

Cotton Research Roundup...



An update on the Cotton Research and Development Corporation's latest investments, innovations and impact from Executive Director, Dr Ian Taylor.

Our investments: looking forward at 2020–21 and 2021–22

With only a few weeks remaining until the start of the new financial year, the CRDC research, development and extension (RD&E) investments for the 2020–21 year are now being finalised, with projects starting July 1.

In the meantime, the CRDC investment round for 2021–22 commenced last month with a survey conducted by Cotton Australia, replacing the priority forum that's normally conducted with the Cotton Australia general meeting, due to Covid-19. From here, we'll be developing our Expression of Interest guidelines for the 2021–22 round, and issuing a call in August for researchers to respond.

You can find the full list of our 2020–21 projects online at our website: www.crdc.com.au/publications

Have your say with the grower survey

Understanding you, our growers, is naturally vital to us at CRDC, and our annual grower survey is one of the methods to gain this understanding. The CRDC Grower Survey also gives growers the opportunity to compare their practices to others and gain a greater insight into all aspects of how others view the industry and manage their farms. Most important are the rewards more broadly for industry, as the survey gives you the opportunity, through your responses, to influence research and extension direction and focus.

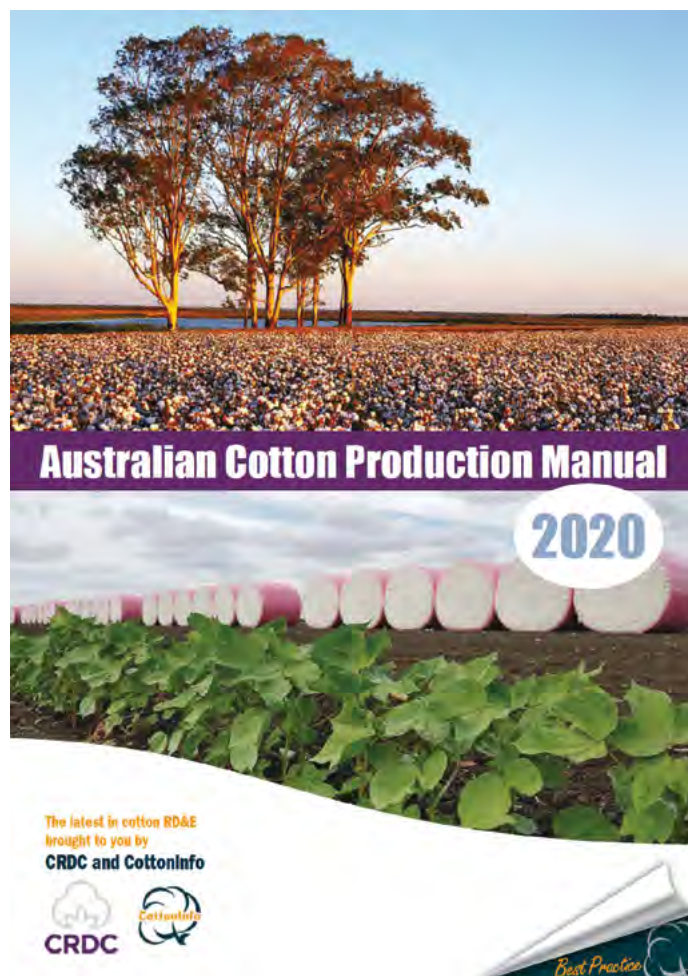
We have worked to make the surveying process quick and simple. This year, for the first time, the survey will be conducted via a quick telephone call – providing some much-needed connection during a time of social-distancing.

The survey results will be available later this year via both our traditional report, and the online interactive digital dashboard we first introduced in 2018. This has been very well received, with hundreds of views from your fellow growers, comparing their own data to that from across the regions.

You can find the full report, and the dashboard, here: [www.crdc.com.au/growerssurvey](http://www.crdc.com.au/growersurvey)

Must-have manual is here

World class RD&E is one reason Australian cotton growers are the best in the world. One of our key publications, updated



annually, collates all this information as an easy to follow manual: the Australian Cotton Production Manual. It's a labour of love for both the CRDC and CottonInfo teams as we bring growers, consultants and crop managers the latest information and science around cotton growing.

