



FINAL REPORT

(due on completion of project)

Part 1 - Summary Details

Cotton CRC Project Number: 4.04.09

Project Title: Cotton Field to Fabric Training Course

Project Commencement Date: 1/07/2009 Project Completion Date: 30/06/2012

Cotton CRC Program: **The Product**

Part 2 – Contact Details

Administrator:	Jo Cain
Organisation:	CSIRO Plant Industry
Postal Address:	Locked Bag 59, Narrabri, NSW 2390
Ph: 02 6799 1513	Fax: 02 6793 1186 E-mail: jo.cain@csiro.au
Principal Researcher:	René van der Sluijs
Organisation:	CSIRO Materials Science and Engineering
Postal Address:	P.O. BOX 21, Belmont, Vic 3216
Ph: 03 5246 4000	Fax: 03 5246 4057 E-mail: rene.vandersluijs@csiro.au
Supervisor:	Stuart Gordon
Organisation:	CSIRO Materials Science and Engineering
Postal Address:	P.O. BOX 21, Belmont, Vic 3216
Ph: 03 5246 4000	Fax: 03 5246 4057 E-mail: stuart.gordon@csiro.au

Signature of Research Provider Representative: _____

Part 3 – IP and In-kind

Since the November 2011 6 monthly report, please outline the additional IP and in-kind that has been generated in the project.

1. Intellectual Property developed within the project.

(What Know-How (New Ideas), Confidential Information, Copyright, Patents or Provisional Patents, Registered Design, Trade Secrets or Trademarks have come from this project to date)

From these courses we have generated course notes and presentations. This information is subject to Copyright ownership as per the Research Agreement.

2. Project In-kind

(Grower Consultant Ginner or Grower Group In-Kind: Are you conducting part of your project on a cotton farm or in conjunction with an in-kind contribution from a consultant, ginner or Grower Group? Please supply group name - Number of persons involved per week and the number of hours per week involved.)

A number of presenters from industry provided their time to this project as in-kind, including time taken to prepare, travel and present their modules. A list of in-kind contributions appears in Table 1

Table 1 - In-Kind Contributions per Course

Name	Company	In-Kind
Greg Parle	CCAA	10 hours
Phill Ryan	ACSA	10 hours
Steve Ainsworth	CSD	5 hours
Ian Russell	Consultant	10 hours
Robert Eveleigh	CSD	5 hours

Part 4 – Final Report Guide (due at end date of project or 31st May 2012)

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

Background

1. Outline the background to the project.

Understanding spinners' requirements will help the Australian cotton industry continue to deliver quality cotton and maintain a competitive position in the international market. Over the last four years the formal CMSE 'Cotton Field to Fabric' course was presented eight times (three times in 2006, twice in 2007, twice in 2008, and once in 2009) which was well attended; with 185 people from various industry sectors (including a number of international students) attending the course. The success of this course was acknowledged by the Cotton Catchment and Communities CRC with the Annual award for Impact in Adoption in 2007.

This proposal thus seeks to continue in conveying this information to the industry with three initiatives.

Firstly it is proposed that the formal 'Cotton Field to Fabric' course be presented at least once (or more often depending on demand) per year in the period from 2009/10 to 2011/12. The course is targeted to growers through to end users of cotton yarn or fabric, as well as students. The course includes three days of lectures, discussions and practical demonstrations from leading researchers and cotton industry experts. CMSE's commercial scale textile mill and laboratories are used extensively to demonstrate relationship between fibre and yarn/fabric quality.

Secondly to adopt and present a CMSE 'Cotton Field to Fabric in Schools Program' in 2011/12 to secondary school teachers and students enrolled in science, agriculture and textiles, to educate/inform students and teachers of the industry as well as generate interest in seeking employment in the cotton industry.

Thirdly to present the 'Cotton Field to Fabric Roadshow' in 2011/12 with a similar format to the last workshops held in 2006. During the Roadshow, which is held in local cotton growing areas, leading researchers and experts representing various organisations and industry bodies will give short presentations on relevant subjects.

Objectives

2. List the project objectives and the extent to which these have been achieved.

The broad aims of the project are to:

- To deliver at least one formal 'Cotton Field to Fabric' course at CMSE per year on cotton processing, from the farm gate to finished product with a focus on the impacts of fibre quality, to personnel within the growing, ginning, classing, merchant and textile manufacturing sectors. The course proposed is a continuation of the nine courses already presented; years (no. courses) – 2005 (1), 2006 (3), 2007 (2), 2008 (2) and 2009 (1).
- To present the 'Cotton Field to Fabric in Schools Program' in 2011/12 to teachers and students enrolled in science, agriculture and textiles courses in NSW.
- To conduct a 'Cotton Field to Fabric Roadshow' in 2011/12 to local cotton growing areas in NSW and Qld with the help of local extension staff.

