



CRDC INVESTMENTS

2024-25



RD&E INVESTMENTS LIST

2024-25

2024-25 marks the second year under CRDC's new Strategic RD&E Plan: Clever Cotton. During this year, CRDC will invest \$32.13 million into RD&E projects across the Plan's three pillars (Paddock, People, Planet) and nine themes, in collaboration with research partners and on behalf of Australia's cotton growers and the Australian Government. This table outlines the confirmed and planned 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 in: |
|--|-------------------------------------|--|-----------------|------------------------|---------------------|---------------|---------------------|
| Pillar 1: Paddock | | | | | | | |
| 1.1 Data-driven decisions | Data-driven decisions | Confirmed projects: | | | | | |
| | | Annual consultant qualitative and quantitative surveys 2022-24 | CCA2202 | Doug McCollum | CCA | Apr-22 | Mar-25 |
| | | Cotton industry database management | ARML10554 | Lee Armson | Lee Armson | Jul-23 | Jun-26 |
| | | Cotton WHS sustainability data 2019-2023 | US10905 | Tony Lower | USYD | Jan-24 | Feb-24 |
| | | CRDC cotton grower survey 2023-25 | INTS10342 | Michael Sparks | Intuitive Solutions | Jan-23 | Nov-25 |
| | | Project 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 | Georgina Toose | AgriFutures | Jun-24 | Jun-28 |
| | | Plus planned investments in: | | | | | |
| Data Governance and Management Group Support | | | | | | | |
| Data platform phase 2 (build) | | | | | | | |
| 1.2 Adaptive systems | Solving farming systems constraints | Confirmed projects: | | | | | |
| | | 2023-24 dryland cotton research – L'lara | US11084 | Stephen Cattle | USYD | Oct-23 | Jun-24 |
| | | Agricultural Innovation Australia: Agri-climate outlooks | AIA2301 | Annabelle Van Klaveren | AIA | Jul-22 | Dec-26 |
| | | Climate proof cotton: Phase 2 | WSU11009 | Demi Sargent | WSU | Jul-24 | Jun-27 |
| | | Developing canopy temperature sensors with new multipixel technology | USQ2304 | Alison McCarthy | USQ | Sep-22 | Dec-24 |
| | | Modern systems agronomy for resilient cotton production | CSP2001 | Katie Broughton | CSIRO | Jan-20 | Sep-24 |
| | | On-farm demonstrating and integrating irrigation technology for cotton | USQ2301 | Joseph Foley | USQ | Jul-22 | Jun-25 |
| | | Optimising irrigation performance in bankless channel cotton layouts to improve water management and nitrogen use efficiency | DU2301 | Wendy Quayle | DU | Jul-22 | Jun-26 |
| | | PostDoc: Measuring evapotranspiration from canopy temperature (CTET) | USQ2302 | Simon Kelderman | USQ | Jul-22 | Jun-25 |
| | | Seeking regionally specific guidelines for cover crops through cotton-farmer-led best-practice and soil security | US2301 | Alex McBratney | USYD | Feb-23 | Jan-26 |
| | | Supporting southern cotton production systems: Southern cotton agronomy and fibre quality | DAN2306 | Beth Shakeshaft | NSW DPI | Jul-22 | Jun-25 |
| | | Water productivity benchmarking in the Australian cotton Industry | DAN2303 | Malem McLeod | NSW DPI | Jul-22 | Jun-25 |
| Whole of farm management digital dashboard | CSD2302 | Michael Bange/John Pattison | CSD/DiscoveryAg | Oct-22 | Jun-25 | | |

Note: CRDC's list of projects is current as of 18 May 2024 and may be subject to change.