We are continually learning new things about how to be the most sustainable and successful cotton producers in the world, and the culmination of this research is found in the manual, along with discussion about important considerations for both productivity and profitability.

Which is why it continues to be an important resource for newcomers to the industry through to the most experienced.

You can grab your copy with your Winter edition of *Spotlight*, or alternatively download it online from our website: www.crdc.com.au/publications

Transforming our cotton industry

Our highly anticipated Australian Cotton Sustainability Report 2019 has been published, following on from the inaugural report published in 2014. The report, co-produced by CRDC and Cotton Australia, tells a positive story of increasing efficiency in the use of resources including water and land. It reveals long term trends that producing a bale of cotton now takes 48 per cent less water, 34 per cent less land, and 97 per cent less insecticide than it did in 1992.

By comparing performance over five-year periods in the industry's most important sustainability areas, the report also highlights areas for improvement, including nitrogen use efficiency and the closely associated increase in greenhouse gas emissions per bale.



The report is focused on eight sustainability topics most important to the industry and our stakeholders. These topics were decided through a process involving a technical review, industry input and external stakeholder consultations.

The report is part of the industry's new PLANET. PEOPLE. PADDOCK. sustainability framework which guides the industry to set ambitious targets, coordinate a whole-of industry strategy to achieve these targets, and engage effectively with stakeholders on actions and progress.

We will now use report data to set five-year targets for 2024 and 2029, along with plans to achieve those targets. We will be consulting with growers and other stakeholders inside and outside the industry on setting the right level of ambition in our sustainability targets. The industry can point to long-term trends of significant improvement in areas it has focused on in the past, and we will draw on this experience to transform our performance in other areas in the future.

To read the full Sustainability Report or learn more about the PLANET. PEOPLE. PADDOCK framework, visit: www.cottonaustralia.com.au/sustainability or www.crdc.com.au/publications.

Giving back to growers through Grassroots

CRDC's annual Grassroots Grants project returns in 2020–21, providing small grants of up to \$10,000 to cotton grower associations (CGAs) to support local projects. Since the program began, 77 projects have been supported, with some \$670,000 going back to local grower organisations.

These small grants can be just what is needed to get on-farm trials, demonstrations or workshops off the ground. They've been used to help growers with agtech queries, address emerging issues such as pests or disease, start on-farm trials and build weather stations. They've even been used to write a book! *A Dam Good Story: 40 years of Irrigation from the Fairbairn Dam*, captured the facts and stories of those involved in the construction of the Fairbairn Dam and the first 40 years of the enormous benefits it has provided irrigators, industries and the community of the Central Highlands of Queensland.

Grant applications for this year open on July 1, and as usual, work on a first-in best dressed basis, so if you or your CGA has a great idea, program, infrastructure or research angle you've been sitting on, now's the time to progress it!

Applications should include a timeline, accurate costings, the likely learning outcomes, and the overall benefits of the project for the industry.

For more information and the application form, please visit: www.crdc.com.au/for-growers/community-grower-support.

Smarter irrigation goes into Phase 2

Irrigation efficiency is set to take another leap forward through Phase 2 of the *Smarter Irrigation for Profit* project.

Phase 2, led by CRDC, kicked off in late 2019. The project is a partnership between the major irrigation industries of cotton, dairy, sugar, rice and grains, plus research organisations and farmer groups. It is building on the success of the initial *Smarter Irrigation for Profit* project, which wound up in 2018. Phase 2 is addressing the challenges of reduced water availability by improving the water productivity of crop and pasture irrigators, through developing new precision irrigation technologies, improving existing technologies and facilitating faster uptake through producer-led demonstration sites.

