Spotlight
ON COTTON R&D

WINTER 2026

On the frontline of disease research with the ACDC

Future Drought Fund backs cotton's resilience aims

Anticipation builds for 2026 Conference

CRDC

Allan Williams

In the Spotlight

Welcome to the winter edition of *Spotlight*.

It has been an interesting and sometimes anxious time for growers recently as a result of world affairs and the impact on inputs such as fertiliser and diesel. While RD&E cannot offer an immediate solution, CRDC is investing in long-term outcomes to help future proof the industry. Growers have no control over input prices, but we do have the ability to optimise inputs through research. Nitrogen risk insurance may be a new way to optimise efficiency – in this edition, growers and consultants are invited to discuss and test this novel approach with our CRDC-supported researchers.

With talk of a return to El Nino conditions, a major project led by NSW DPIRD is working to build resilience in cotton and grain farming systems. Developed in response to grower calls for regionally-based RD&E, and in partnership with the Future Drought Fund, CRDC and CottonInfo, 25 trial sites are being set up on farms across the valleys to investigate and demonstrate measures to help our industry plan for, manage and recover from drought.

Regionally based RD&E also drives the work of the Australian Cotton Disease Collaboration (ACDC). The ACDC combines a focus on helping to reduce the impact and severity of disease here and now with long-term foundational research into the state of cotton diseases, and how they are evolving. Creating a National Pathogen Collection is an integral part of this work, and growers and consultants are central to creating and continuing this collection. We are pleased to announce that local diagnostic services are being extended beyond NSW and Qld to WA and the NT, and in this edition, we introduce you to the pathology team.

Finally, the countdown is on for the 2026 Australian Cotton Conference, with CRDC continuing our long-standing contribution as a Foundation Sponsor. In this edition we introduce 11 innovations being supported by CRDC as part of our recent Innovation Call to address some of our most pressing issues. These will be on show at Conference down Innovation Alley and in the conference agenda. As we rely on grower feedback to decide which of these innovations CRDC will support further, I encourage attendees to come and listen to the project pitches and visit their stands.

At Conference, we also look forward to the announcement of the cotton industry awardees. The finalists are featured in these pages, once again showing the depth of commitment, knowledge and expertise in our industry. CRDC is proud to support the CRDC Chris Lehmann Young Achiever of the Year Award, and we congratulate Natalie Aquilina, Alexandria Doyle and Lauren Roellgen on their selection as finalists!

We look forward to seeing you at the Conference. Until then, please enjoy this edition of *Spotlight*.

Allan Williams
Executive Director

CRDC

CRDC acknowledges the Traditional Custodians of the lands of Australia's cotton communities, and recognises their enduring connection to the land and waterways that sustain us. We value the Aboriginal and Torres Strait Islander people who have cared for this country for thousands of years. We pay our respects to their Elders past, present and emerging, and extend that respect to all First Nations peoples today.

Winter 2026

Spotlight is brought to you by Australia's cotton growers and the Australian Government through the Cotton Research & Development Corporation (CRDC). CRDC is a research, development and extension partnership between the Australian cotton industry and the Australian Government.

CRDC
COTTON RESEARCH AND DEVELOPMENT CORPORATION

Cotton Research and Development Corporation
ABN: 71 054 238 316

Vision: A sophisticated, prosperous and sustainable Australian cotton industry, strongly connected to its value chain.

Mission: Delivering world-class outcomes for the cotton industry through thought leadership, innovation, adoption and collaboration.

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MELANIE JENSON

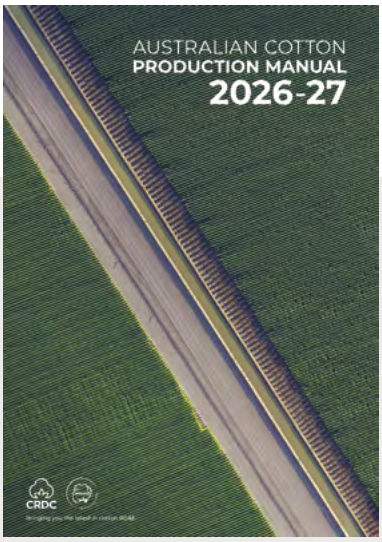
ON THE COVER:
In this edition we focus on the work under the Australian Cotton Disease Collaboration (ACDC) including University of Southern Qld Plant Pathologist Dr Chi Nguyen's diagnostics project. She is pictured with fellow cotton pathologist, NSW DPIRD's Dr Karen Kirkby at Narrabri in NSW where both are stationed.

Want to see more of Spotlight?

This edition can be viewed online at: www.crdc.com.au

COTTON NEWS

FEATURES



Manual continues to offer latest R&D

THIS edition of *Spotlight* includes the latest CRDC and CottonInfo *Australian Cotton Production Manual* — the go-to reference for cotton growers, advisors and industry.

The Manual is moving from annual publication to every second year, based on feedback from growers at the CRDC and Cotton Australia research panels, and surveys in late 2025.

CottonInfo Program Manager Janelle Montgomery said this allows for a greater focus on meaningful updates that reflect real changes in research, technology and best practice, while keeping the content practical and relevant.

"The Manual also plays an important new role beyond the paddock, as the foundational teaching text for the CRDC Cotton Course (see story page 7)," Janelle said.

"This ensures the next generation of cotton growers and industry professionals are learning from the same trusted information growers rely on."

The latest edition also marks the return of the Digital Agriculture chapter which has been rewritten to reflect just how quickly this domain is evolving. CottonInfo's inaugural Technical Lead for Digital Agriculture, Quentin Feery-Lawrence, updated the content to help growers make sense of the tools, data and systems now available, and how they can deliver real value on-farm.

The digital version of the Manual can be accessed via: www.cottoninfo.com.au www.crdc.com.au.

MELANIE JENSON

Understand how to use data in a digital farming world through a new CRDC Cotton Course in July at Narrabri with leading experts in their fields.

Boost on-farm productivity with technology, data and AI

THE CRDC Cotton Course 2: *Digital and Data Solutions for Cotton Systems* is just around the corner. It's the perfect course for those who have been looking for an opportunity to learn how to put data and technology to work for them.

The course is part of a suite of new micro-credential courses being offered by CRDC in conjunction with the University of Sydney (USYD), CottonInfo and Cotton Seed Distributors (see story page 7). *Digital and Data Solutions for Cotton Systems* will cater to all levels of expertise in technology and data, from those who only collect and store farm data on paper, to those who may have already used various technologies and data sources and are looking to improve their production system/business further.

It provides a unique opportunity for participants through an intensive and immersive three-day program in Narrabri (Kamilaroi country) with a combination of presentations and hands-on practical sessions. The course also enables participants to build professional relationships through networking with presenters and representatives of key organisations within the Australian cotton industry.

A selection of well-known specialists has been enlisted to share their knowledge. These include CottonInfo Digital Agriculture Technical Lead, Qld DPI's Quentin Feery-Lawrence, PCT AgCloud's Dr Jono Moore, USYD Senior Lecturer in Precision Crop Management Dr Patrick Filippi, USYD Hydrologist and Director of the ARC Training Centre in Data Analytics for Resources and Environments Professor Willem Vervoort, USYD Professor of Soil Science Stephen Cattle, CottonInfo Nutrition and Plant Physiology Technical Lead, USYD's Dr Tim Weaver, and CSD's Technical Agronomy Lead Dr Mick Bange.

By the end of this course, participants will:

- Understand the range of technologies and data streams available to Australian cotton growers.
- Understand the fundamentals of obtaining and storing data relevant to cotton.
- Understand how to overcome barriers to adoption and the return on investment of digital agriculture.
- Access data relevant to cotton growing from technologies (devices) and online sources.
- Use digital platforms to make maps and decisions relevant to cotton production and to analyse on-farm experimentation.

Enrolments are now open for this micro-credential, to be held in Narrabri on July 7-9, 2026. The cost is $950, which covers tuition and catering. The price has been kept to a minimum thanks to CRDC support.

For more

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To enrol: https://short-courses.sydney.edu.au/course/CCDDS

www.crdc.com.au/crdc-cotton-course

Make nitrogen go further by being insured

WHAT if cotton growers could reduce nitrogen fertiliser rates without the risk of reduced income?

CRDC is supporting an interesting potential new approach through the CSIRO De-risking Nitrogen Management project. Led by Dr Peter Thorburn, the de-risking project will help the industry reduce greenhouse gas (GHG) emissions by allowing growers to test optimised fertiliser use in a 'risk-free' way – that is, by insuring themselves against any yield reduction.

CRDC Innovation Broker Dr Nicola Cottee, who oversees the project, says nitrogen risk insurance could offer a safe way for growers to 'go as low' as possible.

"This could allow growers to test input efficiencies by pushing rates as hard as they can, and offset the risk," she said.

"Given what's going on in the world right now, there's never been a better time to be involved in research like this. All growers are looking to use whatever nitrogen fertiliser they have as efficiently as they can."

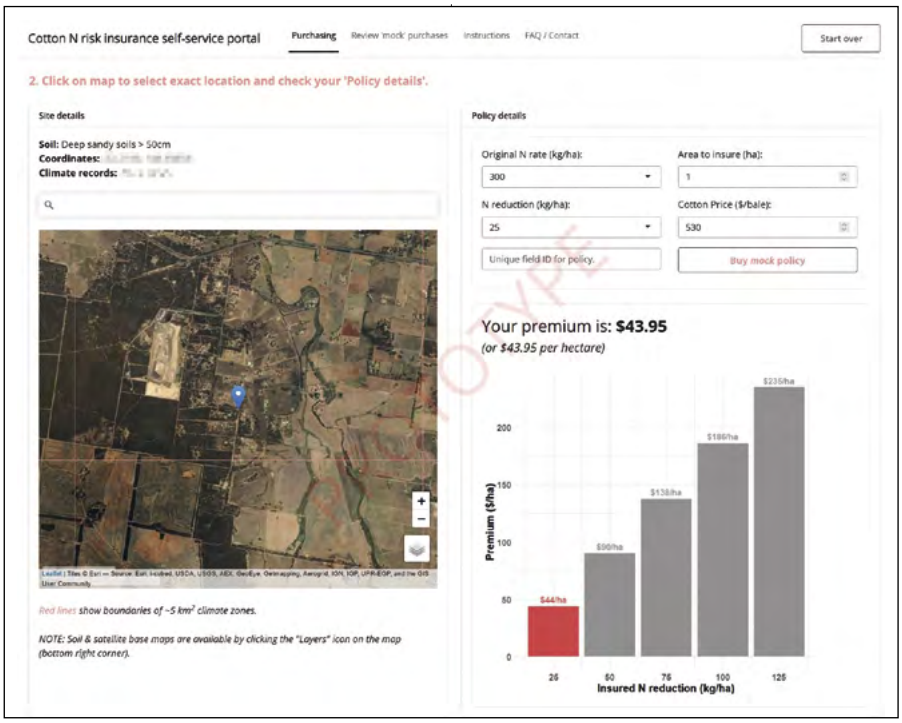
Fertiliser manufacture and use now account for roughly two-thirds of cotton's on-farm (farm gate) carbon emissions, largely due to the release of nitrous oxide (N_2O) from soils. However, taking steps to optimise total nitrogen supply from both soil and fertiliser nitrogen can be seen as risky, owing to the complexity of getting application 'just right' in line with the '5 Rs' – the right product, right rate, right time, right place and right monitoring.

Research has demonstrated significant potential value – estimated at $205 million – through improved nitrogen use efficiency alone.

"Getting nitrogen fertiliser use right offers growers a real opportunity to lift productivity while also cutting GHG emissions and building a more sustainable, low-carbon cotton system," Peter said.

"Reducing nitrogen emissions will be critical for improving environmental outcomes and maintaining market access into the future."

"Nitrogen risk insurance could offer a safe way for growers to 'go as low' as possible"



Growers and consultants are being offered the opportunity to have input into a cotton industry-specific nitrogen risk insurance product.

In the first phase of the project, CSIRO scientists Dr Michelle Miller and Dr Zelalem Lema Moti held meetings with growers, managers and consultants to gather information around nitrogen-use decisions, explore strategies and test the potential of this novel insurance idea (see Spring 2025 *Spotlight* issue). In this next phase, the team will share their findings and invite the industry to test the insurance prototype.

How to be involved

The researchers extend their thanks to those who've already participated and look forward to working more with growers through the next phase. By being involved in testing the innovation, growers and agronomists can gain an insight into its value for them.

"In addition to the support of CRDC and CottonInfo, this research is made possible by the contribution of growers, managers and consultants who have generously shared their time with us," Zelalem said.

There are several ways to be involved in the next phase: online, in-person, in a group or one-on-one. Participation involves two sessions, the first 30-45 minutes, and the second 45 minutes-one hour.

What the sessions involve:

- In the first session, growers can trial the insurance tool and 'buy' a test policy. There's no cost – it's simply an opportunity to see how it would work for their farm. At the end of the session, growers receive an estimate of what payouts, costs and risks would look like under that policy.
- In the second session, growers can compare how their mock insurance policy is performing with other growers and have the chance to see overall patterns, like who would have saved money or missed out.

There is also the opportunity to catch the team in person at the 2026 Australian Cotton Conference on the Gold Coast, at the CRDC and CottonInfo stand.

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Farming in a changing world: have your say on sustainability

A LOT is changing in cotton farming. Global geopolitical uncertainties, seasonal variability, market pressures, textile legislation and shifting expectations around sustainability are making the future even less predictable.

Customers and value chains are increasingly interested in sustainability performance and being able to demonstrate sustainability credentials that affect Australian cotton growers' access to markets.

The cotton industry is preparing for this uncertainty with its PLANET. PEOPLE. PADDOCK. Sustainability Framework, which brings together environmental, economic and social aspects of sustainability. It focuses on key areas such as water use, soil health, biodiversity, emissions, productivity and the wellbeing of people working in the industry.

The framework addresses issues that matter most to growers and stakeholders and guides practical improvements over time. It builds on existing programs like *my*BMP to support continuous improvement on-farm.

CSIRO, in partnership with CRDC, is running a series of discussion groups in major cotton-growing regions throughout June and July. These sessions will bring growers together to talk about what sustainability looks like in practice and what is realistic under local conditions.

CSIRO's Dr Katrina Szetey, who is co-leading the project with fellow research scientist Dr Michelle Miller, said the project is about understanding different perspectives and experiences across the industry and using these to inform future investment and extension to meet various needs.

