



Advancing Australian Cotton

12 December 2019

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Department of Agriculture

Electronically: online submission form

Inquiry: Modernising the RDC system

Dear Madam or Sir,

Introduction

Cotton Australia is the peak body that represents the interests of Australia's 1,400 cotton growers supporting about 1,200 cotton farming families in NSW, Queensland and now into Victoria.

While our production varies significantly year-to-year, dependent on rainfall and water availability, our industry is worth on average \$1.5 billion to \$2 billion in annual export earnings.

A key responsibility for Cotton Australia is advising the Cotton Research and Development Corporation (CRDC) on industry research and development priorities as the Representative Organisation (RO) under the PIRD Act (1989). This is a role that both Cotton Australia and CRDC take seriously. Whether it is due to our legal responsibility, or simply the proactive nature of our industry we believe this genuine input from growers is one of the keys to our industries success.

For that reason Cotton Australia is taking this opportunity to make a submission complementary to the National Farmers' Federation (NFF), which as an active member we also endorse, to focus on the unique attributes of the cotton industry's RO and Research and Development Corporation (RDC) relationship. Cotton Australia also endorses the submission being separately provided by the CRDC.

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Executive Summary

In response to the discussion paper questions Cotton Australia recommends:

1. *RDC overheads are capped on a rolling basis reflecting income fluctuations between years. A percentage cap for example would be a reasonable starting point to canvass in further consultation with industry to determine a target*
2. *A combination of shared and standardised KPIs, no more than eight in total and designed using common data and common methods, are developed to track RDC performance.*
3. *Regarding cross sectoral research:*
 - a. *maintaining a RDC framework that recognise and cater for differing regional research needs;*
 - b. *for this expertise to be harnessed into strategic teams drawn from each of the RDCs to collaboratively tackle an ongoing program theme focussed on cross sectoral issues; and*
 - c. *a dedicated budget line is established by each RDC which obliges them to spend so much on cross sector research projects (but with the RDC retaining the ability to identify the appropriate partners, including from the commercial/private sector, for the collaboration) and these funds pooled as per a new requirement of the hypothecated levy funds.*
4. *The NFF and other ROs (or industry representative organisations,) as appropriate should join the Council of RDCs on behalf of these industry organisations.*
5. *The NFF nominated set of principles for levy payer consultation be adopted.*
6. *That the balance of high and low risk investment be up to the RDCs' discretion and should not be prescribed.*
7. *Each RDC in conjunction with its industry representative body develop a commercial/private sector engagement plan.*
8. *There are uniform performance metrics across RDCs.*
9. *These metrics include a metric scrutinising how well the RDC engagement process ensures every grower can give their input.*
10. *The Department of Agriculture holds a meeting with all the plant based industry representative bodies, every six months to discuss RDC performance and sector issues.*
11. *A principled based approach adoption framework or pathway at a strategic level rather than on a program basis with an aim to increase adoption of R&D and encourage productivity and profitability across the sector.*
12. *Most strongly, that research for policy development with the objective of industry improvement should be a priority for RDCs.*
13. *RDCs conduct research that informs policy and that they are not included in advocacy to government. They should however be able to advocate for their industry.*

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Responses to Questions:

1) Is the current RDC system delivering value for levy payers and taxpayers? In what ways?

Cotton Australia agrees with the NFF's view that a commodity based structure acknowledges the differences between the production systems for these agricultural products and their growing regions.

Specific to the cotton industry the 2018-19 year for example saw cotton growers and the Government co-invest \$24.3million into cotton research development and extension (RD&E) through CRDC, across 300 projects in collaboration with over 100 research partners.¹

This approach is successful due to the strong relationship Cotton Australia as RO has with the CRDC and in turn the strong relationship our industry's RDC has with the engaged research partners. Research partners benefit from having clearly set project terms within their contracts and are obliged to deliver against key performance indicators that match up against the research priorities of the CRDC Strategic RD&E Plan.

Importantly by the cotton industry taking this unique approach the outcomes have collectively built a strong track record of production efficiencies. Our research investment has delivered:

-) Improved water use efficiency - the industry grows almost twice as much cotton per megalitre of water than in 1992.
-) Less pesticides - there has been a 95% reduction in insecticide use since 1992.
-) Increased productivity gains of approx. 50% directly from new plant varieties.
-) Increased average annual yield of 3% per year.

RDC Structures

2) What are some of the benefits of keeping the same number of RDCs?

3) What are some of the benefits of changing the number of RDCs?

These achievements have been realised despite the cotton industry being one of the smallest RDCs in terms of co-invested research budget and number of levy paying growers. In fact it has been the 'compact' nature of our industry that has been a strength in itself.

