



CRDC
INVESTMENTS
2020-21

CRDC 2020-21 Projects List (as of May 2020)

Note: CRDC's list of projects is current as of 15 May 2020 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	Improving crop establishment, termination and weed control in dryland cotton farming systems	CRDC1937	Annabelle Guest	DCRA	Jan-19	Jun-22	
		Increased yield through improved management of soil constraints in cotton farming systems	USQ1903	John Bennett	USQ	Jun-19	Jun-22	
		Managing cotton quality to maintain Australia's premium status (includes CottonInfo technical lead and myBMP module lead)	CRDC1924	Rene van der Sluijs	Textile Technical Services	Oct-18	Sep-20	
	1.1.2 Improved input efficiencies	Improving the nitrogen use efficiency of cotton crops through better understanding the role of dissolved organic N	More Profit from Nitrogen - Enhancing nutrient use efficiency in cotton	RRDP1712	Graeme Schwenke	NSW DPI	Jul-16	Jun-21
			More Profit from Nitrogen - Final evaluation and economic case studies	RRDP2021	Jon Welsh	AgEcon	Mar-20	Jun-21
			More Profit from Nitrogen - New technologies and managements: transforming nitrogen use efficiency in cane production.	RRDP1719	Matt Redding	QDAF	Sep-16	Jun-21
			More Profit from Nitrogen - Optimising nutrient management for improved productivity and fruit quality in cherries	RRDP1721	Nigel Swarts	UTAS	Aug-16	Jun-21
			More Profit from Nitrogen - Optimising nutrient management for improved productivity and fruit quality in mangoes	RRDP1720	Constancio (Tony) Asis	NTDPIR	Aug-16	Jun-21
			More Profit from Nitrogen - Project communications	RRDP1735	Allan Williams	CRDC	Jul-16	Jun-21
			More Profit from Nitrogen - Project Management Committee meetings	RRDP1722	Allan Williams	CRDC	Jul-16	Jun-21
			More Profit from Nitrogen - Quantifying the whole farm systems impact of nitrogen best practice on dairy farms	RRDP1716	Richard Eckard	UMELB	Jul-16	Nov-20
			More Profit from Nitrogen - Science Leadership and Project Coordination	RRDP1711	Marguerite White	Consultant	Nov-16	Sep-21
			More Profit from Nitrogen - YourData platform	RRDP1727	Jeff Coutts	Coutts J&R	Feb-17	Jun-21
			Nitrogen fixing cotton	COMM			Jul-19	Jun-22
			Optimising the management of manures in southern NSW cotton production II	DU1903	Wendy Quayle	DU	Jul-18	Jun-21
			PhD: The impact of irrigation methods and management strategies on nitrogen fertiliser recovery in cotton in southern QLD	UQ1502	John Smith	UQ	Jul-14	Dec-20
			Professor of Soil Biology (includes CottonInfo technical lead and myBMP module lead)	UNE2001	Oliver Knox	UNE	Jul-19	Jun-24
	1.1.3 On-farm sustainable development is supported	Towards carbon neutral cotton production	Identifying the trends and drivers of water productivity in Australian cotton through benchmarking (includes CottonInfo technical lead)	DAN2002	David Perovic	NSW DPI	Jul-19	Jul-22
			Developing novel cotton farming systems	COMM			Jul-20	Jun-23
			Developing novel farming systems - Central QLD	COMM			Jul-20	Jun-23
			National Soils RD&E strategy	COMM			Jul-20	Jun-21
			National Water RD&E strategy	COMM			Jul-20	Jun-21
			Potential for broadacre cropping in the NT	CRDNA2001	Jed Matz	CRDNA	Jun-19	Dec-22
			Science leadership for cotton development in Northern Australia	CSP1903	Steve Yeates	CSIRO	Oct-18	Sep-21
			Minimising yield variability to maximise yield in a cotton farming system	DAN1801	Guna Nachimuthu	NSW DPI	Jul-17	Jun-22
			Quantifying the effectiveness of cover crops as a means of increased water infiltration and reduced evaporation in the northern region	GRDC1801	David Lawrence	QDAF/ GRDC	May-17	Oct-20
			Future Farm (phase 2): Technology solutions for improved nitrogen application	QUT1902	Peter Grace	QUT	Jul-18	Jun-22