"We know there are a wide range of views. For some growers, sustainability aligns closely with what they are already doing," Katrina said.

"One size doesn't fit all in cotton growing now, and it won't in the future"

MELANIE JENSON

Growers are being asked to contribute to a CRDC study into better understanding their perspectives on sustainability, priorities and what the future of cotton farming might look like, to inform industry investment and sustainability efforts.

"For others, it raises questions around cost, time or relevance. One size doesn't fit all in cotton growing now, and it won't in the future."

The discussion groups will be practical and grounded. Sessions will include interactive activities and informal discussions. For those who prefer to share their views and knowledge privately or can't make it to a discussion group, one-on-one meetings can be arranged. The discussions will explore questions such as:

- What are your current on-farm priorities?
- What practices do you use to achieve them?
- What changes are coming and how might they affect your business?
- What support or information would make a difference?

Michelle said the discussions will also cover what it takes for the industry to be future-ready, and give stakeholders the opportunity to have a say in the future of research, development and extension (RD&E) investments.

"To get growers thinking about the future, we will share insights from CSIRO Futures research and discuss the trends they are seeing as well," Michelle said.

"The aim is not to prescribe solutions, but to understand what changes are coming and what growers and the industry more broadly are going to need to do to be ready.

"We'll create space for growers to reflect, compare approaches and consider how their systems may need to adapt over time. Grower input will feed directly into industry investment and sustainability efforts."

The meeting dates will be shared via the CottonInfo network and newsletters, along with details on how to register. Interested growers including those who prefer to share their views outside the group setting, or can't make a meeting, contact Katrina directly or your local CottonInfo Regional Extension Officer.

For more

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IMAGE: MELANIE JENSON

Sharing knowledge benefits broader industry

PEOPLE from different backgrounds and regions across Australia descended on Narrabri (Kamilaroi country) earlier this year to further their knowledge about cotton growing and the broader industry through the inaugural CRDC Cotton Course.

Developed by CRDC and the University of Sydney (USYD) in partnership with CottonInfo and Cotton Seed Distributors (CSD), the new program offers a flexible approach to cotton education through three separate micro-credential courses.

Taking place throughout 2026, 2027 and 2028, the courses provide participants with a structured pathway to build and formally recognise their industry knowledge.

CRDC Cotton Course 1 *Australian Cotton Systems*, was delivered at USYD's Narrabri campus, the IA Watson Grains Research Centre, by a team of academic and industry experts over three days in March.

Growers, agronomists, early-career researchers, professionals working across corporate farming enterprises and government agency representatives came together for the immersive learning experience, which included farm visits and a look inside various research, manufacturing and processing facilities, alongside key insights from growers, researchers and other specialists in the field.

For some, the course was a way to improve knowledge relevant to their current role or occupation, while for others it was a way of furthering their credentials.

Goanna Ag CEO Jay Jalota encouraged Goanna Ag engineer Anmol (Charlie) Dua to attend. Jay said supporting this type of education and experience is a win-win for employer and employee.

"I encouraged Charlie to attend after the course was recommended by my colleagues in CRDC and CSD," Jay said.

ABOVE: Cotton grower Daniel Kahl demostrating the impact of rotation crops on soil health to course participants at his farm near Wee Waa in north west NSW.

"Charlie is a talented, curious young engineer with a keen interest in farming since childhood, so we are happy to be able to support that.

"He has worked at Goanna for four years, developing software for GoField for cotton farmers from our office in Canberra (Ngunawal country) and wanted more exposure to the real world to understand and learn more about the day-to-day of cotton farming.

"It's also great that Charlie brings that knowledge back to Goanna, which he can use and share so we can create even better products suited to growers."

Charlie said he enjoyed all aspects of the course.

"I enjoyed the classroom, the farm visits and getting my hands dirty in the field," he said.

"We learned so much about cotton, from the entire lifecycle and processing, to the different parties involved in the industry.

"I met some interesting peers and contacts, from vastly different backgrounds and experience levels, which was a great experience."

Twenty-one participants attended the course, enjoying a combination of seminars and field-based learning across both dryland and irrigated cotton production systems.

Participants explored key decision points throughout the cotton production cycle and their influence on yield and fibre quality. Hands-on learning included demonstrations of row configurations in dryland cropping systems, examining soil structure and cotton plant root development in a soil pit.

The participants headed west to Wee Waa (Kamilaroi country), visiting Australian Food and Fibre's farm and gin, the Australian Cotton Research Institute and CSD's laboratories and breeding farms, offering insight into how cotton varieties are developed and scaled for commercial production.

At Merced Farming's operation on the outskirts of Wee Waa, participants engaged directly with growers Sam and Daniel Kahl, discussing topics such as grower-led variety trials, water management and the importance of social licence and natural capital within modern farming systems.

CSIRO's Dr Katrina Szetey was one a several attendees who came to find out more about the industry, far beyond the field.

Katrina is a CSIRO Sustainability Scientist based in Canberra, working on her first cotton project, CRDC's Sustainability Pulse (see page 6). However her interest in cotton stems from another, more personal angle as well.

MELANIE JENSON

Goanna Ag software engineer Charlie Dua has always loved agriculture. He came on the course to 'get his hands dirty' and learn more about the industry he creates products for.

"The Cotton Course was a wonderful opportunity to learn more about cotton," Katrina said.

"I am a researcher but was already interested in fibre and textiles from a personal standpoint, as I sew, knit and spin.

"This was a fabulous deep dive into learning about the plant, how it's managed in the paddock, about the broader farming systems, and what happens after harvest.

"I've gained a deep appreciation for the decisions growers make, and for the way the plant grows.

"I'm very glad I did the course and I hope I can use what I've learned in my research now and into the future."

CRDC Acting General Manager of Innovation Susan Maas said the course was designed to provide a clear pathway for people wanting to deepen their knowledge of the industry.

"There is already a wealth of information available to and about the cotton industry, but this course provides a structured framework for people to build their knowledge and have it recognised as part of their career pathway," Susan said.

"Built around hands-on learning in real production environments, the course takes participants beyond the classroom and into the field, with no previous experience required.

"By making cotton education more accessible and flexible to a variety of backgrounds, we're helping shape the future of the industry by strengthening knowledge and accelerating the adoption of innovative practices across growing regions from the north to the south."

CRDC Cotton Course Coordinator, USYD's Ian Simpson, said the diversity of participants added significant value to the learning experience.

"This first course was a gateway for people new to the cotton industry, as well as those looking to deepen their understanding," he said.

"This created valuable discussion, knowledge sharing and opportunities to build networks within the industry."

For more
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www.crdc.com.au/crdc-cotton-course

Enrol now for digital and data solutions

Enrolment is now open for CRDC Cotton Course micro-credential 2, *Digital and Data Solutions for Cotton Systems*.

Where: Narrabri, NSW.

When: July 7-9, 2026.

Fee: $950 – covers tuition and catering. The price has been kept to a minimum thanks to CRDC support.

To enrol go to: https://short-courses.sydney.edu.au/course/CCDDS

Creating more drought-resilient farms through pioneering project

A MAJOR research effort is linking how innovative farming practices and historical long-term trial results can combine to boost the drought resilience of cotton and grain farms.

The *Long-Term Drought Resilient Practices for Climate-Smart Cropping Systems* project aims to unite researchers, growers and industry to deliver practical, evidence-based solutions to help farmers prepare for, manage and recover from drought.

One of the cotton industry's leading researchers, NSW DPIRD Soil Scientist Dr Guna Nachimuthu, is leading the five-year project through funding under the Australian Government's Future Drought Fund (FDF) with support from NSW DPIRD, CRDC and partners. The project will focus on cotton systems while delivering broader benefits to grains and pulses across northern Australia.

The project will not only investigate but demonstrate how using integrated management strategies and technology can mitigate drought-related yield loss and improve water use efficiency through a network of 25 trial sites in NSW, Qld and the NT. Long-term cropping trials will be expanded in NSW and established in southern Qld.

NSW DPIRD Manager Sustainable Soils Dr Belinda Hackney said this investment builds on the learnings of past projects and deliberately includes a large number of on-farm trial sites from the start to ensure there's a robust mechanism for delivering findings and ensuring feedback between researchers and growers.

"The novelty of this project lies in its approach – integrating knowledge and tools from a wide range of disciplines, research and grower organisations," Belinda said.

"The network of on-farm trials will help ensure collaboration between the researchers, the extension team and growers to accelerate the adoption of drought-resilient farming practices."

Taking a multi-disciplinary and farming systems approach has created a broad range of research and development (R&D) opportunities which include improved irrigation decision support frameworks to guide farmers before, during and after drought, and taking a closer look at key climate drivers affecting the northern Murray-Darling Basin.

MEGAN WOODWARD

NSW DPIRD Soil Scientist and 2026 Australian Cotton Industry Awards Researcher of the Year finalist, Dr Guna Nachimuthu, is leading a $14 million project with the aim of using long-term data and new technology to mitigate the impact of drought on cotton and grain growers.

In collaboration with cotton growers and the project partners, the project will test and trial:

- Drought-resilient crop rotation systems to conserve moisture in semi-irrigated systems, and how these impact soil water and carbon storage, crop production and disease.
- Next-generation soil amendments aimed at enhancing soil water storage, soil carbon, improving root access to stored soil resources (water, nutrients) and reducing fertiliser use.
- The effectiveness of novel plant growth regulator foliar sprays in reducing transpiration and their impact on root growth.
- Drought-resilient farming practices using advanced monitoring technologies, including crop sensors, soil moisture probes and remote sensing.

Setting up trial sites begins

The project team and partners, including CottonInfo who are playing an important support role, are now working to enlist interested growers and consultants to become part of the new network of 25 trial sites in NSW, Qld and the NT. Becoming a trial site is an opportunity for growers to work with researchers to develop programs that apply the R&D to address their requests.

Growers will have the opportunity to see first-hand how the latest real-time crop canopy and soil moisture sensors, combined with remote and satellite imagery can create meaningful crop and soil datasets. This technology will support improved monitoring and management of crop stress, growth and reproductive development and soil water status.

"On-farm experiments work best when they're a genuine partnership between growers, consultants and researchers," Guna says.

"In our project, the researchers support the experiment design and data analysis and the farmers take the lead on choosing treatment variables, so the work stays directly relevant to their on-farm decisions – with the added support of CottonInfo Regional Extension Officers and Technical Leads."

CottonInfo plays a key role

CottonInfo is providing on-farm experimentation support and extension, while research project partners include the University of New England, Western Sydney University, Southern Cross University, University of Southern Queensland, University of NSW, CSIRO and Ag Econ. The Dryland Cotton Research Association, NFC Farming Trust, Goanna Ag, Mungindi Cropping Group and Cotton Grower Associations are also key to the project.

CottonInfo Program Manager Janelle Montgomery said CottonInfo's main focus is helping develop and provide ongoing support to the on-farm trials.

MELANIE JENSON

The *Long-Term Drought Resilient Practices for Climate-Smart Cropping Systems* project aims to unite researchers, growers and industry. Guna (left) is working closely with Cottoninfo Regional Extension Officers which includes the Namoi Valley's Blake Palmer and Bob Ford, pictured with grower Andrew Greste. Blake is also undertaking his PhD study under the project.

"Through CottonInfo's network of Regional Extension Officers, we can replicate trials across cotton regions in line with local conditions," Janelle said.

"Working with growers and consultants to develop the trial program and collect data will ensure research outcomes can be tested, demonstrated and translated into practical, regionally relevant insights growers can use to improve drought resilience, regardless of where they farm."

CRDC's Acting General Manager, Innovation, Susan Maas said most importantly, the project represents a unique opportunity for growers to be a part of the R&D process and then harness the benefits in the long term.

"In a first for growers in Australia's limited-water cropping systems, an irrigation decision-support framework will be developed that integrates data from the impact of next-generation soil amendments, tactical crop rotations and plant hormone sprays," Susan said.

"For dryland growers, improved forecasting of crop water requirements will support informed decision-making around drought mitigation options, including crop termination and using growth regulators.

"And, economic analyses of individual and combined farming practices will offer a guide of options for increasing revenue per unit of water before, during and after drought."

For more

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Making the most of long-term knowledge

Guna oversaw the development of this project, which uses insights gained from historical long-term cotton trials that identified farming practices that could strengthen climate resilience.

"I wanted to expand on what I've learned about cropping systems' resilience under extreme climatic conditions," he said.

In 2019, one of Guna's long-term field experiments into maximum and minimum tillage at the ACRI was laser-levelled. Beds were then reformed and a wheat crop established across the treatments. It turned out to be a tough season.

"Despite extreme drought conditions that season, the wheat crop under minimum till showed strong resilience," Guna said.

"This was significant given the trials had been deep-tilled earlier that year, suggesting the long-term benefits of minimum till can flow into the subsoil and remain even after considerable disturbance."

As the saying goes: 'it takes a flood to break a drought' and in 2021 and 2022, the Namoi Valley experienced widespread flooding. The fields at ACRI were flooded, and the scientists made another observation. The minimum till system maintained bed structure and supported healthy seedling recovery. In contrast, the maximum till suffered bed collapse and poor crop recovery.

"Soil processes underpin this resilience and because these processes are characterised by variability across seasons and regions, it reinforces the importance of a long-term and widespread approach to trials," Guna said.

"We are focused on improving understanding of seasonal variability and the 'best bet' crop management preparation and response to optimise crop outcomes."

Assessing long-term impact delivers value for money

A RECENT CRDC-supported study has shed new light on how the impact of RD&E projects can be assessed, helping to improve future project design and evaluation.

Given practice change and adoption of research takes time, the study set out to identify practical ways of evaluating RD&E projects over a 10-year timeframe. The project particularly looked at how on-farm adoption, environmental outcomes and system changes are measured over the longer term.

CRDC Executive Director Allan Williams said being able to better understand and measure impact is important for all of CRDC's investments on behalf of growers.

"Impact studies are typically done over the life of a project (around three years) or across a Strategic Plan period (around five years), but we know adoption and adaptation of technology into the farm system can take much longer," he said.

"As a result, this project deliberately looked at projects over a 10-year timeframe – taking a deep dive into three of CRDC's projects from around 2015 to assess their impact and test the methodology."

