CRDC: INVESTING IN COTTON INNOVATION TO DELIVER IMPACT

CRDC invests in world-leading research, development and extension (RD&E) to benefit Australia’s dynamic cotton industry, and the wider community. A partnership between the Commonwealth Government and cotton growers, we invest in innovation and transformative technologies to deliver impact. RD&E, and its resulting innovations, are a key driving force behind the cotton industry’s continued success.

During the five years from 2013-18, CRDC delivered outcomes in cotton RD&E for the Australian cotton industry. This summary outlines our investments and achievements during this time - as guided by the five year Strategic RD&E Plan 2013-18.

Under this Plan, we strategically invested in RD&E in five core priority areas - farmers, industry, customers, people, and performance - to drive forward the profitability, competitiveness and sustainability of the cotton industry for the benefit of growers and the wider community.

Over the course of these five years, we invested $95.6 million into 862 RD&E projects in collaboration with 205 research partners across these five priority areas, in close collaboration with the cotton industry and government.

This portfolio of projects was far reaching - we invested in RD&E that sought to ‘protect and defend’ our production base from pest threats; increase growers’ productivity while ensuring resource-use efficiency; enhance cotton’s product performance – to drive forward the profitability, competitiveness and sustainability of the cotton industry for the benefit of growers and the wider community.

In this report, we bring you the key highlights and impacts achieved by CRDC and our investments during the 2013-18 period.

CRDC’S INVESTMENT: 2013-18

$95.6 million – CRDC’s investment in cotton RD&E on behalf of cotton growers and the Australian Government

PERFORMANCE AGAINST THE STRATEGIC PLAN MEASURES

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<th>Strategic Plan Measure</th>
<th>Result</th>
<th>Comments</th>
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<td>Farmers: Cotton is profitable and consistently farmers’ crop of choice</td>
<td>Average annual increase in yield for the five years of the 2013-2018 strategic plan was maintained at 3 per cent per hectare per year despite reduced yields in 2016-17. The compounding annual growth remained at just above 2 per cent for the five-year period.</td>
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<td>Industry: The Australian cotton industry is the global leader in sustainable agriculture</td>
<td>The Australian cotton industry was the first agricultural industry in Australia to develop and document its performance against specific environmental, economic and social sustainability indicators. The 2014 Australian Grown Cotton Sustainability Report developed and benchmarked 45 key sustainability indicators for the Australian cotton industry. The cotton industry is committed to ongoing sustainability reporting, and with significant CRDC support has developed a range of new sustainability targets. Benchmarks as at June 2018 for these targets are:</td>
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<td>Customers: The Australian cotton industry captures the full value of its products</td>
<td>CRDC invested in a number of projects to investigate and improve the quality of Australian cotton, and while successful, environmental impacts such as rainfall at harvest can reduce the overall quality of Australian cotton resulting in Australia maintaining its premium rather than doubling the premium. While maintaining efforts to improve fibre quality and develop systems that alleviate risk to quality, CRDC has furthered its research efforts to develop novel high-value uses for Australian cotton. These approaches are longer term initiatives and will make Australian cotton more competitive with man-made fibres.</td>
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<td>People: Capable and connected people driving the cotton industry</td>
<td>CRDC and Cotton Australia collaborated to deliver the industry’s first Workforce Development Strategy in 2015-16, and in 2016-17 the strategy resulted in $14.7 million in vocational training funding from the NSW Government being made available through Cotton Australia for NSW cotton and grains industries. In addition, CRDC has continued support for 10 industry leadership and development programs. A study published by CRDC in 2017 to better understand and build the role of women’s participation in the Australian cotton industry determined that 88 per cent of women in an industry role and 86 per cent of women on cotton farms have a diploma, degree or higher qualification, with 71 per cent involved in making major business decisions.</td>
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<td>Performance: Measured performance of the Australian cotton industry and its RD&amp;E drives continuous improvement</td>
<td>CRDC’s RD&amp;E underpins the industry’s best management practices program, myBMP, with industry participation in the program now at 78 per cent. In addition, CRDC’s monitoring and evaluation (M&amp;E) Framework enables ongoing performance reporting. In 2017-18, CRDC continued to measure its performance and that of the industry through M&amp;E, including a survey of growers, a survey of consultants, an economic analysis of the industry’s performance, a longitudinal study of investments, and impact assessments of specific project clusters.</td>
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KEY: ● The measure has been achieved ● We did not fully achieve this target ● The target was not achieved
MAJOR IMPACTS OF OUR INVESTMENT

3% average growth in yield per hectare over the five years from 2013-18, achieving our Strategic Plan target.

4 NEW PRODUCTS - successfully commercialised from CRDC-supported R&D: Sera X by Innovate Ag in 2016-17, and CottonGrip, cotton contamination detection sensors for gins, and algorithms for stress-time thresholds (for on-farm canopy temperature sensors) by CSIRO in 2017-18.

35% the percentage of cotton growers who hosted a research trial on their farms. These growers contribute an average of 19 hours and $5500 towards these trials.

$16.7 million the total funds managed by CRDC across seven major grant projects from 2013-18: leveraging our investment to deliver greater impact for cotton growers.

$395,000 invested in by CRDC into 45 local projects run 2013-18 through the CRDC Grassroots Grants program, supporting local RD&E initiatives.

$20.3 BILLION - the amount by which the gross value of all agricultural production could increase through the implementation of digital agriculture across all Aust production sectors - a 25 per cent increase on 2014. This is a key finding of the 2016-18 Accelerating Precision to Decision Agriculture final report, launched by the Minister for Agriculture & Water Resources, the Hon. David Littleproud MP.

$8.3 in benefit to growers for every $1 invested by growers and the Government through CRDC into this RD&E.

$9.10 in benefit to growers for every $1 invested by growers and the Government through CRDC into this RD&E.

HRMS: Herbicide Resistance Management Strategy (HRMS) launched in 2014. 65% of cotton hectares now managed using HRMS’s 24/7 weed control approach.

New partnerships with start-up companies
Partnerships with Pollenizer, XLab, Startup Catalyst, The Gate. MT bootcamps and Flurosat were established in 2013-18 to provide pathways for cotton industry disruptors and entrepreneurs.

Eighty-three percent of cotton growers follow the Insecticide Resistance Management Strategy (RMP) by the APVMA to support its commercial release in 2016-17. This resulted in $350,000 in funding from the NSW Government for cotton growers to implement best practices for managing insecticide resistance.

Cotton's first resilience assessment outlined the cotton industry's resilience and preparedness to major expected and unexpected future changes, events and shocks, such as drought and market fluctuations.

3 MAJOR COLLABORATIVE CROSS-RDC PROJECTS - driven by CRDC under the Rural R&D for Profit program: Smarter Irrigation for Profit, More Profit from Nitrogen, and Accelerating Precision Agriculture to Decision Agriculture - the first project to involve all 15 Research and Development Corporations.

$7.8 million CRDC's early-stage research funding in the QLD Central Highlands has led to benefit to growers for every $1 invested by growers and the Government through CRDC into this RD&E.

$8.5 MILLION – invested by CRDC in innovative projects under the ‘blue sky’ Cotton Futures theme from 2014-18. These included innovations in gin trash, polymers, new technologies to measure water stress and technologies enabled by robotics to improve weed control.

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