



CRDC
INVESTMENTS
2022-23

CRDC Investments 2022-23

The 2022-23 year marks the fifth and final year under CRDC's five-year plan: the 2018-23 CRDC RD&E Strategic Plan. Under this Plan, during 2022-23, CRDC will invest \$18.6 million into RD&E projects across five key areas, in collaboration with around 100 researcher partners, and on behalf of Australia's cotton growers and the Australian Government. This table outlines the projects that CRDC will invest in, along with the lead researcher, their research organisation, and the commencement and completion dates for the projects. *Please note that this table is current as of 4 May 2022, and may be subject to change.*

Key focus area	Outcome	Project title	Project code	Researcher	Organisation	Commenced in:	To be completed in:
Goal 1: Increased productivity and profitability on cotton farms							
1.1 Optimised farming systems	1.1.1 Improved yield and quality	PhD: Assessing yield and fibre quality variability in cotton systems through data science for improved management	US2104	Mikaela Tilse	USYD	Mar-21	Feb-24
		Supporting a sustainable Northern Australia cotton, grain and cattle system	2223FRP	Debra Pearce	CRCNA	Jul-22	Jun-25
		Supporting southern cotton production systems: Southern cotton agronomy and fibre quality	2223FRP057	Beth Shakeshaft	NSW DPI	Jul-22	Jun-25
	1.1.2 Improved input efficiencies	Assessing the critical N and P values of cotton cultivars for improved yield and fertiliser efficiency	2223FRP026	Tim McLaren	UQ	Jul-22	Jun-25
		Optimising irrigation performance in bankless channel cotton layouts to improve water management and nitrogen use efficiency	2223FRP022	Wendy Quayle	DU	Jul-22	Jun-25
		PhD: Sub-paddock scale prediction of soil-water characteristic: Need for localised calibration	USQ2101	Ned Skehan	USQ	Feb-21	Feb-23
		Professor of Soil Biology (includes CottonInfo technical lead and myBMP module lead)	UNE2001	Oliver Knox	UNE	Jul-19	Jun-24
		Water productivity benchmarking in the Australian cotton industry	2223FRP042	David Perovic	NSW DPI	Jul-22	Jun-25
	1.1.3 On-farm sustainable development is supported	Limited water decision support	DAN2203	Sarah Dadd	NSW DPI	Jul-21	Jun-23
		Optimising dryland cotton production in the Namoi Valley : Cotton production and research at Nowley, Spring Ridge 2021-22	US2202	Stephen Cattle	USYD	Oct-21	Sep-22
		Optimising dryland cotton production in the Namoi Valley: Cotton production and research at L'Lara, Narrabri 2021-22	US2201	Stephen Cattle	USYD	Oct-21	Sep-22
		PhD: Classifying the suitability of Murrumbidgee valley soils for cotton production	US2002	Jonathon Moore	USYD	Mar-20	Jun-23
		Science leadership for cotton development in Northern Australia	CSP1903	Stephen Yeates	CSIRO	Oct-18	Sep-22
		Supporting farming system adaptation to climate and biological pest threats (including CottonInfo technical leads for Integrated Pest Management (IPM) and biosecurity)	DAQ2201	Paul Grundy	QLD DAF	Jul-21	Jun-24
	1.1.4 Improved reliability of cotton production	Benchmarking soil carbon, soil properties and management between long term experimental sites and on-farm cotton industry sites	2223FRP056	Guna Nachimuthu	NSW DPI	Jul-22	Jun-25
1.3 Protection from biotic threats and environmental stresses	1.3.1 Increased understanding of the impact of pests, diseases and weeds, and environmental stresses	Climate proofing Australia's cotton industry through improving crop water use and photosynthetic carbon assimilation (Climate proof cotton)	UWS2201	Demi Sargent	WSU	Jul-21	Jun-24
		Tactical management and surveillance of Verticillium, Fusarium and reoccurring wilts	2223FRP053-54	Linda Smith	QLD DAF	Jul-22	Jun-25
		Using DNA diagnostics to monitor disease suppressive cotton farming systems	CAS2101	Rob Long	Crown Analytical	Jul-20	Jun-23