The three case studies examined were CRDC's investments in nitrogen use efficiency, silverleaf whitefly resistance monitoring, and canopy temperature irrigation scheduling.

"As well as gaining insights into these particular investments, the goal was to understand what CRDC should be putting in place now to better assess long-term impacts into the future," Allan said.

"This includes proposing future metrics and guidance on how data is collected, and lessons in how to manage and measure CRDC's contribution to change."

Key lessons from the project included:

- Collaboration and continuity matter: Long-term impact usually comes from a group of related projects, not just one, and research outcomes need a home past the end of a project. Evaluation should look across themes, not single projects.

MELANIE JENSON

CRDC used its investment in the development of canopy temperature sensors as a case study to better determine the impact of its investments over longer timeframes.

- Baseline data and monitoring are vital: Without early data, it's hard to know what changed or why.
- Behavioural and extension expertise improves results: Including social scientists and extension specialists, like cotton's CottonInfo team, helps develop better solutions by engaging early with growers and identifying barriers to adoption that need to be addressed.

CRDC's Innovation Advisor, Warwick Waters, led the project on CRDC's behalf. He said the case studies were integral to identifying what worked and didn't.

"Although not all data was available, the method helped to identify what/who influenced change, what supported or slowed adoption, and how strongly results could be linked to the original projects."

Taking a long-term view from the start

Despite many projects being conducted over a short timeframe, the study found CRDC and its research partners should plan for the long-term impact of projects from the start by mapping out how the project aims to achieve its goal, then tagging, tracking and monitoring outputs and adoption as projects are delivered.

In particular, practical and credible long-term evaluation is achievable when:

- Projects are clear on what data to collect from the start.
- Impact is considered across related projects or themes, rather than individually.
- Consistent tools are used through the whole project cycle.
- Industry data is collected and presented in a consistent manner, from year to year.

Allan said one of the major learnings from the study for CRDC was around formalising how the organisation develops related projects within themes.

"Starting with the end in mind, and documenting this, is crucial – such as the impact we aim to have across a series of projects or within one of our Clever Cotton themes.

"CRDC's data platform will also be integral to our ability to monitor extension, environmental, economic, social and adoption data in real time."

For more

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Science and a love of learning drives new CottonInfo Nutrition Tech Lead

THE Australian cotton industry continues to face growing challenges driven by climate variability, input constraints and the need to maintain global competitiveness while reducing environmental impacts.

Enhancing nitrogen use efficiency (NUE) and improving crop resilience to abiotic stress represent two key opportunities to strengthen profitability and sustainability.

However, realising this benefit requires coordinated extension to overcome growers' hesitation around input reduction and profitability risks. Similarly, improved understanding of plant–environment interactions and access to advanced crop models will help growers manage stress events and optimise yield.

A long history in cotton

To ensure scientific innovations from CSIRO, NSW DPIRD and other CRDC research partners are translated into practical, regionally relevant on-farm actions, Dr Tim Weaver has been appointed as the CottonInfo Nutrition and Plant Physiology Technical Lead. A key aim of the role is to facilitate the adoption of best management practices to improve the nutrient use efficiency and overall plant performance across the industry.

Tim has a long research history with the cotton industry, cutting his teeth with some of the industry's soil and nutrition heavyweights such as Dr Nilantha Hulugalle and Professor Mike Bell.

"I started in the cotton industry in 1998, working with Nilantha in CRDC and Cotton CRC-funded research studying the carbon story under long-term farming system rotation and tillage trials at the Australian Cotton Research Institute (ACRI).

"During that time, I undertook a PhD and was lucky to work with leading researchers in crop nutrition and be a part of long-term farming systems trials at ACRI.

"I was also the NSW DPIRD District Agronomist based at Walgett (Kamilaroi country) for a few years before taking on a new role with the Department as a Research Officer, working in grains on deep placement of phosphorus in dryland farming systems – research led by Professor Mike Bell."

Tim continued his career in cotton as a Senior Research Scientist with CSIRO, working on CRDC-funded projects looking at nitrogen cycling in cotton farming systems. With his feet firmly in the soil of north-west NSW, his current role at the University of Sydney (USYD) involves researching and lecturing in farming systems agronomy. He's also just taken on a new CRDC project researching the impact of nutrition in dryland cotton systems.

"My favourite science is when research answers questions through well-run agronomic experiments"

Dr Tim Weaver is taking the reins as the CottonInfo Nutrition and Plant Physiology Technical Lead from his base in Narrabri (Kamilaroi country).

Good trial work drives outcomes

"My favourite part of science is when research answers questions through well-run agronomic experiments," Tim said.

"The science of running an agronomic trial with good statistical rigour that produces results with impact on the

industry is what gets me out and into the field every day.

"It is a privilege to work in the cotton industry, and I have enjoyed every moment. The people I work with – world-class scientists – have been inspirational.

"Through research I have travelled extensively across cotton growing regions collecting soil and plant samples and been given many opportunities to present my research nationally and internationally, with support from CRDC.

"Through my new role at CottonInfo, I look forward to meeting people and not only sharing research, but gaining knowledge. Regardless of the discipline, I really enjoy learning."

A focus on nitrogen

As Tim steps into the role, nitrogen supply and efficiency are a key focus.

"Not surprisingly, given the state of world politics and uncertainty, pricing and supply of fertiliser are on the minds of all producers along with diesel," he said.

"Through CottonInfo, we will be working with growers to share all the previous R&D and knowledge around nitrogen use efficiency and optimisation.

"We have so much knowledge at our disposal and I'm looking forward to creating awareness of this."

CottonInfo Program Manager Janelle Montgomery said Tim's role will involve supporting growers, with an emphasis on developing innovative, grower-led approaches.

"Working closely with our team of CottonInfo Regional Extension Officers and Technical Leads in soils, climate and carbon, Tim's project will involve on-farm demonstrations and creating real-world examples to strengthen grower confidence in adopting improved practices," she said.

"Having Tim in this role means we can better share research to optimise nutrition inputs on farms, helping growers and the industry to improve efficiency, sustainability and resilience."

For more
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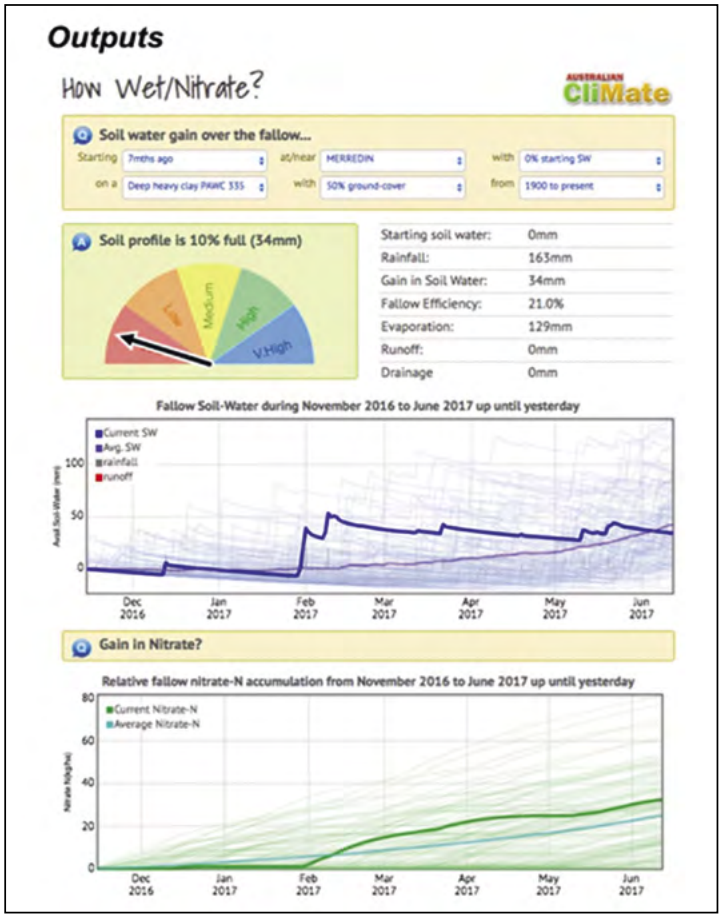

CliMate offers a suite of tools including help to assess soil nitrate levels, which is crucial information when developing nitrogen fertiliser programs.

Make CliMate app your friend to find out pre-plant nitrogen availability

KNOWING how much nitrogen is already available in your soil for the coming crop is the first step in deciding how much you'll need to apply to top it up.

Cotton industry research has shown cotton typically takes two-thirds of its nitrogen requirement from soil organic carbon and mineralised nitrogen, with the remaining third sourced from synthetic nitrogen. Therefore, understanding how much of these forms of nitrogen is available is integral to any decisions about fertiliser application rates.

Growers and agronomists can access a suite of free tools through CliMate, which takes the guesswork out of the weather, using past records and El Niño trends to help you make smarter farming decisions. Assessing pre-plant nitrate (and soil water levels) is possible using the CliMate *HowWet/Nitrate?* tool.

The *HowWet/Nitrate?* tool uses paddock history, soil type and climate records from a nearby weather station to estimate how much plant available water (PAW) has accumulated in the soil and the amount of organic nitrogen that has been converted to a plant-available nitrate during a fallow. It tracks soil moisture, evaporation, runoff and drainage on a daily time step. Accumulation of available nitrogen in the soil is calculated based on surface soil moisture, temperature and soil organic carbon.

HowWet/Nitrate? estimates:

- How much nitrogen has been mineralised as nitrate-N in the soil.
- How much rain has been stored as PAW during the most recent fallow period.

It also provides a comparison with previous seasons of relative soil moisture and nitrate-N accumulation, with the information presented to users in easy-to-interpret graphs.

For more
https://climateapp.net.au

From the mountains in Nepal to plains of cotton

He's studied and worked in countries around the world, but these days, Dr Dinesh Kafle finds himself at home in the cotton fields of rural Australia and close-knit cotton community as a pathologist with Qld DPI and the Australian Cotton Disease Collaboration (ACDC).

He's a long way from rural Nepal, where he grew up and spent much of his time outside amongst the rugged environment.

"I grew up in a river valley with sub-tropical weather surrounded by tropical fruit trees such as mango, guava, banana and lychee," he said.

"It was a typical rural setting with limited entertainment options, but we had a lot of fun, swimming in the river, venturing around mountains and jungles, and participating in cultural festivities."

As it turns out, Dinesh's home happened to be next to an agriculture research station.

"I had an interest in working in agricultural research from a young age, likely the inspiration from this closeness to the research station," he said.

"The beautifully laid out sub-plots of a field research trial are still all too familiar in my mind for me from a young age."

Dinesh began his scientific journey with a Bachelor of Science in Agriculture from Tribhuvan University in Nepal. After graduating, he moved to Israel for a 10-month-long on-the-job training in intensive greenhouse farming, which led to further study opportunity.

"It was a great experience to have the first-hand experience in such high-tech intensive greenhouses there," he said.

"I returned to Nepal, however not long after, I was awarded a scholarship to join the Hebrew University of Jerusalem for my Master of Science in Agriculture specialising in plant protection."

Next stop was Freie Universität Berlin in Germany to study a PhD in Ecology, focusing on plant-mediated interactions between herbivores/microbes. He's now worked across plant-herbivore interactions, plant pathology, nematology and integrated disease management.

Today, working for Qld DPI as a plant pathologist with the ACDC, and living in Brisbane with his wife and 10-year-old son, Dinesh reflects on his journey and the move to Australia.

"As a child, I never thought I would come to Australia to live and work – at least not until my PhD – and definitely not in cotton, as it is not a major crop in Nepal," he said.

"We relocated here as skilled migrants and decided to call Brisbane home, mainly due to the likeness and familiarity with the weather.

"It was a big decision to leave the country of our birth because we moved as permanent residents to live and work in Australia.

"I enjoy cycling and hiking, which allow me to explore the outdoors, stay physically active and

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The cotton fields around northern NSW and Queensland is where Dinesh now spends a lot of his time.

connect with nature. I also spend time reading about history and politics, while also appreciating a good movie.

"My wife works as a registered nurse at the Prince Charles Hospital in Brisbane, so we are both proud to be working with the Queensland Government."

Finding a home in cotton

Moving to Australia was a big step, but Dinesh has found a home in the cotton industry.

"At first, it was difficult to find an agricultural research job, but I was lucky to get the role with Qld DPI Associate Professor Linda Smith's cotton pathology group in 2018," he said.

"I have found the cotton industry is fantastic; it feels like a close-knit community of like-minded people. I now know and get support from a lot of great people who are working hard to make it a successful industry.

"I have enjoyed working with growers, consultants and the CottonInfo team. Growers' enthusiasm, their stories and broadacre farming knowledge are always inspiring."

Prior to the ACDC, Dinesh was working on CRDC-funded projects on reniform nematode ecology and the use of silicon to prime cotton defence against soil-borne diseases and reniform nematodes. He's been involved in cotton disease surveys, diagnostics, pathogen identification and developing sustainable management strategies.

"I am passionate about contributing to innovative solutions for managing diseases that threaten crop health and yields," he said.

"Collaborating with leading researchers, growers and organisations like CRDC allows me to make a tangible difference in the industry.

"The chance to develop cutting-edge tools, such as rapid diagnostics and spore trapping, and to share knowledge with growers, inspires me to drive positive change and ensure the industry's long-term success and sustainability."

Dinesh works on two projects under the ACDC.

The *Diagnostic development, diagnostic support and cotton pathology collection* project focuses on developing rapid diagnostic tools, providing diagnostic support to growers and maintaining the ACDC National Cotton Pathology Collection.

The work will significantly benefit growers and the industry by providing faster, more reliable tools to detect and manage key diseases.

The second project, *Pathogen inoculum: Spore trapping to detect aerial spores of cotton pathogens*, is working to improve early detection and understanding of pathogen behaviour.

"This project complements the first, by evaluating spore-trapping tools and techniques to detect airborne spores of pathogens such as leaf spot fungi and *Eutypella*, which causes recurring wilt," Dinesh said.

"Spore trapping will help monitor and understand the spread of airborne pathogens, allowing for timely interventions.

"Rapid molecular diagnostics enable early identification of major soil-borne and leaf spot pathogens and also enhance the accuracy of identification.

"By validating and refining these diagnostic and monitoring tools, we aim to equip growers with reliable, science-based solutions that enable early intervention and more effective disease management to enhance crop health, reduce economic losses and boost confidence in the long-term sustainability and profitability of the industry.