| Theme | Sub-theme | Project title | Project code | Researcher | Organisation | Commenced in: | To be completed in: |
|--|--------------------------------------|---|--------------|-----------------------|--------------|---------------|---------------------|
| | | Plus planned investments in: | | | | | |
| | | Economic assessments to inform and support adaptive farming system themes | | | | | |
| | | Farming constraints innovation development | | | | | |
| | | Innovation for limited water and dryland systems | | | | | |
| | | On-Farm water investment concepts | | | | | |
| | Disease | Confirmed projects: | | | | | |
| | | Disease management in cotton farming systems – a participatory action research approach to deliver solutions | CSD2303 | Michael Bange | CSD | Oct-22 | Sep-26 |
| | | Project Management Committee meetings and activities: Adaptive systems | CRDC10671 | Nicola Cottee | CRDC | Jul-23 | Jun-28 |
| | | The Australian Cotton Disease Collaboration (ACDC) | USQ11135 | Sambasivam Periyannan | USQ | May-24 | Jun-28 |
| | Biosecurity | Confirmed projects: | | | | | |
| | | Advanced field sensing for improved cotton management | USQ2303 | Alison McCarthy | USQ | Jul-22 | Jun-25 |
| | | ARC Research Hub for Sustainable Crop Protection | UQ2001 | Neena Mitter | HIA/UQ | Jul-19 | Aug-25 |
| | | Developing proactive approaches to Integrated Pest Management (IPM) in cotton production systems | CSP2203 | Simone Heimoana | CSIRO | Sep-21 | Aug-24 |
| | | Improved insecticide resistance monitoring for key pests to support sustainable insect management. | DAN2301 | Lisa Bird | NSW DPI | Jul-22 | Jun-25 |
| | | Improved insecticide resistance monitoring for silverleaf whitefly (SLW) to support sustainable insect management | DAQ2301 | Jamie Hopkinson | QLD DAF | Jul-22 | Jun-25 |
| | | Plant Biosecurity Research Initiative (PBRI) Phase 3 | HIA10549 | Jo Luck | HIA | Jul-23 | Jun-28 |
| | | Production of material for biopesticide commercialisation activities | WSU10312 | Rober Spooner-Hart | WSU | Sep-22 | Jun-24 |
| | | Quantifying the economic impact of weeds on the Australian grain and cotton cropping systems investment | GRDC10612 | Emma Colson | GRDC | Jul-23 | Jun-25 |
| | | Regional demonstration of integrated weed tactics across farming systems | DAN2304 | Eric Koetz | NSW DPI | Jul-22 | Dec-24 |
| | | Spray drift hazard alert and warning systems | DISA2201 | Alicia Garden | Discovery Ag | Jan-22 | Jun-28 |
| | | Supporting farming system adaptation to climate and biological threats (including CottonInfo technical leads Paul Grundy and Sharna Holman) | DAQ2201 | Paul Grundy | QLD DAF | Jul-21 | Jun-25 |
| | | Validation and implementation of new molecular tools for Bt resistance monitoring | CSP2204 | Sharon Downes | CSIRO | Sep-21 | Aug-24 |
| | | WeedSmart Phase 6 | UWA10548 | Jessica Strauss | UWA | Jul-23 | Jun-26 |
| | | What is the best fit for electric weed control in Australia? | WAAA10493 | Catherine Borger | WAAA | Jul-22 | Aug-24 |
| | | Plus planned investments in: | | | | | |
| | | Assessing the impact of pesticides on beneficials | | | | | |
| | | Biosecurity capacity building: Biosecurity gaps | | | | | |
| | | Biosecurity capacity building: Science exchange/travel | | | | | |
| | | Biosecurity Tracka | | | | | |
| | | Cross industry surveillance partnership | | | | | |
| | | GRDC weeds collaboration | | | | | |
| | | Innovation process for biosecure solutions | | | | | |
| | | Strategic partnerships/grants to support pesticide sustainability targets and stewardship | | | | | |
| | Northern Australia | Confirmed projects: | | | | | |
| | | Extension and adoption of drought resilient tropical farming systems through best management practice (BMP) | NTF10747 | Hannah Leu | NTF | Jul-23 | Sep-25 |
| | | NT Research Station cotton partnership | DANT10811 | Michelle Uniacke | NT DITT | Sep-23 | Oct-26 |
| | | Supporting a sustainable northern Australia cotton, grain & cattle system (northern program) | CRCNA2301 | Carla Keith | CRCNA | Jul-22 | Oct-26 |
| | | Plus planned investments in: | | | | | |
| | | Assessing residue risks associated with standing stubble | | | | | |
| | | Improving surveillance and understanding for endemic and exotic northern disease threats | | | | | |
| | | Strategic northern partnerships – sustainability, indigenous engagement, capacity building | | | | | |
| | | Sustainable pest management in northern systems | | | | | |
| 1.3 Connected market intelligence | Connected market intelligence | Confirmed projects: | | | | | |
| | | A review of Regen Ag standards: Risks and rewards | HAKK11099 | Kater Hake | Kater Hake | Apr-24 | Aug-24 |
| | | BCI Membership 2023-24 | BCI10724 | Vinay Kumar | BCI | Sep-23 | Sep-24 |

