



Australian Government

Cotton Research and
Development Corporation

CGA FINAL REPORT

Part 1 - Summary Details

Please use your TAB key to complete Parts 1 & 2.

CRDC Project Number: CGA1605

Project Title: Binnia Valley Growers Group – In-field trials to address local barriers to cotton growing and exposure to the cotton industry

Project Commencement Date: 1/10/2015 **Project Completion Date:** 30/06/2017

Part 2 – Contact Details

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Part 3 – Interim Report

(The points below are to be used as a guideline when completing your final report.)

Background

1. Outline the background to the project.

The primary barriers to growers growing cotton are the cool minimum temperatures and the risk of ester drift from neighbouring properties during the growing season. The purchase of an automatic weather stations and moisture probes in the valley will assist greatly in growers understanding of the aforementioned local factors influencing management and profitability through the crop growth phases. The information from the weather stations will be linked to the OZ Forecast in the region enabling participating and neighbouring farmers to monitor wind conditions and also provide a greater understanding of local temperature and moisture conditions on the trail site – thus using information to reduce the resistance by farmers to grow cotton. A yield map will also help growers understand crop nutrient requirements and variability within trial fields with the aim of up-skilling farmers in data interpretation to maximising yield potential. If

successful, the cotton industry will benefit by gaining preferred status in summer cropping rotations in a temperate area currently favouring sorghum production. Growers have already commenced discussions with CSD, Cotton Info and Monsanto regarding seed licensing, procurement, varietal choice and crop suitability, demonstrating strong support for this project. Other than to trial in field suitability of cotton, the project aims to give the Binnia Valley Growers Group exposure to cotton industry support networks and research by finishing (during the ginning period) with a tour of CRDC, ACRI, CSD Auscott Gin and potentially a local dry-land grower.

Objectives

2. List the project objectives (from the application) and the extent to which these have been achieved.

To provide climate and technical information to assist the development of cotton as the preferred summer crop in a traditional cool climate wheat/sorghum area.

Methods

3. Detail the methodology and justify the methodology used. Include any discoveries in methods that may benefit other related projects.

- July 2016; Order and install 1 automatic weather station and moisture probe in the Binnia Valley to assist with planting and spraying decisions. Goanna Telemetry commission the tower and soil moisture probe in 1 day at "Kurrajong Park".
- 4 October, 2016; Coolah growers group (3) travel to Narrabri to visit Cotton Seed Distributors seed plant, Auscott gin, meet with Ross Brown from Namoi Cotton, meet with Bruce Finney and other staff at the CRDC.
- October 2016; Jon Welsh to facilitate a meeting with Paspaley head agronomist Andrew McFadyen and local Tamarang grower Dave Ronald.
- November, 2016; Jon Welsh to arrange Precision seeding calibration of cotton planter prior to the machine commencing. See appendix for full technical report from Cotton Grower Services.
- 10 January, 2017; 35 growers, advisors and industry attend CSD field day at cotton field site. Plant at 16 nodes, had 150mm in crop rainfall to date and still sitting on a full moisture profile.
- March, 2017; Planned CSD/Monsanto field day at defoliation.
- April, 2017; Planned CSD/Monsanto Field day at picking.
- June, 2017; CSIRO and SST Software to conduct basic yield mapping for the grower
- June 27, 2017; Submit final CGA1605 final report

Outcomes

4. Describe how the project's outputs will contribute to the planned outcomes identified in the project application. Describe the planned outcomes achieved to date.

- Key output: cotton! The project aim is to prove that cotton can be commercially viable in the region in spite of limitations around high altitude, cooler minimum temperatures and shorter growing season
- Substantial capacity building for local growers from a technical and agronomic perspective through welcoming them to the industry and promote/extend the support and information services available through the entire value chain. Delivered through two meetings during project.
- Promote the advantages of cotton as a commercially viable summer crop through a field day prior to picking on a trial site in the area.

5. Please report on any:-

- a) Feedback forms used and what the results were;
 - A cotton yield of 3.4b/ha at the gin
 - A crop gross margin of \$850/ha
 - No micronaire or quality issues
 - No phenoxy drift issues, thanks to well-engaged community through field days and communications
 - Yield analysis showed portions of the field yielding 5b/ha
- b) The highlights for participants or key learnings achieved
 - Cotton is a good fit in a cool climate
 - cotton is tough
 - In-field variability is substantial and variable rate nutrient management can potentially offer massive gains
- c) The number of people participating and any comments on level of participation
 - 35 at the main season field day and many others at the final picking field day
 - The community and local farmers were heavily engaged with the districts first cotton crop.