"Together, these projects also maintain a comprehensive cotton pathology collection, conduct pathogenicity assays and preserve representative pathogen isolates for future research."

MELANIE JENSON

It was a big decision for Dinesh and his family to leave Nepal and make their home permanently in Australia. He says he has also found a home in our cotton industry.

For more

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Giving disease clarity to growers and creating a picture for industry

Diagnostic support for on-farm diseases has been embraced by growers and agronomy teams across NSW and Queensland, with the service and support soon to be available in Western Australia and the Northern Territory.

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UniSQ's Dr Chi Nguyen (right) has been working closely with growers in the field, as well as undertaking disease identification in the lab. Chi has been working with fellow cotton pathologist Dr Karen Kirkby, who is a part of the CRDC-supported Cotton Low Emissions Intensity Farming Systems project, looking at the impact of low-intensity systems on disease.

The diagnostics are undertaken by pathologists from the Australian Cotton Disease Collaboration (ACDC) on disease-affected plant and soil samples sent in by CottonInfo Regional Extension Officers (REOs), growers and/or their advisors wanting to identify and/or track disease severity.

The ACDC state pathologists for NSW and Qld, UniSQ's Dr Chi Nguyen and Qld DPI's Dr Dinesh Kafle, are creating a picture of disease incidence and severity with these samples.

When the project initially kicked off in 2025, the pathologists were inundated with samples, which caused some delays in getting diagnostics back to growers.

Chi and Dinesh said now they've settled into the project and overcome the initial rush, most samples are turned around within one to two weeks. Some samples, however, require molecular testing to confirm the pathogen type, which can extend the turnaround time by up to four weeks.

The CottonInfo REOs have been integral to the initiative, as they've been responsible for sampling 25 fields across their regions early (approximately four to six weeks after planting) and late (prior to defoliation) in the season. Samples are sent to the ACDC pathologists, who undertake the diagnostic analysis and develop the reports, then send them directly to the grower or consultant.

"Because many diseases look similar in the field, sending samples to a pathologist is the best way to get an accurate diagnosis and the right management advice," Dinesh said.

"We also see fields with multiple pathogens, reinforcing that accurate identification is vital to guide management."

The service not only gives growers clearer on-farm disease identification and more targeted management options, but also benefits the wider industry by contributing to the ACDC's National Cotton Pathogen Collection and alerting the industry to new diseases between farms, regions and Australia-wide.

Results from each sample analysis will be added to the disease database and support concurrent ACDC projects to monitor pathogen changes over time.

Diseases	NSW Regions			
	Gwydir	Namoi	Macquarie	Southern NSW
Alternia Leaf Spot				
Black Root Rot				
Charcoal Rot				
Fusarium Wilt				
Other Fusarium				
Pythium Rot				
Reoccurring Wilt				
Rhizoctonia Rot				
Verticilium Wilt				
Other soil-borne pathogens				

Key: 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 1

Table 1. Disease incidence by region from both early and late 2025-26 season samples analysed by Chi in NSW. Each number represents one sample.

Timing and disease activity

When reviewing the diagnostic data, the results are divided into early and late season. In NSW, 80 early-season samples from 69 fields across 53 farms were received. For the late season, 117 samples from 93 fields across 56 farms have so far been received (See Table 1).

Diseases	Regions								
	Central QLD	Darling Downs	Border Rivers	St George	Lockyer Valley	Gwydir	Namoi	Macquarie	Southern NSW
Black Root Rot									
Boll Rot									
Fusarium Wilt									
Pythium Rot									
Ramularia Leaf Spot									
Reniform Nematode									
Reoccurring Wilt									
Rhizoctonia Rot									
Stemphylium Leaf Spot									
Verticilium Wilt									
Other Pathogens									

Key: 30 27 24 21 18 15 12 9 6 3 0

Table 2. Disease incidence by region from both early and late season samples processed by Dinesh. Each number represents one sample.

Chi said with around 197 samples in total, that equates to undertaking more than 1800 stem cuts.

She said the testing showed that Verticillium was detected in more than 50 per cent of samples, except in the southern regions. In contrast, Fusarium Wilt was detected in approximately 20 per cent of samples, except in the Namoi region, where it has not yet been detected.

"We saw Verticillium and Fusarium in the same fields," Chi said.

"Early season is certainly most impacted in terms of types of disease present, with double the number compared with late season.

"We are also keeping watch on Alternaria and Pythium levels in early-season samples."

While based in Qld, Dinesh also received samples from NSW. He received 142 plant samples and 13 soil samples from Qld and 90 plant samples from NSW. Among these, about 55 per cent were early season, and the rest were late-season samples.

"We've received two or three times more samples than last year in Qld via collection from CottonInfo REOs, who have sent 60 per cent of samples received this year," Dinesh said.

"They are doing a great job with growers, getting samples to us."

Early-season samples from NSW and Qld found black root rot across all regions bar one, the Lockyer Valley (Table 2). As the season progressed, more Fusarium and Verticillium was diagnosed.

"These results are in line with what we expect in a typical season," Dinesh said.

"The presence of these diseases in those regions wasn't surprising, however in other areas we did get a few surprises.

"We diagnosed two cases of *Stemphylium* leaf spot in central Qld (CQ) and the Darling Downs. *Stemphylium* was detected in a sample from the Darling Downs some years ago, but it has not been seen previously in CQ.

"*Stemphylium* is commonly associated with potassium deficiency and/or drought stress. The pathogen overwinters on plant residue on the soil, so infection occurs when the crop is nutrient deficient and stressed."

Dinesh said they have also seen Ramularia leaf spot in CQ again, following its discovery in the region for the first time last season.

"The Ramularia pathogen spores are spread by rain splash, wind, irrigation water and farm machinery," he said.

"The spores grow on non-living organic matter, so it will persist in the field between seasons.

"The discovery of the soil-borne pest reniform nematode in new fields in CQ has also highlighted the cotton industry biosecurity message of 'Come Clean. Go Clean.' to halt the spread of disease."

Filling the disease knowledge gap

The samples sent to the ACDC pathologists for diagnosis are an integral resource for the ACDC's many research projects that are monitoring diseases, creating resources and filling knowledge gaps, to ultimately reduce the impact of diseases on cotton production.

CottonInfo Disease and Biosecurity Technical Lead, Qld DPI's Sharna Holman, highlighted the importance of sending disease samples in.

"Undertaking and participating in diagnostics helps us know how a disease has expanded, so we can address management," Sharna said.

"You've got to monitor to manage, and disease profiles can change.

"We are seeing issues such as reniform nematode and *Stemphylium* in new fields, which allows us to help growers manage them.

"Pathogens can evolve throughout the season and over years, so multiple samples throughout a season will allow the ACDC researchers to understand the pathogen behaviour, which ultimately helps management.

"We also really want growers and their advisors, if they suspect a new disease or pest is causing issues, to please contact us, so we can quickly respond with a field visit."

Getting a good sample

A successful disease diagnosis starts in the paddock by ensuring the integrity of the sample and choosing the right packaging. Before sending in a sample, be sure to contact the team at the ACDC or CottonInfo. Seedlings and leaf samples can be problematic as they deteriorate quickly.

- Use paper bags – not plastic.
- Post using cardboard packaging, not plastic satchels.
- Post on Mondays as samples can sit in transit over weekends.
- Include information about symptoms and severity as well as contact information.

Who to contact and where to send samples in NSW and Qld:

NSW: Dr Chi Nguyen: 0450 634 108
Post to – Attention: Chi Nguyen
IA Watson Grains Research Centre
E12Z, 12656 Kamilaroi Highway,
Narrabri NSW 2390

Qld: Dr Dinesh Kafle: 0436 622 940
Post to – Attention: Dinesh Kafle
Ecosciences Precinct
B3 Loading Dock, Joe Baker Street,
Dutton Park Qld 4102

For more

Dr Dinesh Kafle
dinesh.kafle@dpi.qld.gov.au
Dr Chi Nguyen
chi.nguyen@unisq.edu.au

Creating a more knowledgeable future for disease management

Pathologist Dr Cassy Percy is on a mission to stop the spread of diseases affecting cotton into new areas and give growers the tools to understand and manage those already present on their farms.

To achieve this, the University of Southern Qld (UniSQ) Senior Research Fellow is leading two projects under the Australian Cotton Disease Collaboration (ACDC), creating crucial industry resources to allow growers to overcome diseases of cotton.

Cassy is overseeing the building of the ACDC National Cotton Pathogen Collection, which will be a resource of pure, characterised fungal isolates from across all growing regions that will act like a library for researchers of disease pathogens.

Characterising is the process of identifying, describing and classifying a plant pathogen based on its specific physical, molecular or behavioural traits. It goes beyond just finding out 'what' the pathogen is to understanding how it operates, infects plants and interacts with its environment.

The collection will include pathogen characteristics, hosts and location. Over time, the collection will allow researchers to track diseases and how they change and move into new areas, potentially creating predictive capabilities.

"While a pathogen can be a fungus, bacterium, nematode, wilt or virus, our collection is currently focused on fungal pathogens, so we are looking at foliar and boll diseases such as leaf spots and boll rots," Cassy said.

"This collection will offer us a clear understanding of the disease strains and genetics that are in cotton paddocks, which allows us to understand cotton variety response to pathogens, inform crop rotation choices and improve management recommendations."

Working closely with industry

In this project, Cassy works closely with the plant pathologists who undertake the disease diagnosis.

She adds that grower and agronomist involvement are the linchpin to building this collection, which is being created through samples that growers, their advisors and CottonInfo REOs send to the ACDC team of pathologists.

"These samples benefit several projects in the ACDC, so the team would really like to thank those who have sent samples through for identification," Cassy said.

"We welcome samples from plants affected by known diseases, as it adds greatly to our collection that can be studied across several of the ACDC's projects."

This includes Cassy's second project, to create a complete database of hosts of disease pathogens and to track pathogen virulence.

"There has been a large amount of work over many years into the range of plant hosts for some of the cotton diseases, however new diseases are becoming important and changes in strains means that currently we don't fully understand the range of plants these pathogens can infect," Cassy said.

"This project is working to strategically fill this knowledge gap by building resources that will help develop better disease management strategies for growers."

Cassy said the project team will test crops where limited information is available, as well as summer and winter weeds.

"Pathogens can become more virulent or find new hosts in back-to-back cropping and that's why it is important to have a diverse range of crop options," she said.

"Identifying non-host crops for rotations to reduce inoculum loads is information growers need at all times, but we are seeing changes in virulence and hosts.

"For example, cereals were considered a good rotation option for Verticillium, however it has now been detected and found to be multiplying in barley."

Keeping an eye on origin

Cassy also pointed out that among the wilt diseases, their origins are all different, which affects how they behave and evolve.

Verticillium wilt, for example, is an introduced pathogen with a broad and growing host range, while Fusarium wilt has evolved locally from native cotton and has a narrower host range.

"Meanwhile, Eutypella or reoccurring wilt seems to be found in isolated occurrences and we just don't know where it comes from," Cassy said.

"Understanding the origin of pathogens, how they behave across different hosts and how quickly they evolve will not only allow us to understand disease risk and develop effective strategies for

MELANIE JENSON

Cassy (left) in a trial at Coulton Farming's 'Getta Getta' near North Star on the NSW Northern Slopes (Kamilaroi/ Wallaroi country) where some of the ACDC trials are underway.

growers to manage disease, but also ensure that future resources are directed towards monitoring pathogens that are likely to change."

Understanding virulence

In the context of cotton farming, virulence refers to how aggressively a pathogen attacks the plant and how much it reduces quality and/or yield.

Creating cotton germplasm resources and a 'differential set' (a collection of cotton lines with known reactions to specific pathogens) gives researchers the ability to study virulence patterns in order to predict disease severity and resistance.

"Changes can occur in the host choice, distribution and virulence of pathogens," Cassy said.

"Understanding the distribution of virulence is important for control, particularly in the development of resistant germplasm, or if a product comes onto the market or is being developed for the management of a disease.

"Having access to the most virulent strains for research into a particular component of the disease informs the breeding program of changes in virulence, which is really important to sustaining resistance levels."

Being able to track any changes will also help researchers understand why and how these changes have occurred, as well as predict risk for growers if new incursions or changes in pathogen populations have been identified.

"We already know that the virulence can change from having no discernible negative impact on a plant, to causing varying levels of damage," Cassy said.

"We see this more in those strains with more frequent reproduction that like to mix their genes with each other."

Just to add another level of difficulty for growers and researchers, pathogens can be present but only appear in certain seasons and conditions.

"Seasonal conditions affect disease expression. Reoccurring wilt, for example, was detected after six years of drought, yet we do not know if or how this impacted its revival," Cassy said.

"We are aiming to solve some of these unknowns so we can provide crop managers the information they need to alleviate the impact and, ultimately, stamp out disease."

CRDC Innovation Broker Elsie Pearse, who oversees CRDC's investment in the ACDC, said these projects are building resources needed to monitor how cotton diseases evolve over time.

"By creating a national pathogen collection and mapping key genomes, they will enable earlier and more accurate identification of emerging strains and support disease management," Elsie said.

"Together, these efforts strengthen biosecurity and protect the productivity of Australia's cotton industry."

For more

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Disease diagnostic capacity ramps up in the north

Cotton growers, consultants and researchers in northern Australia are looking forward to new pathology capability and diagnostic support through the Australian Cotton Disease Collaboration (ACDC).

Through the ACDC, West Australian growers will be supported by the current WA Department of Primary Industries and Regional Development (WA DPIRD) Research Scientist Sarah Nolan-Gorman, who is based in Kununurra (Miriwoong country).

NT Department of Agriculture and Fisheries (NT DAF) Cropping Group Leader Dr Edward Mwando will be looking after the Territory, where he's been working on a rain-fed cotton project in Katherine (Jawoyn country) since 2022 through the collaborative Cotton, Grains, Cattle (CGC) program, of which CRDC has been a key partner.

WA DPIRD Research Scientist Sarah Nolan-Gorman is providing pathology support from her base in Kununurra.

They will be supported by the newly appointed CottonInfo Regional Extension Officer (REO) for Northern Australia, Nicole Bell (see following story).

Together with NT DAF's plant biosecurity team, Edward has been working towards increasing cotton disease diagnostic services at NT DAF in Darwin (Larrakia country), in readiness to begin analysing samples submitted by growers and agronomists later this year.