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|--|---|-----------|-----------------|-----------------|--------|--------|
| | Better sustainability reporting: Better information and better decisions. A proof of concept for Australian agriculture | SUSA10782 | Chris Cosgrove | Sustenance Asia | Jul-23 | Jul-25 |
| | Membership Sustainable Apparel Coalition Policy Hub | SUAC10902 | Mackenzie Roach | SAC | Jan-24 | Dec-24 |
| | Membership Textile Exchange 2024-27 | CASC11134 | Beatrice Levy | Cascale Inc | Jul-24 | Jun-25 |
| | Project Management Committee meetings and activities: Connected Market Intelligence | CRDC10672 | Meredith Conaty | CRDC | Jul-23 | Jun-28 |
| | Plus planned investments in: | | | | | |
| | Calculating the value of producing more sustainable cotton | | | | | |
| | CRDC membership of and participation in sustainability initiatives | | | | | |
| | Defining identifying and calculating the number of bales produced as 'more sustainable' | | | | | |
| | Defining market expectations: identification of key metrics | | | | | |
| | Improving the performance of product environmental footprint under Australian conditions | | | | | |
| | Incentivising participation: Business models to better reward sustainable production | | | | | |
| | myBMP review | | | | | |
| | Support for the Sustainability Working Group and industry sustainability reporting | | | | | |