¹ Cotton Research & Development Corporation (2019) Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019 Submission response.

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Some refinement is always prudent and a constructive conversation about ways of modernising the RDCs is welcomed. For instance there might be smarter solutions and arrangements to streamline back office functions across the RDCs regarding administration, finance and human resources. To do so would need investment in the right systems and software.

Cross Sectoral Issues

4) What are some of the cross-sectoral issues being faced by the wider agricultural sector?

We are an industry that invests in research and development as a means to achieve productivity gains and ongoing profitability of our industry. This investment is guided by the CRDC’s five yearly Strategic RD&E Plans. The current 2018-23 Plan, developed in consultation with Cotton Australia, has five key focal areas of investment, see the following table.

These five focal areas also reflect the cross sectoral issues being faced by the wider agricultural sector. For example the NFF’s “2030 Roadmap” has six ‘Megatrends’ which in turn also complement those identified by EY’s “Agricultural Innovation – A National Approach to Grow Australia’s Future”:

Table: Cross sectoral issues addressed by the CRDC’s Strategic RD&E Plan

CRDC’s Strategic RD&E Plan	NFF Megatrend	EY Megatrend
Increasing productivity and profitability on Australian cotton farms	Unprecedented demand	Global demand for food and fibre products
Strengthening partnerships and adoptions	Heightened expectations	Increasing Consumer expectations
Driving RD&E impact	Disruptive technology	Increasing competition for natural resources
Building the adaptive capacity of the Australian cotton industry	Responding to climate change	Increased variability and volatility
Improving cotton farming sustainability and value chain competitiveness	Consolidating communities	Embrace non-traditional players
	Fierce new competition	Digital disruption
		Clear understanding of value proposition

The NFF also highlights some additional, more specific cross sectoral issues, such as water use efficiency, biosecurity and soil quality. These issues are faced by all parts of the agricultural sector, including cotton.

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RDC Efficiency

There needs to be an open process for determining a limited range of key performance indicators (KPIs) to compare across the agricultural sector RDCs. Of particular interest to Cotton Australia is ensuring the maximum amount of levy funds are directed to research and extension. An example would be to have a KPI which sets the upper limit of expenditure on overheads. Recognising the fluctuating nature between harvest seasons, a hard percentage basis may not be practical and a rolling average more suited. A percentage cap for example would be a reasonable starting point to canvass in further consultation with industry to determine a target.

Previously, there has been a number of collaborative research projects targeting these issues, such as the “Rural R&D for Profit program: Smarter Irrigation for Profit”, however the instigation of such collaboration has been ad hoc rather than part of an agricultural sector wide initiative/program theme to collaborate in this manner. We have observed when such collaboration has occurred it has generally been led by one RDC as the lead research organisation. This risks placing a huge administrative burden on that one RDC to manage large collaborative projects that need to be delivered across a broad scope of industries.

Cotton Australia notes that other agricultural industries hold concerns about the cost to operate (administrative cost compared to investments), such as the overheads for many of their RDC’s being too high. There are also concerns some of the larger RDCs may be creating specific projects to employ and hide staff numbers. Establishing a number of comparison KPIs across the RDCs would help to document and compare RDC efficiency.

Cotton Australia therefore recommends:

- 1. that RDC overheads are capped on a rolling basis reflecting income fluctuations between years. A percentage cap for example would be a reasonable starting point to canvass in further consultation with industry to determine a target.*
- 2. a combination of shared and standardised KPIs, no more than eight in total and designed using common data and common methods, are developed to track RDC performance*

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Flexibility for cross sectoral research to deliver targeted extension

- 5) How can RDCs increase collaboration to ensure better investment in, and returns from, cross-sectoral, transformative and public good research?
- 6) What are the cultural changes necessary in RDCs to achieve a modern fit-for-purpose RDC system?
- 7) What other ways are there for increasing investment in cross-sectoral, transformative and public good research?

Cotton Australia recognises the power of the RDCs collaborating on cross sector issues, each providing a specialist lens to the industry wide challenge being examined. Yet nuances between agricultural sectors will determine how uniform or tailored the resulting extension and adoption work needs to be. The “Accelerating Precision to Decision Agriculture (P2D)” project is a case in point. It involved all 15 RDCs and looked at what was required in terms of data sets, data communication systems and legal frameworks to facilitate digital technology for Australian agriculture.