Along with supporting growers and agronomists to get samples in, Edward will be conducting early- and late-season disease surveillance and collecting disease isolates from cotton plants.

Next year, these samples will be added to the ACDC National Cotton Pathogen Collection and be valuable material for pathologists to test aspects of a pathogen such as virulence.

Similarly in WA, Sarah has been busy developing local diagnostic capabilities and undertaking the first surveys in the state. She will also be running workshops with growers, agronomists and collaborators.

"This work is creating a baseline of cotton disease intelligence in WA, helping to support the industry as it continues to grow," Sarah said.

"We are strengthening WA cotton disease knowledge through our in-crop surveys, setting up a very remote molecular diagnostic laboratory to support local industry.

"Our closest diagnostic lab is in Perth, so having the capability to perform disease diagnostics in the region is a game changer."

The first surveys in WA cotton crops are now done, and 2025-season isolates from the pathogen samples have been sequenced. Sarah said sequencing involves reading the DNA of the pathogen to determine what it really is.

"It's a bit like using a barcode or fingerprint to tell species apart so we can understand what we are dealing with," she said.

So far in WA, no major early-season plant mortality caused by pathogens has been identified, however there have been some losses following prolonged waterlogging after rainfall events post-planting.

"In the late season, similar to the NT, we've observed foliar and boll diseases associated with high humidity and dense canopies," Sarah said.

"We saw low levels of boll disease this season,

and some early evidence of two different leaf disease populations between the upper and lower canopy.

"We've seen Alternaria and target spot affecting leaves, and last season we also identified boll rots caused by Fusarium, Diplodia and Phytophthora."

Sarah shared some of the 2025 cotton disease survey results at the Northern Australia Cropping Research Alliance (NACRA) end-of-year workshop late last year.

"It was a great turnout from local growers, agronomists and industry partners, and so good to see the meaningful discussions throughout the workshop," she said.

NT growers keen for diagnostics

Edward said NT cotton growers and agronomists are extremely keen to see local disease diagnostic capability being available in Darwin.

"Having NT-based diagnostics will mean faster identification of early and late-season cotton diseases, quicker management decisions during the wet season and reduced reliance on interstate laboratories. This is a major step forward for supporting the Territory's emerging rain-fed cotton industry – a development widely welcomed by the industry and aligned with CRDC's push to strengthen disease preparedness in northern Australia," Edward said.

"As scientists, we are also very excited to have cotton disease diagnostic services available in Darwin.

"This will be a major benefit for NT growers and agronomists, particularly given the rapid disease development that can occur under tropical conditions.

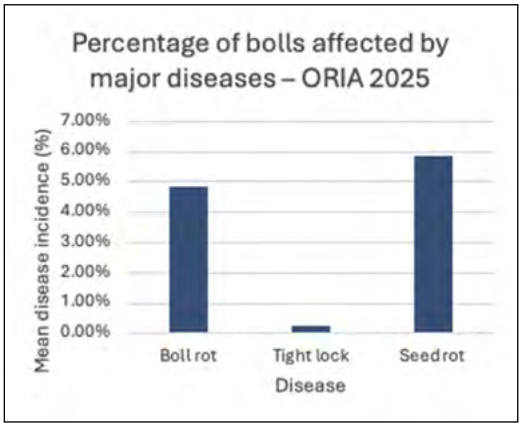
"Local access will enable faster diagnosis, more timely management decisions during the season and greater confidence as the Territory's rain-fed cotton industry continues to expand."

Sarah said likewise in WA, growers and consultants are anxious to see the diagnostic services kick off.

"We are also excited to be able to provide this service to our growers and they're really keen to see it coming to fruition," she said.

"Given Kununurra's remoteness, having the ability to provide diagnostics locally removes the barrier of needing to send each sample to Perth at the cost of the grower.

"The project enables us to support growers and provide this service at no cost to local industry."



Results from the WA late-season disease surveys undertaken by Sarah Nolan-Gorman.

Dr Edward Mwando says NT cotton growers and agronomists are extremely keen to see local disease diagnostic capability being available in Darwin.

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CottonInfo expands its footprint in the north

CottonInfo continues to strengthen its commitment to the northern Australian cotton industry with the appointment of Nicole Bell as its inaugural Regional Extension Officer (REO) based in Kununurra.

TOMMY PALMER

A Narrabri girl at heart, Nicole Bell now makes her home in Kununurra.

Originally from Narrabri NSW, Nicole's journey into cotton began by growing up in the heart of cotton country, and later working at the Australian Cotton Research Institute at Narrabri with CSIRO and NSW DPI, where she focused on entomology and integrated pest management.

Nicole brings strong northern cotton experience and industry connections to the role, as she has lived in Kununurra (Miriwoong country) since 2021, working in technical and field-based roles with the Ord River District Cooperative (ORDCO) and WA DPIRD. This work included designing and running mixed cropping trials.

Nicole said the role with CottonInfo aligns with a long-standing desire to work at the forefront of agricultural innovation and sustainability.

"I have a genuine interest in connecting growers with research and helping turn science into practical outcomes for those on the ground," she said.

"Northern Australia presents unique challenges and opportunities, and this role allows me to help support resilient, productive and sustainable cotton systems.

"Having been based in Kununurra for five years now, I have a good understanding of the strength of the region and really enjoy being part of an industry that has the ability to adapt and successfully innovate to produce such a high-quality product."

CottonInfo Program Manager Janelle Montgomery said Nicole brings an ideal skillset to the extended CottonInfo team and the broader industry.

"This role, while based in Kununurra, is about building stronger connections across the northern cotton industry in WA and the NT, and ensuring growers have direct access to research, information and support that is relevant to their unique production systems," Janelle said.

"Nicole will work closely with growers and all of CRDC and CottonInfo's partners in the north, including the WA DPIRD, NT DAF, the Northern Australia Crop Research Alliance, ORDCO, private consultants, Cotton Australia and CSD, to strengthen the northern industry and provide additional support.

"She will also be integral to the new Australian Cotton Disease Collaboration pathology team in the NT and WA, helping them collect disease samples and acting as a link for growers and agronomists to do the same (see previous story).

"Nicole's impressive depth of experience across entomology, agronomy, breeding, pathology and soils, combined with a strong professional network, positions her well to support growers and advisors across the region."

Nicole officially started at the end of March, joining eight fellow CottonInfo REOs, who support Australia's cotton growing valleys across Queensland and NSW.

CottonInfo is the Australian cotton industry's extension program – a partnership of CRDC, Cotton Australia and Cotton Seed Distributors (CSD) to deliver industry good. CRDC Executive Director Allan Williams said the appointment signals a strong, long-term commitment to the northern Australian cotton industry.

"Establishing a dedicated cotton extension role in the north is about setting northern Australia up for the long term by ensuring growers have ongoing access to research-driven support," he said.

For more

Nicole Bell
nicole.bell@cottoninfo.net.au

Australian Cotton Conference 2026: Research, practice and industry in one place

THE 2026 Australian Cotton Conference will bring Australia's cotton research community and industry together on the Gold Coast (Bundjalung country) from August 4-6, providing a critical forum to connect science, onfarm practice and industry impact.

Held under the theme 'Future Fit Cotton', the Conference offers growers and researchers a unique opportunity to see how data, innovation and applied science are shaping the future of Australian cotton – from paddock performance to global market competitiveness.

The event is proudly industry owned, hosted by Cotton Australia and the Australian Cotton Shippers Association (ACSA), led by a volunteer committee and supported by sponsorship including CRDC as a Foundation Sponsor. The program is built around core themes of: farm productivity and risk; sustainability and climate; innovation and technology; people and skills; and markets and value.

The nearly impossible task of narrowing down the CRDC-supported research, development and extension (RD&E) to be included has been accomplished.

The Australian Cotton Disease Collaboration will have a strong presence. Researchers will share findings from this season's projects in irrigation and nutrition management to reduce wilt disease, pathogen collection and diagnostics, rotation trials in the Namoi, fungicide resistance plus a grower panel.

Sessions will explore what 'Future Fit' cotton looks like in practice, including the Strategic Roadmap for Australian Cotton and the role the CRDC Cotton Industry Data Platform will play. There will also be updates on emerging areas such as digital platforms, automation, AI, biologicals and new production technologies.

"...learn how to grow high-yielding, low-emissions cotton, what's in the pipeline with green fertilisers and hear from other growers' experiences"

No event brings the industry together like the Australian Cotton Conference, where growers, consultants, agribusiness, finance and researchers create an atmosphere of learning and solidarity.

Keep your eyes out for workshops during lunch breaks on nitrogen management, generational change, Verticillium management and the SHIFT workforce program, along with the 11 CRDC Innovation Call 'Next Big Idea' project pitches (see next story).

In the innovations in fertilisers session, learn how to grow high-yielding, low-emissions cotton, what's in the pipeline with green fertilisers and hear from other growers' experiences. It will feature Dr Aaron Simmons who leads the CRDC-supported Cotton Low Emissions Intensity Farming Systems (Cotton LEIFS) project in NSW.

And, take a look back at the 30 years of transgenic cotton in Australia, with speakers including CRDC Executive Director Allan Williams as he shares his reflections on the critical role of cotton industry RD&E.

Sustainability, water, dryland cotton, market dynamics and a look at the Brazilian cotton industry will also feature, reinforcing the importance of research that responds to production, environmental and economic challenges.

Opportunities beyond the sessions

Beyond the formal program, a mix of networking functions, social events and dedicated meeting spaces creates valuable opportunities for growers, researchers and other delegates to build relationships, explore collaborations and discuss how research is being received and applied on-farm.

For students and early-career researchers, the Conference provides exposure to the full cotton value chain and insight into how research priorities are shaped by grower needs and industry strategy. CRDC and Cotton Australia are partnering to support undergraduate students to attend.

The trade hall: Applied innovation on show

The Conference trade hall will once again be a focal point for connecting research with practical application. Innovation Alley will feature alongside the CRDC and CottonInfo stand, providing an opportunity for the 11 innovators supported through CRDC's Innovation Call (see next story) to interact directly with growers and delegates.

For more
www.australiancottonconference.com.au

Take a walk down Innovation Alley to see the future of cotton growing

ATTENDEES at this year's Australian Cotton Conference will be privy to what the future of cotton could look like, with some of the country's leading startups, ventures, entrepreneurs, agribusinesses, researchers and research organisations coming together in Innovation Alley.

The innovators that will feature in Innovation Alley are those selected during CRDC's Innovation Call – a national open call for innovative solutions to three cotton challenges: preparing for a low-pesticide future, optimising nitrogen use and improving weed management.

CRDC offered up to $50,000 to support each individual feasibility study across these three key priority areas. Almost $550,000 has now been shared across the 11 projects, delivering on CRDC's *Clever Cotton* strategy. From using satellites and weather data to optimise nitrogen decisions, and using bacteria for pest control to lightning-powered seed technology and AI-driven drones, each applicant has now commenced their feasibility studies in readiness for the Conference Innovation Alley and a pitch session in the Conference agenda.

The feasibility studies and feedback from growers at Conference will help inform a subsequent funding round, where up to $500,000 will be available to successful innovators to deliver proof-of-concept projects within the Australian cotton farming system.

CRDC's Acting General Manager, Innovation, Susan Maas said the Innovation Call was about exploring new approaches and ideas, and delivering practical impact.

It was a competitive process, with cotton growers involved through the CRDC and Cotton Australia research panels to help prioritise projects.

"These ideas show just how bold and innovative the cotton industry has become," Susan said.

"By investing early in feasibility studies like these, we're giving innovators the runway they need to test big ideas with real impact. From AI to nature-based solutions, we're backing ideas that have the potential to change how we grow cotton in Australia.

"We're really encouraging growers and advisors to take a closer look at these innovative ideas and technologies that could change the way they farm.

"Growers have been integral in the selection process of successful projects and CRDC continues to welcome feedback on the innovations – we'll be actively seeking this from growers at the Australian Cotton Conference through both Innovation Alley and the innovation pitches in the Conference agenda."

ABOVE: With support from CRDC, Woven Optics is assessing the potential for a handheld fibre test that tells growers the perfect time to pick cotton, before quality is lost.

For more

Australian Cotton Conference

www.australiancottonconference.com.au

CRDC Innovation Call successful projects

Releasing beneficial mites to manage chemical-resistant spider mites naturally
Delivered by: The Crop Capsules Company

This project will put nature to work in the cotton field, testing whether predatory mites can be released at scale to control two-spotted spider mites — an increasing challenge as resistance to chemical sprays accelerates.

Three innovative release methods will be evaluated: a dry granular system, a liquid spray delivery system, and Crop Capsules' novel biodegradable capsule technology. The capsule system packages live beneficial mites in protective, plant-based capsules designed to shield them during deployment and release them directly into the crop environment. Aerial distribution of the capsules enables precise, low-disturbance and fast delivery across broadacre cotton systems.

Field trials will assess predator survival and establishment, how effectively they suppress spider mites, and the resulting impact on crop damage. By delivering the first field-scale evaluation of biological mite management in broadacre cotton, this work aims to identify delivery systems that are both practical for growers and effective under real-world, commercial conditions — helping lay the groundwork for more resilient, spray-free pest management.

Turning farm and food waste into a slow-release fertiliser that feeds cotton and cuts carbon at the same time.
Delivered by: Growth Agriculture

This project will develop and test a circular-economy fertiliser, turning local organic waste like treated sewage (known as biosolids), animal bones and dried blood from meat processing into a safe, high-quality fertiliser for cotton systems.

Instead of sending this waste to landfill, the project will recycle it into small fertiliser pellets that slowly release nutrients into the soil. This helps crops use nitrogen more efficiently, reduces fertiliser costs for farmers, and lowers harmful emissions. It also locks carbon into the soil, which is better for the environment.

The team will test the product in the lab and in real farm trials to make sure it's safe, effective, and performs as well as (or better than) common fertilisers like urea. They'll also design small, portable production units so the fertiliser can be made locally in regional areas, and roll out a community education piece through the 'Dollars for Dung' program.

The Crop Capsule team are helping lay the groundwork for more resilient, spray-free pest management.

WildSeek Weeds: using drones and AI to detect weed species.
Delivered by: Landcare Australia

This project utilises drones and an advanced AI platform (WeedRemeed™) to detect hard-to-spot weeds before they spread through cotton growing regions. With a focus on riparian zones, where manual surveys are difficult or unsafe to carry out on foot, the system will process drone imagery using advanced colour picking and machine learning technologies to detect and geolocate weeds. Successful detection models will identify weeds at an accuracy of over 80 per cent.