| Pillar 2: People | | | | | | | |
|--|--|---|------------|-----------------------|-------------|--------|--------|
| 2.1 Design and innovation | Design and innovation | Confirmed projects: | | | | | |
| | | Project Management Committee meetings and activities: Design and Innovation | CRDC10673 | Meredith Conaty | CRDC | Jul-23 | Jun-28 |
| | | Plus planned investments in: | | | | | |
| | | Support for innovation brokers to develop and implement innovation and design processes | | | | | |
| 2.2 Leadership and capacity | Leadership | Confirmed projects: | | | | | |
| | | Australian Future Cotton Leaders program 2022 and 2024 | CA2201 | Paul Sloman | CA | Oct-21 | Oct-24 |
| | | Australian Rural Leadership Program: Course 29, 30 & 31 and TRAIL 2022, 2023 & 2024 | RIR2201 | Tristan Richmond | ARLF | Jul-21 | Dec-25 |
| | | Exploring smart farming technologies: impact on youth perspectives towards the agri-food sector | UM10799 | Yuchen Miao | UM | Oct-23 | Oct-26 |
| | | Honours: Assessment of multi-molecular films in evaporation suppression under varied climatic conditions | USQ10829 | Sarah Seton | USQ | Nov-23 | Nov-24 |
| | | Honours: Enhancing aerial application efficiency: Multiphase CFD optimization for cotton canopy penetration | MONU11069 | Andre Briffa | Monash Uni | Mar-24 | Nov-24 |
| | | How to face the agricultural labor challenges: Applying the concept of job quality to the agricultural industry | UM10810 | Xinyue Tang | UM | Oct-23 | Oct-26 |
| | | Joint Research and Development Corporation: Community Trust Program Phase 2 | RIRDC10461 | Jennifer Medway | AgriFutures | Jun-23 | Dec-25 |
| | | Nuffield Australia farming scholarship: Tim Houston | CRDC2301 | Tim Houston | Nuffield | Oct-22 | Oct-24 |
| | | Travel scholarship: AI in entomology | USQ10691 | Derek Long | USQ | Jun-24 | Jul-24 |
| | Upskilling early career agriculturists | GRDC10696 | Bob Ford | GRDC | Jul-23 | Jun-26 | |
| | Capacity | Confirmed projects: | | | | | |
| | | AgriFutures Rural Women's Award Gala – Dinner 2023 | RIRDC10692 | Abbey O'Callaghan | AgriFutures | Jul-23 | Jun-26 |
| | | AgriFutures Rural Women's Award Gala – Travel Scholarships 2023 | CRDC10693 | Ruth Redfern | CRDC | Jul-23 | Jun-26 |
| | | Australian Cotton Industry Awards Sponsorship: CRDC Chris Lehmann Young Cotton Achiever of the Year Award 2024 and 2025 | CA10951 | Paul Sloman | CA | Oct-23 | Sep-25 |
| | | Delivering best practice to manage future workforce skills | CQU2201 | Nicole McDonald | CQU | Oct-21 | Sep-24 |
| | | Foundation Sponsorship: 21st Australian Cotton Conference | CA10945 | Tracey Byrne-Morrison | CA | Feb-24 | Sep-24 |
| | | Horizon Scholarship 2023: Georgie Oldham | RIRDC10499 | Georgie Oldham | AgriFutures | Mar-23 | Dec-24 |
| | | Horizon Scholarship 2023: Niamh Mason | RIRDC10500 | Niamh Mason | AgriFutures | Mar-23 | Dec-24 |
| | | Horizon Scholarship 2024-25: Julian Graven | RIRDC11114 | Annabelle Day | AgriFutures | Apr-24 | Dec-25 |
| How to attract and retain young people on cotton farms | | CQU2301 | Amy Cosby | CQU | Oct-22 | Sep-24 | |
| PhD: Drought resilient cotton: Combining synthetic biology solutions to improve cotton productivity under future water limited and heatwave conditions | UWS2202 | Garima Dubey | WSU | Mar-22 | Mar-25 | | |
| 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: Micronutrient requirements of modern cotton cultivars. Crop rotation as a tool to ameliorate soil compaction in modern cotton farming systems. | DAN10920 | Blake Palmer | NSW DPI | Jul-23 | Jun-27 | | |

