



## Scientific Exchange Final Report

### *Part 1 - Summary Details*

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**Cotton Catchment Communities CRC Project Number:**

**Final Report:**  Due within 3 months of project completion

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**Project Title:** **Cotton CRC Schools Field to Fabric Course**

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**Project Commencement Date:** September 2010

**Project Completion Date:** October 2010

**Research Program:** Community/Adoption

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### *Part 2 – Contact Details*

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**Other Staff & Collaborators – Rose Brodrick – CSIRO Plant Industry, Geoff Dunlop, Consultant**

**Signature of Research Provider Representative:** \_\_\_\_\_

## ***Part 3 - Travel Report***

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

### **1. What were the:**

#### **a) Major findings, outcomes and highlights.**

Developed as part of the project 'Promoting Science and Agriculture in schools', it was recognised that there was an opportunity to more actively involve students that study textile and design, science and agriculture in the cotton industry

Tapping into the already existing acclaimed Field to Fabric course run in conjunction with CSIRO's Material Science and Engineering Division and following a successful pilot study run in 2008 *and the accrual of funding* we were able to offer a modified course to students in the local region studying textiles and design , science and agriculture

René van der Sluijs travelled to Narrabri to present an 'Introduction to Textile Processing' course to school students and teachers over two days from the 12<sup>th</sup> to the 13<sup>th</sup> October 2010 in conjunction with Rose Brodrick and Geoff Dunlop

This one day course is a shortened version of the Cotton Field to Fabric course which is run in Geelong. This course was presented to teachers and senior high school students from Narrabri High school, Macintyre High school, and Calrossy Girls School in Tamworth studying textiles and design, agriculture and science. In total there were 28 participants including presenters

### **2. Detail the persons and institutions visited, giving full title, position details, location, duration of visit and purpose of visit to these people/places.**

N/A

### **3. a) Are there any potential areas worth following up as a result of the travel?**

This inaugural course was run as a pilot project in 2008 to gauge the level of interest in this area by students and teachers. The feedback was that of great interest and that it should be opened up to other subjects especially the sciences and agricultural students. To monitor the relative success of the project, we encouraged verbal feedback at the end of the day and participants were also asked to complete a course evaluation survey on the course content and presentation. The results from this are below.

## Evaluation from Students

*How would you rate the course content?*

	Students
• Excellent	__12__
• Good	__7__
• Average	__1__
• Other	__0__
• Totals	20

*How would you rate the delivery of presenters?*

	Students
• Excellent	__10__
• Good	__9__
• Average	__1__
• Other	__0__
• Totals	20

*How would you rate the training course support materials?*

	Students
• Very useful	__14__
• Useful	__5__
• Average	__1__
• Other	__0__
Totals	20

| *What were the major strengths of the training course?*

- Easy to follow slideshows and good explanations
- Learning how much processes go into producing a product and how to determine what cotton looks like not on a plant and clothing
- It was very informative & interesting in the way the course was presented and the activities and practical views were great
- Geoff's part
- Where we got to go and look how things were done e.g. ginning
- Learning so much about each item involved in cotton
- Learn so much! Great people giving the course
- Visuals on the screen, videos, going out to the tractor. I liked the frequent breaks
- Geoff Dunlop going to see the actual machinery and explanations on how it worked
- Where we outside and looked at a picker & the ginning process
- The amount of good information coming from well educated people, having chances to ask questions
- I find that I benefit from visuals so seeing the picker, ginner and tester machine was a strength for me
- Geoff's hands on activities, course content
- Being able to go out side and actually see what they are talking about, such as the tester, gin
- Geoff Dunlop really got everyone involved and enthusiastic it was good to get out of the room and having a look things
- How the cotton industry contributes to the textile industry and what influences they have
- There are activities included & slideshows
- It was interesting

- The hands on parts where we had things there to work with
- Geoff with his entertainment during his presentation