The work will include defining a target weed species. This process will incorporate advice from ecological specialists as well as knowledge shared by local landholders and community groups. This will be followed by conducting suitability assessments, undertaking drone surveys, and training the AI models before the WeedRemeed™ technology is deployed through Landcare Australia's WildSeek hubs.

Delivered alongside the Centre for Invasive Species Solutions and the Tamworth Regional Landcare Association, the project will expand the existing WildSeek and WeedRemeed™ frameworks to create a scalable, community-driven weed management tool.

Using Faba beans as green manure.
Delivered by: MCA Agronomy Pty Ltd

This project investigates how faba beans can naturally feed soils between cotton crops. Faba beans naturally pull nitrogen out of the air and put it into the soil, improving soil health and reducing greenhouse gas emissions. This could mean farmers

need less fertiliser for their next cotton crop.

By assessing the agronomic, environmental and economic impacts of using faba beans as a green manure crop within irrigated cotton rotations, this project will be able to determine if faba beans outweigh the additional costs of growing and irrigating the green manure crop.

The first part of this study will include a desktop assessment and a survey of cotton growers to understand their experiences, perceptions and willingness to adopt green manuring. Findings will then inform the design of a potential on-farm validation project.

Lightning-powered seed technology to boost crops.

Delivered by: Rainstick Pty Ltd

This project uses the power of lightning to see if it gives cotton seeds a stronger, faster and more resilient start.

This feasibility study will evaluate the potential of Variable Electric Field technology — a non-chemical, bioelectric seed treatment that mimics the effects of lightning — to improve cotton germination, seedling vigour, nitrogen use efficiency and overall crop resilience.

The technology has already demonstrated yield gains of 12 to 16 per cent in other crops and offers a scalable, pre-plant treatment that requires no change to existing on-farm practices.

Rainstick is evaluating the potential of non-chemical, bioelectric seed treatment technology that mimics the effects of lightning.

Using cotton ginning waste to boost cotton crops.

Delivered by: RMIT University

This project will transform cotton ginning waste — currently a low-value, high-cost byproduct —into a valuable new product to help cotton crops grow more efficiently. It will investigate turning ginning waste into nano-boosters that help fertilisers and sprays work smarter, not harder.

The study will develop a one-step dry synthesis process for producing carbon dots from cotton waste and test their performance as nano-fertilisers and smart pesticide carriers.

These nanoscale carbon dot particles are expected to bind nitrogen fertilisers, slow nutrient losses and improve pesticide delivery and uptake. This could reduce input costs and environmental impacts for the Australian cotton industry.

Turning local organic waste like treated sewage and products from meat processing into a safe, high-quality fertiliser for cotton systems is one of the innovations CRDC is supporting through a feasibility study.

Mapping creek lines and riverbanks to show where restoring nature will deliver the biggest bang for cotton.

Delivered by: Southern Queensland Natural Resources Management Ltd (SQ Landscapes)

This project investigates how spatial planning across riparian areas could deliver more targeted investment across southern Qld cotton-growing regions. It's about working out whether improving riverbank areas can save farmers money, reduce chemical use, support biodiversity and possibly create new income opportunities.

The study builds on CRDC's previous riparian mapping projects to help the cotton industry identify and prioritise areas for riparian investment and natural capital improvement.

Using mapping and location data, it will look at the costs and benefits of better managing riverbank areas. This includes controlling weeds, creating habitat for helpful insects, reducing pesticide use and exploring potential income through environmental programs.

RMIT's Wenjing Chen is investigating turning ginning waste into nano-boosters that help fertilisers and sprays work smarter, not harder.

Results will provide the foundation for future on-ground investments and expanded national application.

Using bacteria for pest control. Delivered by: University of Melbourne

The key goal of this project is to develop a self-spreading, non-chemical pest control method.

To do this, this project investigates whether naturally-occurring bacteria can be used to support area-wide management of aphids in cotton, focusing on the green peach aphid *(Myzus persicae)* and the cotton aphid *(Aphis gossypii)*.

This study looks at a naturally occurring bacterium called Rickettsiella that can cut aphid breeding in half. Once established, this bacterium can spread through aphid populations. That means once it's introduced, it could help suppress aphid abundances across large areas, reducing the need for growers to apply chemical control.

Researchers will test how the bacterium affects aphids feeding on cotton, different strains of aphids that carry the bacterium, as well as measuring its ability to spread through cotton plants.

Real-time dashboards that turn satellite images and weather data into optimised nitrogen decisions for growers. Delivered by: University of New England

This study will explore options to transform real-time satellite imagery and weather data into decision tools that help cotton farmers hit their yield targets efficiently.

Building on technology already adopted by the rice industry, the project will combine satellite images with local weather and field-level data — such as paddock maps, fertiliser rates, and previous yields — to track cotton crop growth and nitrogen status against regional benchmarks.

The goal is to provide farmers with clear, live information about crops, enabling data-driven fertiliser decisions that boost efficiency, profitability and environmental outcomes.

"The technology has already demonstrated yield gains of 12 to 16 per cent in other crops"

Nitrogen decision-support tool. Delivered by: University of Sydney

This project investigates the development of a digital guide to help growers apply the right nitrogen, at the right time, for profit and planet.

Using advanced modelling, the research team will simulate how different soils, climates, and fertiliser rates influence cotton yield, profitability, and greenhouse gas emissions. These results will train a fast, machine-learning 'surrogate model' capable of predicting outcomes in seconds rather than hours, allowing rapid scenario testing and easy deployment.

The project will create a 'N-Smart Playground' proof-of-concept 'surrogate model' to test the feasibility and user value of an interactive fertiliser decision environment, with potential progression to a standalone or integrated digital platform.

Portable micron testing for harvest timing. Delivered by: Woven Optics Pty Ltd

This 12-month feasibility project will assess the potential for a handheld fibre test that tells growers the perfect time to pick cotton, before quality is lost.

The portable micron-testing system is based on proven wool industry technology. The study will test whether rapid, on-site fibre maturity data can guide optimal defoliation timing and enable pre-gin identification of cotton type, matching bales to the most efficient ginning protocols.

Real-world testing, performance comparisons and financial analysis will show how valuable the product is, how much money it can make back, and whether it's ready to be sold commercially.

Young achievers carry cotton forward

THE professionalism, expertise and approach to the industry left the judging panel inspired and very confident in the future of Australian cotton as they narrowed down finalists for the 2026 CRDC Chris Lehmann Young Cotton Achiever of the Year Award.

Cotton Australia CEO Adam Kay said the judging panel was humbled by the opportunity to engage with such a wonderful cross-section of applicants for this award, with the three finalists being named as Natalie Aquilina, Alexandria Doyle and Lauren Roellgen.

CRDC Executive Director Allan Williams said the award continues to highlight the contributions of cotton's emerging leaders.

"This award recognises people who are not just doing their jobs well but actively shaping the future of the cotton industry through leadership, innovation and a willingness to get involved," Allan said.

"Natalie, Alexandria and Lauren are already making a strong contribution on the ground – not only in their roles, but through the time they put back into their local industry and communities – bringing practical skills and new ideas that will help carry the industry forward.

"CRDC works alongside Cotton Australia and industry partners to back the next generation of leaders through leadership programs, research opportunities and travel scholarships that give people real experience and perspective.

"We recently supported Lauren to attend the OECD Global Forum on Agriculture in Paris, connecting her with global peers and ideas.

"This isn't an optional extra for CRDC – investing in people is fundamental to the industry's future.

"These three finalists, along with many others across the industry, are exactly the kind of people who will step forward as leaders, especially when they're given the right support at the right time."

The CRDC Chris Lehmann Young Cotton Achiever of the Year Award recognises outstanding young people who are demonstrating leadership and commitment to the future of the Australian cotton industry. It is named in honour of the late Chris Lehmann, one of the industry's early consultants and a passionate supporter of young people in cotton.

Lauren Roellgen

Lauren has become a strong voice for the cotton industry and agriculture more broadly, while working full-time on her family's farm 'Tyunga' on the Darling Downs (Barunggam country). Alongside helping drive best practice on-farm, Lauren serves as secretary of the Darling Downs Cotton Growers Association (CGA), chairs the Future Farmers Network Board and is Deputy Vice Chair of the RNA Future Directions Committee. She has helped deliver industry events, foster collaboration for young growers and advocate for the importance of leadership renewal, innovation and strong community connections. Lauren was the 2025 Darling Downs CGA Young Achiever and is currently a 2026 Australian Future Cotton Leader.

Natalie Aquilina

As a Cotton Seed Distributors (CSD) Technical Agronomist for the Namoi Valley (Kamilaroi country) in NSW, Natalie supports growers and agronomists through her work in extension, research trials and industry service. She is currently treasurer of the Upper Namoi CGA and president of the Narrabri Ag Collective. Natalie has contributed to crop judging and industry events including the 2026 Grower of the Year Field Day and the 2024 Australian Cotton Conference Committee. Natalie is a 2026 Australian Future Cotton Leader and her leadership and commitment to the industry was most recently recognised when she was named the Upper Namoi CGA 2026 Young Achiever of the Year.

Alexandria Doyle

Alexandria is a 2021 graduate of the Australian Future Cotton Leaders Program and the Grower Services Representative for central Qld with Louis Dreyfus Company, based in Emerald (Gayiri country). She's also President of the Central Highlands Cotton Growers and Irrigators Association, meaning her contribution to the industry spans agronomy, grower engagement and community leadership, with a strong focus on strengthening cotton communities, encouraging participation from the next generation and supporting growers through practical advocacy and connection. Alexandria has also contributed to the industry through volunteer roles with Wincott, and the Cotton Awards Dinner Committee.

Awards recognise the heart of industry

THE finalists for the 2026 Bayer Cotton Grower of the Year and the AgriRisk High Achiever of the Year awards have been announced.

From large-scale operations to family-run farms, this year's finalists highlight the strength, adaptability and forward-thinking approach of the people at the heart of Australia's cotton industry.

Featuring a mix of irrigated and dryland operations, the finalists employ a range of practices tailored to their environment, from precision agriculture and automation to diversified cropping systems and innovative water management. They also share a commitment to their people.

"What stands out this year is not just the innovation on display, but the focus on people – building strong teams, investing in safety and supporting local communities," Cotton Australia CEO Adam Kay said.

"Each of the finalists credits their team and positive workplace culture to playing a key role in the success of their business.

"These finalists demonstrate the innovation and resilience that underpins Australia's reputation as a global leader in cotton production.

"They represent a cross-section of industry across business sizes and production systems, all with a commitment to continuous improvement and producing high-quality, sustainable cotton.

"These growers are leading the way, embracing new technologies, refining their systems and investing in their people to ensure the long-term success of the industry."

Angus and Matt Whittaker – Whittaker Family Farming, Warren NSW (Wiradjuri country)

Macquarie Valley brothers Angus and Matt have significantly increased their yields and efficiency through disciplined water management, practical innovations and a focus on getting the fundamentals right.

Lucas Wuersching – Wuersching Acres, St George Qld (Kooma country)

Lucas has embraced automation and bankless irrigation systems to optimise water use and labour efficiencies, while the implementation of new technology and a focus on soil health has enhanced farm productivity and yields.

Bruce Mennie – Dalara Pastoral Operations, Blackville NSW (Kamilaroi country)

In the Upper Namoi, Bruce is leveraging precision technology, targeted spraying and on-farm trials to lift efficiency and sustainability, supported by soil testing and integrated pest management which has seen steady yield improvements.

Mitch and Mariah and Linton and Melinda Brimblecombe – Moira Farming, Lockyer Valley Qld (Barunggam country)

The Brimblecombe family operates a highly diversified enterprise, integrating cotton and vegetable production while investing in advanced irrigation systems, water recycling and spray technology to maximise resource efficiency.

Rhys Herbert and Trish Carroll – Pastoral Properties (Cropping), Warra Qld (Barunggam country)

On the Darling Downs, Rhys and Trish manage a large-scale operation with a strong focus on data-driven decision-making, precision technology, irrigation upgrades and workforce development, leading to improvements in both yield and input efficiency.

High calibre of researchers in the spotlight

THREE leading scientists shaping the future of Australian cotton have been named finalists for the 2026 Cotton Seed Distributors (CSD) Researcher of the Year award.

The award recognises outstanding contribution to the industry through RD&E, with an excellence in innovation, impact and commitment to advancement. This year's finalists all work out of the Australian Cotton Research Institute at Narrabri (Kamilaroi country) and have been involved in projects supported by CRDC.

Cotton Australia oversees the Cotton Industry Awards, and CEO Adam Kay said the finalists have delivered significant contributions across the cotton research landscape, from plant breeding and climate resilience to soils and sustainability.

"Research is the backbone of Australia's cotton industry. It underpins every advancement we've made in productivity, sustainability and fibre quality, ensuring our growers remain globally competitive in an increasingly complex environment," Adam said.

"Australia's cotton industry is recognised globally for its innovation, and that reputation is built on the calibre of researchers we have working alongside growers.

"This award shines a spotlight on the people driving innovation behind the scenes, the people in the background who don't often receive the glory but without whom our industry wouldn't be where it is today."

The CSD-sponsored award recognises the role science and RD&E play in cotton production.

CSD CEO Dr Ian Taylor said researchers in the Australian cotton industry are key to creating future solutions.

"At CSD we are a proud partner with researchers and their organisations both in Australia and across the globe," Ian said.

"We are pleased to once again be supporting this award, as part of our focus on addressing key industry challenges and improving the competitiveness of Australian cotton."

Be a part of the celebration

The awardees will be announced at the Australian Cotton Industry Awards gala dinner on Thursday August 6, the last event of the 2026 Australian Cotton Conference.
Bookings can be made with registration at www.australiancottonconference.com.au

Strengthening climate resilience in cotton systems – Dr Katie Broughton, Research Scientist at CSIRO Agriculture and Food.
Katie has led groundbreaking CRDC-supported research into how cotton systems respond to climate variability and environmental stress, helping growers better manage risk in a changing climate. Her work over the past 19 years includes leading the world's first integrated field-based climate change experiments in cotton, combining elevated CO_2, temperature and water stress to better understand real-world production conditions. Katie's previous research has improved understanding of water use efficiency and seasonal risk and crop management, while her current work on novel plant growth regulators is delivering new tools to improve yield stability in both irrigated and rainfed systems.

