



**CRDC**

**PERFORMANCE  
REPORT  
2018–19**





# About CRDC & the Australian cotton industry

The Cotton Research and Development Corporation (CRDC) leads investment in cotton research, development and extension (RD&E) for the Australian cotton industry. A partnership between the Australian Government and cotton growers, CRDC exists to invest in, and deliver outcomes from, world-leading RD&E to benefit Australia’s dynamic cotton industry and the wider community.

We invest in innovation and transformative technologies to deliver impact, and as an organisation we are ambitious, agile, and adaptive.

Cotton is a major contributor to the economic, environmental and social fabric of rural Australia. The industry’s national exports generate an average of \$1.9 billion in annual revenue, and the industry is a major employer in rural and regional communities.

Despite recent challenging seasonal conditions, the industry continues to go through a period of growth. In recent years, cotton has expanded from its predominate growing base in NSW and QLD to VIC, and commercial trials are underway in the NT and WA. During this year, for the first time in 15 years, a commercial cotton trial crop was harvested in the NT.

RD&E and its resulting innovations are a key driving force behind our industry’s continued success, and CRDC’s purpose is to power the success of Australian cotton through this world-leading RD&E.

## Vision

Powering the success of Australian cotton through world-leading RD&E.

## Mission

Investing in world-leading RD&E to benefit Australia’s dynamic cotton industry.

## Purpose

Outcome statement: Increased economic, social and environmental benefits for the Australian cotton industry and the wider community, by investing in knowledge, innovation and its adoption.

# Our performance report: overview

We have five strategic outcomes that we seek to achieve under our 2018–23 Strategic RD&E Plan – these in turn are the key focus areas in which we invested during 2018–19:

- GOAL 1: Increasing productivity and profitability on Australian cotton farms
- GOAL 2: Improving cotton farming sustainability and value chain competitiveness
- GOAL 3: Building the adaptive capacity of the Australian cotton industry
- ENABLING STRATEGY 1: Strengthening partnerships and adoption
- ENABLING STRATEGY 2: Driving RD&E impact

Our achievements against these outcomes are monitored and evaluated in line with the CRDC Monitoring and Evaluation Framework, and reported annually in the Annual Report, Performance Report and Portfolio Budget Statement.

This Performance Report is a companion document to the CRDC 2018-19 Annual Report. This report is by no means exhaustive, but rather provides a snapshot of the performance of CRDC against these five strategic outcomes during the course of 2018-19. Further details regarding our performance, our significant initiatives, our collaborations and our corporate governance are found in the full Annual Report, available at our website.

In addition, our website and publications, including our CRDC Spotlight magazine and electronic newsletters, and the Australian cotton industry’s extension program, CottonInfo, provide further information on CRDC’s research portfolio and its associated impact.





PROGRESS AGAINST CRDC STRATEGIC R&D PLAN 2018–23

Our Annual Performance Statement

The 2018–19 year marked the first year under the CRDC Strategic RD&E Plan 2018–23. This plan provides an ambitious roadmap for our 2018–23 investments: through this plan, we aim to contribute to creating \$2 billion in additional gross value of cotton production for the benefit of Australian cotton growers and the wider community.

As such, the 2018–19 year marked a crucial year for CRDC. It ensured that the first round of strategic RD&E investments under this plan help set the future direction for the Australian cotton industry – one of innovation and impact through increased commercialisation and digital transformation.

To achieve this, during 2018–19 Australian cotton growers and the Australian Government co-invested \$24.1 million through CRDC into cotton RD&E, across 285 projects and in collaboration with 116 research partners.

The investments were made in the five key areas identified in the Strategic RD&E Plan:

- increasing productivity and profitability on Australian cotton farms
- improving cotton farming sustainability and value chain competitiveness
- building the adaptive capacity of the Australian cotton industry
- strengthening partnerships and adoption
- driving RD&E impact.

This Annual Report outlines progress against these areas in the 2018–19 year.

Our progress is measured, and performance analysed, through evaluation techniques outlined in the CRDC Monitoring and Evaluation Framework and targets set in the Strategic Plan. The green, amber and red traffic light system is used to track overall performance against the CRDC Strategic Plan.

- The specific measure has been achieved.
- On target to deliver against the measure.
- Not on target to deliver against the measure.

Further details about our performance aligned with the Strategic Plan and our key focus areas are outlined in Section 4 of the CRDC 2018-19 Annual Report.

