



Australian Government

Cotton Research and
Development Corporation

CGA FINAL REPORT 2015/16

Part 1 - Summary Details

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

CRDC Project Number: CGA Mungindi Cotton Growers

Project Title: In field research trial comparing dryland cotton to dryland sorghum on various row configurations

Project Commencement Date: 1/08/2015 **Project Completion Date:** 30/06/2016

Part 2 – Contact Details

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Part 3 – Final Report

Background:

Growers within the Mungindi Cropping Group felt there was a need to identify profitable summer crop options to be grown under dryland conditions in the western growing regions. Whilst winter crop rotations are being used to assist in the reduction of issues such as crown rot and root lesion nematode the addition of a summer crop could further benefit the farming system from both a sustainability and profitability point of view.

Objectives:

Provide research data to support growers in identifying pathways to incorporate summer crops as a means of improving farming systems efficiency.

Methods

In order to achieve the desired objective a trial was designed consisting of dryland cotton and dryland sorghum.

The trial was made up of 3 row configurations of sorghum, along with 3 row configurations of cotton. The trial also consisted of 2 planting dates (early season & late season) of each crop.

Early planted sorghum and cotton sites had 152mm of PAW at plant and received a further 90mm of in crop rain fall.

(The cotton planted was Bollgard 3)

Trial Detail

Early Plant Sorghum: Planting date 2/09/2015

Harvest date 3/02/2016

3 rep's of 3 row configurations. Solid, Single Skip, Double Skip

Late Plant Sorghum: Planting date 13/01/2016

Harvest date 17/06/2016

3 rep's of 3 row configurations. Solid, Single Skip, Double Skip

Early Plant Cotton: Planting date 8/09/2015

Picking date 15/03/2016

3 rep's of 3 row configurations. Single Skip, Double Skip, Super Singles

Late Plant Cotton: Planting Date 13/01/2016 (Monsanto approval)

Picking Date (yet to be picked)

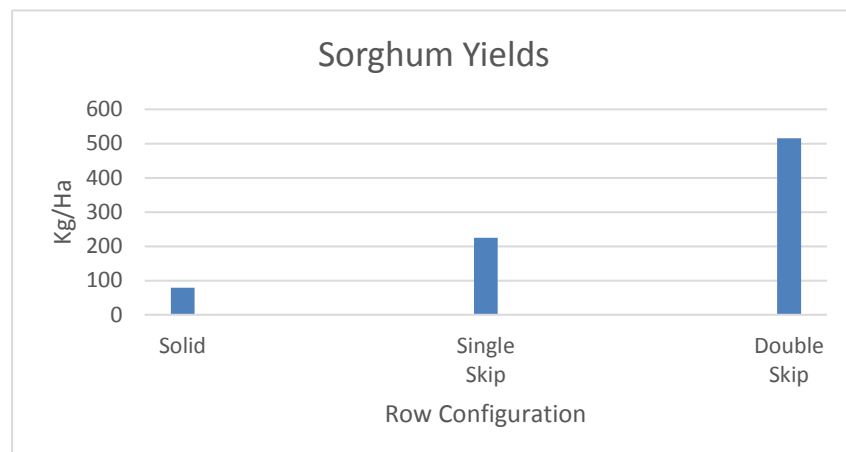
3 rep's of 3 row configurations. Single Skip, Double Skip, Super Singles.

The initial trial plan included 4 row configurations and a randomised trial design. Due to the constraints of the trial being 'farmer scale' and relying on larger machinery with consultation from CSD, Monsanto & Pacific Seeds a much simpler design was agreed on.

Outcomes

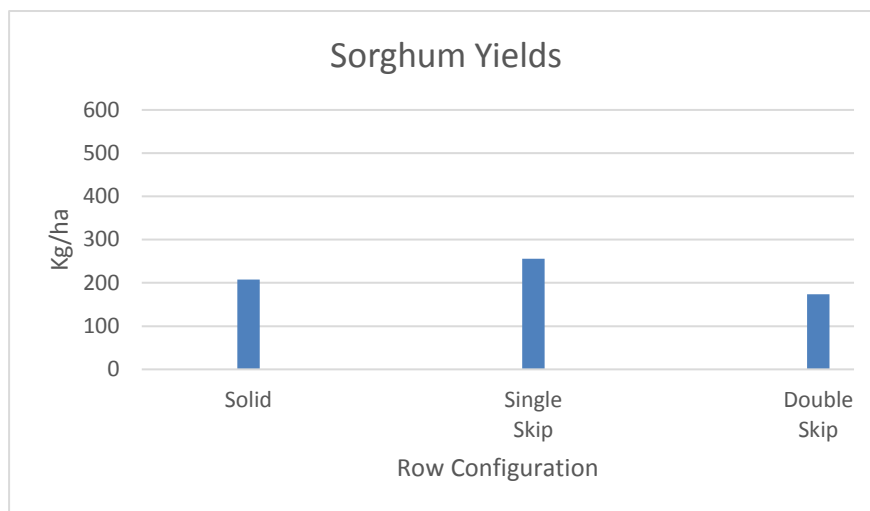
To date on the 24 of June 2016 the late planted dryland cotton is yet to be harvested. All other crop has been harvested.