1.3.2 Improved identification, surveillance and management systems for pests, diseases and weeds and environmental stresses	Advanced field sensing for improved crop management	2223FRP013	Alison McCarthy	USQ	Jul-22	Jun-25
	ARC Research Hub for Sustainable Crop Protection	UQ2001	Neena Mitter	HIA/UQ	Jul-19	Jun-24
	Area wide management for cropping systems weeds, investigating the weed management, social and economic opportunity (Rural R&D for Profit program)	GRDC2002	Rick Llewellyn	GRDC	Aug-19	Jun-23
	Bioclay 2020 Australia-India Strategic Research Fund (AISRF) grant application	COMM			Nov-19	Jun-24
	Biological based products for improved cotton production	UWS1901	Brajesh Singh	WSU	Jul-18	Aug-22
	Developing proactive approaches to 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	2223FRP001	Lisa Bird	NSW DPI	Jul-22	Jun-25
	Improved insecticide resistance monitoring for silverleaf whitefly (SLW) to support sustainable insect management	2223FRP002	Jamie Hopkinson	QLD DAF	Jul-22	Jun-25
	Improved management of weeds in cotton and grains farming systems (including CottonInfo technical lead for weed management)	DAN2004	Graham Charles	NSW DPI	Nov-19	Jun-23
	Modern systems agronomy for resilient cotton production	CSP2001	Katie Broughton	CSIRO	Jan-20	Dec-22
	Novel options and strategies for IPM in Australian cotton	2122FRP009	Doug McCollum	CCA	Jul-21	Jun-24
	Plant Biosecurity Research Initiative (PBRI) Phase 2	HIA2101	Jo Luck	HIA	Jul-20	Jun-23
	Plant Health Australia membership 2020-23	PHA2101	Stuart Kearns	PHA	Jul-20	Jun-23
	R&D Manager for CRDC Disease portfolio	CRDC2105	Elle Storrier	Macpherson Agronomy Services	Oct-20	Oct-23
	Regional demonstration of integrated weed tactics across farming systems	2223FRP052	Eric Koetz	NSW DPI	Jul-22	Dec-24
	Review of the Biosecurity Plan for the Cotton Industry	PHA2201	Stuart Kearns	PHA	Jul-21	Jun-24
	Surveillance and management of cotton diseases in NSW	2223FRP048	Duy Le	NSW DPI	Jul-22	Jun-24
	Tools for assessing and achieving pesticide sustainability targets for the Australian cotton industry	DAN2201	Mick Rose	NSW DPI	Jul-21	Jun-23
	Validation and implementation of new molecular tools for Bt Resistance monitoring	CSP2204	Sharon Downes	CSIRO	Sep-21	Aug-24
1.3.3 Industry is prepared for a biosecurity incursion	Boosting diagnostic capacity for plant production industries	GRDC2001	K'trie Coster	GRDC	Jul-19	Jun-23

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Goal 2: Improve cotton farming sustainability and value chain competitiveness							
2.1 Sustainability of cotton farming	2.1.1 Improved environmental footprint for cotton farms	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	Jun-23
		Carbon and biodiversity benchmarking in native vegetation on cotton farms	2223FRP005	Rhiannon Smith	UNE	Jul-22	Jun-25
		Closing the loop: textile waste composting for improved carbon footprint and sustainability	2223FRP009	Thava Palanisami	UON	Jul-22	Jun-25
		Developing a common methodology for greenhouse gas (GHG) accounting	AIA2102	Alison Laing	CSIRO	Jun-21	Feb-23
		Evaluating the economic and environmental return on investment of modern fish screens	2223FRP004	Craig Boys	NSW DPI	Jul-22	Jun-25
		Greenhouse gas (GHG) baseline and mitigation for cotton	CSP2102	Hizbullah Jamali	CSIRO	May-21	Jun-25

		PhD: Integrating deep learning AI software with hardware for next generation acoustic biodiversity monitoring	2223FRP006	Stuart Parsons	QUT	Jun-22	Nov-25
		Seeking regionally specific guidelines for cover crops through farmer-led best-practice and soil security	2223FRP043	Alex McBratney & Thomas O'Donoghue	USYD	Jul-22	Jun-25
		Understanding the environmental co-benefits of irrigation water in the northern Murray-Darling Basin	GU2201	Peta Zivec	GU	Jul-21	Jun-24
2.2 Create higher value uses for cotton	2.2.2 Increased understanding of market requirements and opportunities throughout the value chain	Joint Reserch and Development Corporation (RDC) community trust project	RIRDC1903	Jennifer Medway	AgriFutures	Jul-21	Jun-24
		Strategies for improving labour conditions within the Australian cotton value chain	QUT1903	Alice Payne	QUT	Jun-19	Aug-22
2.3 Measurement and reporting throughout the value chain	2.3.1 CRDC collaborates in global leadership for sustainability initiatives	Australian participation in the European Union product environmental footprint technical advisory board	CRDC2008	Angus Ireland	AWI	Sep-19	Dec-22
		Cotton industry social and wellbeing sustainability indicators	UC1901	Jacki Schirmer	UC	Jun-19	Nov-22
		Membership of the sustainable agriculture initiative (SAI) Platform – Australian chapter 2018-24	CRDC1902	Selwyn Heilbron	SAI Platform (Aust) Inc	Jul-18	Jun-24
		Sustainable Apparel Coalition membership	CRDC2205	Glenn Robinson	SAC	Jul-21	Jun-24
	2.3.2 The value chain is transparent and understood by participants	Undertaking the fourth environmental assessment of the Australian cotton industry	CRDC2210	Susan Madden	GHD	Sep-21	Oct-22

