



FINAL REPORT

CRDC ID: CA2006

Project Title: Delivery of SataCrop Crop Mapping Tool

Confidential or for public release? For Public Release

Recognition of support: The Research Provider Cotton Australia acknowledges the financial assistance of the Cotton Research and Development Corporation in order to undertake this project.

Part 1 – Contact Details & Submission Checklist

Principal Researcher: Sally Ceeney

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Supervisor: (Name & position of senior scientist overseeing the project).

Organisation:

Ph:

E-mail:

Researcher 2: (Name & position of additional researcher or supervisor).

Organisation:

Ph:

E-mail:

Date submitted: April 2021

Part 2 - Monitoring & Evaluation

This data is for CRDC's internal M&E requirements. Please complete all fields and add additional rows into each table if required.

Achievement against milestones in the Full Research Proposal

Milestone	Achieved/ Partially Achieved/ Not Achieved	Explanation
<i>Partners to meet regularly to monitor implementations of SataCrop</i>	<i>Achieved</i>	<i>CA and CRDC representatives met regularly to monitor implementations. SataCrop implementations also discussed at Cotton Industry Spraydrift Taskforce Meetings (minimum meetings 4 per year)</i>
<i>Report provided to partners assessing the impact and uptake of SataCrop and model for future funding.</i>	<i>Achieved</i>	<i>Final report</i>
<i>SataCrop is a widely used and reliable source of information for identification of sensitive crops across all cropping regions.</i>	<i>Achieved</i>	<i>Detailed in outputs</i>
<i>Funding model developed for delivery of SataCrop in 2021/22 and for an agreed period beyond that season</i>	<i>Partially achieved</i>	<i>Detailed in outputs.</i>

Outputs produced *(Please refer to examples document to assist in completing this section).*

Output	Description
<i>SataCrop program delivered</i>	<i>SataCrop was delivered for both the 2019/20 and 20/21 seasons with cotton area uptake at 69% and 78% respectively.</i>
<i>SataCrop program continually updated to improve usability and functionality</i>	<i>The suppliers of SataCrop, PCT, continually updated SataCrop to improve functionality and usability on request from CA following industry feedback from a range of sources including users. Examples include expanding the range of different crop types able to be mapped, and adding a 'point of interest' function to enable mapping of any other sensitive areas.</i>

<i>SataCrop used for a variety of other sensitive crops</i>	<i>A variety of sensitive crops were mapped each season including grapes, citrus, permanent tree plantings, winter cereals, summer cereals, pulse crops, refuges and fallow.</i>
<i>Partners met regularly to monitor implementations</i>	<i>CA and CRDC met regularly to monitor implementation of SataCrop. SataCrop implementation also discussed regularly at Cotton Industry SprayDrift Taskforce Meetings. These are held at least 4 times per year.</i>
<i>Funding model developed beyond 2021/22 season</i>	<i>Partially complete. Partners CA and CRDC see opportunities for collaboration between SataCrop, Inversion Warning Towers and BRll grant recipients. The commercial partners for these two initiatives have not yet been publicly announced. One commercial partners are confirmed, discussions on how these initiatives may collaborate and how funding may be obtained can be held. CA have agreed to fund the program for the 21/22 season, and have requested contribution via letter from CRDC.</i>
<i>SataCrop supports industry research</i>	<i>On request, data from SataCrop was made available to CRDC researchers to assist as required with industry researchers</i>

Outcomes from project outputs (Refer to examples document).

Outcome	Description
<i>SataCrop is a widely used and reliable source of information for identification of sensitive crops across all cropping regions</i>	<i>SataCrop promotion was a collaborative effort between CA, PCT, CRDC, CottonInfo, GRDC, CSD and SOS regional groups to drive awareness and uptake.</i>
<i>SataCrop remains a freely accessible and functional industry tool to raise awareness of sensitive crops beyond 2021/22</i>	<i>CA and CRDC continue discussions on future funding. Both remain committed to ensuring the program continues and is freely accessible to users however acknowledge that industry (CA and CRDC) cannot fund for the long term and alternative funding sources will be required. Potential funding sources have been identified and will be pursued with an aim to have alternative funding model in place prior to the 22/23 season.</i>

Part 3 – Technical Report

Projects may require different approaches to the structure of the Technical report. A detailed technical report should normally include the following items (Note - PhDs only - CRDC will accept your awarded Thesis as the Technical Report, please attach and copy and paste the abstract here):

- *Table of contents (if necessary – depends on the length and complexity of your report)*
- *Executive summary*
- *Introduction*
- *Materials and methods*
- *Results*

- Discussion
- Conclusions
- Key word index and
- A full list of industry and scientific publications, presentations, extension activities and other outputs.