Figure 1: Early Planted Sorghum Yields.



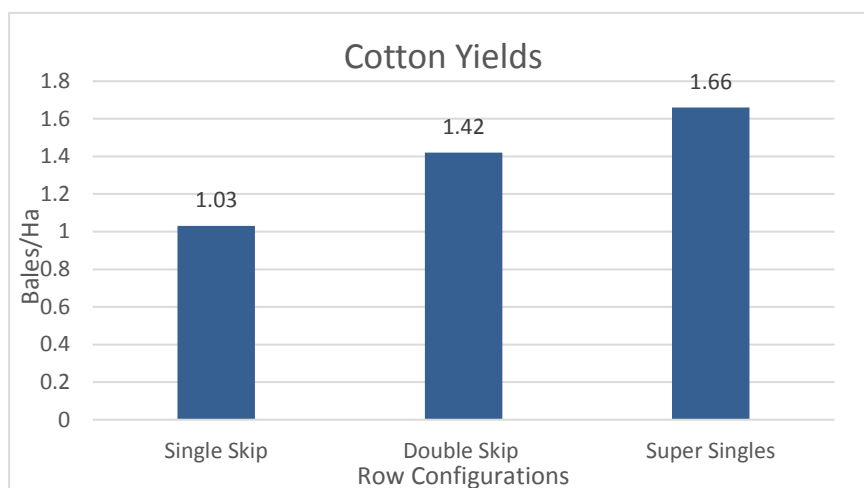
Sorghum yields in the early planted trial were disappointing but not surprising given the season. The crop received very little in crop rainfall and endured a period of high temperatures at flowering.

Figure 2: Late Plant Sorghum Yields.



Sorghum yields in the late planted trial were not consistent with expectations. The solid plant has out yielded double skip which is unusual and most likely not an accurate result. Visually the crop was an improvement on the earlier planted trial but this hasn't been reflected in yields. Harvest was delayed with weather and we had some issues with pigs also which may have contributed to the result.

Figure 3: Early Planted Cotton Yields.



Cotton yields in the early planted trial were pleasing given the season. With limited in crop rainfall the results achieved were far more favourable than sorghum planted early in the season.

Samples of each plot were sent for ginning and the super singles has made base grade, double skip and single skip just under base grade.

Late planted cotton is not yet picked.

There were 2 field days held at the trial site throughout the growing season. The first of these was held on the 15th of December and the second on the 22nd of February. Both field days attracted 15 growers and agronomists from the region as well as having representatives from CSD, Monsanto and Pacific Seeds on hand to speak to the group. Along with this a group of growers from Rowena/ Walgett area visited the site on another occasion. Feedback from both field days was positive.

Budget

The project was managed within budget. Unexpected expenses were met by funds from another party so as to not limit the trials potential.

26/11/2016	Soil Tests/ Nematode Tests			679.25
30/06/2016	Insecticide, Herbicide, Defoliant			2,315.45
30/06/2016	Trial Co Ordination/ Travel			7,000.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
			TOTAL	9,994.70

Conclusion

Whilst it is only one year's data the trial has provided valuable results to support the inclusion of dryland cotton in the farming system. Sorghum over both planting dates has not returned favourable results however the season has been less than ideal with limited summer rainfall. Not only have the results for dryland cotton been pleasing the trial has also created a significant amount of interest amongst grain growers in the area- some of which haven't grown dryland cotton before. The group are keen to see more work done so we hope to repeat the trial in the coming summer to further add value. Along with this the existing site will be monitored to determine the profitability of that paddock in subsequent years.

Extension Opportunities

The results available to date were presented to the Mungindi Cropping group at the Department of Agriculture and Fisheries regional agronomy update in Mungindi in early April and again to the Mungindi Cotton Growers Association AGM and general meeting on 18th of May. Both

of these events had a cross section of growers and agronomists from the broader region including St George, Goondiwindi and Moree as well as the local area.

On completion of the trial results will be compiled into a document for distribution to the wider cotton community and it is anticipated these will be available for distribution at the cotton conference in August.