Strategic Plan Measures	Result	2018-19 Targets	2018–19 progress comments
<b>Increase productivity and profitability on cotton farms.</b> Improved yield and quality.		Annual increase of 0.35 bales per hectare for irrigated cotton and 0.14 bales per hectare for dryland cotton.	Irrigated cotton yields are stable while dryland crop yields have been reduced as a result of extended dry conditions. Crop quality, however, has been above average.
<b>Improve cotton farming sustainability and value chain competitiveness.</b> CRDC collaborates in global leadership for sustainability initiatives.		Participates in six global initiatives.	CRDC currently participates in five global initiatives: Expert Panel on the Social, Economic and Environmental Performance of Cotton; Sustainable Agriculture Initiative; Sustainable Apparel Coalition; Better Cotton Initiative 'Project Delta'; and Cotton2040.
<b>Build adaptive capacity of the cotton industry.</b> Science and innovation capacity is strengthened and strategically fit for a digital future.		10+ new/early career researchers supported through strategic career pathways.	CRDC supported 15 PhDs and eight early career researchers in 2018–19.
<b>Strengthening partnerships and adoption.</b> Partnerships are strengthened to engage multi-disciplinary and multi-institutional resources.		40 per cent of annual RD&E investments are through cross-sectoral partnerships.	24 per cent of investments in 2018–19 were cross-sectoral.
<b>Driving RD&amp;E impact.</b> CRDC monitors and evaluates RD&E impact.		One RD&E impact report per annum.	CRDC undertook benchmarking of water productivity and assessed investments under the Building Adaptive Capacity program.
The specific measure has been achieved.  On target to deliver against the measure.  Not on target to deliver against the measure.			





# Our investments in RD&E

We use the CRDC Strategic RD&E Plan 2018–23 to guide our investments. Through this Strategic Plan, in 2018–19, we invested to help increase productivity and profitability on Australian cotton farms; improve cotton farming sustainability and value chain competitiveness; build the adaptive capacity of the Australian cotton industry; strengthen partnerships and adoption; and drive RD&E impact.

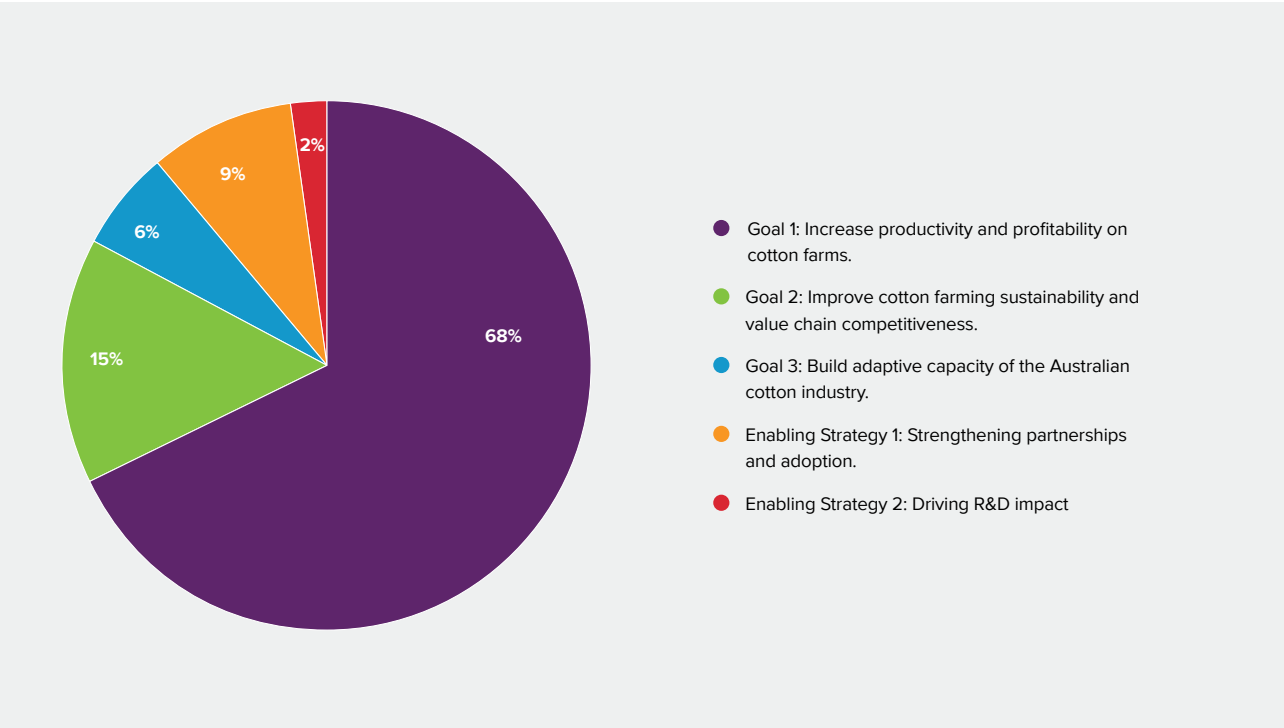
In 2018–19, we invested \$19.8 million in RD&E. Of this, \$7.7 million was invested in new research commencing in 2018–19.