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|---|--|---|----------------|---------------------|-------------------------|---------------|---------------------|--|
| | | PhD: Quantifying the temporary climate mitigation impacts of biogenic carbon | NCSU2301 | Steven Pires | NCSU | Aug-22 | Aug-24 | |
| | | Project Management Committee meetings and activities: Leadership and capacity | CRDC10674 | Rachel Holloway | CRDC | Jul-23 | Jun-28 | |
| | | Summer Scholarship: Low-cost satellite technologies that remove need for cellular or radio coverage in smart broadacre irrigation | USQ10154 | Simon Kelderman | USQ | Dec-22 | Nov-24 | |
| | | Plus planned investments in: | | | | | | |
| | | Cotton Production Course | | | | | | |
| | | Research capacity building: Awards, scholarships, sponsorships | | | | | | |
| | | Research capacity building: Support for PhD students | | | | | | |
| | | Research capacity building: Travel scholarships and international exchanges | | | | | | |
| 2.3 Adoption and impact | Adoption | Confirmed projects: | | | | | | |
| | | Assessment of the socio-economic resilience of rural and regional communities | RAI 10501 | Katherine Bassett | RAI, GRDC | Apr-23 | Sep-25 | |
| | | Cotton industry media monitoring 2023-24 | CA10718 | Darrin Davies | CA | Jul-23 | Jul-24 | |
| | | CottonInfo Climate and Carbon Technical Lead | AE10070 | Jon Welsh | AgEcon | Jul-23 | Jun-26 | |
| | | CottonInfo Disease Technical Lead | CSD10630 | Peter White | CSD | Jul-23 | Jun-26 | |
| | | CottonInfo Fibre Quality Technical Lead | VANM10023 | Rene van der Sluijs | TTS | Jul-23 | Jun-26 | |
| | | CottonInfo Irrigation Technical Lead | G VIA2301 | Lou Gall | G VIA | Jul-22 | Jun-25 | |
| | | CottonInfo Natural Resources and Landscapes Technical Lead | VOGS10071 | Stacey Vogel | Stacey Vogel Consulting | Jul-23 | Jun-26 | |
| | | CottonInfo Weed Technical Lead | DAN2302 | G Charles E Koetz | NSW DPI | Jul-22 | Jun-25 | |
| | | Research for Impact | HIA10594 | Jane Wightman | HIA/UQ | Jun-23 | Jun-26 | |
| | Plus planned investments in: | | | | | | | |
| | CottonInfo technical leads for soil health and nutrition | | | | | | | |
| | CottonInfo multimedia project | | | | | | | |
| | Impact | Confirmed projects: | | | | | | |
| | | CRDC Grassroots Grant: Central Highlands Weather Network | CHCGIA 11070 | Alexandria Galea | CHCGIA | May-24 | Nov-24 | |
| | | CRDC Grassroots Grant: Darling Downs Weather Station Upgrade | DDCGI11031 | Daniel Skerman | DDCGI | Jun-24 | Jun-24 | |
| Project Management Committee meetings and activities: Adoption and Impact | | CRDC10676 | Warwick Waters | CRDC | Jul-23 | Jun-28 | | |
| Plus planned investments in: | | | | | | | | |
| Ten year impact assessment of RD&E investment | | | | | | | | |

| Pillar 3: Planet | | | | | | | | |
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| 3.1 Natural capital | Biodiversity and soils | Confirmed projects: | | | | | | |
| | | Carbon and biodiversity benchmarking in native vegetation on cotton farms | UNE2301 | Rhiannon Smith | UNE | Jan-23 | Dec-25 | |
| | | Evaluating the economic and environmental return on investment of modern fish screens | DAN2308 | Craig Boys | NSW DPI | Jul-22 | Jun-25 | |
| | | 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 | Jun-26 | |
| | | Project Management Committee meetings and activities: Natural Capital | CRDC10677 | Stacey Vogel | CRDC | Jul-23 | Jun-28 | |
| | | Plus planned investments in: | | | | | | |
| | | Demonstrating impact of land practice change | | | | | | |
| | | Improving regional information and support | | | | | | |
| | | National sustainability metrics and datasets for native vegetation (Stage 1 & Stage 2) | | | | | | |
| | | On-farm biodiversity monitoring tools scoping study | | | | | | |
| | Riparian exotic weed management prioritisation framework | | | | | | | |
| | Updating CottonInfo biodiversity management tool – Northern Australia pilot | | | | | | | |
| | Pesticides and nitrogen | Confirmed projects: | | | | | | |
| | | SataCrop maintenance and hosting | CA10895 | Doug McCollum | CA | Dec-23 | Jun-25 | |
| | | Landuse risks for pesticides and nitrogen movement in cotton catchments | SCU11080 | Mick Rose | SCU | May-24 | May-25 | |