Advancing sustainable soils and farming systems – Dr Guna Nachimuthu, Senior Research Scientist (Sustainable Soils) at NSW DPIRD.
Guna is an internationally recognised soil and systems scientist whose work has transformed how soil health, carbon and climate resilience are managed in Australian cotton production. His research over more than 20 years with support from CRDC and partners has delivered practical, long-term systems-based insights that improve productivity and sustainability, including soil carbon benchmarking, resilient crop rotations and more efficient use of water and nutrients. These innovations have supported growers to improve profitability and manage climate risk, while strengthening the industry's environmental credentials and global reputation.

Driving world-leading cotton varieties – Dr Shiming Liu, Principal Research Scientist at CSIRO Agriculture and Food.
Shiming has played a pivotal role in advancing Australia's cotton breeding program over more than 20 years, contributing to the development of many of the industry's commercial varieties. His leadership in developing the new Sicala 320B3XF variety represents a breakthrough, delivering both high yield and world-leading fibre quality which strengthened Australia's position in premium global markets. He has also pioneered innovative trial designs and developed a novel seed vigour assay, improving the accuracy of breeding decisions and helping growers achieve more reliable crop establishment.

CRDC 2026-27 Projects List

2026-27 marks the fourth year under CRDC's Strategic RD&E Plan: Clever Cotton. During this year, CRDC will invest $36.42 million into RD&E projects across the Plan's pillars (Paddock, People, Planet) and themes, in collaboration with research partners and on behalf of Australia's cotton growers and the Australian Government. This table outlines the projects that CRDC will invest in during this year.
For further information about Clever Cotton or any of the projects listed, please visit the CRDC website: www.crdc.com.au/research-development

Theme	Sub-theme	Project title	Project code	Researcher	Organisation	Commenced in:	To be completed
Pillar 1: Paddock							
1.1 Data-driven decisions	**Data-driven decisions**	CCA Annual consultant survey and seasonal cotton production data	CCA11907	Janet Barker	CCA	Apr-26	Jun-28
		Cotton Industry Data Platform: Communication support	HOUC11489	Bernadette Murray	House of Comms	Oct-24	Sep-26
		Cotton Industry Data Platform: Data governance and management group support	CRDC11355	Meredith Conaty	CRDC	Jul-24	Jun-28
		Cotton Industry Data Platform: KPMG	CRDC11883	Allan Williams	CRDC	Jul-25	Aug-26
		Cotton Industry Data Platform: Project Director	SNOW12610	Conrad Mackenzie	Snowcast Pty Ltd	Mar-26	Aug-26
		Cotton Industry Data Platform: Technology advisory services	JUNC12545	June Crowley	June Crowley & Associates	Jan-26	Sep-26
		CRDC cotton grower survey 2026-28	INTS12590	Michael Sparks	Intuitive Solutions	Apr-26	Dec-28
		Program Management Committee meetings and activities: Data driven decisions	CRDC10670	Meredith Conaty	CRDC	Jul-23	Jun-28
		Rural Safety & Health Alliance (RSHA): Ag safety data net	RIRDC11098	Ulicia Raufers	AgriFutures	Jun-24	Jun-27
		Rural Safety & Health Alliance collaboration 2025-28	RIRDC11670	Ulicia Raufers	AgriFutures	Jul-25	Jun-28
1.2 Adaptive systems	**Solving farming systems constraints, disease, biosecurity and Northern Australia**	Biosecurity Trakka – near real-time diagnosis and monitoring for plant biosecurity threat	HIA11840	Ashley Zamek	HIA	Jul-25	Jun-30
		Climate proof cotton: Phase 2	WSU11009	Demi Sargent	WSU	Jul-24	Jun-28
		Climate-smart agriculture program: Variwise – Advancing the adoption of climate-smart, innovative irrigation control technology for the cotton and dairy industries	USQ11568	Alison McCarthy	UniSQ	Sep-24	Jun-28
		Climate-smart agriculture program: Variwise – Monitoring and evaluation	EARU11663	Lyndal Hasselman	Earth Up Consulting	Jul-25	May-28
		Climate-smart agriculture program: Variwise – R&D management	PHEC11566	Cathy Phelps	Cathy Phelps	Jan-25	Jun-28
		Delivering resilient cotton farming systems in the Northern Territory by addressing major limitations to production	CSIRO12308	Tiemen Rhebergen	CSIRO	Jan-26	Jun-28
		Digital irrigation advisory systems: Enabling extension and advisory services for agriculture's digital irrigation transition	OBCRC11425	Margaret Ayre	1BCRC	Oct-24	Dec-27
		Disease management in cotton farming systems – a participatory action research approach to deliver solutions	CSD2303	Michael Bange	CSD	Oct-22	Sep-26
		Does Northern Australian cotton change the risk profile of Bt resistance?	CSIRO11794	Amanda Padovan	CSIRO	Jul-25	Sep-29

CRDC's list of projects is current as of June 2026 and may be subject to change.

Theme	Sub-theme	Project title	Project code	Researcher	Organisation	Commenced in:	To be completed
		Does Northern Australian cotton change the risk profile of Bt resistance? Steering Committee chair	MCCV11937	Doug McCollum	McCollum Consulting	Dec-25	Dec-28
		Dryland cotton nutrition via subsoil placement	US11057	Stephen Cattle	USYD	Jul-25	Jun-28
		Future Cotton: Innovation and impact for sustainability, biosecurity and growth	DAQ11632	Paul Grundy	Qld DPI	May-25	Jun-29
		Future Cotton: Innovation and impact for sustainability, biosecurity and growth (sub-project 1)	DAQ11742	Paul Grundy	Qld DPI	May-25	Jun-29
		Future Drought Fund Grant: Long-term drought resilient practices for climate-smart cropping systems	DAN11790	Guna Nachimuthu	NSW DPIRD	May-25	Jun-30
		Global scan of innovative crop protection technologies and access barriers for Australian plant industries	WINA12492	Jo Hargreaves	Wine Australia	Jan-26	Jan-27
		Herbicide resistance status of grain and cotton cropping regions	GRDC11140	Sarah Morran	GRDC	Jul-24	Jun-27
		Honours: Enhancing the resilience of the Northern Territory's rain-fed cotton: a comprehensive approach to yield prediction and water management	CDU12066	Jyothi Bhandari	CDU	Jan-26	Jan-27
		Innovation Phase 1: Bacterial symbionts as a tool for biocontrol of insect pests in cotton	UM12362	Joshua Thia	UM	Jan-26	Jun-27
		Innovation Phase 1: Determine the value and feasibility of incorporating on-site micron testing to the cotton industry to better inform harvesting or processing decisions	WO12439	Vicky Alexandrou	Woven Optics	Jan-26	Dec-26
		Innovation Phase 1: Evaluating the efficacy of mass-releasing predatory mites to suppress two-spotted spider mites in cotton	CROC12373	Stephen Madden	The Crop Capsules Company	Jan-26	Jun-27
		Insecticide resistance monitoring to support biosecure cotton systems in an increasingly variable climate	DAN11621	Lisa Bird	NSW DPIRD	Mar-26	Jun-28
		MCI: Evapotranspiration Flow Monitoring Equipment	DU12608	John Hornbuckle	Deakin University	Mar-26	Dec-26
		National cross-industry fall armyworm RD&E facilitation	HIA12104	Ashley Zamek	HIA	Aug-25	Jul-28
		Northern Territory biodiversity monitoring and management scoping project	2ROG11822	Jeremy Simmonds	2rog Consulting	Jul-25	Jun-27
		NT commercial cotton growing partnership (Douglas Daly Research Station)	DANT10811	Iain Forrest	NT DAF	Sep-23	Oct-26
		Optimising plant growth regulator management for cotton production	CSIRO11427	Katie Broughton	CSIRO	Oct-24	Sep-27
		Plant Biosecurity Research Initiative (PBRI) phase 3	HIA10549	Jo Luck	HIA	Jul-23	Jun-28
		Program Management Committee meetings and activities: Adaptive systems	CRDC10671	Nicola Cottee	CRDC	Jul-23	Jun-28
		Reducing the economic impact of compaction	CSIRO12075	Diogenes Antille	CSIRO	Feb-26	Jun-29
		RNA-based biopesticides for sustainable crop protection (Australia India Strategic Research Fund)	UQ11160	Narelle Manzie	UQ	Sep-21	Sep-26
		Seeking regionally specific guidelines for cover crops through cotton farmer led best practice and soil security	US2301 10338	Thomas O'Donoghue	USYD	Feb-23	Dec-26
		Spray drift hazard alert and warning systems	DISA2201 10436	Gaurav Jalota	Discovery Ag	Jan-22	Jun-28
		Supporting a sustainable Northern Australia cotton, grain and cattle system (northern program)	CRCNA2301 10426	Ian Biggs	CRCNA	Jul-22	Oct-26
		The Australian Cotton Disease Collaboration (the ACDC)	USQ11135	Sambasivam Periyannan	UniSQ	May-24	Jun-28
		The Australian Cotton Disease Collaboration: Leadership and support	CU10808	Mark Gibberd	Curtin University	Aug-23	Jun-28
		The Australian Cotton Disease Collaboration: Northern Australia component	USQ11574	Sambasivam Periyannan	UniSQ	Jan-25	Jun-27
		Travel: The ACDC International Pathology Biosecurity Collaboration Trip 2026	USQ12633	Sambasivam Periyannan	UniSQ	May-26	Aug-26
		Understanding and reducing evaporation losses in the northern Murray-Darling Basin	OBCRC11736	Marti Beeston	1BCRC	Jun-25	Jun-28
		Understanding the water balance of siphon-less irigation systems in Southern NSW	DU12551	John Hornbuckle	Deakin University	Mar-26	Sep-28
		University of Sydney Strategic Partnership: Innovation for climate resilience and capturing value from enhancing natural capital	US12123	Damien Field	USYD	Jan-26	Jun-31
		Unlocking farming systems for North Queensland initiative	DAQ12543	Jayne Gentry	Qld DPI	May-26	Apr-30
1.3 Connected market intelligence	**Connected market intelligence**	Assessing the value of market access and the cotton industry's contribution to regional economies	ACIL11745	Alexandra Lobb	ACIL Allen	Nov-25	Aug-26
		Cotton sustainability website	TBONE11364	Andrew Cush	TBone Productions	Sep-24	Jun-27
		CRDC membership of and participation in sustainability initiatives	CRDC11801	Felicity Muller	CRDC	Jan-25	Jun-27
		Membership: Better Cotton Initiative (BCI) 2023-26	BCI10724	Vinay Kumar	BCI	Sep-23	Oct-26
		Membership: Cascale Inc. policy hub	SUAC10902	Mackenzie Roach	SAC	Jan-24	Dec-26
		Program Management Committee meetings and activities: Connected market intelligence	CRDC10672	Felicity Muller	CRDC	Jul-23	Jun-28
		Support for the Sustainability Working Group, industry sustainability reporting and integration of research into myBMP	SUSA11185	Chris Cosgrove	Sustenance Asia	Jul-24	Jun-27

