



FINAL REPORT

Part 1 - Summary Details

Cotton CRC Project Number: 5.01.37CRC1112

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Cotton CRC Program:

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Background

Cotton was first grown in the Riverina in the 1960's. A cotton gin was established at Darlington Point in 1964 and the CSIRO conducted a cotton breeding program for many years at Griffith. Cotton was the first row crop grown on Ravensworth Station at Hay and Kooba Station at Darlington Point. The cotton industry did not continue to expand mainly due to the lack of true short season varieties and seasonal rains during autumn which would have been detrimental for cotton harvest. Ironically it was George Commins who started growing maize replacing cotton as a row crop in the mid sixties at Kooba Station. George was the father of MIA cotton growers Roger and Tim Commins who have now grown cotton in the MIA for the past seven seasons.

Cotton returned to Southern NSW in the mid eighties (1986/87 - 325ha) when it was grown at Hillston by the Maillor family who continue to grow cotton today. The growing of cotton was confined to the Lachlan River valley at Hillston and then expanded into the Murrumbidgee valley in 1999 with a trial area of 400ha at Twynam's property Gundaline Station, whilst also being trialled at Lake Marimley north of Balranald at the same time. Up until the last two years with the large increases in the Tabbita, Griffith, Whitton and Coleambally districts the maximum area for the southern region was approximately 16,000 ha in 2000/01.

The largest area previously for the Murrumbidgee was 6700ha in 2003/04 yet all of this cotton was grown around Hay and not in the Murrumbidgee Area (MIA) nearer Griffith. This compared to approximately 6000ha for the Lachlan valley for the same season. This season (2011/12) due to increased river allocations and high prices the combined area for the Lachlan and the Murrumbidgee was 50,000ha. Table 1 summarises cotton production figures in southern NSW for the past five seasons.

Year	Area (ha)		Yield (bales/ha)	
	Hillston	MIA	Hillston	MIA
2003/2004	5904	6,661	7.02	6.01
2004/2005	4158	3,252	8.9	7.01
2005/2006	3751	3,003	10.23	9.64
2006/2007	2784	2,276	11.99	10.46
2007/2008	2784	2,276	10.86	11.36
2008/2009	2034	1010	9.71	7.56
2009/2010	2220	1050	Combined	12.2
2010/2011	13,000	10,000	Combined	7.5
2011/2012	Estimate 17,000	Estimate 35,000	Estimate 11.00	Estimate 10.00

Table 1: Cotton production figures in southern NSW 2003-2012.

Cotton has been grown very successfully in southern NSW as demonstrated by the very high yields achieved in recent seasons. However season 2010/2011 was a timely reminder that if the season is not perfect then there will be serious yield and quality implications.

Objectives

Due to the rapid expansion in the area there is a large demand for general cotton growing information.

The New Grower Target Lead promoted best practice to cotton growers, crop consultants and industry. The key objective was to educate and assist new growers entering the industry gain an understanding and appreciation of all matters pertaining to cotton production with particular reference to southern NSW.

Methods

This position is part of the Cotton Industry D & D team. Being apart of this team meant that he was able to call up on technical assistance from industry specialist when required.

The main method used in southern NSW for information transfer with new growers was carried out through practical field walks as outlined in the table below. These meetings then provided the opportunity to distribute industry information packages.

The Australian Cotton Production Manual was a direct result of the demand for basic information by new growers. The new grower target lead introduced the concept of the Production Manual at a D & D teleconference. Ken Flower co-ordinated team leads to write chapters based on their experience with the result being the resource that we now have.

Field Walks

Topic	No of People Attended	Target Audience	Key Message	Change in Practice & uptake	Industry Promoted	Tools
Pre Season meeting	>100	Growers & Consultants	Earliness, IPM	No broad spectrum sprays recommended by attendees	DD Calculator, Production Manual	
Planting * 2	30	Growers & Consultants	Earliness and establishment	Well timed planting	Production manual	
IPM * 2	30	Growers	Preserve beneficials	Mirids controlled with selective chemistry	Cotton Pest Management Guide	
IPM	12	Consultants only	Insect ID	Green vegetable bug threshold determined and identification	Cotton Pest Management Guide	
Cut out * 2	90	Growers & Consultants	Earliness, quality	Where cut out mepiquat applied crops were early with no yield penalty.	DD calculator, fibrepak	
Defoliation * 2	30	Growers & Consultants	Earliness, quality	Well timed defoliation with classing outcomes such as low micronaire considered.	Fibrepak, Harvesting Safety DVD	
Defoliation	15	Consultants	Earliness , quality	Well timed defoliation with classing outcomes such as low micronaire considered.	Fibrepak	
Picking	15	Growers	Come Clean go Clean & Harvest Safety	Importance of come clean go clean, priority of no contamination	Cotton Harvest Safety DVD	
Marketing	30	Growers	P & D sheets	Provided a clear understanding of terms and risks	Fibrepak	
Dryland	25	Growers & consultants	Risks	NA	CSD provided dryland brochure	
Machinery Demo day	Organised for 6/6/12	Growers & Consultants	Best Management Practice	Improve pupae busting, reduce ratoon cotton and volunteers	Cotton OH & S wall chart, Production manual	

Field walks are well attended as they are timed with season relevance in mind and demand driven by the growers and consultants.

