

from our research investments, the outcomes need to be rapidly extended and adopted, and where relevant, commercialised.

In this edition of the *Australian Cottongrower*, we take a look at some of the highlights of the 2018–19 year.

CRDC RD&E achievements 2018–19

Ambitious new Strategic RD&E Plan

Our new strategic plan, the CRDC Strategic RD&E Plan 2018–23, began on July 1, 2018, following 15 months of development in close collaboration with the industry. The Strategic Plan provides a high-level overview of our strategic direction for the five years, and will guide all of CRDC's investments during this time. The aim of the plan is to contribute to creating \$2 billion in additional gross value of cotton production through our investments in RD&E.

Delivering impacts for cotton growers

We conducted an analysis of the benefits delivered to cotton growers and the wider sector under our previous strategic plan, which ran from 2013 to 2018. Major impacts of our investment during this time included:

- The achievement of our target – a three per cent average growth in yield per hectare over the five years;
- The commercialisation of four new products (Sero X, CottonSpec, cotton contamination sensors for gins, and algorithms for stress-time thresholds);
- An increase in the number of growers participating in *myBMP* from 40 to 78 per cent; and,
- A benefit-cost ratio of 8.3:1 for our investment in water-use efficiency RD&E – \$8.30 in benefit to growers for every \$1 invested in RD&E.

CRDC-supported innovation commercialised: algorithm for canopy temperature sensors

In 2017–18, CRDC successfully commercialised three new products, including algorithms for stress-time thresholds, with research partner CSIRO. At the time, we reported that using these algorithms with canopy temperature sensors could result in a 5–10 per cent benefit in water-use efficiency in climatically challenging seasons. In 2018–19, the canopy temperature sensors became commercially available through Goanna Ag, allowing cotton growers to refine irrigation scheduling, saving water while maintaining yields. The sensors monitor cotton plants in real time, allowing growers to make decisions in real time about irrigation scheduling before stress levels affect yield.

New leadership team to drive CRDC forward

The CRDC team said farewell to longstanding Executive Director (ED), Bruce Finney, during 2018–19, as he stepped down from the role in January 2019 following 14 years at the helm. Then CRDC General Manager, R&D Investment, Dr Ian Taylor, was appointed Acting ED in January, and was formally appointed to the ED role in March. His previous position was subsequently filled by CRDC R&D Manager Allan Williams, who officially took up the General Manager, R&D Investment role in June.

Delivery of three major CRDC-led collaborative projects

We have led three major collaborative projects this year – one under the Rural R&D for Profit program *More Profit from Nitrogen*; one under the National Landcare program *Smart Farming Partnership Cotton Landcare Tech-Innovations 2021*; and one collaborative project born out of Rural R&D for Profit but continuing on as an RDC-led collaboration, *Australian Agriculture: Growing a Digital Future* – a follow-on project to *Accelerating Precision Agriculture to Decision Agriculture*.

Research on the agenda at the industry's major event – the Australian Cotton Conference

The 2018 Australian Cotton Conference – proudly supported by CRDC as a founding sponsor – provided a platform to showcase CRDC-supported cotton RD&E to the industry. At the conference, 46 per cent of speakers were supported in some way by CRDC – be it as a Director, team member, or supported researcher. The conference broke attendance records, with 2460 delegates, the largest gathering of industry participants since the event began.

CRDC-supported researchers recognised for contributions

CRDC-supported researchers Dr Joseph Foley, Dr Malcolm Gillies and Dr Alison McCarthy, all of the University of Southern Queensland were recognised for their major contributions to cotton RD&E as co-recipients of the 2018 CSD Researcher of the Year Award, presented at the 2018 Cotton Conference. Drs Foley, Gillies and McCarthy were all integral members of the CRDC-led *Smarter Irrigation for Profit* project team, which found that participating farmers from the dairy, cotton, sugarcane and rice industries could achieve a 10 to 20 per cent improvement in water productivity through adoption of new and existing precision irrigation technologies.

Tracking our water productivity

Early indications from the latest water productivity benchmarking study – supported by CRDC and led by NSW DPI – indicate



Liz Alexander at Cotton Conference. (PHOTO:Mel Jensen)

continual improvement in water-use efficiency in the Australian cotton industry. Early indications have identified that water productivity appears to have slowly increased over the past 10 years, indicating that the industry has achieved steady improvement in yield with less water. On-farm Gross Production Water Use Index (GPWUI) was 1.174 in 2006–07; 1.139 in 2007–08; 1.120 in 2012–13, and is tracking around 1.2 bales/ML for 2017–18.