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Goal 3: Build adaptive capacity of the cotton industry							
3.1 Science and innovation capability, and new knowledge	3.1.1 Science and innovation capacity is strengthened and strategically fit for a digital future	ABARES Science and Innovation Awards	ABA2101	Maree Finnegan	ABARES	Jul-20	Jun-23
		AgriFutures Horizon Scholarship program	COMM	AgriFutures	AgriFutures	Jul-21	Jun-23
		Australian Future Cotton Leaders program: 2022 and 2024	CA2201	Paul Sloman	Cotton Australia	Oct-21	Oct-24
		Australian Rural Leadership Program: Course 26, 27 & 28 and TRAIL 2020 & 2021	RIR1903	Tristan Richmond	ARLF	May-19	Dec-22
		Australian Rural Leadership Program: Course 29, 30 & 31 and TRAIL 2022, 2023 & 2024	RIR2201	Tristan Richmond	ARLF	Jul-21	Dec-25
		Cotton Production Course	UNE2002	Oliver Knox	UNE	Jan-20	Jun-23
		CRDC Summer and Honours Scholarships	COMM			Jul-21	Jun-23
		Developing people (research students, industry people)	COMM			Jul-21	Jun-24
		Digital strategy for the Australian cotton industry – phase 2	COMM	Matt Shaffer	DataGene	Jul-21	Jun-23
		Improving grower decision in complex systems: A targeted tool to assist cotton growers in appropriate technology adoption	QUT2001	Geraldine Wunsch	QUT	Jul-19	Nov-22
		Nuffield Australia farming scholarships	COMM	Jodie Redcliffe	Nuffield	Jul-21	Jun-25
		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
		R&D Manager for CRDC People and Capacity portfolio	CRDC2106	Rachel Holloway	Rachel Holloway Consulting	Jul-20	Jun-23

	3.1.2 Increased understanding of the diverse human capital in regional communities	Association of Australian Cotton Scientists (AACS) Australian cotton researchers conference	COMM		AACS	Jul-22	Jun-23
		Delivering best practice to manage future workforce skills	CQU2201	Nicole McDonald	CQU	Oct-21	Sep-24
		Exploring a cotton and grains agricultural traineeships model	2223FRP029	Amy Cosby	CQU	Jul-22	Mar-23
		How to attract and retain young people on cotton farms	2223FRP027	Amy Cosby	CQU	Oct-22	Oct-24
		Opportunities for greater diversity in the cotton workforce	2223FRP028	Nicole McDonald	CQU	Sep-22	Mar-23
		People in Agriculture website 2022-24	DA2201	Greg Jarman	DA	Jul-21	Jun-24
	3.1.3 Increased opportunities for innovation skills development	Designing the integration of extension into research projects	HIA2201	Jane Wightman	HIA	Jan-22	Jul-22
3.2 Futures thinking	3.2.1 Australian cotton growers are able to adapt to change	Grassroots Grant: Coleambally community demo farm soil improvement	CGA2204	James Kanaley	Southern Valley CGA	Dec-21	Dec-22
		Grassroots Grant: The connectivity challenge	CGA2203	Amanda Thomas	Macquarie CGA	Dec-21	Dec-22
		Rural Safety and Health Alliance 2021-24	RIRDC2201	Jennifer Medway	AgriFutures	Jul-21	Jun-24
	3.2.2 Increased opportunities for strategic foresighting	Strategic scoping studies	COMM			Jun-22	Jul-23
		Sponsorship: CSIRO AgCatalyst 2022	CSP2004	Michiel Van Lookeren Campagne	CSIRO	May-20	Nov-22

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Goal 4 (Enabling Strategy 1): Strengthening partnerships and adoption							
4.1. Partnerships and collaboration	4.1.1 Growers/consultants value CRDC farming systems research outcomes	20th Australian Cotton Conference Foundation Sponsorship	CA2004	Tracey Byrne-Morrison	Cotton Australia	Dec-19	Nov-22
		21st Australian Cotton Conference Foundation Sponsorship	COMM	Tracey Byrne-Morrison	Cotton Australia	Jul-22	Jun-23
	4.1.2 CottonInfo partnership is maintained and practice change improved	Climate, energy and business analysis for cotton growers (including CottonInfo technical lead)	AE2101	Jon Welsh	AgEcon	Jul-20	Jun-23
		Cotton industry database management	CRDC2101	Lee Armson	Lee Armson	Jul-20	Jun-23
		CottonInfo field demonstration trial: Optimisation of application in tailwater backup systems	CSD2201	Andrew McKay	CSD	Oct-21	Aug-22
		CottonInfo multimedia content development	DAQ2202	Tonia Grundy	QLD DAF	Jul-21	Jun-24
		CottonInfo technical lead for irrigation (includes myBMP module lead)	2223FRP039	Lou Gall	GVIA	Jul-22	Jun-25
		CottonInfo technical lead for nutrition (includes myBMP module lead)	DAN2202	Jon Baird	NSW DPI	Jul-21	Jun-24
		Identifying key issues to maintain and improve Australian cotton fibre quality (including CottonInfo technical lead)	CRDC2103	Rene van der Sluijs	TTS	Oct-20	Jun-23
		R&D Manager for CRDC Natural Resource Management (NRM) portfolio and CottonInfo technical lead for NRM	CRDC2102	Stacey Vogel	Stacey Vogel Consulting	Jul-20	Jun-23
		Scientific and CottonInfo technical lead for weeds (includes myBMP module lead)	2223FRP012	Graham Charles	NSW DPI	Jul-22	Jun-25
	4.1.3 Partnerships are strengthened to engage multi-disciplinary and multi-institutional resources	Agriculture Innovation Australia membership	AIA2101		AIA	Jul-20	Jun-24

