



Australian Government

Cotton Research and
Development Corporation

TRAVEL, CONFERENCE or SCIENTIFIC EXCHANGE REPORT 2016

Part 1 - Summary Details

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

CRDC Project Number: US1602

Project Title: The World Cotton Conference 6 – Goiania Brazil 2016

Project Commencement Date: 1 May 2016 **Project Completion Date:** 10 May 2016

CRDC Research Program: 1 Farmers

Part 2 – Contact Details

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Signature of Research Provider Representative:

Date Submitted:

31/5/2016

Part 3 – Travel, Conference or Scientific Exchange Report

(Maximum two pages)

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

The purpose of the travel was to attend the World Cotton Research Conference 6 in Goiania, Brazil and to present two papers.

2. What were the:

a) major findings and outcomes

b) other highlights

I had the pleasure of presenting my research on the effect of paclobutrazol seed coating on the early vigour of cotton seedlings under cool field conditions (funded by the Cruiser R&D Fund) as well as research on 1.0 m compared with 1.5 m row cotton row spacing at Auscott Warren (funded by CRDC) at the World Cotton Research Conference during 2-6 May 2016 in Goiania, Brazil. The main highlight of the conference was the technical tour to the SLC Agricola Farm Pamplona, Cristalina (near Brasilia) where they grow cotton (TMG 81 Widestrike, Cry1Ac + Cry1F) in rotation with corn, wheat and soybean. I was really surprised at the number of insecticide sprays that they used, especially to control boll weevil (*Anthonomus grandis*). In the gin, they also recycled the gin trash by compressing it into a briquette to be burnt with timber produce steam for the gin.

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.)

While on this exchange, I met and spoke to a number of international researchers including Camilo Morello, a senior plant breeder at Embrapa, Brazil, Michel Fok of CIRAD, France who is the incoming Chair of ICRA (International Cotton Researchers Association), Drs Kater Hake, Edward Barnes and Robert Nichols of Cotton Incorporated, USA, Dr Hezong Dong of the Shandong Academy of Agricultural Sciences, China, Dr Dean Ethridge, Managing Director of the International Textile Center, Texas Tech University, Dr Guozheng Yang of Huazhong Agricultural University, China, Ingrid Zabaleta of the Food and Agriculture Organisation (FAO), Drs Usha Rani and P. Nalayini of the Central Institute for Cotton Research, Tamil Nadu, India, Dr Dil Baugh Muhammad of the Central Cotton Research Institute, Pakistan, Dr K.R. Kranthi of the Central Institute for Cotton Research (CICR) at Nagpur, India, and Profs Oner Cetin and Sema Basbag based in Turkey (who will be co-hosting WCRC-7).

- Discussions with Dr K.R. Kranthi of the Central Institute for Cotton Research (CICR) regarding the emergence of Bt (Cry1Ac and Cry2Ab) resistance in pink bollworm (*Pectinophora gossypiella*) in India and the need for integrated pest management and resistance management.
- Discussions with Dr Robert Nichols of Cotton Incorporated regarding the emergence of multiple mode of action herbicide resistance in palmer amaranth (*Amaranthus palmeri*) in the USA.
- Discussions with Michel Fok of CIRAD regarding the Chinese policy to re-locate the cotton industry from the Chinese eastern states to the northwestern states (e.g. Xinjiang).

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

I shall be following up with Dr Robert Nichols regarding the latest information on early seedling vigour in cotton and with the use of plant growth regulators in the USA. This information will be useful in my supervision of PhD students, Claire Welsh who is working on the effects of the plant growth regulator, cytokinin on cotton root systems in dryland cotton production and Tim Bartimote who is working on early season vigour in cotton.

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

The emergence of Bt resistance in pink bollworm in India, infestation of boll weevil in Brazil and emergence of multiple mode of action herbicide resistance in palmer amaranth in the USA is a reminder of the importance of maintaining rigorous quarantine, biosecurity, resistance management and integrated pest management for the Australian Cotton Industry.

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

I have provided Brendan Griffiths at the University of New England with information from WCRC-6 conference so that he can have up to date information for teaching future students in the Cotton Course. I have also forwarded important information on the emergence of Bt resistance in pink bollworm to Dr Mary Whitehouse (CSIRO) and Dr Tanya Latty (University of Sydney) so that they are aware of the problem. I shall also continue to discuss this knowledge that I have gained with my students, colleagues and other scientists and farmers in the cotton industry.