1.2 Transformative technologies are adapted for use in cotton systems	1.2.1 New technologies are adapted for use in cotton systems	Identifying sensors for better Integrated Pest Management (IPM) in cotton	NEC1901	Alison McCarthy	USQ NCEA	Jul-18	Jun-21	
		Smarter Irrigation for Profit 2: Beyond water smart - advancing dairy irrigation system performance	RRDP2012	James Hills	UTAS	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Cross sectoral integration and extension	RRDP2005	Louise Gall	GVIA	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Evaporation mitigating solution for Australian cotton water storages	RRDP2007	Greg Qiao	UMELB	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Gwydir demonstration of latest digital technologies for precise automated irrigation	RRDP2004	Louise Gall	GVIA	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Improved irrigation system selection and operation for increased sugarcane productivity and profitability	RRDP2013	Michael Scobie	USQ	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Improving the science of water footprinting	RRDP2018	Guy Roth	USYD	Feb-20	Feb-22	
		Smarter Irrigation for Profit 2: Key learning sites southern (making the most of water)	RRDP2014	Alex Schultze	NSW DPI	Jul-19	May-22	
		Smarter Irrigation for Profit 2: New tech integrated smart sensing & automation for cotton	RRDP2003	John Hombuckle	DU	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Plant-based sensing for cotton irrigation	RRDP2006	Hizbullah Jamali	CSIRO	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Precise real-time automated cotton and dairy irrigation for improved water productivity	RRDP2002	Joseph Foley	USQ NCEA	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Precision automated furrow irrigation for the Australian sugar industry	RRDP2009	Malcolm Gillies	USQ	Jul-19	Jun-21	
		Smarter Irrigation for Profit 2: Project leadership and coordination	RRDP2001	Cathy Phelps	C&J Phelps Consulting	Jul-19	Jun-22	
		Smarter Irrigation for Profit 2: Project Management Committee meetings	RRDP2015	Cathy Phelps	C&J Phelps Consulting	Nov-19	May-22	
		Smarter Irrigation for Profit 2: Scaling irrigation management to support whole farm operations	RRDP2011	Andy McAllister	DJPR	Jul-19	May-22	
		Smarter Irrigation for Profit 2: Smart irrigation control for water and labour savings in rice growing systems	RRDP2008	John Hombuckle	DU	Jul-19	May-22	
		Smarter Irrigation for Profit 2: What is my yield gap? Maximising water productivity	RRDP2010	Cath Lescun	Dairy Australia	Jul-19	May-22	
		Smarter Irrigation for Profit 2: YourDATA Monitoring & Evaluation Database	RRDP2017	Jeff Coutts	Coutts J&R	Nov-19	May-22	
		Supporting southern cotton production systems: Cotton Research Officer	DAN2001	Hayden Petty	NSW DPI	Jul-19	Jun-22	
		1.2.2 Cotton farms are digitally enabled	Capital: Sundown Smart Farm Development	CRDC1928	Nick Gillingham	Sundown Pastoral	Nov-18	Oct-20
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	IPM to support the management of emerging pests	CSP1905	Simone Heimoana	CSIRO	Jul-18	Jun-21	
		Using DNA diagnostics to monitor disease suppressive cotton farming systems	COMM			Jul-20	Jun-23	
	1.3.2 Improved identification, surveillance and management systems for pests, diseases and weeds and environmental stresses	ARC Research Hub for Sustainable Crop Protection	Area Wide Management for cropping systems weeds, investigating the weed management, social and economic opportunity	UQ2001	Neena Mitter	HIA/UQ	Jul-19	Jun-24
			Biological based products for improved cotton production	GRDC2002	Rick Llewellyn	GRDC	Aug-19	Jun-22
			Characteristics of disease suppressive cotton farming systems and soils understood	UWS1901	Brajesh K Singh	UWS	Jul-18	Mar-22
