



## **GLOBAL EXPERIENCE AWARD REPORT**

The Theoretical and Practical Course

**“Detection and identification of different vegetable crop and cinnamon plant diseases in Sri Lanka”**

Sponsored by American Phytopathological Society

APS Office of International Programs, USA and the Southern Provincial Council, Sri Lanka

### **Workshop Location:**

Faculty of Agriculture  
University of Ruhuna  
Mapalana, Kamburupitiya 81100  
Sri Lanka

### **Workshop duration:**

11-14 December, 2018

### **Submitted by:**

Shyam L. Kandel, Ph. D.  
Research Plant Pathologist (Research Associate)  
USDA-ARS  
Crop Improvement and Protection Research, Salinas, California

## Summary

The Theoretical and Practical Course on ‘Detection and identification of different vegetable crop and cinnamon plant diseases in Sri Lanka’ was successfully completed during 11-14 December, 2018 at the Faculty of Agriculture, University of Ruhuna in Mapalana, Kamburupitiya, Sri Lanka. Total 22 agricultural extension personnel and agriculture instructors participated the workshop. Women participation in the workshop was impressive since nearly two third of the participants were women. All participants had minimum of bachelors or equivalent degree in agriculture or the related discipline. The common signs and symptoms of major fungal, oomycete, nematode, and bacterial plant pathogens were discussed in lectures using multimedia PowerPoint presentations followed by laboratory exercises. In both lecture and lab sessions, discussion was focused on commonly grown vegetables in the southern part of Sri Lanka such as cucurbits, leafy vegetables etc., legumes, rice and cinnamon. The workshop concluded with the evaluation survey and overall rating of the workshop was very good and encouraging.



Fig 1. A group photo of participants (second row) and instructors (first row).