*What aspect of the course do you consider as the standout?*

- Hands on, easy to understand when you can work with the materials
- How you turn it from the plant into the yarn
- The activities and grading the cotton
- Geoff's part
- When we got to do some ginning
- Fibre properties & yarn as I study textiles at school as well
- Being shown the machines, samples, how things work
- Tractor and the gin
- Geoff Dunlop whole presentation
- The Ag parts
- Being able to see the progress from plant to fabric
- Harvesting and Ginning
- Agronomy talk & harvesting talk
- Harvesting and ginning with Geoff Dunlop
- Geoff Dunlop's talk was the best
- The harvesting/ginning information and going outside to look at the cotton picker
- The machine like the filtering the seed of the natural cotton and the cotton truck
- Looking at the cotton picker
- The first part where we learnt about textiles things
- The prac side of it, going out side a looking at things

*What changes, if any, would you recommend in the training course?*

- Make it over 2 days so it isn't all packed into one long day
- The course was really good and informative as I had no knowledge about cotton and understand it now
- It was great how it was
- There was none it was good
- Na it was good
- Not sure, maybe less talking but the info is so helpful
- Cut down on all the talking have more physical things to do
- More hand outs on stuff outside, longer breaks
- Don't know it was pretty good less stuff about textiles, fabrics & more about Ag stuff & ag opportunities/ jobs
- Longer lunch break
- More (if possible) hands on activities. E.g. tractor machinery and ginning, a bit less talking
- More hands on activities, opportunities on how to get into the industry
- More interactive
- None really just maybe get the students a bit more involved ,a bit more hands on
- I would have liked more information on how the cotton fibres contribute to the textile industry and also how that type of market would be
- more hands on things
- have more hands on things

- a bit more entertainment/ jobs during it to draw our attention in

*Did the Training Course meet your requirements/ expectations?*

- |               |           |
|---------------|-----------|
| • Yes         | __20__    |
| • No          | __ 0__    |
| <b>Totals</b> | <b>20</b> |

*How will you apply specific or general learning's to your role / area of responsibility?*

- When buying clothes I am going to look for white dots and also look for products made by cotton
- If I get a job in the cotton industry it will be very handy
- Tell my mum about it as she wants to know
- It will be helpful in more studies
- Class work? General area & time in agriculture primary industries
- It will be used for my major work in textiles this year
- In my textiles major & Ag course next year
- In the future as for education in textiles HSC
- Help/assist with Agriculture course (HSC), career options
- Broaden knowledge in Ag and Textiles HSC course
- It helped to widen my knowledge about textiles and the textile industry
- This will be very useful in my textile studies as it closely relates to the course and clearly explains one key focus area within textiles
- in textiles at school
- I will be able to use the information to help me with textiles in year 12

*Additional comments or programming suggestions,*

- over 2 days
- Thanks guy's for the info
- It was good just very packed day
- I had fun started to get tired by the end of day
- Thanks
- Good knowledge, no onion on any food please
- Don't know it was pretty good less stuff about textiles, fabrics & more about Ag stuff & Ag opportunities/ jobs
- Was interesting specially when I was from a different farming background
- See above
- A well thought out program, very worth the trip- well done Thanks
- Day was fun but very long, food was good
- Great day
- Overall I think the training course was well planned out and was very beneficial to me as a textile student.
- More activities

*Has today increased your knowledge in future careers in agriculture and science? Please give an example*

- |       |        |
|-------|--------|
| • Yes | __17__ |
| • No  | __ 0__ |

- No response      \_\_ 3 \_\_
- **Totals**                20

Examples:

