Outline of the planned methodological approach
- Expected project outputs
- Skills and capacity of the research team, demonstrating capability to deliver the project
- Any proposed capacity-building activities
- Budget breakdown, including a simple estimate of costs and any resources or in-kind contributions being brought to the project

Collaborations

- Describe proposed collaborations and planned industry engagement, including any co-design activities.

There is no requirement for a detailed project plan. The section under research questions and milestones does not need to be completed.

To apply, follow this process. For further information, contact the CRDC Innovation Administration team on 02 6792 4088 or via research@crdc.com.au.

This EOI is not a guarantee of funding.