



Australian Government
Cotton Research and
Development Corporation

TRAVEL & CONFERENCE REPORT

Part 1 - Summary Details

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

CRDC Project Number: CMSE1206

Project Title: Student project allowance – fibre/yarn studies

Project Commencement Date: 06/2011 **Project Completion Date:** 01/2012

Select Research Program (from CRDC Strategic R&D Plan 2008-2013): 1. Value Chain

Part 2 – Contact Details

Administrator: Ms. Jo Cain
Organisation: CSIRO Plant Industry
Postal Address: Locked Bag, Narrabri NSW 2390
Ph: 02 6799 1500 **Fax:** **E-mail:** jo.cain@csiro.au

Principal Researcher: Ms. Julie Piquee
Organisation: c/ CSIRO Materials Science and Engineering
Postal Address: PO Box 21, Belmont VIC 3216
Ph: 03 5246 4000 **Fax:** 03 5246 4057 **E-mail:** julie.piquee@csiro.au

Supervisor: Stuart Gordon
Organisation: CSIRO Materials Science and Engineering
Postal Address: PO Box 21, Belmont VIC 3216
Ph: 03 5246 4000 **Fax:** 03 5246 4057 **E-mail:** stuart.gordon@csiro.au

Researcher 2 Robert Long
Organisation: CSIRO Materials Science and Engineering
Postal Address: PO Box 21, Belmont VIC 3216
Ph: 03 5246 4000 **Fax:** 03 5246 4057 **E-mail:** robert.long@csiro.au

Signature of Research Provider Representative: _____

Part 3 – Travel Report

(Maximum two pages)

1. A brief description of the purpose of the travel.

The travel allowance was used to pay part of the cost for Ms. Julie Piquee, a student from Arts & Métiers graduate school of engineering (France). Ms Piquee applied in early 2011 for an internship with CSIRO to work on a project investigating cotton fibre and yarn tensile properties.

The travel subsidy of \$3500 from the CRDC was used to cover around half of her living allowance for the six month internship.

2. What were the:

a) major findings and outcomes

This project focussed on measuring the compensatory effects of fibre length, uniformity, strength and elongation in new cultivars on yarn tensile properties. Compensation by these fibre properties was measured by comparing ten CSIRO breeding cultivars, which were selected and paired from a larger set to allow controlled comparisons on the basis of elongation, e.g. fibre strength values and length were kept constant with variations in elongation. CSIRO's miniature cleaning and spinning system were used to prepare and spin each cultivar into two yarn counts with two twist levels (knit and weave twist).

The results in this study showed there was a negative relationship between yarn tenacity and fibre elongation, although this depended significantly on fibre cleaning, yarn count and twist level. While limited in the scale of values examined this result belies work by others and demands further investigation, particularly the difference in behaviour between low and high twist yarns.

A full report on Ms Piquee's work is available from CSIRO.

b) other highlights

3. Detail the persons and institutions visited, giving full title, position details, location, duration of visit and purpose of visit to these people/places. (NB:- Please provide full names of institutions, not just acronyms.)

Ms Piquee worked for six months at CSIRO Materials Science and Engineering, Belmont VIC 3216. Ms Piquee worked with Drs. Long, Gordon and Constable and was assisted by Messrs Freijah and Horne.

4. a) Are there any potential areas worth following up as a result of the travel? b) Any relevance or possible impact on the Australian Cotton Industry?

This study illustrates the complexity of the fibre yarn model, which is being examined in the CRC/CRDC Cottonspec and CRDC Elongation projects.

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

This work supports the CRC/CRDC Cottonspec and CRDC Elongation projects. Each of these projects will employ a number of communication strategies ranging from peer review papers and briefing reports to CRDC and CSIRO (CRDC Elongation) to a commercial business case (CRC/CRDC Cottonspec).

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

The \$3500 granted was used to subsidise Ms Piquee's living allowance (\$600/fortnight) during her six months in Australia.

Date	Description	Amount excl GST	GST	Total
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
			TOTAL	0.00