The cross sector project confirmed that secure and reliable internet connectivity is fundamental to agriculture becoming digital and in turn for Australian agriculture to stay globally competitive². However, it also documented that each of the 15 agriculture sectors were at different levels of adoption; cotton being the biggest adopter of digital agriculture technologies to improve productivity³. Hence the adoption framework for each sector has to be designed to match these specific needs, thereby facilitating a true and accurate value proposition.

In Cotton Australia’s view the success of the P2D collaboration is grounds for an ongoing research program theme focussed on cross sectoral issues that brings each of the RDCs together. The current legislation enshrines the proportional spilt of levies hypothecated to a specific purpose such as R&D, the definition of ‘specific purpose’ should also include collaborative projects dealing with cross sector issues. That is, create a requirement that each year a dedicated portion of hypothecated levy funds is put to such work.

As to how these are funded, Cotton Australia is able to suggest two simple models:

-) Funds are committed, and pooled, then expended on the recommendation of a cross-sectoral board, with the actual management of the funds carried out by an existing RDC such as Agrifutures.
-) Each RDC has to set aside a certain percentage of funds for cross-sectoral support, and then a find their own partners (say minimum of three RDCs) to jointly fund agreed research.

² Leonard, E., Rainbow, R., Trindall, J., Baker, I., Barry, S., Darragh, L., Zhang, A. (2017). Accelerating precision agriculture to decision agriculture: Enabling digital agriculture in Australia. Cotton Research and Development.

³ The unconstrained implementation of precision agriculture would lift the gross value of cotton production by almost 30% (or an increase in value of \$394m on 14-15 levels).

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Cotton Australia therefore strongly recommends:

-) 3a. maintaining a RDC framework that recognise and cater for differing regional research needs;
-) 3b. for this expertise to be harnessed into strategic teams drawn from each of the RDCs to collaboratively tackle an ongoing program theme focussed on cross sectoral issues; and
-) 3c. a dedicated budget line is established by each RDC which obliges them to spend so much on cross sector research projects (but with the RDC retaining the ability to identify the appropriate partners, including from the commercial/private sector, for the collaboration) and these funds pooled as per a new requirement of the hypothecated levy funds.

Cotton levy payer and RO involvement

8) What is the best way for RDCs to engage with levy payers to inform investment decisions?

In Cotton Australia's view levy payer engagement is critical. We understand that with some RDCs, growers feel they can't have a say, it is not the case for our sector. In fact as the cotton industry's last stakeholder engagement survey in 2016 found satisfaction in relation to:

-) engagement being 8.3 out of 10;
-) partnerships being 8.2 out of 10; and
-) the CRDC to being a trusted organisation being 8.7 out of 10.

The approach used by the cotton industry capitalises on the small number of growers to create a truly collaborative approach to the CRDC's annual investment. Cotton Australia members are cotton industry organisations, including grower associations that nominate 'member representatives' to participate in working groups or 'research advisory panels'. Under an established process the panels meet twice a year with the key outcomes being:

-) advising on potential research topics by considering the priorities established by the CRDC Strategic RD&E Plan to identify gaps and opportunities for new research.
-) reviewing the research proposals that have been submitted in response to CRDC's expression of interest process. Their consolidated advice is provided to the CRDC Board who have the final decision-making authority.
-) additionally, grower surveys are conducted annually to further establish and validate grower research priorities.

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This interactive approach has built a strong relationship between Cotton Australia members and the CRDC. At the same time our industry's RDC works to maintain strong working relations with the resulting engaged research partners. A key to this approach is having research partner contracts with clear project terms and clear key performance indicators that match up against the research priorities of the CRDC's Strategic RD&E Plan.

Hence based on the success of the cotton industry's construction relationship with its RDC, it is Cotton Australia's view that the Council of RDCs would benefit by each RDC having at least one industry representative body with them at these Council meetings.

Cotton Australia therefore recommends:

- 4. The NFF and other ROs (or industry representative organisations) as appropriate should join the Council of RDCs on behalf of these industry organisations.*

Furthermore, for all RDCs to enjoy such a productive interaction with ROs, Cotton Australia recommends:

- 5. the NFF nominated set of principles for levy payer consultation be adopted:*
 -) Development of a clear definition of effective consultation and distinguishing consultation from engagement.*
 -) Identification of levy payers (or categories of levy payers) and the role they will play in the investment decision process.*
 -) Engagement throughout the investment process on a strategic not a programmatic basis.*
 -) Seeking opportunities to engage with levy payers in order promote an investment culture.*
 -) Clear communication tailored to their specific needs throughout the decision process.*
 -) Seeking and using levy payer feedback on the investment process for effective learning and continuous improvement.*

We also support the NFF's observations about the importance of bolstering cross sectoral collaboration, acknowledging this does come with challenges given the complexity and maturity of the overall system.