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| | | Plus planned investments in: | | | | |
| | | On-farm mitigations for pesticides and nitrogen movement | | | | |
| | | Sensing spray drift | | | | |
| | | Strategic partnerships for pesticides & nitrogen movement | | | | |
| | Water | Confirmed projects: | | | | |
| | | Smart system for evaporation polymer deployment | USQ10698 | Michael Scobie | USQ | Sep-23 Aug-27 |
| | | Water R&D support | PHEC10735 | Cathy Phelps | C&J Phelps Consulting | Sep-23 Sep-24 |
| 3.2 Carbon | Carbon | Confirmed projects: | | | | |
| | | Assessing the critical N and P values of cotton cultivars for improved yield and fertiliser efficiency | UQ2301 | Tim McLaren | UQ | Jul-22 Jun-25 |
| | | Benchmarking soil carbon, soil properties and management between long term experimental sites and on-farm cotton industry sites | DAN2305 | Guna Nachimuthu | NSW DPI | Jul-22 Jun-25 |
| | | Building profitable farming systems for the future through increasing soil organic carbon and optimising water use efficiency in a changing climate | CRDC2202 | Annette McCaffery | DCRA | Jul-21 Sep-24 |
| | | De-risking nitrogen (N) decision making: Insuring against yield loss through N fertiliser reduction | CSIRO10999 | Peter Thorburn | CSIRO | Apr-24 Feb-27 |
| | | Environmental Accounting Platform – Build | AIA10739 | Sam Brown | AIA | Sep-23 Sep-24 |
| | | Greenhouse gas baseline and mitigation for cotton | CSP2102 | Hizbullah Jamali | CSIRO | May-21 Jun-25 |
| | | Project Management Committee meetings and activities: Carbon | CRDC10678 | Meredith Conaty | CRDC | Jul-23 Jun-28 |
| | | Understanding nitrogen (N) cycling in cotton soils, and the timing of N availability to plant roots | CSIRO10081 | Timothy Weaver | CSIRO | Oct-23 Sep-26 |
| | | Plus planned investments in: | | | | |
| | | Enhanced efficiency fertilisers for establishing low-carbon cotton farming systems | | | | |
| | | Low-carbon cotton farming systems: case studies and field trials | | | | |
| | | Robust methodologies for demonstrating greenhouse gas emissions reductions for the cotton sector | | | | |
| | | Strategic partnerships and innovations for low-carbon cotton farming systems | | | | |
| 3.3 Circular economy | Circular economy | Confirmed projects: | | | | |
| | | An evaluation of cotton fibre waste processing and composting alternatives: Comparison of business models, greenhouse gas emissions and commercialisation opportunities | UTS 10080 | Christopher Bajada | UTS | Jul-23 Jun-26 |
| | | Closing the loop: Textile waste composting for improved carbon footprint and sustainability | UON2301 | Thava Palanisami | UON | Jul-22 Jun-25 |
| | | Project Management Committee meetings and activities: Circular economy | CRDC 10679 | Meredith Conaty | CRDC | Jul-23 Jun-28 |
| | | Plus planned investments in: | | | | |
| | | Value adding to textile waste through circular economy: Pilot programs | | | | |

Key

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| AgriFutures | AgriFutures Australia | NT DITT | Northern Territory Department of Industry, Tourism and Trade |
| AIA | Agriculture Innovation Australia Ltd | NTF | Northern Territory Farmers Association |
| ARLF | Australian Rural Leadership Foundation | PHA | Plant Health Australia |
| BCI | Better Cotton Initiative | QLD DAF | Queensland Department of Agriculture and Fisheries |
| CA | Cotton Australia | QUT | Queensland University of Technology |
| CCA | Crop Consultants Australia | RAI | Regional Australia Institute |
| CHCGIA | Central Highlands Growers and Irrigators Association | SAC | Sustainable Apparel Coalition |
| CQU | Central Queensland University | SCU | Southern Cross University |
| CRCNA | Cooperative Research Centre for Developing Northern Australia | TTS | Textile Technical Services |
| CSD | Cotton Seed Distributors | UM | University of Melbourne |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation | UNE | University of New England |
| DCRA | Dryland Cotton Research Association | UON | University of Newcastle |
| DDCGI | Darling Downs Cotton Growers Inc | UQ | University of Queensland |
| DU | Deakin University | USC | University of the Sunshine Coast |
| GRDC | Grains Research and Development Corporation | USQ | University of Southern Queensland |
| GU | Griffith University | USYD | University of Sydney |
| G VIA | Gwydir Valley Irrigators Association | UTS | University of Technology Sydney |
| HIA | Hort Innovation | UWA | University of Western Australia |
| NCSU | North Carolina State University | WAAA | Western Australia Agriculture Authority |
| NSW DPI | NSW Department of Primary Industries | WSU | Western Sydney University |