			CottonInfo IPM Technical Lead and pest management for high yield research (including myBMP module lead)	DAQ2002	Linda Smith	QDAF	Jul-19	Jun-22
			Evaluate efficacy of novel chemistries, biocontrol agents and management practices to control Alternaria and Black Root Rot disease in cotton	DAQ1902	Paul Grundy	QDAF	Jul-18	Jun-21
			iMapPESTS: Sentinel surveillance for agriculture	2021FRP003	Duy Le	NSW DPI	Jul-20	Jun-22
			Improved management of silverleaf whitefly on cotton farms	HIA1802	Wee tek Tay	HIA	Feb-18	May-22
			Dean Brooks					
			Improved management of weeds in cotton and grains farming systems	DAQ1903	Richard Sequeira	QDAF	Jul-18	Jun-21
			Managing Climate Variability Program - Phase 5	DAN2004	Graham Charles	NSW DPI	Nov-19	Jun-22
			Modern systems agronomy for resilient cotton production	MLA1701	Doug McNicholl	MLA	Jul-16	Jun-21
			Novel topical vegetable, cotton virus and whitefly protection: Bioclay	CSP2001	Claire Welsh	CSIRO	Jan-20	Jun-22
			PHD: Building climate change resilience in cotton through translational physiology	HIA1803	Neena Mitter	HIA/UQ	Feb-18	Feb-21
			Reducing the impact of weather, insects and microbes on cotton colour	ANU1704	Demi Gamble	ANU	Feb-17	Aug-20
			Southern Cotton Crop Protection (including CottonInfo Disease Technical Lead and myBMP module lead)	CSP1901	Simone Heimoana	CSIRO	Jul-18	Jun-21
Sustainable insect management through improved insect resistance monitoring	DAN1903	Tim Green	NSW DPI	Jul-18	Oct-21			
1.3.3 Industry is prepared for	2020 International Year of Plant Health (IYPH)	Sustainable SLW management through improved insect resistance monitoring	DAN2003	Lisa Bird	NSW DPI	Jul-19	Jun-22	
		Boosting Diagnostic Capacity for Plant Production Industries	DAQ2001	Jamie Hopkinson	QDAF	Jul-19	Jun-22	
			HIA2001	Jo Luck	HIA	Sep-19	Sep-20	
			GRDC2001	K'trie Coster	GRDC	Jul-19	Jun-22	

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	a biosecurity innovation	Plant Biosecurity Research Initiative (PBRI) - Phase 2	COMM	Jo Luck	HIA				
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	Cotton Landcare Tech Innovations: Communications Support	NLP1903	Bernadette Pilling	HOC	Nov-18	Mar-22		
		Cotton Landcare Tech Innovations: Improved natural capital (biodiversity) on Australian cotton farms	NLP1901	Erin Peterson	QUT	Jan-19	Nov-21		
		Cotton Landcare Tech Innovations: Improved natural capital (biodiversity) on Australian cotton farms	NLP1902	Rhiannon Smith	UNE	Jul-18	Nov-21		
		Cotton Landcare Tech Innovations: Spotlight evenings, demonstration field days & FloraBank training	COMM	Stacey Vogel	Consultant	Jul-18	Jun-21		
		Feasibility study of managed aquifer recharge for improved water productivity for Australian cotton production	ANU1901	Anthony Jakeman	ANU	Aug-18	Aug-21		
	2.2 Create higher value uses for cotton	2.2.1 Increased value for Australian cotton	Mitigating irrigation infrastructure impacts on aquatic biodiversity	2021FRP006	Michael Hutchison	QDAF	Jul-20	Jun-22	
			PhD: Alternative energy technologies and policy solutions for the Australian cotton	UTS1901	Yunfeng (Forrest) Lin	UTS	Aug-18	Jun-21	
		2.2.2 Increased understanding of market requirements and opportunities throughout the value chain	PhD: Sustainable water extractions: Low flow regia and critical flow thresholds	UNE1406	Marita Pearson	UNE	Jan-14	Aug-20	
			Quantifying the potential environmental impacts of pesticides used on cotton farms	DAN1803	Mick Rose	NSW DPI	Jul-17	Jun-21	
			Developing renewable fine chemicals from cotton biomass (Biorefineries for higher-value animal feeds, chemicals and fuels phase 2)	SRA2001	William Doherty	QUT	Jul-19	Jun-21	
2.3 Measurement and reporting throughout the value chain	2.3.1 CRDC collaborates in global leadership for sustainability initiatives	Joint RDC community trust project	RIRDC1903	Jennifer Medway	AgriFutures	Jun-19	May-21		
