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: **DAN1310**

Project Title: Travel: Peter Lonergan – 2013 Fusarium Laboratory Workshop. Manhattan Kansas USA (23/06/2013 - 28/06/2013)

Project Commencement Date: 23/06/2013 **Project Completion Date:** 28/06/2013

Select Research Program (from CRDC Strategic R&D Plan 2008-2013):
3. Human Capacity Crop Protection

Part 2 – Contact Details

Administrator:	Leigh Pilkington		
Organisation:	NSW DPI		
Postal Address:	Locked Bag 26, Gosford NSW 2250		
Ph: 02 4348 1953	**Fax:** 02 4348 1910	**E-mail:**	leigh.pilkington@dpi.nsw.gov.au
Principal Researcher:	Peter Lonergan		
Organisation:	NSW DPI		
Postal Address:	Locked Bag 1000, Narrabri NSW 2390		
Ph: 02 6799 1531	**Fax:** 02 67991503	**E-mail:**	peter.lonergan@dpi.nsw.gov.au
Supervisor:	Karen Kirkby		
Organisation:	NSW DPI		
Postal Address:	Locked Bag 1000, Narrabri NSW 2390		
Ph: 02 6799 2454	**Fax:** 02 67991503	**E-mail:**	karen.kirkby@dpi.nsw.gov.au
Researcher 2	(Name & position of additional researcher or supervisor).		
Organisation:			
Postal Address:			
Ph:	**Fax:**	**E-mail:**	

Signature of Research Provider Representative: _____

Part 3 – Travel Report

(Maximum two pages)

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

I travelled to the USA to attend the 2013 Fusarium laboratory workshop at Kansas State University. The purpose of attending the workshop was to improve my technical skills and establish contact with the world's leading experts on Fusarium.

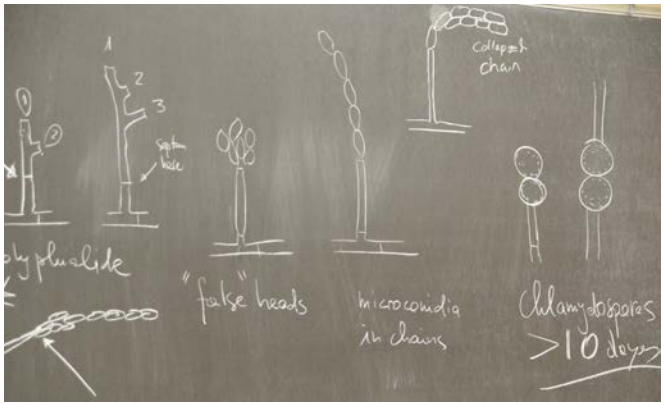
2. What were the:

a) major findings and outcomes

b) other highlights

a) The workshop split between lectures and hands on practical sessions gave the chance to become familiar with the morphological characteristic of a range of *Fusaria* grown on specialised media carnation leaf agar (CLA), potato dextrose agar (PDA), Spezieller Nährstoffarmer Agar (SNA).

1



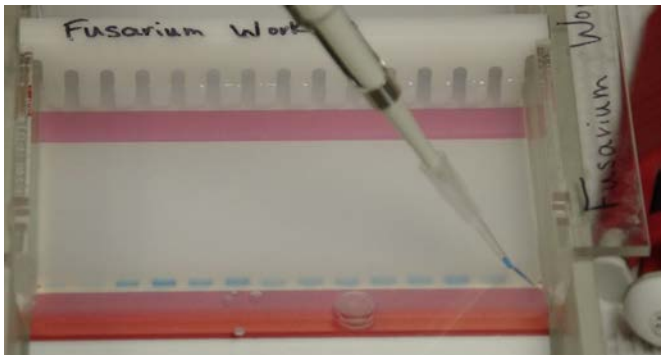
Picture 1: Some of the morphological characteristic of Fusarium.

2

Picture 2: Same Fusarium on different media.

It also allowed for hands on experience with the molecular techniques now being used for identification and phylogeny.

3



Picture 3: Setting up a gel run.

b) - The emphasis of the need to obtain single spore cultures from diseased plant material. Once identified the culture can then used for future work or added to the culture collection.
- The use of race tube to observe the growth rates of cultures.
- That equipment and methods have already been developed for Mycotoxin detection in grain crops. With samples collected from trucks at silo delivery points.
- That the current line of thinking is that (VCG 00011 and 00012) may be a different species of Fusarium.

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.)

Kansas State University 2013 Fusarium Laboratory Workshop – 23-28/06/2013
Throckmorton Plant Sciences Center
Instructors:
John F. Leslie, Coordinator, University Distinguished Professor, Kansas State University, Manhattan, KS
Alina Akhunova, Research Associate Professor, Kansas State University, Manhattan, KS
Eduard Akhunov, Associate Professor, Kansas State University, Manhattan, KS
Erick de Wolf, Professor, Kansas State University, Manhattan, KS
David Geiser, Visiting Professor, Pennsylvania State University,University Park, PA
Ralf Kristensen, Visiting Associate Scientist, Norwegian Veterinary Institute, Oslo, Norway
Yin-Won Lee, Adjunct Professor, Seoul National University, Seoul, Korea
Antonio Logrieco, Visiting Scientist, National Research Council Institute for Sciences of Food Production, Bari, Italy
Kevin McCluskey, Visiting Scientist, Fungal Genetics Stock Center, Kansas City, MO
Ludwig Pfenning, Visiting Professor, Federal University of Lavras, Brazil
Brett Summerell, Adjunct Professor, Royal Botanic Gardens, Sydney, Australia
Christopher Toomajian, Assistant Professor, Kansas State University, Manhattan, KS

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?

a) That the current line of thinking is that (VCG 00011 and 00012) may be a different species of Fusarium. That we need to keep checking samples from all regions in case change in species present has occurred, which may effect the resistance of our current varieties.

That equipment and methods have already been developed for Mycotoxin detection in grain crops. With samples collected from trucks at silo delivery points. These could be modified for the detection of Aflatoxin in cotton seed samples.

The use of race tube to observe the growth rates of cultures. This method can be used with other fungi as well e.g. Verticillium wilt and black root rot.

4

Picture 4: Race tubes with different growth media.

The emphasis of the need to obtain single spore cultures from diseased plant material. Once identified the culture can then used for future work or added to the culture collection. This method can be used with other fungi as well e.g. Verticillium wilt and black root rot.

b) Biosecurity preparedness will be increased. Should an incursion of exotic strains of Fusarium occur, NSW DPI will be able to take a leading role in confirming diagnosis. The biosecurity profile of Australian Cotton Research Institute and NSW DPI will be enhanced with the cotton industry and with the commonwealth department of DAFF.

Training received will enable NSW DPI pathology to diagnose and differentiate between various Fusarium strains.

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

I will be supplying hands on training to other people in our laboratory. E.g. single spore techniques, culture preservation techniques.

Fuscom and other presentations

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

As per attached invoice from PB CRC

Date	Description	Amount excl GST	GST	Total
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
			TOTAL	**0.00**

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