The project contains 14 sub-projects, covering three components:



Conveyors from 35' to 120'
Engine, PTO or Electric powered
Capacity 60T per hour to 450T per hour
Augers 4", 8", 10", 13" and 16" diameters
Lengths from 26' to 125'
Engine, PTO or Electric drive
Capacity to 630T per hour

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- Development of new irrigation technologies including new sensors, advanced analytics to improve irrigation scheduling and strategies to reduce water storage evaporation;
- Cost effective, practical automated irrigation systems for cotton, rice, sugar and dairy; and,
- A network of 36 farmer-led optimised irrigation sites on commercial farms across Australia.

While the learning and research undertaken across the 14 sub-projects can be shared across industries, which is a feature of the projects, there are also cotton-specific projects. These will cover areas such as:

- Utilising plant-based sensing to optimise irrigation strategies;
- Development of solutions to reduce evaporation from water storages;
- Increasing the adoption of automated irrigation technologies;
- Precise real-time automated cotton irrigation for improved water productivity;
- Development of a whole-of-farm scale gravity fed irrigation management system with the aim of increasing on farm water use efficiency;
- Demonstration of the application of the latest digital technologies for precise automated irrigation in the Gwydir valley; and,
- Improving the science of water footprinting methods to make them more applicable for Australian agriculture.

Smarter Irrigation for Profit Phase 2 is funded by the Australian Government Department of Agriculture, Water and the Environment, as part of its Rural R&D for Profit program, round four, in conjunction with CRDC, Dairy Australia, Sugar Research Australia, GRDC, AgriFutures Australia, CSIRO,

University of Melbourne, University of Southern Queensland, Deakin University, Tasmanian Institute of Agriculture, NSW DPI, Agriculture Victoria and the Gwydir Valley Irrigators Association. Supporting partners include farmer groups and commercial irrigation providers.

Meanwhile, CRDC and the University of Southern Queensland are collaborating to develop and deploy irrigation technologies produced through the *Smarter Irrigation for Profit Phase 1* suite of projects. Expressions of interest are being sought from commercial partners who wish to access these technologies to further develop them and provide commercial context/deployment options.

Expression of interest close June 15.

For further information on the *Smarter Irrigation for Profit Phase 2* program or Phase 1 EOLs, please visit: www.crdc.com.au/smarter-irrigation-phase-2

Looking to broaden acres in Northern Australia

A \$1.4 million research program for Northern Australia, supported by CRDC, was announced earlier this year to trial high value crops such as cotton with potential rotation crops. The two-year *Potential for broadacre cropping in the Northern Territory* project is being co-funded by the Cooperative Research Centre for Developing Northern Australia (CRCNA), CRDC, GRDC and 14 industry partners. It's the largest collaboration to date for the CRCNA.

Researchers from the Northern Territory Department of Primary Industry and Resources will lead a project team from QLD DAF, CSIRO, universities, natural resource groups, industry associations, seed distributors and producers from across the Territory. This project will collate historical broadacre cropping data, natural resource information and an understanding of market opportunities to support the development of viable broadacre cropping systems in the NT.

Never lose underwear in the paddock again!

In the name of building healthier soils, the CottonInfo team is once again inviting you to soil your undies! This fun soil science experiment lets you see how healthy your soil is and share your experiences through a new, although once soiled, old undie tracking map.

To participate simply contact your local CottonInfo Regional Extension Officer to request a pair of cotton undies. Bury your undies in topsoil for two months and then check the level of decomposition. If there's not much left you have good biological activity, which indicates healthy soil.

Experiments at the University of New England (UNE), run by soil scientist Dr Oliver Knox, who heads the UNE Cotton Hub and oversees the experiment as CottonInfo's soil health technical lead, show there are a range of cellulolytic enzymes involved in the breakdown of cotton and that these enzymes come from a range of soil microbial organisms.

If land managers bury several pairs of pants around a farm they can start to consider if system management, soil types or land use areas show differences in their microbial activity.

The #soilyourundies map allows you to record your soiled undies for all to see and compare results with others. It's found on the CottonInfo website, with further information about your experiments.

For more information about #soilyourundies and the new interactive map, visit: www.cottoninfo.com.au/soilyourundies



Soil your undies.