		Strategies for improving labour conditions within the Australian cotton value chain	QUT1903	Alice Payne	QUT	Jun-19	Jun-22		
	2.3.2 The value chain is transparent and understood by participants	2.3.1 CRDC collaborates in global leadership for sustainability initiatives	Cotton industry report on social capital wellbeing sustainability indicators	1920FRP037	Jacki Schirmer	University of Canberra	Jun-19	Jun-22	
			Membership of the Sustainable Agriculture Initiative (SAI) - Australian chapter	CRDC1902	Selwyn Heilbron	SAI Platform (Aust) Inc	Jul-18	Jun-20	
		2.3.2 The value chain is transparent and understood by participants	PhD: Textile supply chain transparency and accountability Supporting the development of common impact metrics across cotton sustainability Sustainability metrics for the cotton industry Sustainable Apparel Coalition membership	Australian Cotton Industry Fourth Environmental Audit	UL1901	Mark Sumner	UL	Oct-18	Sep-21
				PhD: Sustainable value chain analysis of the Australian cotton industry	CRDC2008	Angus Ireland	AWI	Oct-19	Dec-22
				Supporting the development of common impact metrics across cotton sustainability	CRDC1944	Chris Cosgrove	Sustenance Asia	Jun-19	Jun-22
				Sustainable Apparel Coalition membership	CRDC1817	Glenn Robinson	SAC	Aug-17	Jun-21
				Australian Cotton Industry Fourth Environmental Audit	COMM			Apr-21	Dec-22
				PhD: Sustainable value chain analysis of the Australian cotton industry	QUT1901	Zoe Mellick	QUT	Jul-18	Jul-21
Goal 3: Build adaptive capacity of the cotton industry									
3.1 Science and innovation capacity is strengthened and strategically fit for a digital future	3.1.1 Science and innovation capacity is strengthened and strategically fit for a digital future	2021 and 2022 Science and Innovation Awards for young people in Agriculture, Fisheries and Forestry	COMM		ABARES	Jul-20	Jun-22		
		Australian cotton industry digital strategy				Jul-19	Jun-21		
		Australian Rural Leadership Program Course 26, Course 27, Trail 2019, Trail 2020	RIR1903	Matt Linnegar	ARLF	May-19	Dec-20		
		Building digital capability in the Australian cotton industry	COMM			Jul-20	Jun-23		
		CRDC and Cotton Australia Future Cotton Leaders Program	COMM		Cotton Australia	Jul-20	Jun-21		
	3.1.2 Increased understanding of the diverse human capital in regional communities	3.1.2 Increased understanding of the diverse human capital in regional communities	CRDC summer & honours scholarships	COMM			Jul-20	Jun-21	
			Graduate tour - Careers in cotton industry	COMM			Jul-20	Jun-21	
			Improving grower decision in complex systems: A targeted tool to assist cotton growers in appropriate technology adoption	QUT2001	Geraldine Wunsch	QUT	Jul-19	Mar-22	
			People in Agriculture	DA1502	Shane Hellwege	Dairy Australia	Jul-14	Mar-21	
			Post Doc: Understanding and planning for the future cotton workforce	USQ1801	Nicole McDonald	USQ	Oct-17	Sep-20	
3.2 Futures thinking	3.2.1 Australian cotton growers are able to adapt to change	2018-2021 Joint-RDC Health and Safety Farming Alliance	RIRDC1901	Jennifer Medway	AgriFutures	Jul-18	Jun-21		
		CRDC Grassroots grants 2020-21			CGAs	Jul-20	Jun-21		
		Grassroots Grant: Climate Change: Planting times, Pests and Spray Drift	CGA2003	Alec Macintosh	Walgett CGA	Dec-19	Jan-21		
		Grassroots Grant: On-farm evaluation of pumping telemetry	CGA2002	Amanda Thomas	Macquarie CGA	Sep-17	Aug-21		
		Grower RD&E advisory panels			Cotton Australia	Jul-20	Jun-21		
		Nuffield Australia Farming Scholarship 2019: Renee Anderson	CRDC1901	Renee Anderson	Nuffield	Apr-18	Sep-20		
		Nuffield Australia Farming Scholarship 2020: Richard Quigley		Richard Quigley	Nuffield	Apr-19	Sep-21		
Thresholds for resilience in regional communities	UM1902	Ruth Nettle	UMELB	Sep-18	Jul-20				