Budget

6. Describe how the project's budget was spent in comparison with the application budget. Outline any changes and provide justification.

Please list expenditure incurred. (*Double click inside the table to enter the data*)

Conclusion

7. Provide an assessment of the likely impact of the results and conclusions of the research project for the cotton industry. What are the take home messages?

Cotton can grow successfully in this climate and phenoxy drift can be managed with good communication and engagement with the community.

Extension Opportunities

8. Detail a plan for the activities or other steps that may be taken:
- (a) To tell other CGAs/growers/regions about your project - neighbours are considering cotton already for 2017 plant
 - (b) To keep in touch with participants - Paspaley will be growing 3x the area in 2017.
 - (c) For future projects - as above.

Figure 1 Installation of the Goanna weather station, 10m tower and soil moisture probe (27 July, 2016)

Figure 2 Screenshot of outputs from the Goanna AWS including inversion risk

Figure 3 35 attendees at the CSD/Monsanto Coolah field walk on 10 January, 2017

Figure 4 Article from 12 December, 2016 CottonInfo Moisture Manager

Figure 5 Planter calibration report C/- Cotton Grower Services (2/11/2016)



Figure 6 Picking at "Kurrajong Park", 10 May, 2017.

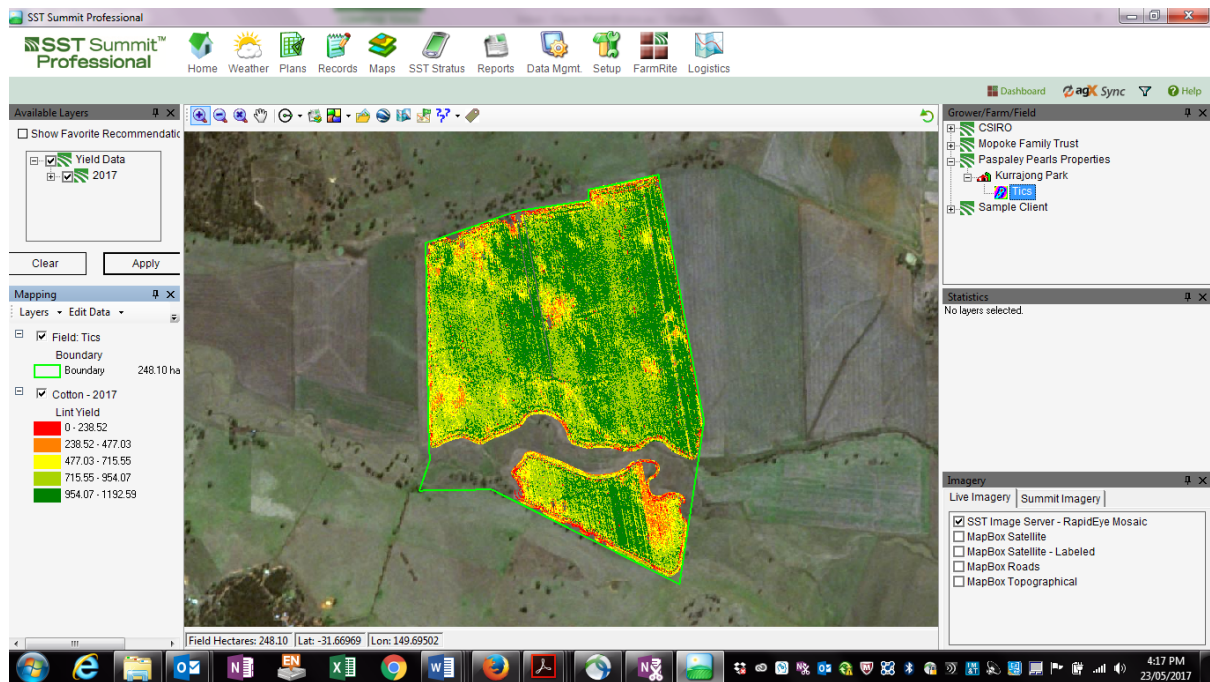


Figure 7 Yield mapping analysis as part of the technical report submitted to Paspaley Rural with the view to implementing management zones and variable rate nutrient application. Analysis found 20% of the field yielded 5 b/ha.