RD&E supporting continued industry expansion

Despite this season's challenging weather conditions, the Australian cotton industry continues to grow sustainably into both the north and south. In 2018–19, a new CRDC supported pathologist was appointed to southern NSW, to further strengthen the research effort in the south. Meanwhile, in the north, 2017 Researcher of the Year, Steve Yeates, continues his role as cotton development and coordination leader for northern cotton. Growers in the Ord (including CRDC and Cotton Australia-supported Nuffield scholar Luke McKay) are into their second cotton season; and NT growers have harvested their first commercial cotton trial in 15 years.

Building adaptive capacity – support for industry leaders

In addition to 2018 Nuffield scholar Luke McKay, CRDC has also invested in other industry leaders during 2018–19, under the Strategic Plan goal of building adaptive capacity. These include :

- 2019 Nuffield scholar, Emerald cotton grower and Cotton Australia regional manager Renee Anderson (co-supported by Cotton Australia);
- The CRDC supported ABARES 2019 Science and Innovation Award winner, UQ researcher scientist Dr Dean Brookes; and,



Luke McKay, Nuffield Scholar.
(PHOTO: Rourke Walsh Countryman newspaper)

- The latest cohort of Australian Rural Leadership Program participants: Richard Malone and Tim Chaffey (course 24) and Fleur Anderson and John Durham (course 25), in conjunction with Cotton Australia and Auscott Ltd.

Extending R&D outcomes to growers: CottonInfo connecting growers with research

The industry's extension program, CottonInfo, undertook a review in 2018–19, capturing key highlights and achievements from its first six years of operation. The review found that CottonInfo has grown to become a trusted source of information for growers and consultants, with 100 per cent of growers now sourcing information from CottonInfo. Over the past six years, CottonInfo has run nearly 1000 extension activities, with a total 14,000 participants. Of 126 events where intention to change was evaluated, 1600 growers indicated they would change practices as a result of increased awareness or knowledge facilitated by CottonInfo.

Weed management app

A new weed identification mobile app was released in 2018–19, designed to assist growers and advisers in identifying 50 key weed species. Weeds of Australian Cotton was developed as part of a CRDC-supported project led by Dr David Thornby, with input from fellow weeds experts Graham Charles, Jeff Werth and myself. The app specifically includes cotyledon shapes as an important diagnostic characteristic, because weed identification in early growth stages is critical. The app is available to download from the Apple store and Google Play.

You can find more detail in our 2018–19 Annual Report and Performance Report, both of which are available via the publications section of our website: www.crdc.com.au/ publications. You can also find a full list of our current research projects online at www.crdc.com.au/research-development.

Until next time – Ian.



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IT'S NOT AN ORDINARY CONVEYOR... IT'S A WESTFIELD

Cotton industry proud supporters of the leaders of tomorrow

■ By Michael Murray – General Manager, Cotton Australia

It is often said that acts of leadership can take many forms. From bold public displays of conviction, to charismatic conversations, to more subtle acts of listening and encouragement that happen behind the scenes, styles of leadership are molded to the individual.

Within the Australian cotton industry, I am pleased to report our sector is rich with individuals prepared to step forward, carry the torch and lead conversations around what we do and why we do it.

After what has been a challenging year for Aussie farmers and our industry, it is arguably now more important than ever that we need our industry's leaders to guide us forward, to help us to collectively keep the faith and navigate the peaks and troughs of being part of Australian agriculture. Part of that process is about holding the mirror up to ourselves and giving credit where credit is due, but to also answer with brutal honesty the questions we need to address in order for a brighter future to dawn. The other part of that process is about accepting and embracing the fact that we are stronger together, and that through unified team work we can have the greatest impact.

In November, I was pleased to attend Cotton Australia's



Michael Murray.

General Meeting in Sydney. We hold two General Meetings with our member representatives each year, and the occasions are always valuable opportunities for Cotton Australia to converse with grower representatives, to update them on our achievements, and to listen to their questions and comments about our work and consider their feedback.

It was at the meeting that I was again reminded of how lucky the Australian cotton industry is to have so many passionate people, growers and Cotton Australia staff, prepared to represent and lead our sector into the future. While there was acknowledgement from all about the challenges experienced this year, there was an even stronger air of positivity, resilience and determination to bounce back.

I want to acknowledge our member representatives for taking time out of their schedules to come to Sydney and represent their valley's views with the conviction and determination needed to keep our unified industry vision healthy and strong. While Cotton Australia is in regular contact with all growers throughout the year, it is through these meetings with our members that we can collectively discuss and decide on exciting initiatives and areas of focus that will benefit our cotton communities, Australian agriculture, and all in our industry. This process requires leadership, from individuals and as a collective, and it was refreshing to see that spirit alive and well at the meeting.

Cotton Australia is a proud supporter of initiatives that will

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