

MEET YOUR COTTON RESEARCHER

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PROFILE

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RESEARCH AREA

Agricultural water
productivity and water
sustainability

CRDC Research Project
***Limited Water Decision
Support (2022-2024) & Water
Productivity Benchmarking
in the Australian Cotton
Industry (2022-2025)***



WHAT'S YOUR BACKGROUND?

I have always loved water and my earliest memories were growing up on an island in the Murray River delta, in WA. It is curious that from spending my childhood in the Murray River in WA, I am now working in water research, in the NSW region of the Murray Darling Basin.

My career aspirations after completing university were different. I had an interest in natural textiles and agriculture, specifically superfine merino wool and wanted to pursue a career in export marketing. Unfortunately, this plan didn't quite eventuate with the collapse of the wool industry's reserve price scheme. Living in WA cotton wasn't on the radar and instead, I gained valuable experience working in marketing and then regional economic development.

In 2000 with a young family in tow, my husband was transferred from WA to NSW. When I re-entered the work force I had to reinvent myself and be prepared to start again. The first job I landed was working on Flood Studies and Management Plans for the northern valleys of NSW. This was my first real exposure to the cotton industry. I enjoyed the work but remember constantly having to refer to a map to get my bearings of where towns and rivers were located. For a decade I worked in water resource management, policy and regulation in northern NSW and the Murray Darling Basin.



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In 2017 I accepted a position as a Research & Development Officer with NSW Dept of Primary Industries, Agriculture Resources, Water R&D team. Rather than focus on basin or catchment levels of water management, we work to identify how growers can best use their available water resource to be productive and sustainable.

HOW DID YOU END UP IN COTTON RESEARCH?

My opportunity for research in cotton industry came relatively recently when I became involved in Cotton Water Productivity Benchmarking (WPBM) project and the Project Lead looking at limited water decisions (LWDS) in cotton. Currently, I work almost exclusively with cotton growers, many who are managing production systems under limited and often uncertain water availability.

I also have a strong interest in social research and believe the complexity of decisions and drivers of water use in agriculture could be as big if not bigger than the technical aspect. So it was an exciting opportunity to lead the CRDC LWDS project and at the same time also contributing to the Cotton Water Productivity Benchmarking project.

CAN YOU EXPLAIN YOUR RESEARCH?

As the name suggests the LWDS project is researching grower decisions where water is limited either through supply or choice. The term limited water applies to a broad spectrum of water management behaviours. It can also mean different things to different people.

Consequently, there is a wide range of approaches growers use when faced with a limited water supply. These vary from fully irrigating a smaller area to managing a single irrigation. It is often difficult to find production data on these systems because they are still categorised as irrigated systems.

Through this research we have attempted to define partial irrigation as a strategy implemented where crop water demand is not totally met with irrigation water. This work complements the Water Productivity Benchmarking project which has the potential to compare the water productivity between full and partial irrigation systems across farms, regions, and across the industry, and over time.

HOW WILL IT BENEFIT GROWERS & THE BROADER INDUSTRY?

By mapping the decisions process growers make when they have limited water or when they consciously decide to limit water input, it could help growers analyse decisions and assess risks in their production systems in order to maximise bales per megalitre. The short-term goal of the LWDS project is to organise existing information from literature review and case studies, into a preliminary decision tree system that can be used by industry. This will provide groundwork for a future industry-based decision tool that can be used by growers to reduce water input or in limited water scenarios. This has the capacity to increase water productivity if it is aligned with cotton yield potential tools currently under development/used by industry.

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