Methods

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

We have identified a number of phases in the preparation and delivery of the various initiatives;

Formal 'Cotton Field to Fabric' Course at CMSE

1. Research and update course content.
2. Preparation of multimedia presentations and course notes for participants in both electronic and paper formats.

3. Make video of the Picking and Ginning process during the season, which is currently missing from the course.
4. Set course dates and, open and advertise for enrolments.
5. Presentation of course over three days. It is envisaged that the course would be presented at least once a year.
6. Obtain feedback from participants.
7. Assessment of course. The course will be assessed after each presentation to ensure that the course does satisfy the needs of the participants.

Cotton Field to Fabric in Schools Program

1. Contact various schools in NSW with the assistance of Ms. Trudy Staines, Education Officer of the Cotton CRC.
2. Approach presenters to deliver program in accordance with school curriculum.
3. Prepare presentations.
4. Set course dates and, open and advertise for enrolments.
5. Presentation of course over one day. It is envisaged that a number of courses will be presented during a two week period.
6. Obtain feedback from participants.
7. Assessment of course. The course will be assessed after each presentation to ensure that the course does satisfy the needs of the participants.

'Cotton Field to Fabric Roadshow'

1. Contact all industry extension officers in cotton production areas to agree on schedule and timelines.
2. Approach industry organisations and associations to agree on content and nominate presenters.
3. Prepare presentations.
4. Conduct the Roadshow
5. Obtain feedback from participants.
6. Assessment of feedback. Make any changes to ensure that the course does satisfy the needs of the participants.

Results

4. Detail and discuss the results for each objective including the statistical analysis of results.

Objective 1: To deliver at least one formal course at CMSE a year on cotton processing, from the farm gate to finished product with a focus on the impacts of fibre quality, to personnel within the growing, ginning, classing, merchant and textile manufacturing sectors.

Two formal 'Cotton Field to Fabric' courses were presented by CMSE in Belmont on 20-22 July 2010 and 23-25 August 2011. The next course has been scheduled for 4-6 September 2012.

Normally the course is presented in June/July but due to the bigger crop since 2010 and hence longer season we were forced to reschedule the course to

August/September to give people in the cotton production pipeline the opportunity to attend.

The course in 2010 was attended by 18 participants and the course in 2011 was attended by 30 participants. At this moment in time we have 10 participants registered for the 2012 course of which three are from Indonesia.

Over the years the course has evolved and changed to keep abreast with new technologies and incorporating useful and realistic feedback from participants. For example we are now making extensive use of audio visual material and have added the 'Variety Selection' module and as from 2012 we will remove the Quality Assurance module.

A quick and simple breakdown of the participants that attended the 2010 & 2011 course shows that the majority of the participants are growers, with other professions such as ginners, extension officers and management/marketing well represented with a small number of participants from the textile industry and researchers – See Table 2. Notable participants were Andrew Watson – Chairman of Cotton Australia; Guy Kingwill – CEO of Tandou Limited, Matthew Bradd- Managing Director ECOM Commodities and Bernie George Auscott General Manager Namoi.

Table 2: Breakdown of participants by profession

Profession	2010	2011
Grower	33%	37%
Extension/Communication	22%	13%
Administration/Management/Marketing	28%	17%
Ginner	11%	20%
Researcher	6%	0%
Textile	0%	13%

The participants were aged between 20 and 60 with the majority of the participants in the 25-50 age categories. In general ~ 30% of the participants attending the courses were female. General feedback from the participants indicates that both courses were well received and that the 11 presenters presenting the 13 Modules did a well in conveying their message – See Table 3.

Table 3 – Feedback from participants

Question	Excellent	Good	Average
How would you rate the course	53%	47%	0%
How would you rate the delivery of presenters	33%	67%	0%
How would you rate the training course support materials	57%	43%	0%
Did the training course meet your requirements/ expectations	100%	0%	0%

Objective 2: To present the Cotton Field to Fabric in Schools program in 2011/12 to teachers and students enrolled in science, agriculture and textiles courses in NSW.

