



Australian Government

Cotton Research and
Development Corporation

TRAVEL, CONFERENCE or SCIENTIFIC EXCHANGE REPORT 2017

Part 1 - Summary Details

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

CRDC Project Number: DAQ1804

Project Title: A short course in plant and soil nematology – Tim Shuey

Project Commencement Date: 1/7/2016 **Project Completion Date:** 30/6/2019

CRDC Research Program: 2 Industry

Part 2 – Contact Details

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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.

Travel was conducted in order to participate in the course “Nematodes in Cropping Systems: Identification and Techniques, 2017”. This course provided training and hands-on experience for researchers in sampling, extraction, molecular and microscopic techniques, specimen preparation, culturing, diagnosis and identification of agriculturally important nematodes. The course provided the opportunity to interact with experts in the field as well as networking with course participants from various areas related to nematology research and diagnostics.

2. What were the:

- a) major findings and outcomes**
- b) other highlights**

Participation in the course provided an increased understanding of current and potential impact of nematodes and biosecurity implications. An outline was provided of nematode physiology and common survival techniques utilised under hostile environmental conditions, which enabled increased understanding of potentially beneficial control methods and farming practises.

Novel extraction techniques were examined that provide a useful alternative for conduct of future experiments relating to plant parasitic nematodes.

Increased ability to identify agriculturally important nematodes to species level will enable more accurate and timely analysis of diagnostic and experimental samples. Potential complications when identifying the impact of subtle (occasionally indistinguishable) differences within species were discussed, with a range of ideas examined to consider the best theoretical course of action for industry and the biosecurity implications in the event of an incursion or spread of a pathogen, or to deal with existing areas of infection.

Training in preparation of permanent reference slides for use as a reference collection for diagnostics provided valuable insight into appropriate techniques which also have potential applications in digital microscopy. Study of the slide collection located at Adelaide University also allowed for the viewing of rare and unusual nematode specimens under the tutorage of internationally recognised experts.

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.)

The University of Adelaide, Waite Campus, Adelaide, was the location for the entire duration of the course. This included a brief tour of the South Australian Research and Development Institute (SARDI), which is co-located at Waite Campus. The course was conducted by Dr Mike Hodda (National Research Collections Australia & Biosecurity Flagship, CSIRO, Canberra) and Dr Kerrie Davies (School of Agriculture, Food & Wine, The University of Adelaide). The course was conducted over the period 27 November – 1 December 2017. The purpose of the visit is outlined above (Part 3, 1.).

- 4. a) Are there any potential areas worth following up as a result of the travel?**
- b) Any relevance or possible impact on the Australian Cotton Industry?**

There is potential for further more advanced training to be conducted by the course facilitators. Investigation of this would be most suitable after allowing time to develop and utilise the skills and techniques obtained during the course.

Completion of the course has had a direct impact on the ability to conduct nematode diagnostics from within the Australian Cotton Industry. The field of nematology has very few specialists, with many of those remaining unlikely to be available for pathology services in the next few years due to upcoming retirements. The skills and networks built during the course will provide a valuable resource to the industry in future years.

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

Knowledge gained was of predominately technical nature, with limited relevance outside of direct applied research. Information will be shared with relevant industry researchers and specialists via personal communication, in conjunction with brief presentations as appropriate.

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