4.2 Best practice (myBMP)	4.2.1 Best practice is based on science and measured impact	CRDC data collection for M&E	COMM			Jul-20	Jun-23
		Economic data collection	BCA2201	Jono Hart	Boyce	Jul-21	Jun-22
		Farm performance – rate of return data for cotton sustainability report	CRDC2208	Simon Fritsch	Agripath	Nov-21	Mar-24
		myBMP: Ensuring best practice is based on science	CRDC2113	Chris Cosgrove	Sustenance Asia	Apr-21	Mar-24
4.3 Innovation and commercialisation	4.3.1 Improved R&D innovation and commercialisation	Commercialisation management tasks	CRDC2203	Jarrod Ward	Ahurei Pty Ltd	Jul-21	Jun-24
		Commercialisation process coordination and support for WSU plant extract pesticides	CRDC2218	Doug McCollum	AGK Services	Apr-22	Sep-22
		Demonstrating and integrating irrigation technology for cotton	2223FRP034	Joseph Foley	USQ	Jul-22	Jun-25
		Post doc: Measuring evapotranspiration from canopy temperature	2223FRP016	Simon Kelderman	USQ	Jul-22	Jun-25
		Spray drift hazard alert and warning systems	DISA2201	Alicia Garden	Discovery Ag	Jan-22	Jun-28

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Goal 5 (Enabling Strategy 2): Driving RD&E impact							
5.1 Impact and effectiveness	5.1.1 CRDC's RD&E investments meet grower, industry and government needs	CRDC Strategic Plan 2023-28 project management	CRDC2112	Bernadette Pilling	HOC	Mar-21	Jun-23
		CRDC Cotton Grower Survey 2020-22	CRDC2014	Michael Sparks	Intuitive Solutions	Jul-20	Mar-23
	5.1.2 CRDC monitors and evaluates RD&E impact	CRDC Cotton Grower Survey 2023-2025	COMM			Jan-23	Nov-25
		CRDC Stakeholder Survey 2022	CRDC2215	Michael Sparks	Intuitive Solutions	Mar-22	Nov-22
		CCA Consultant Surveys 2022-24	CCA2202	Doug McCollum	CCA	Apr-22	Mar-25
		Communications support project	COMM			Jul-21	Jun-23
	5.1.3 CRDC funded projects demonstrate value and return on investment	Impact assessment of projects	COMM			Jul-21	Jun-23

Key					
AACS	Association of Australian Cotton Scientists	CSD	Cotton Seed Distributors	QLD DAF	Queensland Department of Agriculture and Fisheries
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences	CSIRO	Commonwealth Scientific and Industrial Research Organisation	QUT	Queensland University of Technology
AgriFutures	AgriFutures Australia (formerly the Rural Industries Research & Development Corporation)	DA	Dairy Australia	SAC	Sustainable Apparel Coalition
AIA	Agriculture Innovation Australia Ltd	DCRA	Dryland Cotton Research Association	SAI	Sustainable Agriculture Initiative
ARLF	Australian Rural Leadership Foundation	DU	Deakin University	TTS	Textile Technical Services
AWI	Australian Wool Innovation	GRDC	Grains Research and Development Corporation	UC	University of Canberra
CCA	Crop Consultants Australia	GU	Griffith University	UNE	University of New England
CGA	Cotton Grower Association	GVIA	Gwydir Valley Irrigators Association	UON	University of Newcastle
CQU	Central Queensland University	HIA	Hort Innovation	UQ	University of Queensland
CRCNA	Cooperative Research Centre for Developing Northern Australia	HOC	House of Communication	USQ	University of Southern Queensland
		NSW DPI	NSW Department of Primary Industries	USYD	University of Sydney
		PHA	Plant Health Australia	WSU	Western Sydney University