

## Expression of Interest EOI 2019-20

### Part 1 - General Details

		<b>EOI ID</b>	<b>EOI - 0206</b>
<b>EOI Title:</b> (max 80 char)	<b>Characteristics of disease suppressive cotton farming systems and soils understood</b>		
<b>Type of Research</b>	Applied		
<b>Proposed Start Date:</b>	01 July 2019	<b>Proposed Cease Date:</b>	30 June 2022
<i>Please refer to CRDC's Strategic R&amp;D Plan 2013-2018 for the following.</i>			
<b>CRDC Goal</b>	1. Increase productivity and profitability on cotton farms		
<b>CRDC Key Focus Area</b>	1.3 Protection from biotic threats and environmental stresses		
<b>CRDC Activities</b>	1.3.2 Improved identification, surveillance and management systems for pests, diseases and weeds, and environmental stresses		
<i>Please identify the relevant Measure of Success as outlined in the CRDC Strategic R&amp;D Plan.</i>			
<b>CRDC Measure of Success:</b>	New management practices and systems are available for growers, consultants and industry		
<b>Rural and R&amp;D Priorities</b>	Biosecurity		
<b>Strategic Research Priorities</b>	3a. Optimise food and fibre production using our land and marine resources		
<b>CRDC NSRP</b>	1.3.3 - Food - Enhanced production through enhanced biosecurity.		
<b>R&amp;D Manager:</b>	Susan Maas	<b>EOI Due Date:</b>	12 October 2018

### Part 2 –Expression of Interest Requirements

<p><b>Issue:</b></p> <p>Diseases are one of the biggest yield constraints for the Australian cotton industry. Some diseases such as Verticillium wilt and black root rot are challenging the ability for some growers to still be growing cotton in 5-10 years. Emergence of strains of Fusarium not controlled by current varieties also remains a risk for industry. A recent review of pathology highlighted that disease research should focus on a farming system that builds disease-suppressive soils. To achieve this, the review identified that elements required were tools for growers to quantify disease and soil health, advice on what to do next (e.g. impact of management and novel solutions) that considers economics and soil health and regionally focused trials and extension.</p>
<p><b>Outcomes:</b></p> <p>Reduced impact of disease through:</p> <ul style="list-style-type: none"> <li>- Elements of a disease suppressive systems determined from strategic industry wide monitoring (crop, management, disease, soils, microbiology, economics)</li> <li>- On going access to diagnostic services (to pathogen level) for cotton diseases &amp; disorders;</li> <li>- Pathology support for regional trials (trials to be established under separate EOI);</li> <li>- Best practice disease management advice including protocols for Come Clean Go Clean.</li> </ul>
<p><b>Project description:</b></p> <p>This project/s will focus on improving understanding of what growers can do to build disease suppressive soils, and how management can consider multiple diseases present in one field. This will be achieved through a number of activities including:</p> <ul style="list-style-type: none"> <li>- An intensive industry wide survey (cropping history, detailed management (irrigation timing &amp; system, fertility, soil type etc), early and late season disease, soil type, microbial composition &amp; economics) will be conducted in year 1 of the project. This survey will be regionally representative and consider biosecurity threats as well as endemic diseases and viruses. Analysis of this survey will look to identify specific management recommendations for growers to develop disease suppressive soils. More targeted surveys will be conducted in years 2 &amp; 3 of the project, linking some field assessments/sampling to additional data from grower and consultant surveys to continue to improve understanding of disease suppressive soils. This will be supported by diagnostic services for cotton disorders and diseases (to pathogen level) in each year of the project.</li> <li>- Management recommendations to reduce disease and build disease suppressive soils will be tested in field, glass house &amp; lab studies as appropriate.</li> </ul>

- Pathology capacity in this project will support a separate proposed project that will be delivering a number of regional cover cropping (including bio-fumigation) trials.

- Project will conduct research to develop revised best practice recommendation on Come Clean. Go Clean.

This is a program of works that may be delivered through multiple projects that are complementary and collaborative.

**Expected Project and Communication Outputs:**

An agreement with each trial collaborator that outlines expectations, (including communication with farm management, how and when survey information will be reported and expectations from collaborator) to be signed off annually and provided to CRDC.

Diagnostic process (where and how to send samples, what diagnostics will be covered, expectations for timing) written up and reviewed prior to each season as well as provided to CottonInfo and CRDC.

Up to date Come Clean Go Clean protocols.

Disease survey and updated disease recommendations published annual in Cotton Pest Mangement Guide.

**Project Investment:**

<b>Year</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>TOTAL</b>
Indicative budget (up to)	\$500,000	\$400,000	\$400,000	\$1,300,000

### **Part 3 – Selection Criteria**

The following selection criteria will be used by the CRDC to assess the full research proposals (FRPs) received for each Expression of Interest.

**1. A sound understanding of the nature and importance of the outcome to the Australian cotton industry:**

The research applicant must address the Issue, Outcome and Project Description in terms of the CRDC Strategic Plan and demonstrate understanding of the impact on the Australian cotton industry.

**2. Soundness and clarity of the proposed R&D methods to address project deliverable outcomes:**

The research applicant must describe how the research methodology employed will enable the project outcomes to be delivered.

**3. Demonstrated capacity of the nominated researcher/s to provide project coordination, management, monitoring and evaluation for the timely delivery of high quality outputs:**

The research applicant must describe the research team's project management skills and experience and may include a recent example of a completed project. They must detail the monitoring and evaluation strategy which should include any steering committees to co-ordinate collaborative research, links with CottonInfo, CGAs, Cotton Australia, etc and any additional reporting outside the 6 monthly Progress Reports.

**4. Demonstrated track record, technical knowledge and experience of all key personnel in the research area:**

The research applicant must describe the project research team's technical skill and experience relevant to the project and methodologies proposed.

**5. A demonstrated capacity to effectively communicate project outcomes to diverse stakeholders within the Australian cotton industry:**

The research applicant must describe the communication skills and existing communication channels that the research team use to communicate project outcomes to the Australian cotton industry. The new applicants to the cotton industry should provide an example of industry communication from a recent project.

**6. Demonstrated ability of the project team to form productive networks and links to build on national and international research already undertaken in related areas:**

The research applicant must describe existing networks that the research team use for collaboration with other researchers and an ability to develop new networks as research knowledge increases.

**7. The cost effectiveness of this project including cash and in-kind commitments from the applicants and leverage through domestic or international linkages that are useful if not essential to progress the project:**

The research applicant should demonstrate market value and market fairness for the proposed budget and comment on the leverage achieved through collaboration and in-kind support.

**8. Project demonstrates collaboration between organisations or research groups:**

The research applicant must describe the existing or proposed collaboration with other researchers, research groups or committees and the Australian cotton industry.

For information on how to apply, please refer to: [www.crdc.com.au/for-researchers](http://www.crdc.com.au/for-researchers)

*Please note that while the Cotton Research and Development Corporation (CRDC) has released these expressions of interest, due to ongoing drought conditions and the potential impact on CRDCs forward budget, the Corporation may not be in a position to fully support all of the proposals advertised. CRDC has released the full range of EOIs in an endeavour to remain as flexible and opportunistic as possible. Where CRDC may not be in a position to fully support proposals received, we will work with our valued research partners to identify alternative investment options.*