Example-

Consultants Defoliation Field Walk

This meeting was requested by the consultants where information was sort regarding product selection, rates and timing. The result was a well timed defoliation. Due to the cool season phone requests for information relating to defoliation occur into June!

Meetings

A gin discussion meeting coordinated and chaired by the New Grower Lead resulted in over 60 growers attending resulting in a committee being formed to

scope out the potential of an existing ginning company building a gin in this region.

As a direct result of this a group of local growers formed a company and have built a four stand gin in less than 12 months.

Southern Cotton Expo

This was the premier event in terms of cotton for the region especially when combined with the dinner. There were over 210 attendees for the Southern Cotton Expo and dinner highlighting the D & D target leads research in a local context. The support from local business and industry was very impressive and all participants are keen to support future events.

The new grower lead was presented at the dinner with the Greg Toole Service to Industry award that is presented every two years by the Lachlan & Murrumbidgee Cotton Grower Association.

Promoting the cotton region

The new grower target lead had the pleasure of guiding six representatives from the ITMF – International Textile Manufacturers Federation. This provided the opportunity of showing the end users high quality contamination free cotton. They were very impressed with the growers' attitude, the actual cotton crops and the good water availability in terms of surface and sub-surface.

ABC and Cotton Grower articles

During the project the New Grower Lead gave many season updates for the Riverina ABC Rural Report. The Target lead is often contacted by the media regarding the local industry, examples include the local ABC, the Land, The Area News and Landline.

The New Grower Lead has also provided bimonthly season updates for the Australian Cotton Grower Magazine.

Consultant Support

The New Grower Target lead supported experienced consultant Steve Warden who was funded by the CRDC to monitor the needs of consultants in the area and monitor the level of knowledge. This was a fantastic opportunity to work in with Mr Warden and consultants in the region appreciated having another person to discuss issues with.

Results

The large numbers of growers and crop advisers who attend the meetings are evidence that this type of extension activity is effective. This is further supported by the large number of phone calls from new growers and agronomist seeking clarification on finer points following meetings.

The fact that first time growers in the most southern areas are achieving high yields and earliness is testament to the extension process. This earliness can be directly attributed to the information regarding growth regulants provided to the new growers.

The level of broad spectrum sprays has reduced significantly with the majority of the area not being sprayed with such products as will be supported by the annual CCA survey.

Outcomes

Various strategies were utilised to work towards achieving 'on-ground' change and are detailed below.

Trials

There have been industry NUE trials in the region for the last two seasons. In addition both of these trials have been used as a field walk site for other topics such as cut-out management. Growers were able to see the direct effects of different N levels on maturity, earliness and now yield.

In addition this same site will be the location for a machinery demonstration day that will be used to illustrate best practice in terms of harvest safety, pupae busting, come clean and go clean.

There is also a plant population trial on the same farm that has also been used as a demonstration site for a number of field walks including an IPM walk specifically for consultants. This site proved ideal as growers and agronomist have been able to see the real differences such as plant height, insect levels, maturity etc attributed directly to plant density and therefore height. There were more GVB in the taller rank areas where the plant population was higher.

Conclusion

Expansion will be determined by water availability in combination with markets. Cotton will be considered on its merits like any other crop in the MIA and there will be years where the proportion of cotton will vary compared to other crops such as maize and rice. Like anything the higher the potential for return the higher the risk. Cotton is comparably high in growing cost when compared to maize and rice. In addition adverse weather conditions particularly at the end of the season could be more costly for cotton in terms of yield and quality compared to maize and rice.

There are inherent risks associated with growing cotton in southern NSW especially south of the Murrumbidgee River. This is why it is essential that there is a capacity for cotton extension to continue in the region. In addition there is a demand for some back to basics research. This season is a prime example with only 1800DD in the southern part of the region yet there are

crops that have still yielded over 13bales/ha. Is this high yield attributed to increase day length due to being further south?

Cotton is here to stay with many growers investing in new bale picker technology and new ginning operation which will be essential in terms of the areas expansion.

Extension Opportunities

Future Cotton Expo

There is a large demand for running this event again both by growers and local industry including machinery suppliers.

Local production manual

As discussed there is some major differences in how cotton is grown and therefore would seem appropriate to have a specific manual or guide for the region.

Continued Local meetings and Field walks

Consultant mentoring