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RDC Investment

- 9) How can we encourage increased investment in the RDC system from the private sector and international partners?
- 10) How can we form stronger linkages between the RDC system and the food value chain?
- 11) What changes might encourage improved RDC collaboration with the private sector, including those outside the agricultural sector?

From the cotton industry's perspective private sector funding and international partners have delivered a range of benefits to the cotton industry. One example is demonstrated by the working relationship with Bayer and the genetically modified Bollgard®3 cotton variety⁴.

In that respect the CRDC and Cotton Australia are not shy in looking for additional investment dollars. What is possibly providing a constraint for new relations is a perceived lack of financial reward for the investment, such as tax concessions⁵. Similarly it could just be the size of the Australian market (too small) in comparison to the global investment in more populous countries⁶.

For agricultural technology or service companies, they like universities invest in research as part and parcel of their operation. For those further along the fibre value chain it may be more the case of creating the opportunities to interact and problem solve such as 'incubator' models and innovation hubs. The initiative "Sprout X"⁷ is a case in point where potential investors are 'exposed' to those closer to the farm gate. Similarly Agrifutures "evokeAG" which brings together players "from across the agrifood technology and related research ecosystem.... to showcase new technologies and innovative ideas to increase farm gate profitability"⁸.

Cotton Australia therefore recommends:

6. *That the balance of high and low risk investment be up to the RDCs' discretion and should not be prescribed.*

Certainly having uniform performance metrics across RDCs covering both operational efficiency and research outcome/benefit would reaffirm to potential investors the value for money their dollars and expertise would bring.

⁴ <https://www.queenslandcountrylife.com.au/story/4245922/bollgard-3-dominates-aust-cotton-crop/>

⁵ Austn Farm Institute Insights Vol 15(1) Feb 2018 p3 "Financial incentives such as the R&D tax concessions were important for smaller companies and welcomed by larger firms".

⁶ Ibid. "Market size, global opportunity and applicability of the research given the diverse nature and scale of agriculture within Aust. This affects the opportunity to obtain a return on investment given the costs in undertaking the R&D". See also AFI (2017) "Enhancing Private-Sector Investment in Agricultural R,D&E in Australia".

⁷ <https://sproutx.com.au/>

⁸ <https://haveyoursay.agriculture.gov.au/biosecurity-innovation/stories/agrifutures-evokeag>

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Additionally the Department of Agriculture needs to have stronger engagement with the industry representative bodies to understand the nuances of their respective sectors. Furthermore, it should be the Department of Agriculture and industry representative bodies guiding RDCs. It also imperative that the process ensures every grower can have input.

Currently no meetings are held by the Department with the industry representative body in relation to the relevant RDC, rather these occur solely with the RDC. In Cotton Australia's view, as a joint investor in the RDC levies, Department decision-making needs to include the growers via their industry representative body. Also that these occur prior to any RDC discussion so that the Department-grower outcomes then inform the RDC discussions.

The Department holding a meeting with all the plant based industries represented every six months would help resolve this situation. Apart from discussing RDC performance, it would build a partnership between the industry representative bodies and the Department plus provide a conduit for RDC guidance as well as feedback to the Minister.

Cotton Australia recommends:

- 7. Each RDC in conjunction with its industry representative body develop a commercial/private sector engagement plan.*
- 8. There are uniform performance metrics across RDCs.*
- 9. These metrics include a metric scrutinising how well the RDC engagement process ensures every grower can give their input.*
- 10. The Department of Agriculture holds a meeting with all the plant based industry representative bodies, every six months to discuss RDC performance and sector issues.*

Extension outcomes

- 12) Where should the balance of investment between R&D and extension lie?
- 13) How could RDCs play a stronger role in extension service delivery, in light of existing private and state government extension efforts?
- 14) How could RDCs help researchers, entrepreneurs and others better engage with producers to accelerate uptake?
- 15) How could industry and levy payers drive increased uptake of R&D?

The cotton industry has developed an extension delivery service designed to accelerate producer uptake through a co-investment between the Cotton RDC, RO and private sector. CottonInfo is a joint venture between Cotton Australia, CRDC and Cotton Seed Distributors Ltd. It is designed to connect growers and wider industry with research through engagement and collaboration⁹.

⁹ <https://www.cottoninfo.com.au/who-are-we>

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CottonInfo deploys a three part team of regional extension officers in cotton growing valleys, plus technical leads who are specialists in specific research areas, and “myBMP” experts. They work across biosecurity, climate, crop nutrition, disease management, energy use efficiency, fibre quality, insect and mite management, natural resource management, pesticide input efficiency, soil health, stewardship, water management and weed control.