Please contact your R&D manager if you would like to adopt a different approach.

Part 4 – Summary for public release

This summary is designed to provide a short overview of the project for all interested parties. It will be published on Inside Cotton, CRDC's digital repository, along with the full final report (if suitable for public release). The summary may also be published on grow^{AG}, a collaborative platform that showcases Australian agrifood research, development, and extension projects that are current or have been completed since 1 July 2018. Please complete all fields, ensuring that this exceeds no more than two pages.

Project title:	Type Title here	
Project details:	CRDC project ID:	CRDC ID
	CRDC goal:	<i>2. Improve cotton farming sustainability and value chain competitiveness</i>
	CRDC key focus area:	<i>2.1 Sustainability of cotton farming</i>
	Principal researcher:	<i>Sally Ceeney</i>
	Organisation:	<i>Cotton Australia</i>
	Start date:	<i>1/07/2019</i>
	End date:	<i>30/06/2021</i>
Objectives	<ul style="list-style-type: none"> • <i>Deliver a free, publicly accessible online tool designed to raise awareness of the location of sensitive crops to reduce the risk of unintended off target impacts arising from spray drift.</i> • <i>Expand across all agricultural cropping industries</i> • <i>Deliver extension activities to ensure SataCrop accurately reflects the cropping landscape and is a trusted source of information</i> • <i>Enhance the program to improve functionality and capability of the service</i> 	
Background	<p><i>The SataCrop Mapping Tool follows on from the previous Cotton Field Awareness Map – CottonMap. CottonMap was an industry initiative designed to highlight the location of cotton fields. The service was provided free of charge with the purpose of minimising off target damage from downwind pesticide application, particularly during fallow spraying.</i></p> <p><i>Since 2008, the average seasonal cost of damage from reported spray drift incidents is \$7,750,000 to the Australian cotton crop. This figure represents an average of 3.4% of the total crop damaged as a result of</i></p>	

	<p><i>off target spray drift. Figures from the CRDC Grower Survey suggest the problem is much larger than just the reported incidents, with growers estimating an average of 24% of the crop was damaged in 2019.</i></p>																									
Research activities																										
Outputs	<ul style="list-style-type: none"> • <i>SataCrop was successfully delivered for the 2019/20 and 20/21 seasons.</i> • <i>2019/20 – 69% cotton area mapped on SataCrop</i> • <i>2020/21 – 78% cotton area mapped on SataCrop</i> • <i>Range of other crop types mapped each season including citrus, permanent tree crops, summer pulses, winter cereals, fallow, refuge crops, sorghum, corn, chickpeas and grapes.</i> 																									
Impacts	<p><i>There was a total of 7 spray drift incidents reported to CA for the 20/21 season totalling just over 2000ha. This is less than 1% of the total crop area planted reported as being damaged. In 19/20 the % reported was just over 1% total area.</i></p> <table border="1"> <thead> <tr> <th>Season</th> <th># CA REPORTS</th> <th>HECTARES DAMAGED</th> <th>% TOTAL CROP DAMAGED</th> <th>COST (\$000,000)</th> </tr> </thead> <tbody> <tr> <td>2017-18</td> <td>94</td> <td>42,936</td> <td>9.5</td> <td>18.0</td> </tr> <tr> <td>2018-19</td> <td>18</td> <td>5760</td> <td>2.0</td> <td>6.7</td> </tr> <tr> <td>2019-20</td> <td>4</td> <td>742</td> <td>1.25%</td> <td>4.7</td> </tr> <tr> <td>2020-21</td> <td>8</td> <td>2121</td> <td>0.88%</td> <td>7.1</td> </tr> </tbody> </table>	Season	# CA REPORTS	HECTARES DAMAGED	% TOTAL CROP DAMAGED	COST (\$000,000)	2017-18	94	42,936	9.5	18.0	2018-19	18	5760	2.0	6.7	2019-20	4	742	1.25%	4.7	2020-21	8	2121	0.88%	7.1
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