- Increased knowledge of cotton growing and how hard it is, harder than it looks and also ginner would be a good career choice.
- Its opened my mind into the agronomy industries and also crop farming, I was also interested in Ag, before hand
- Increased my knowledge of cotton industry and the careers it entails
- Harvesting side of things
  - About ginner/ electrical, mechanical, engineers, etc
  - Contractors for picking
  - Textiles
- It has made me wonder about the cotton area and thinking about doing it as a harvesting
- Harvesting and more into fibre
- Now I know that there is a lot more to cotton than picking/harvesting it and making clothes. I now know that with all involved in cotton like ginning and the products gained from cotton involve a lot of different careers! I never knew how much went into cotton work, all the steps taken and all the products it makes
- Today has increased my knowledge in future careers in Ag and Science. I have learnt so much more today then I thought I would have
- How cotton is picked what cotton is used in/for : food, fuel, fibre, how it is sorted through feed trash and colour
- I like it
- It opened up so many job opportunities that I did not know although I am more interested in the textile part not just the Ag & science Thanks
- More agronomists and people working in the agriculture field e.g. agriculture accountancy & media
- Need for agronomists in rural areas. Also the opportunity to take on 'hands on' work experience within the harvesting industry. I would love to get into the agronomy industry
- The ability for girls to do work in the cotton industry
- It has widened my knowledge about jobs in the textile industry. I didn't realise how big of role the textile industry played throughout the world
- It also increased my awareness of the job opportunities available for the textile industry
- 3 x n/a
- It showed me different jobs within this business

**Evaluation from Teachers**

*How would you rate the course content?*

- |                 | <b>Teachers</b> |
|-----------------|-----------------|
| • Excellent     | __ 3 __         |
| • Good          | __ 0 __         |
| • Average       | __ 0 __         |
| • Other         | __ 0 __         |
| • <b>Totals</b> | <b>3</b>        |

*How would you rate the delivery of presenters?*

	Teachers
• Excellent	__3__
• Good	__0__
• Average	__0__
• Other	__0__
• Totals	3

*How would you rate the training course support materials?*

	Teachers
• Very useful	__3__
• Useful	__0__
• Average	__0__
• Other	__0__
Totals	3

*What were the major strengths of the training course?*

- Exposure to science of textiles and complexity of it
    - Broad picture of whole process from growth to manufacture (as the title)
  - The professionalism & knowledge & experience & passion of the presenters
    - being at CRC
    - Hands on with actual machinery
    - Rene's classing samples
    - Presenters engaging with students all felt very comfortable
- Having world class textiles expert her in Narrabri to share knowledge so freely

*What aspect of the course do you consider as the standout?*

- Really like the abundant resources to refer to – a lot to digest – helps to have info available
- Passion & desire to encourage future careers. I love people passionate about the job
- Content as it reinforces what I try to get across in the class room
- I think it is all good (teacher) but samples , hands on activities

*What changes, if any, would you recommend in the training course?*

- A lot to take in for students in 1 day (as you are aware)
  - Possible highlight links to HSC course ( at least for teachers to later refer to)
  - Remind me to e-mail you relevant parts of HSC syllabus for Agriculture (unsure of Textiles – ask Narrabri Teacher)

The course is fantastic taking us from field to fabric

- Enough time is spent on each stage.
- Probably need to know before holidays as u was not able to prepare the student in order to get the most out of the course

Nothing really

For textiles student – don't think we need as much agronomy – although I realise all steps of production are important

*Did the Training Course meet your requirements/ expectations?*

• Yes	<u>  3  </u>
• No	<u>  0  </u>
<b>Totals</b>	<b>3</b>

*How will you apply specific or general learning's to your role / area of responsibility?*

- Address many areas of HSC AG unit of- unit called farm product study
- Also address other areas of syllabus esp. role of technology in agriculture products systems
- Be more confident in my delivery of HSC course content
- Use resource/ samples & I have great contacts when needed