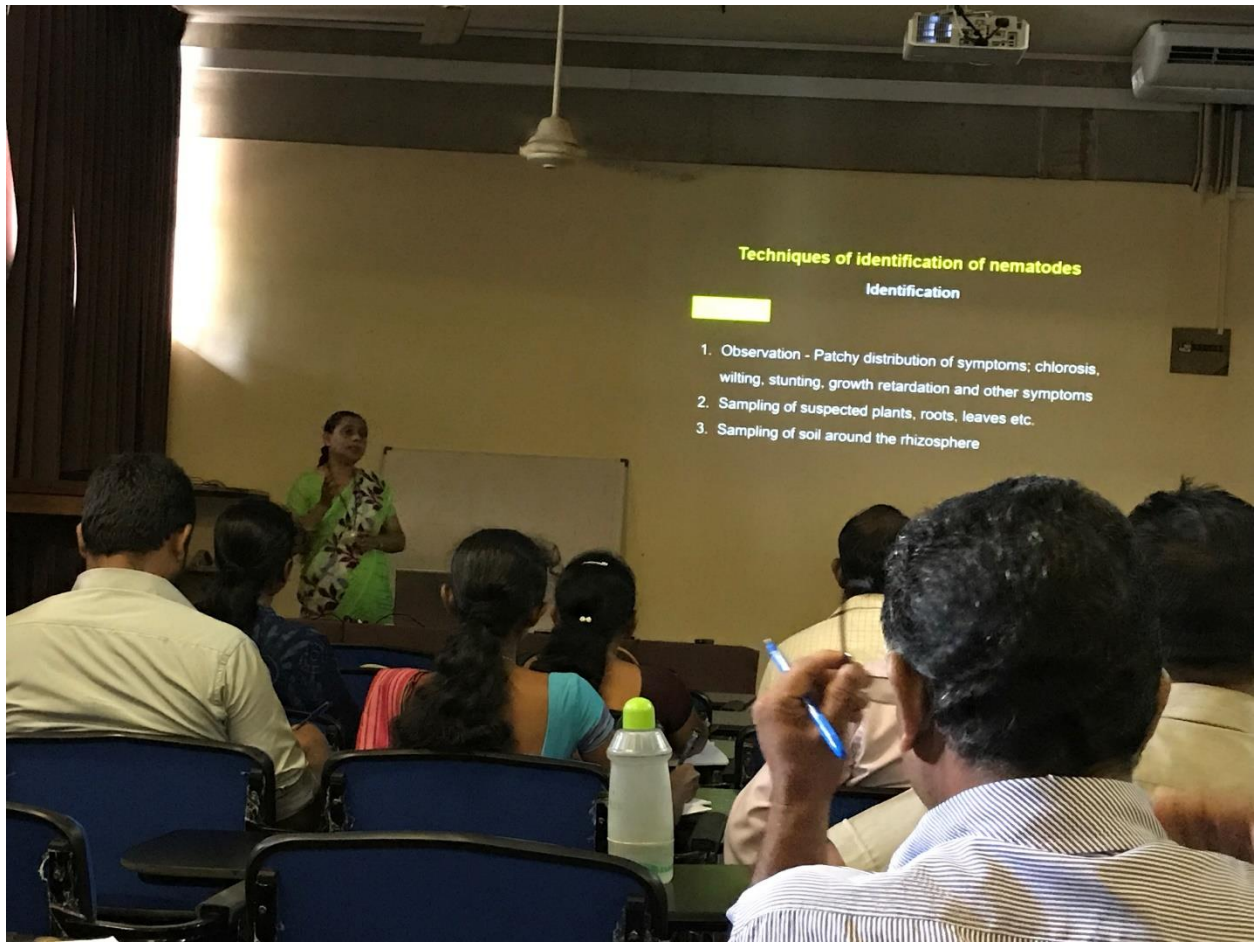


Fig 2. A lecture by Dr. Premachandra session about techniques of identification of plant parasitic nematodes.

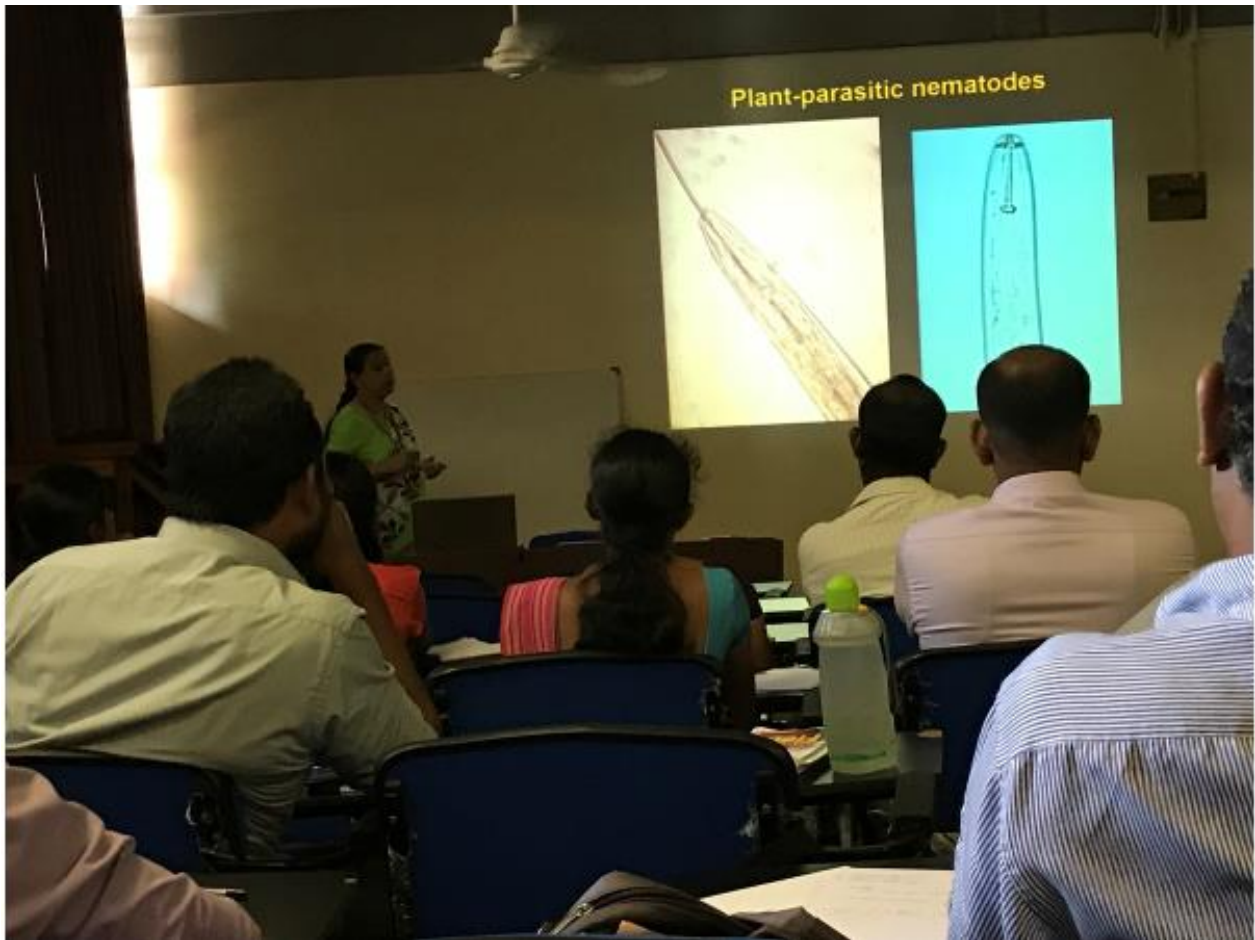


Fig 3. A lecture session by Dr. Premachandra on identification keys for plant parasitic nematode species.





Fig 4. A lecture session by Dr. Ranatunga on serological techniques for diagnostic of different plant pathogens.



Fig 5. A lecture session by Dr. Ranatunga on nucleic acid based techniques for diagnostic of different plant pathogens.



