



Australian Government

Cotton Research and
Development Corporation

TRAVEL, CONFERENCE or SCIENTIFIC EXCHANGE REPORT 2014

Part 1 - Summary Details

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

CRDC Project Number: CSP1503

Project Title: Travel Attendance at Grand Challenges
Great Solutions Conference

Project Commencement Date: 31/10/2014 **Project Completion Date:** 28/11/2014

CRDC Research Program: 2 Industry

Part 2 – Contact Details

Administrator: Jo Cain, Administration Manager
Organisation: CSIRO Agriculture Flagship
Postal Address: Locked Bag 59, Narrabri NSW
Ph: 02 6799 1513 **Fax:** 02 6793 1186 **E-mail:** jo.cain@csiro.au

Principal Researcher: Dr Onoriode Coast, Post-doctoral Fellow
Organisation: CSIRO Agriculture Flagship
Postal Address: Locked Bag 59, Narrabri NSW
Ph: 02 6799 1541 **Fax:** 02 6793 1186 **E-mail:** onoriode.coast@csiro.au

Supervisor: Dr Rose Brodrick, Research Team Leader
Organisation: CSIRO Agriculture Flagship
Postal Address: Locked Bag 59, Narrabri NSW
Ph: 02 6799 1594 **Fax:** 02 6793 1186 **E-mail:** rose.brodrick@csiro.au

Signature of Research Provider Representative: _____

Date Submitted: _____

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 and present results of research into plant based measures of irrigation scheduling at the ASA/CSSA/SSSA International Annual Conference in Long Beach, California. This was meant to promote Australian cotton industry and research using an international platform. The travel was also to meet with collaborators, Drs James Mahan and Paxton Payton, at USDA, Lubbock, Texas for continued work on improving Australian irrigation strategies whilst understudying the American system.

2. What were the:

a) major findings and outcomes

Some of the outcomes of the travel were

- a. Research result was delivered and well received by the scientific community judging by the number of visitors to the poster session and questions asked
- b. Australian cotton industry and research were well promoted at an international level
- c. The scientific exchange to USDA, Lubbock, Texas enabled improvement of existing synergies in our research collaborations with partners in the USA
- d. Advanced exploratory data analysis, presentation and interpretations using data from irrigation experiments conducted in both the U.S. and Australia were conducted.

b) other highlights

At the conference, it was apparent that the Australian cotton industry is at the forefront of canopy temperature based furrow irrigation scheduling. Also although the USA and Australian cotton industries have similar challenges in terms of scheduling irrigation, the Australian system, requires a very different approach at fine tuning irrigation schedule.

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.)

30 October 2014

Dr Robert B. Hutmacher. Cooperative Extension Specialist and Center Director - University of California, West Side Research and Extension Center, Five Points, California, U.S.A.

A brief meeting was held with Dr Hutmacher to gain from his practical experience of using stem diameter contraction device developed by a group in Israel (Phytech Ltd). This tool is been deployed across cotton farms in Australia this season and we are keen to assess its suitability for integration into a future more encompassing irrigation scheduling toolbox.

06 – 29 November 2014

Dr James R. Mahan (Plant Physiologist) and Dr Paxton Payton (Plant Physiologist), United States Department of Agriculture/Agriculture Research Services, Plant Stress and Water Conservation Laboratory, Lubbock, Texas, U.S.A.

The visit to USDA, Lubbock provided opportunity to further collaborations with cotton and irrigation scientists in the U.S.A.. It also provided a means to strengthen linkages between Australian and U.S. cotton physiologists, to create better synergies in future research efforts. to continue project work with Drs Mahan and Payton.

24 – 25 November 2014

Dr Rao Kameswara Kottapalli Research Associate Professor - Center for Biotechnology and Genomics, Texas Tech University, Lubbock, Texas, U.S.A.

Revised June 2014

Together with Dr Paxton Payton, visits were made to the laboratory of Dr Rao Kameswara Kottapalli at Texas Tech University, Lubbock, Texas. During which time we discussed capabilities of the different groups, CSIRO, USDA and Texas Tech University, and how these could be used to enhance research into cotton water stress managements. We discussed investigating water stress acclimation studies. We reasoned that studies along these lines could be useful in maintaining yield and quality in water limiting environments.

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

Areas of potential worth for which collaboration with partners in the USA will continue include data analysis techniques, experimental designs and better information exchange. Also of potential and worth following up on are studies into early season acclimation on yield and quality. Another scientific exchange during the third year of the project will immensely benefit the project as discussion via phone and emails are limited in depth and content.

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

Travel to the USA provided a medium to further promote the Australian cotton industry as world leaders in production and more so in research into plant based irrigation scheduling. Research ideas and experimental designs discussed during the trips will be trialled in Australia and hopefully these will provide scopes for making better use of limited water resources in the Australian Cotton Industry.

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

Together with partners in the USA we are working on a manuscript which when published should be available for the cotton industry to access. Information and knowledge gained from this visit will be shared with farmers, agronomist and other stakeholders of the Australian cotton industry through various media. Such as giving talks at field days, the interactive irrigation research tour planned for later this year, articles in one or more of the local cotton magazines, and during visits to farmers' fields.

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

Please email your report 30 days after travel/conference to: research@crdc.com.au