“myBMP” is the industry’s best management practice program which enables further uptake of R&D. It also demonstrates to the community the Australian cotton industry’s improved farming practices and careful management of our natural resources. While CottonInfo is primarily a communications program, myBMP sets the industry’s best practice performance criteria. It provides a framework by which growers can participate and be accredited in relation to industry best practice. As a 10 module voluntary farm and environmental management program myBMP ‘provides online self-assessment mechanisms, practical tools and auditing processes to ensure that Australian cotton is produced according to best practice’¹⁰. In 2018-19 a total of 80% of all growers participate in myBMP, with 234 farms achieving full accreditation¹¹.

CottonInfo is also able to report strong performance since its creation in 2012. As of June 2018 14,000 growers and consultants had connected with over 990 extension activities. Of the 126 events where intention to change was evaluated, 1,600 growers indicated they would change practices as a result of increased awareness or knowledge.

Furthermore from CottonInfo’s first six years of operation (2012-18) 94% of consultants and 90% of growers believe CottonInfo provides useful, credible information and that it is a trusted information source (89% of consultants and 94% of growers)¹².

These results are consistent with NFF’s observation:

“To lead effectively, RDCs need to collaborate with each other and work in partnership across multiple channels throughout the agri-innovation system. Partnerships should be developed with industry representative bodies [such as CottonInfo model], with the private sector and other providers. This approach will ensure that the adoption flows down to the end users.”

Cotton Australia recommends:

11. a principled based approach adoption framework or pathway at a strategic level rather than on a program basis with an aim to increase adoption of R&D and encourage productivity and profitability across the sector.

¹⁰ https://www.cottoninfo.com.au/sites/default/files/img/CottonInfo%20Strategic%20Plan%202018-2023_0.pdf

CottonInfo Strategic Plan 2018-23, p9.

¹¹ Cotton Australia Annual Report 2018-19, p18.

¹² <https://www.cottoninfo.com.au/publications/first-six-years-cottoninfo-our-impact>

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Advocacy

- 16) How might RDCs be able to increase their role in policy R&D and participate in policy debate alongside industry representative bodies?
- 17) If RDCs were to play a greater role in this area, how could this activity be clearly distinguished from partisan and political activity, which must remain a role for industry representative bodies?

Cotton Australia strongly recommends:

12. that research for policy development with the objective of industry improvement should be a priority for RDCs.

The trusted relationship between the cotton RDC and Cotton Australia has enabled a history of performing research that enables policy to be developed and implemented to the benefit of the industry. This is particularly highlighted through the management of genetically modified (GM) technologies in the cotton industry.

The Australian regulator (APVMA) requires industry endorsement of any new, or amendments to existing, resistance management plans (RMP) for insecticidal GM technologies in the cotton industry. A process has been established to facilitate this:

-) The commercial trait provider works closely with established industry technical panels, convened by the CRDC to develop a RMP.
-) Research is conducted by both the commercial trait provider and RDC (sometimes in collaboration) to address any knowledge gaps in developing the RMP.
-) The RO convenes a grower advisory group who review the RMP and provide endorsement to the regulator.
-) The RMPs are reviewed annually by the grower advisory group, technical panels and trait providers.

This process enables the industry to set policy for the management of GM technologies in the industry, and research is conducted to better inform this policy. Notably, despite Australia's high adoption of insecticidal GM crops, it is one of the few global examples where pest resistance has been delayed, for close to two decades. Furthermore there are excellent prospects for continued pest suppression¹³.

Cotton Australia is supportive of the NFF position that the importance of policy research is recognised, however a separation between the provision of research and partisan and political activity should be clearly distinguished.

¹³ Tabashnik, Bruce & Carriere, Yves. (2017). *Surge in insect resistance to transgenic crops and prospects for sustainability. Nature Biotechnology. 35. 926-935. 10.1038/nbt.3974.*

.13.

Cotton Australia recommends that:

- 13. RDCs conduct research that informs policy and that they are not included in advocacy to government. They should however be able to advocate for their industry.*

Conclusion

Cotton Australia has strong views on the value and benefits of the RDC system to our industry and to Australian agriculture. We would welcome the opportunity of providing Ministerial staff and relevant Department of Agriculture bureaucrats further information on these views; please contact Michael Murray, General Manager, Cotton Australia (0427 707868 or michaelm@cotton.org.au).

Yours sincerely,



Adam Kay,
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Cotton Australia