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

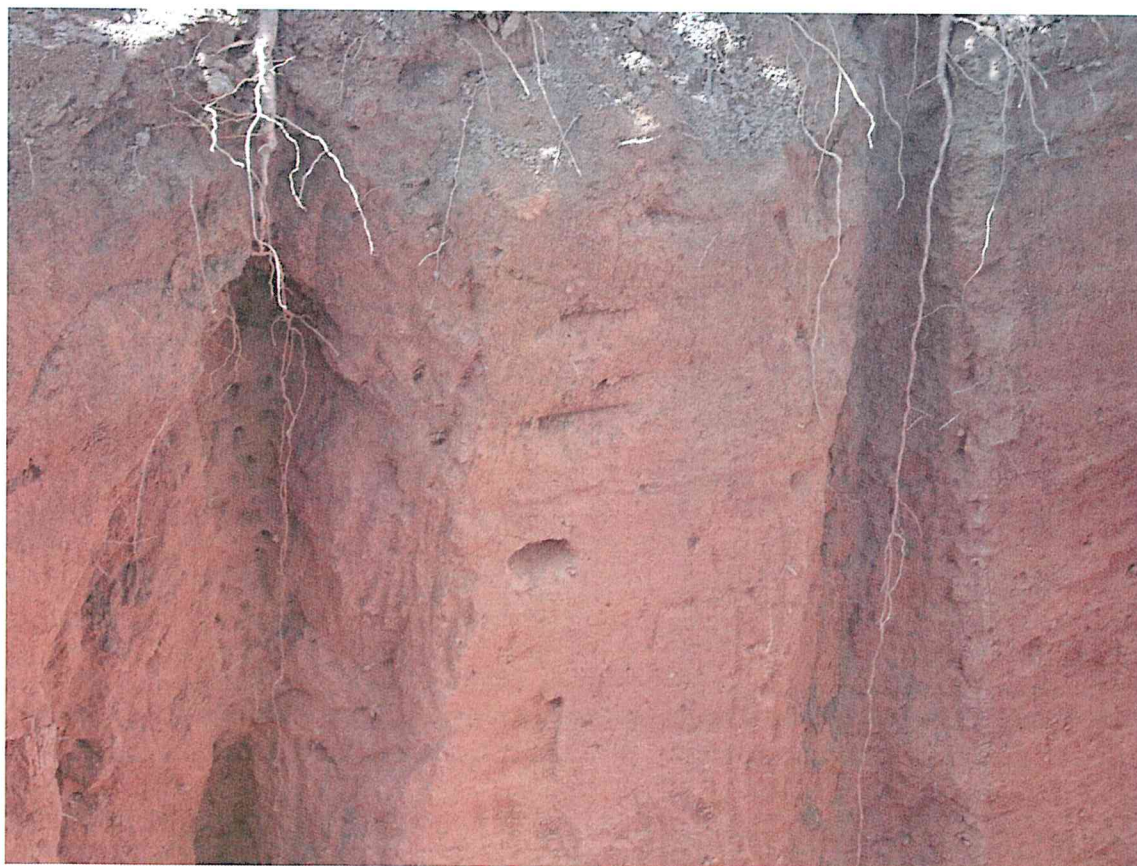
Date	Description	Amount excl GST	GST	Total
8-Feb-16	Return airfares to Goiania, Brazil	2871.18	0	2871.18
1-Apr-16	Travel vaccine	52.00	0	52.00
5-Apr-16	Visa for Brazil	224.95	0	224.95
1-May-16	Taxi from office to Sydney Airport	24.89	0	24.89
1-May-16	Transfer from International to Domestic Airport - Sao Paolo	17.56	0	17.56
2-May-16	Multi-adaptor for Brazil	7.91	0	7.91
8-May-16	Travel essentials in Brazil	146.99	0	146.99
8-May-16	Travel essentials in Santiago Airport, Chile (in transit)	151.47	0	151.47
			TOTAL	3496.95

Please email your report by 21 June 2016 to: research@crdc.com.au

Appendix



Irrigated cotton at Pamplona farm, SLC Agricola (near Brasilia), Brazil



Cotton root systems in Cerrado soil (oxisols) at Pamplona Farm



Cotton gin trash being compressed into briquettes for burning



Steam boiler fuelled by cotton gin trash and timber (for adding moisture back to cotton after ginning)