Projects by CRDC program area

CRDC program	Goal 1	Goal 2	Goal 3	Enabling strategy 1	Enabling strategy 2	TOTAL
Number of projects	112	47	70	44	12	285
Program expenditure (\$m)*	\$13.5	\$2.9	\$1.1	\$1.8	\$0.5	\$19.8
Program percentage (of expenditure)	68%	15%	6%	9%	2%	100%

\* Excludes budgeted employee and supplier expenditure and corporate research activities that support R&D planning and adoption. Some percentages have been rounded up or down.

Investment by program



## Case study

# War on waste yields groundbreaking technology

**New research turning waste glass into everyday products could save tens of millions of tonnes of glass from going to landfill every year while providing benefits for cotton growers.**

Drawing inspiration from the ABC TV’s recent War on Waste series, CRDC-supported PhD candidate Rhys Pirie (pictured, front cover) has made a breakthrough on what to do to with waste glass, and it is good news for farmers.

Rhys was awarded the CRDC-supported ABARES Science and Innovation Award for Young People in Agriculture, plus the Minister’s Award, in 2018 for his focus on re-purposing organic wastes (such as livestock manure, biosolids and cotton gin trash) as fertilisers and soil ameliorants. His aim is to help growers optimise resource efficiency and improve their environmental impact.

Through his CRDC-supported PhD studies, Rhys – together with Professor Damien Batstone of the University of Queensland (UQ) – has developed a method to extract liquid silicate from waste glass that can be used to make thousands of products, including fertiliser.

“This glass-processing technology has the potential to revolutionise multiple supply chains. Rhys’s work is a wonderful example of the unexpected but exciting turns that PhD studies can take,” says CRDC’s General Manager for R&D Investment, Allan Williams.

Rhys has since been recognised as the Young Innovator of the Year at one of the world’s premier conferences for research & innovation: the first time an Australian has won the Falling Walls Lab award.

For more: read the full article in the Winter 2019 edition of CRDC’s Spotlight magazine: [www.crdc.com.au/spotlight](http://www.crdc.com.au/spotlight).





# Our 2018–19 investment and impact

## The Australian cotton industry in 2018–19



**280,000 hectares**

planted into irrigated and dryland cotton, down 44 per cent on 2017–18

(Source: ABARES)



**2.2 million bales**

produced by the Australian cotton industry, down from 4.5 million the previous year



**9.5 bales per hectare**

the average yield for the 2018–19 crop, compared to 10.3 bales per hectare in 2017–18

## CRDC impact

**\$2 billion**

The contribution CRDC's Strategic Plan 2018–23 aims to make towards the additional gross value of cotton production through our investments in RD&E.



**82 per cent**  
the number of growers participating in myBMP.



**24 per cent**  
the percentage of CRDC research that is in cross-sectoral RD&E.



**5-10 per cent**  
the benefit in water-use efficiency of the use of the CRDC commercialised algorithm with canopy temperature sensors. In 2018-19, the sensors became commercially available through Goanna Ag.

## CRDC's investment in 2018-19



**116 research partners**



**285 RD&E projects**



**1 new Executive Director** driving a new strategic direction for CRDC



**\$24.1 million**  
CRDC's investment in cotton RD&E on behalf of cotton growers and the Australian Government

### 5 – KEY PROGRAM AREAS



Increasing productivity and profitability on Australian cotton farms,



Improving cotton farming sustainability and value chain competitiveness,



Building the adaptive capacity of the Australian cotton industry,



Strengthening partnerships and adoption, and



Driving RD&E impact.

**3 major collaborative projects** driven by CRDC

- More Profit from Nitrogen
- Cotton Landcare Tech-Innovations 2021
- Australian Agriculture: Growing a Digital Future

**2460**

the number of delegates at the 2018 Australian Cotton Conference: a new attendance record! The conference showcases the Australian cotton industry and CRDC-funded RD&E.

**1st commercial cotton trial** harvested in the NT in 15 years, supported by CRDC-led research.



**46 per cent**  
the number of speakers at the 2018 Australian Cotton Conference who were supported in some way by CRDC – be it as a Director, team member or supported researcher.



**100 per cent**  
the number of cotton growers who source information from CottonInfo.



**1.1 million**  
the number of collective views that the 180 CRDC-supported best practice videos have amassed on the CottonInfo YouTube channel as at June 2019.

**Cotton Research and Development Corporation**

2 Lloyd Street (PO Box 282)

Narrabri NSW 2390

Phone: 02 6792 4088

Email: [crdc@crdc.com.au](mailto:crdc@crdc.com.au)

Website: [www.crdc.com.au](http://www.crdc.com.au)

ABN: 71 054 238 316

© Cotton Research and Development Corporation 2019

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without written permission from the Cotton Research and Development Corporation (CRDC). Enquiries concerning reproduction and publishing rights should be addressed to the CRDC Executive Director.

If you are interested in learning more about CRDC and our investments, visit our website [www.crdc.com.au](http://www.crdc.com.au) or subscribe to our quarterly magazine, *Spotlight*.

All photos and images in this report were sourced principally from CRDC, project researchers or research institutions. Image front cover: The University of Queensland.