The Cotton Field to Fabric in Schools program was presented on 20-22 September 2011 with the assistance of Trudy Staines. The program consisted of the presentation of three free one day; Introduction to Cotton Processing; courses *from the field to the finished product*, incorporating modules on growing, harvesting, ginning, classing, textile processing as well as an overview of the fibre market. The presenters were Mike Bange, Geoff Dunlop and René van der Sluijs. In total 49 students and teachers from Macintyre High School, Saint Philomenas in Moree, Narrabri High School and Tamworth High School attended the program over the three days. Feedback from the participants indicate that the course was well received – See Table 4

Table 4 – Feedback from participants

Question	Excellent	Good	Average
How would you rate the course	76%	14%	10%
How would you rate the delivery of presenters	67%	31%	2%
How would you rate the training course support materials	59%	31%	10%
Did the training course meet your requirements/ expectations	84%	16%	0%

Some changes to streamline the course will however be made. For example in the future we will only present this program between 9:00am -2:00pm, with a lot less detail and a lot more practical hands on demonstrations.

Objective 3: To conduct a Cotton Field to Fabric Roadshow in 2011/12 to local cotton growing areas in NSW and Qld with the help of local extension staff

The Cotton Field to Fabric Roadshow was scheduled for 13-17 February 2012. With the help of the local extension officers the Workshops were to be held in Dalby, Dirranbandi, St George, Theodore, Emerald, Goondiwindi, Moree, Warren and Griffith.

However due to the flooding experienced in NSW and Qld during this time with Moree, St George and Dirranbandi severely affected by the floods with people in these areas as well as in Dalby/Roma/Emerald and Theodore having other priorities. It was thus reluctantly decided to postpone the Roadshow to later in the year. This will possibly be November 2012 when planting has been completed and there is a break before irrigation. The date will be decided upon with input from the local extension officers.

Outcomes

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

These programs give people in the cotton production pipeline the opportunity to gain valuable and current information and understanding of the entire cotton production pipeline. This program provides information on all aspects of cotton production highlighting to each sector the importance and their influence on quality. In the past the majority of courses have been fully booked out indicating that the industry finds this program beneficial to their operations. Moreover, a number of the larger organisations/companies have made attendance to the 'Cotton Field to Fabric' course at CMSE a priority for existing and new staff as part of their development program. Furthermore, a survey conducted by CRDC/CSIRO in 2010 showed that 92% of past participants of the Cotton Field to Fabric Course implemented information gained from this course in their workplace/farm. A number of growers and commercial operations have changed their practices to ensure that resources are better utilised and fibre quality is not compromised to ensure that yarn and fabric manufacturers' needs are met. This together with other initiatives such as Best Management Practices and research in other areas should contribute to the sustainability and growth of the industry.

Moreover, exposure to information on the post harvest sector processes has influenced decisions taken by 31% of the participants. This will contribute to the sustainability and growth of the industry. Teachers and students are exposed to the range of science and agricultural careers available which could lead to an influx of talented young people into the industry

6. Please describe any:-
 - a) technical advances achieved (eg commercially significant developments, patents applied for or granted licenses, etc.);

No technical advances were achieved by the project.

- b) other information developed from research (eg discoveries in methodology, equipment design, etc.); and

Not relevant.

c) required changes to the Intellectual Property register.

This project has produced course work and presentation materials that are subject to copyright.

Part 5 – Final Report Executive Summary

Provide a one page Summary of your research that is not commercial in confidence, and that can be published on the World Wide Web. Explain the main outcomes of the research and provide contact details for more information. It is important that the Executive Summary highlights concisely the key outputs from the project and, when they are adopted, what this will mean to the cotton industry.

With an increase in cotton production and the expected influx of new people into the industry, understanding spinners' requirements will be of the utmost importance to assist the Australian cotton industry to continue to deliver quality cotton and maintain a competitive position in the international market. The 'Cotton Field to Fabric' course is delivered in three formats that gives people in the cotton production pipeline the opportunity to gain valuable and current information and understanding of the entire cotton production pipeline; from the field to the manufacture of fabric. The 'Cotton Field to Fabric' course provides information on all aspects of cotton production highlighting to each sector within the industry the importance and their influence on quality. The three formats (initiatives) are; 1) the three day formal course, which has been presented eleven times since 2005 and has been very successful with over 280 people attending the course; 2) the Roadshow, which has been held twice since 2005 to 343 people and involves short workshops in local cotton growing areas in NSW and Qld and 3) a one day course for secondary school students and teachers.

The success of this program and its initiatives is very much dependant on the support from the cotton industry. The three initiatives that make up this project all have a different focus but are all aligned with essentially the same message. All participants obtain a clearer understanding of the entire cotton production and textile processing pipeline. In the past this has led to, and hopefully will continue to, a number of growers and commercial operations changing their practices to ensure that resources are better utilised and fibre quality is not compromised to ensure that yarn and fabric manufacturers' needs are met. This together with other initiatives such as Best Management Practices and research in other areas should contribute to the sustainability and growth of the industry.