Namoi Cotton Co-operative Ltd Field Classing Summary Season 2017

23/06/2017

Season: 2017
 Grower Number: 28820 - PASPALEY PEARLS PROPERTIES PTY LTD
 Grower Address: Kurrajong Park, Black Stump Way
 Coolah, NSW, 2843

Intake Method: Show All

Summary:

Merchant	Colour Grade	Leaf Grade	Staple Length	Reduction	Strength Group	Micronaire Group	227kg Bales
Gin: Boggabri I				Property: Kurrajong Park			
Field: tics				Size (Hectares): 220.00			
Water Method: DR		Harvest Method: Spindle Picked		Seed Type: Sicot 714B3F		Pick Number: 1	
NAMOI COTTON CO-OPERATIVE LTD	21	2	36	No Reduction	28.0 - 29.9	4.2 - 4.5	16.674
	21	2	36	No Reduction	28.0 - 29.9	4.6 - 4.9	31.696
	21	2	36	No Reduction	30.0 - 31.9	4.2 - 4.5	53.256
	21	2	36	No Reduction	30.0 - 31.9	4.6 - 4.9	33.811
	21	2	36	No Reduction	32.0 - 99.0	4.2 - 4.5	6.982
	21	2	36	No Reduction	32.0 - 99.0	4.6 - 4.9	30.678
	21	2	37	No Reduction	28.0 - 29.9	4.2 - 4.5	14.700
	21	2	37	No Reduction	28.0 - 29.9	4.6 - 4.9	32.145
	21	2	37	No Reduction	30.0 - 31.9	4.2 - 4.5	75.930
	21	2	37	No Reduction	30.0 - 31.9	4.6 - 4.9	68.652
	21	2	37	No Reduction	32.0 - 99.0	4.2 - 4.5	3.974
	21	2	37	No Reduction	32.0 - 99.0	4.6 - 4.9	46.855
	21	2	38	No Reduction	30.0 - 31.9	4.6 - 4.9	3.991
	21	2	38	No Reduction	32.0 - 99.0	4.6 - 4.9	3.899
	21	3	36	No Reduction	28.0 - 29.9	4.2 - 4.5	5.960
	21	3	36	No Reduction	28.0 - 29.9	4.6 - 4.9	12.066
	21	3	36	No Reduction	30.0 - 31.9	4.2 - 4.5	19.018
	21	3	36	No Reduction	30.0 - 31.9	4.6 - 4.9	35.996
	21	3	36	No Reduction	32.0 - 99.0	4.2 - 4.5	4.066
	21	3	36	No Reduction	32.0 - 99.0	4.6 - 4.9	7.251
	21	3	37	No Reduction	28.0 - 29.9	3.8 - 4.1	7.220
	21	3	37	No Reduction	28.0 - 29.9	4.2 - 4.5	11.128
	21	3	37	No Reduction	28.0 - 29.9	4.6 - 4.9	23.313
	21	3	37	No Reduction	30.0 - 31.9	3.8 - 4.1	4.996
	21	3	37	No Reduction	30.0 - 31.9	4.2 - 4.5	25.313
	21	3	37	No Reduction	30.0 - 31.9	4.6 - 4.9	106.797
	21	3	37	No Reduction	32.0 - 99.0	4.6 - 4.9	52.141
	21	3	38	No Reduction	30.0 - 31.9	4.2 - 4.5	8.260
	21	3	38	No Reduction	30.0 - 31.9	4.6 - 4.9	3.106
	21	3	38	No Reduction	32.0 - 99.0	4.2 - 4.5	1.009
	21	3	38	No Reduction	32.0 - 99.0	4.6 - 4.9	11.119
	21	3	39	No Reduction	32.0 - 99.0	4.2 - 4.5	4.110
Total 227kg Bales for Field tics:							766.110

Figure 8 Cotton Classing Summary - no discount on fibre, owing in part, to good engagement with the community to avoid spray drift damage. Spray drift was seen as the highest risk factor in a traditional sorghum area.