*Additional comments or programming suggestions,*

- As science Head Teacher I see lots of significance to relevance of the science of agronomy/ textiles to the real world & need to help kids learn/ recognise options of careers in science linking to agriculture
  - Maybe suggest teachers bring a USB to get a copy of PowerPoint's to refer to later in class
  - Link to that presentation on Biotechnology role of cotton that Brony & I watched in April with our Kids ([Warwick Stiller's presentation to Year 12 Ag student](#))
  - From my perspective as Ag teacher (& BIO) more time spent on role of GM cotton & genetic engineering as a lot of work is done on that now in years 11 &12, from Textiles subject area I know less on how to address- given all the last session on Classing, yarn manufacturing, fabric formation, dyeing & finishing is important
  - For what we need (of) is more focus on marketing. The manufacturing/ processing takes up about 10% of work on product study, manufacturing and advertising/ .....& specification for quality about 40% with 50% on growing the product and role of management etc
  - **BUT** Thought/Think it's been fabulous exposure to an area of agriculture. Kids wouldn't get opportunity to see relevance of what is learnt to real world and huge variety of job opportunities available.
  - Maybe if that is a focus of this (as with PICSE) ask the presenters to describe how they ended up in this career – kids usually find this fascinating & helps them see how life happens to you sometimes .Thanks Muchly

Surpassed course I did three years ago

- Will send HSC Textiles and design syllabus to Rene
- This course is probably on a par with what we require
- Many Thanks

Opened students eyes to the fibre as a world wide important commodity and all processes involved

- Will attach syllabus and highlight areas of concerns eyes to the fibre as a world wide important commodity a7 all processes involved
- Will attach syllabus and highlight areas of concern

In summary the course was a success and the general feeling is that it would be worthwhile to continue in the future with a few minor modifications, such as having more practical and hands on activities, Modifying the course to better suit the high school curriculum especially for the Higher School Certificate (HSC) with the aid of teachers and other educators. As part of the recent call for Preliminary Research Proposal (PRP) by the CRDC a proposal was submitted to fund this program for a further 3 years.

**b) Any relevance or possible impact on the Australian Cotton Industry?**

Students and teachers now have a greater awareness and knowledge of the cotton industry, from the initial growing of the fibre right through to the final product.

Textile and design students could make a valuable resource for the cotton industry. Along with students studying Agriculture and science as there is a documented need for more employees for the cotton industry. This course has showed students and teachers an awareness of the cotton industry along with opening up avenues of employment opportunities with in the industry. Please Note comments in survey above.

**How do you intend to share the knowledge you have gained with other people in the cotton industry?**

Our goal is to modify this course and develop a more refined programme which can be rolled out to a wider audience and more schools across cotton growing regions in the future.

**4. Executive summary. Provide a one paragraph summary of the scientific exchange, suitable for posting on the CRC web site**

Developed as part of the 'Promoting Science and Agriculture in schools' project, it was recognised that there was an opportunity to more actively involve students that study textile and design. After the initial pilot study in 2008 a number of teachers have continually requested the course be run again. René van der Sluijs travelled to Narrabri and presented an 'Introduction to Textile Processing' course from the 12<sup>th</sup> to the 13<sup>th</sup> of October 2010, with fellow presenters Rose Brodrick, and Geoff Dunlop, to teachers and senior high school students across the Namoi valley. This year saw three schools participate with another two showing great interest but unable to attend at that time. This course is a shortened version of the Cotton Field to Fabric course presented in Geelong and the course educated teachers of science,

agriculture, and textiles in all aspects of cotton production from field to fabric. It assisted in the dissemination and integration of cotton examples into the high school curriculum. Undertaking the course in an accessible, central cotton growing area gave students practical, hands-on experience of the entire cotton production system and increased interactions between the broader community and the cotton industry. The course also exposed students to the range of science and agricultural careers available through the industry along with assisting with the adoption of new technologies and industry knowledge. The general feedback from participants is that the course was well presented, informative, well organised, interesting and they hoped that it will be run again in the future.

### **Photos**



Calrossy Girls School Tamworth and Narrabri High School (above) and Macintyre High School Inverell (below) with presenters and organisers of the Field to Fabric Course 2010



Students visiting the ACRI ginning shed get to gin their own cotton samples