Pillar 2: People							
2.1 Design and innovation	**Design and innovation**	CRDC Innovation Advisor 2025-26	WATC11576	Warwick Waters	Waters Consulting	Jan-25	Dec-26
		CRDC Innovation Call: Facilitator	CMA12136	Chris Murphy	Chris Murphy Advisory	Nov-25	Jun-27
		Grower RD&E advisory panels 2024-27	CA11297	Jennifer Brown	Cotton Australia	Jul-24	Jun-27
		Program Management Committee meetings and activities: Design and innovation	CRDC10673	Meredith Conaty	CRDC	Jul-23	Jun-28
		QUT AI Capstone projects	QUT11780	Shailesh Palekar	QUT	Jul-25	Jun-28
2.2 Leadership and capacity	**Leadership and capacity**	AgriFutures Rural Women's Award Gala: Dinner 2023-28	RIRDC10692	Abbey O'Callaghan	AgriFutures	Jul-23	Jun-28
		AgriFutures Rural Women's Award Gala: Travel scholarships 2023-28	CRDC10693	Ruth Redfern	CRDC	Jul-23	Jun-28
		Australian Cotton Conference 2026 Foundation Sponsorship	CA11895	Tracey Byrne-Morrison	Cotton Australia	Aug-25	Sep-26
		Australian Cotton Conference 2026: Innovation Alley	CA12619	Tracey Byrne-Morrison	Cotton Australia	May-26	Nov-26
		Australian Cotton Industry Awards sponsorship: CRDC Chris Lehmann Young Cotton Achiever of the Year Award 2026	CA12594	Paul Sloman	Cotton Australia	Jan-26	Aug-26
		Australian Future Cotton Leaders Program 2026	CA12128	Paul Sloman	Cotton Australia	Oct-25	Oct-26
		Australian Rural Leaders Foundation (ARLF): TRAIL emerging leaders program 2026 & 2027- Grace Griffiths, Janelle Montgomery and Megan Woodward	ARLF12060	Julia Strang	ARLF	Oct-25	Jun-27
		Australian Rural Leadership Program (ARLP): Course 32 – Gabrielle Coupland	ARLF11461	Julia Strang	ARLF	Jan-25	Dec-26
		Australian Rural Leadership Program (ARLP): Course 33 – Scott Balsillie	ARLF12613	Julia Strang	ARLF	Apr-26	Dec-27
		PhD: Waste to value: development of controlled release fertiliser (CRFs) using upcycled cotton textile waste	UON11019	Akila Ravindran	UON	Sep-24	May-27
		CRDC Cotton Course	US11442	Stephen Cattle	USYD	Jan-25	Dec-28
		CRDC Workforce and Capacity Specialist	HOLR11591	Rachel Holloway	Rachel Holloway	Nov-24	Jun-27
		Honours: Hydrological drivers of advance rate variance in cotton bays	ANU12181	Lily Delves	ANU	Jan-26	Nov-26
		Honours: Impact of Indian mustard biofumigation on Verticillium wilt and black root rot in Australian cotton soils	US12563	Hugh MacMaster	USYD	Apr-26	Jun-27
		Honours: Optimising cover crop rotations in pivot-irrigated cotton production systems to reduce Verticillium dahliae and Thielaviopsis basicola inoculum in the soil and thus reduce disease incidence for the ultimate improvement of cotton yield	UNE11956	Jennifer Corderoy	UNE	Apr-26	Sep-26
		Horizon scholarship 2025-26: Emma Holmes	RIRDC11619	Emily Jones	AgriFutures	Apr-25	Dec-26
		Horizon scholarship 2026-27: Annalise Magill	RIRDC12567	Emily Jones	AgriFutures	Mar-26	Dec-27
		Horizon scholarship 2026-27: Sophie Jonsson	RIRDC12602	Emily Jones	AgriFutures	Mar-26	Dec-27
		Nuffield Australia scholarship 2025: Kate Lumber	NUFA11457	Andy Clarke	Nuffield Australia	Jul-24	Sep-26
		Nuffield Australia scholarship 2026: Simon Blyth	NUFA12071	Andy Clarke	Nuffield Australia	Oct-25	Oct-27
		PhD: Crop rotation as a tool to ameliorate soil compaction in modern cotton farming systems	DAN10920	Blake Palmer	NSW DPIRD	Sep-23	Jun-28
		PhD: Employing specific peptides and receptors to improve nitrogen uptake and its utilisation to enhance cotton yield	WSU10579	Bhagya Samarasinghe	WSU	Jan-24	Jan-27
		PhD: Establishing and quantifying a range of credentials of agricultural products	US11541	Daniel Irving	USYD	Jul-25	Sep-28
		PhD: Exploring smart farming technologies' impact on youths' perspectives towards the agri-food sector	UM10799	Yuchen Miao	UM	Oct-23	Oct-26
		PhD: Harnessing plant-microbial interactions to improve cotton soil health and disease management	WSU11815	Aqsa Hafeez	WSU	Jul-25	Jun-28
		PhD: How to face the agricultural labour challenges: Applying the concept of job quality to the agricultural industry	UM10810	Xinyue Tang	UM	Oct-23	Oct-26
		PhD: Microwave pyrolysis: A game-changer for cotton waste management and circular economy in context of coating applications	QUT11022	Niroshan Manoharan	QUT	Jul-24	Feb-27
		PhD: Quantifying the temporary climate mitigation benefit of biogenic carbon in cotton apparel and home textiles globally	NCSU2301 10348	Steven Pires	NCSU	Aug-22	Dec-26
		PhD: Resilient cotton: Determining the impact of light, heat and nutrition on boll shedding	WSU11003	Mishal Bano	WSU	Apr-24	Apr-27
		PhD: Steering soil biology to reduce nitrous oxide emission via increasing nutrient use efficiencies	WSU11816	Ram Chandra Shrestha	WSU	Jul-25	Jun-28
		PhD: Strategies to mitigate high soil temperature stress in cotton: Impacts on seedling growth, establishment, and soil health	CDU11575	Md Saidur Rahman	CDU	Apr-25	Mar-28
		PhD: Synthesis of silicon and nitrogen-doped carbon dots from waste cotton textiles for solar cell application	RMIT10986	Wenjing Chen	RMIT	Jan-25	Jun-28
		PhD: Understanding cotton responses to combined abiotic and biotic stresses for improving early irrigation management	OBCRC12175	Isaac Halling	1BCRC	Mar-26	Mar-30

Theme	Sub-theme	Project title	Project code	Researcher	Organisation	Commenced in:	To be completed
		Program Management Committee meetings and activities: Leadership and capacity	CRDC10674	Rachel Holloway	CRDC	Jul-23	Jun-28
		Travel: Attend and present at the 2026 Australian Cotton Conference – Jyothi Bhandari	CDU12666	Jyothi Bhandari	CDU	May-26	Aug-26
		Travel: Attend the 2026 Australian Cotton Conference – Hugh MacMaster	US12609	Hugh MacMaster	USYD	Jun-26	Aug-26
		Travel: Attend the 2026 Australian Cotton Conference – Isaac Halling	OBCRC12616	Isaac Halling	1BCRC	May-26	Aug-26
		Travel: Innovation Phase 1 – Attend and present at 2026 Australian Cotton Conference	CRDC12604	Susan Maas	CRDC	Apr-26	Aug-26
		Travel: Presentation on the SHIFT project at the 3rd International Symposium on Work in Agriculture	CQU12583	Nicole McDonald	CQU	Feb-26	Jul-26
2.3 Adoption and impact	**Adoption and impact**	Commercialisation management tasks	AHU11671	Evan Wilcox	Ahurei	Jul-25	Jun-28
		CottonInfo Fibre Quality Technical Lead 2023-27	VANM10023	Rene van der Sluijs	TTS	Jul-23	Jun-27
		CottonInfo Irrigation Technical Lead 2025-28	SCOB11891	Michael Scobie	KP & MJ Scobie	Oct-25	Jun-28
		CottonInfo Soil Health Technical Lead 2025-28	CI11682	Blake Palmer	CottonInfo	Mar-25	Jun-28
		CottonInfo trials and activities 2025-28	CI11873	Janelle Montgomery	CottonInfo	Jul-25	Jun-28
		CottonInfo Weeds Technical Lead 2026-28	CHAW12553	Graham Charles	Graham Charles	May-26	Jun-28
		CRDC CottonInfo and *my*BMP support	CI11684	Bob Ford	CottonInfo	Mar-25	Jun-28
		CSD investment in CottonInfo	CI11823	Janelle Montgomery	CottonInfo	Mar-25	Mar-30
		Future Cotton: Innovation and impact for sustainability, biosecurity and growth (sub-project 2)	DAQ11743	Paul Grundy	QLD DPI	May-25	Jun-29
		Program Management Committee meetings and activities: Adoption and impact	CRDC10676	Warwick Waters	CRDC	Jul-23	Jun-28
		Research for impact	HIA10594	Matt Reynolds	HIA	Jun-23	Jul-26
		University of Sydney strategic partnership: Innovation for climate resilience and capturing value from enhancing natural capital (sub-project 1)	US12591	Damien Field	USYD	Jan-26	Jun-31
Pillar 3: Planet							
3.1 Natural capital	**Biodiversity and soils, pesticides and nitrogen, water**	Applying soil health framework to cotton systems	CSIRO12572	Stirling Roberton	CSIRO	Jun-26	Mar-29
		Assessing soil nutrient depletion risks in Australian cotton farming systems	GU12458	Yunying Fang	Griffith University	Apr-26	Oct-26
		Beyond the baseline: robust water-quality assessments in selected cotton growing regions	ANSTO12303	Dioni I. Cendon	ANSTO	Jun-26	Nov-29
		Fish screen research extension and communication outputs	DAN12571	Fiona Scott	NSW DPIRD	Mar-26	Aug-26
		Impacts of landscape connectivity on bat and bird activity in cotton and value of acoustic monitoring technology: benefits for natural pest suppression	USC10494	Stuart Parsons	USC	Jul-23	Dec-26
		Innovation Phase 1: WildSeek Weeds: using drones and AI to detect weed species	LANA12292	Katherine Selhorst	Landcare Australia Ltd	Jan-26	Dec-26
		Optimising floating solar covers for evaporation mitigation	USQ11136	Michael Scobie	UniSQ	Sep-24	Aug-26
		Program Management Committee meetings and activities: Natural capital	CRDC10677	Stacey Vogel	CRDC	Jul-23	Jun-28
		Riparian exotic weed management prioritisation framework	GU11317	Samantha Capon	Griffith University	Oct-24	Dec-27
		Smart system for evaporation polymer deployment	USQ10698	Michael Scobie	UniSQ	Jun-24	May-28
		Soil health framework collaboration for Australian agriculture	GRDC11611	Nicola Cottee	CRDC	Mar-25	Jul-29
		University of Sydney strategic partnership: Innovation for climate resilience and capturing value from enhancing natural capital (sub-project 2)	US12592	Damien Field	USYD	Jan-26	Jun-31
		Valuing natural capital to support on-farm decision making pilot	IFPL12603	Sue Ogilvy	Integrated Futures Pty Ltd	Apr-26	Dec-26
3.2 Carbon	**Carbon**	Climate-smart agriculture program: Reducing nitrous oxide emissions with enhanced efficiency fertilisers	QUT11399	Peter Grace	QUT	Nov-24	Jun-28
		De-risking nitrogen management in cotton farming systems	CSIRO10999	Peter Thorburn	CSIRO	Apr-24	Feb-27
		Future Cotton: Innovation and impact for sustainability, biosecurity and growth (sub-project 3)	DAQ11744	Paul Grundy	QLD DPI	May-25	Jun-29
		GHG emissions and removals accounting for the Australian cotton sector	ANU12479	Martin Amidy	ANU	Jan-26	Jun-28
		Highly efficient waste-derived circular fertilisers via recoupling soil carbon and nitrogen cycles to deliver impacts across three green house gas inventory subsectors	ZNECRC11665	Vicki Lane	ZNE CRC	Mar-25	Mar-30
		Innovation Phase 1: Bio-waste to bio-fertiliser transformation	GA12364	William Lane	Growth Ag Holdings Pty Ltd	Jan-26	Dec-26

		Innovation Phase 1: Carbon dots from cotton farm wastes for enhancing nitrogen and pesticide efficiency	RMIT12339	Lijing Wang	RMIT	Jan-26	Dec-26
		Innovation Phase 1: Investigations into the costs and benefits of faba bean green manuring in rotation with irrigated cotton	MCA12397	Paul Castor	MCA Agronomy Pty Ltd	Jan-26	Jun-27
		Innovation Phase 1: N-Smart Cotton	US12351	Floris van Ogtrop	USYD	Jan-26	Dec-26
		Innovation Phase 1: Real-time remote sensing-based monitoring for cotton nitrogen use efficiency optimisation	UNE12377	James Brinkhoff	UNE	Jan-26	Aug-26
		Innovation Phase 1: Variable Electric Field (VEF) technology for enhanced cotton germination, establishment and resource use efficiency	RAIS12355	Darryl Lyons	Rainstick Pty Ltd	Jan-26	Nov-26
		Low carbon landscapes grant: Biochar futures building low-carbon high-impact agriculture	CRDC12530	Nicola Cottee	CRDC	Jan-26	Feb-29
		Low Emissions Intensity Cotton Farming Systems (LEIFS NSW)	DAN11402	Aaron Simmons	NSW DPIRD	Oct-24	Jun-28
		Membership: Zero Net Emissions (ZNE) Agriculture Cooperative Research Centre (CRC) Tier 2	ZNECRC11401	Riaan Retief	ZNE CRC	Jul-24	Jun-34
		PhD: The human and social dimensions of emissions reduction adoption in agriculture	CQU12298	Ellie Buchanan	CQU	Feb-26	Feb-29
		Program Management Committee meetings and activities: Carbon	CRDC10678	Nicola Cottee	CRDC	Jul-23	Jun-28
		Sun-to-Soil: decentralised green nitrogen solutions	DUBB12452	Nicholas Davies	DUBBL Consulting P/L	Mar-26	Sep-26
		Sustainability Pulse: Pathways to PLANET. PEOPLE. PADDOCK.	CSIRO12263	Katrina Szetey	CSIRO	Jan-26	Jan-27
		Understanding nitrogen cycling in cotton soils, and the timing of nitrogen availability to plant roots	CSIRO10081	Diogenes Antille	CSIRO	Oct-23	Jun-27
		University of Sydney strategic partnership: Innovation for climate resilience and capturing value from enhancing natural capital (sub-project 3)	US12593	Damien Field	USYD	Jan-26	Jun-31
3.3 Circular economy	**Circular economy**	An evaluation of cotton fibre waste processing and composting alternatives: Comparison of business models, GHG emissions and commercialisation opportunities	UTS10080	Christopher Bajada	UTS	May-24	Jun-27
		Developing a pathway for the composting and agricultural use of pure cotton textile waste	UQ11090	Johannes Biala	UQ	Jan-25	Jun-27
		Program Management Committee meetings and activities: Circular economy	CRDC10679	Felicity Muller	CRDC	Jul-23	Jun-28
		Recover: A regenerative fibre story of Western Australian cotton and recovered post-consumer textile	RMIT12644	Lisa Piller	RMIT	May-26	Nov-26
		Viability of domestic cotton textile production	CSIRO11852	Stuart Gordon	CSIRO	Feb-26	Jul-26

Pillar 4: Enabling Strategies							
		Cotton industry media monitoring 2023-26	CA10718	Desley Sheedy	Cotton Australia	Jul-23	Jul-26
		CRDC Spotlight magazine	CRDC11373	Ruth Redfern	CRDC	Sep-24	Jun-27
		Elevating cotton's RD&E profile – communications support	REGP11172	Georgie Robertson	Regional PR Co Pty Ltd	Jul-24	Jun-27
		Membership: Australasia Pacific Extension Network (APEN) 2024-27	APEN11222	Katelyn Seary	APEN	Jul-24	Jun-27

Key

AgriFutures	AgriFutures Australia
ANSTO	Australian Nuclear Science and Technology Organisation
ANU	Australian National University
APEN	Australasia-Pacific Extension Network
ARLF	Australian Rural Leadership Foundation
BCI	Better Cotton Initiative
CA	Cotton Australia
Cascale	Cascale Inc (formerly the Sustainable Apparel Coalition)
CCA	Crop Consultants Australia
CDU	Charles Darwin University
CQU	Central Queensland University
CRCNA	Cooperative Research Centre for Developing Northern Australia
CRDC	Cotton Research and Development Corporation
CSD	Cotton Seed Distributors
CSIRO	Commonwealth Scientific and Industrial Research Organisation
GRDC	Grains Research and Development Corporation
HIA	Hort Innovation
NCSU	North Carolina State University
NSW DPIRD	NSW Department of Primary Industries and Regional Development
NT DAF	NT Department of Agriculture and Fisheries
1BCRC	One Basin CRC
Qld DPI	Queensland Department of Primary Industries
QUT	Queensland University of Technology
RMIT	Royal Melbourne Institute of Technology
SAC	Sustainable Apparel Coalition
TTS	Textile Technical Services
UM	University of Melbourne
UNE	University of New England
UniSQ	University of Southern Queensland
UON	University of Newcastle
UQ	University of Queensland
USC	University of the Sunshine Coast
USYD	University of Sydney
UTS	University of Technology Sydney
WSU	Western Sydney University
ZNE CRC	Zero Net Emissions from Agriculture Cooperative Research Centre

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