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-20		
		Cotton Production Course	UNE2002	Oliver Knox	UNE	Jan-20	Jun-23		
		Climate, energy and business analysis for cotton growers (including CottonInfo technical lead and myBMP project lead)	2021FRP004	Jon Welsh	AgEcon	Jul-20	Jun-23		
		Communicating cotton best production practices with video	DAQ1901	Tonia Grundy	QDAF	Jul-18	Jun-21		
		Cotton industry database management		Lee Armson	Consultant	Jul-21	Jun-23		
	4.1.2 CottonInfo partnership is maintained and practice change improved	4.1.2 CottonInfo partnership is maintained and practice change improved	CottonInfo Field Demonstration Trial: Investigation of the impact of last irrigations on profit and quality in the Murrumbidgee Irrigation Area region	CGA2006	Emma Ayliffe	Southern Valleys CGA	Jan-20	Aug-20	
			CottonInfo NRM Technical Lead (including myBMP module lead)	2021FRP005	Stacey Vogel	Consultant	Jul-20	Jun-23	
			CottonInfo Technical Lead - Nutrition (includes myBMP module lead)	DAN1906	Jon Baird	NSW DPI	Jan-19	Jun-21	
			Identifying key issues to maintain and improve Australian cotton fibre quality (including CottonInfo Technical Lead and myBMP module lead)	2021FRP001	Rene van der Sluijs	Textile Technical Services	Jul-20	Jun-23	
			Proofreading 2020 Australian Cotton Production Manual and Cotton Pest Management Guide	CRDC2010	Helen Dugdale	Consultant	Apr-20	Jul-20	
4.2 Best practice (myBMP)	4.2.1 Best practice is based on science and measured impact	Spray Hazard Tower Network	COMM			Jul-19	Jun-22		
		Cotton industry injury and safety statistics	COMM			Jul-20	Jun-21		
		CRDC data collection	COMM			Jul-20	Jun-21		
Goal 5 (Enabling Strategy 2): Driving RD&E impact									
5.1 Impact and effectiveness	5.1.2 CRDC monitors and evaluates RD&E impact	Annual consultant qualitative and quantitative surveys	CCA1901	Fiona Anderson	CCA	Mar-18	Dec-20		
		Collaboration: Evaluation and Measuring impact	SRA2002	Leigh Clement	SRA	Oct-19	Sep-20		
		CRDC Cotton Grower Survey 2020-22	CRDC2014	Michael Sparks	Intuitive	Jul-20	Nov-22		
		Summaries of CRDC Research	CRDC1945	Bernadette Pilling	HOC	Jun-19	Jun-21		

5.1.3 CRDC funded projects demonstrate value and return on investment	Impact assessment of projects	COMM			Jul-20	Jun-21
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Key:

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
AgriFutures	AgriFutures Australia (formerly the Rural Industries Research & Development Corporation)
ANU	Australian National University
ARLF	Australian Rural Leadership Foundation
AWI	Australian Wool Innovation
CCA	Crop Consultants Australia
CRCNA	Cooperative Research Centre for Developing Northern Australia
CGA	Cotton Grower Association
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCRA	Dryland Cotton Research Association
DJPR	Victorian Department of Jobs, Precincts and Regions
DU	Deakin University
GRDC	Grains Research and Development Corporation
GVIA	Gwydir Valley Irrigators Association
HIA	Hort Innovation
HOC	House of Communication
MLA	Meat and Livestock Australia
NSW DPI	NSW Department of Primary Industries
NTDPIR	Northern Territory Department of Primary Industries and Resources
QDAF	Queensland Department of Agriculture and Fisheries
QUT	Queensland University of Technology
SAC	Sustainable Apparel Coalition
SAI	Sustainable Agriculture Initiative
SRA	Sugar Research Australia
UL	University of Leeds
UMELB	University of Melbourne
UNE	University of New England
UQ	University of Queensland
USQ	University of Southern Queensland
USQ NCEA	University of Southern Queensland National Centre for Engineering in Agriculture
USYD	University of Sydney
UTAS	University of Tasmania
UTS	University of Technology, Sydney
UWS	University of Western Sydney