



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: **CRDC 300**

Project Title: World Cotton Conference visit

Project Commencement Date: 8 Sept 2007 **Project Completion Date:** 16 Sept 2007

Research Program: 3 Crop Protection

Part 2 - Contact Details

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Signature of Research Provider Representative:

Part 3 – Travel Report

(Maximum two pages)

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

Attendance at the World Cotton Conference in Lubbock Texas, USA September 2007.

2. What were the:

a) major findings and outcomes

A range of contacts were made with Cotton Entomologists researchers from around the world. Useful exchange of information occurred particularly with a strong contingent of entomologists from India.

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.)

This visit to USA was restricted to attendance at the WCC in Lubbock. No other institutions were visited.

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

Several new contacts with people working in my or related fields were made and previous contacts revived through discussions at the conference.

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

The report by Keshev Kranthi was interesting in that he has found Cry1Ac resistance in *Helicoverpa armigera* at a frequency of 0.008 in Indian populations. He has attempted to determine if this resistance is of the same form as that in *H. armigera* detected by Yidong Wu in Chinese populations, which is due to mutation at a cadherin locus. However Kranthi was unable to get Wu's primer sequences to work. This may mean that a quite different mechanism is involved in resistance in each country, or, that the cadherin gene is responsible but different mutations are present in India and China. Whatever the cause, the presence of Cry1Ac resistance at detectable frequencies is of interest to us, as to date such resistance has not been detected in Australian populations of *H. armigera* despite the more intensive monitoring program we employ. Tools that both groups develop to detect their forms of Cry1Ac resistance will be highly relevant to our situation.

I was particularly interested in work on new insecticidal transgenics that might be introduced into Australia. Monsanto' Bollgard (Ingard) and Bollgard II dominate the market in USA, however they plan to withdraw the single gene product. The two-gene Vipcot containing Cry1Ac and Vip (a Bt protein quite different from the Cry toxins presently in use) was also discussed at the conference. Vipcot appears to be working its way through the US regulatory system and its proponents expect that it will be released in USA in 2010. This product is likely to have a great fit in the Australian environment. Bayer are also developing a two-gene insecticidal variety but little was revealed about this product at the conference.

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

The most appropriate mechanism of conveying what was learned at the WCC is through discussions with individuals interested in Bt resistance in the cotton industry and with members of the Bt technical panel.