



Final Report

Capacity & Community | Cotton Research & Development Corporation

Part 1 - Summary Details

CRDC Project Number: UA 14

Project Title: Development of cotton boll wall-specific promoters

Project Commencement Date: 18/03/2002 **Project Completion Date:** 18/09/05

Research Program: Capacity & Community

Part 2 – Contact Details

Administrator: Ms Antoinette Brincat, Scholarships Officer

Organisation: Graduate Studies and Scholarships, Adelaide University

Postal Address: University of Adelaide, SA, 5005

Ph: (08) 8303 3044 **Fax:** (08) 8303 6445 **E-mail:** antoinette.brincat@adelaide.edu.au

Principal Researcher: Damien Lightfoot, PhD student

Organisation: Adelaide University

Postal Address: Molecular and Biomedical Science (Genetics), Adelaide University, Adelaide, SA, 5005

Ph: (08) 83033013 **Fax:** (08) 8303 4362 **E-mail:** damien.lightfoot@adelaide.edu.au

Supervisor: Associate Professor Jeremy Timmis

Organisation: Adelaide University

Postal Address: Molecular and Biomedical Science (Genetics), Adelaide University, Adelaide, SA, 5005

Ph: (08) 8303 4661 **Fax:** (08) 8303 4362 **E-mail:** jeremy.timmis@adelaide.edu.au

Supervisor 2 Dr Sharon Orford, Research Fellow

Organisation: Adelaide University

Postal Address: Molecular and Biomedical Science (Genetics), Adelaide University, Adelaide, SA, 5005

Ph: (08) 8303 7540 **Fax:** (08) 8303 4362 **E-mail:** sharon.orford@adelaide.edu.au



Part 3 – Final Report Guide (due 31 October 2008)

Description and purpose of the travel.

Travel was undertaken to attend the 2005 annual conference of the Genetics Society of Australasia in Auckland, New Zealand between the 19th and 23rd of June. The purpose of the travel was to present the results, to date, of my project “UA11C: Development of cotton boll wall-specific promoters” to an international audience and to gain experience and knowledge of other relevant research.

Major findings and outcomes

The outcome of the travel was a successful presentation of my work to the conference audience. Knowledge about molecular and plant techniques was gained from other researchers, presentations and from informal discussions. Valuable networking was undertaken, and contacts were made which may be useful in the future.

Other highlights

My poster presentation was awarded the Sidney James Prize (awarded for the best poster presentation by a Ph.D. student).

Itinerary

A visit was made to the Department of Biology at the University of Auckland on the 24th of June. I had informal discussions with PhD students and postgraduate researchers. General information was gained about the state of New Zealand plant research and more specific information was gained about plant growth conditions.

I also had an informal discussion with a CRDC-funded PhD student, Derek Collinge, who is based at CSIRO Entomology in Canberra under the supervision of Dr. Steve Whyard. His project focuses on using RNAi technology to potentially protect cotton from attack by *Helicoverpa armigera*. My project is based around the concept of identifying promoters capable of driving transgene expression in a boll wall-specific manner. It was interesting to see another possible use for the outcomes of my project: i.e. the use of boll wall-specific promoters to drive ‘newer technology’ anti-pest molecules (RNAi) as well as the ‘older technology’ anti-pest molecules (e.g. transgenes such as those used in Bt-transgenics).

Potential areas worth following up as a result of the travel?

As a result of my presentation, I received a few suggestions that were relevant to my project. Of particular use was some information on the use of the Gateway[™] cloning technology that had been causing some technical trouble. I also had useful discussions with other researchers who work on promoter analysis which may prove useful for the final part of my experimental work and with promoter analysis for my thesis.

Relevance or possible impact on the Australian Cotton Industry?

As this was a general genetics conference, there wasn’t anything directly relevant to the Australian cotton industry other than that listed in question 4a.



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

Some of the knowledge gained at the 2005 Genetics Society of Australasia conference had been, and will be, directly transferred into my project as explained in 4a. The knowledge was of a nature specific to my project rather than to the cotton industry directly. The outcomes of this project will be shared with the cotton industry (and the scientific community) in the form of CRDC reports, as part of my PhD thesis, in the form of a manuscript in a peer-reviewed journal and potentially at future conferences.