



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: **CRDC300**

**Project Title: Travel: B Wang – 4th World Cotton
Conference, USA in September 2007**

Project Commencement Date: Sep 9, 2007 **Project Completion Date:** Sep 16, 2007

Research Program: - Please Select One -

Part 2 – Contact Details

Administrator: Brill Graham
Organisation: CSIRO Plant Industry
Postal Address: GPO Box 1600; Canberra ACT 2601
Ph: 02-6246-5431 **Fax:** 02-6246-5000 **E-mail:** Graham.Brill@csiro.au

Principal Researcher: Bo Wang
Organisation: CSIRO Plant Industry
Postal Address: GPO Box 1600; Canberra ACT 2601
Ph: 02-6246-5205 **Fax:** 02-6246-5000 **E-mail:** Bo.Wang@csiro.au

Supervisor: Jeremy Burdon
Organisation: CSIRO Plant Industry
Postal Address: GPO Box 1600; Canberra ACT 2601
Ph: 02-6246-5546 **Fax:** 02-6246-5000 **E-mail:** Jeremy.Burdon@csiro.au

Researcher 2 Peter Thrall,
Organisation: CSIRO Plant Industry
Postal Address: GPO Box 1600; Canberra ACT 2601
Ph: 02-6246-5126 **Fax:** 02-6246-5000 **E-mail:** Peter.Thrall@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 purpose of this travel was to attend the 4th World Cotton Research Conference in Lubbock, Texas, USA, and to, as an invited speaker, give a presentation about *Fusarium oxysporum* f. sp. *vasinfectum* in Australia at the Fusarium symposium.

2. What were the:

a) major findings and outcomes

Fusarium wilt is still an important limiting factor to sustainable cotton production worldwide. With novel pathotypes building up in the fields as a result of introduction of external origins, mutation of existing pathogen populations, or recent evolutions, it may re-emerge as a devastating disease in an area where it no longer is a concern for years. An example is the substantial loss caused by race 4 pathogen in California.

A communication was established with Dr Chen Niu in Department of Plant and Soil Science of Texas Tech University, who worked on *Thielaviopsis basicola*, black root rot pathogen of cotton, and Drs Jinggao Liu, Alois Bell, and Robert Stipanovic in Cotton Pathology Research Unit of Texas A&M University, who worked on genetics of Fusarium wilt pathogens.

The conference tour to the USDA fibre laboratory in Lubbock and Department of Plant and Soil Science experimental station of Texas Tech University was impressive.

b) other highlights

Taxonomy of Fusarium pathogens, *i.e.*, *Fusarium oxysporum* f. sp. *vasinfectum*, is confusing, particularly when races, VCGs, and genetic lineages based on similarity revealed using molecular markers are discussed together. I look forward to rising and discussing this issue with other *Fusarium* expertise on the 10th *Fusarium* workshop to be held in Italy next year following the 8th International Congress of Plant Pathology, given my application for travel fund from CRDC is successful.

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.)

Nil

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

Collaboration with Dr Rebecca Bennet of USDA and Dr Robert Huttmacher of UC Davis Plant Science Department should be considered in terms of further insight into the potential impacts of California race 4 on Australian cotton production.

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

The recent emergence of Fusarium wilt pathogen race 4 has become a big problem in California. This new pathotype has potential threat to Australian cotton production. Some work should be conducted to explore genetic relationships of California race 4 to Australian VCGs and to preliminarily screen Australian cotton germplasms against this new pathotype.

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

Knowledge will be shared with consultants and researchers via email, workshops, seminars, FUSCOM, etc, and with cotton growers by discussing relevant issues on field trips.