Fig 6. A lecture session by Dr. Wasantha Kumara on economically important diseases of Cinnamon in Sri Lanka.





Fig 7. A lecture session by Dr. Kandel about survey and surveillance of plant pathogens.





Fig 8. A lab session about recovery and identification of plant parasitic nematodes in Sri Lanka.



Fig 9. A lab session about recovery and identification of plant parasitic nematodes in Sri Lanka.



Fig 10. A lab session about recovery and identification of plant parasitic nematodes in Sri Lanka.





Fig 11. A lab session about diagnostics of Cinnamon diseases in Sri Lanka.



Fig 12. Group discussion about the use of social media in plant disease diagnosis.





Fig 13. Venue of the workshop; Faculty of Agriculture, University of Ruhuna.





Fig 14. A typical rice farm nearby the University of Ruhuna, Sri Lanka.

**Workshop Schedule:**

Day	Time	Activity	Responsible person
Dec 11	10:00 - 10:30 am	Welcome to participants, and distribution of course outline	Dr. S. Geekiyanage
	10:30 - 11:00 am	Introduction, and Baseline knowledge evaluation survey	Dr. Shyam L. Kandel
	11:00 - 12.00 pm	Overview of emerging diseases of crop plants in Southern Sri Lanka	Prof. K. L. Wasantha Kumara
	12:00 - 1:10 pm	Lunch break	
	1:10 - 2:00 pm	Field surveillance and scouting of plant diseases	Dr. Shyam L. Kandel
	2.00 - 2:50 pm	Diagnostic techniques for fungal plant pathogens	Dr. Shyam L. Kandel Dr. N. P. Ranatunga
	2.50 - 3.10 pm	Tea/Coffee break	
	3.10 - 5.00 pm	Laboratory exercises for detection of disease symptoms, signs, and fungal spores	Dr. Shyam L. Kandel
Dec 12	10:00 - 10:50 am	Vegetable diseases caused by oomycete pathogens	Prof. K. L. Wasantha Kumara

	10:50 - 12:00 pm	Diagnostic techniques for Oomycete pathogens	Dr. Shyam L. Kandel
	12:00 - 1.10 pm	Lunch break	
	1:10 - 2:00 pm	Damage caused by plant nematodes on economically important plants	Prof Dammini Premachandra Dr. N. P. Ranatunga
	2.00 - 2:50 pm	Diagnostic techniques for plant parasitic nematodes	Dr. Shyam L. Kandel Prof D. Premachandra
	2.50 - 3.10 pm	Tea/Coffee break	
	3.10 - 5.00 pm	Laboratory exercises for detection of oomycete pathogens and plant parasitic nematodes	Dr. Shyam L. Kandel, Dr. N. P. Ranatunga, Prof D. Premachandra
Dec 13	10:00 - 10:50 am	Diagnostic techniques for bacterial plant pathogens	Dr. Shyam L. Kandel Dr. N. P. Ranatunga,
	10:50 - 12:00 pm	Using of cell phone and social media platform for disease diagnosis and surveillance: A case study with participants.	Dr. Shyam L. Kandel
	12:00 - 1.10 pm	Lunch break	
	1:10 - 2:00 pm	Economically important diseases of Cinnamon in Sri Lanka	Prof. K. L. Wasantha Kumara
	2.00 - 2:50 pm	Disease Diagnostic in cinnamon nursery	Dr. Shyam L. Kandel Prof. K. L. Wasantha Kumara Dr. N. P. Ranatunga
	2.50 - 3.20 pm	Tea/Coffee break	
	3.20 - 4.15 pm	Laboratory exercises for detection of cinnamon diseases	Dr. Shyam L. Kandel Prof. K. L. Wasantha Kumara Dr. N. P. Ranatunga
	4.15 – 5.00 pm	Post evaluation of workshop and certificate distribution	Dr. Shyam L. Kandel Prof. K. L. Wasantha Kumara Dr. S. Geekiyanage Dr. N. P. Ranatunga, Prof D. Premachandra

## Budget and budget justification

<b>Item</b>	<b>Budget estimate (US \$)</b>	<b>Remarks/Justification</b>
Consumables (stationary, parafilm, agar etc)	200	Each participant is expected to work individually, and we need to supply reasonable quantities of consumables to individual participants.
Refreshments for participants	300	The workshop will be a whole day event therefore light refreshments will be provided to avoid monotonousness and tiredness during workshop hours.
Local transportation, food and lodging (2-3 nights)	200	This includes airport pick up and drop, accommodation at a Hotel etc.
Round trip ticket for Dr. Shyam Kandel	800	Roundtrip ticket reservation from California, USA to Mapalana, Sri Lanka.





# University of Ruhuna

SRI LANKA

This is to certify that

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Successfully Completed

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Council, Sri Lanka

11-14 December, 2018

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**Prof. K. L. Wasantha Kumara**  
Dean, Faculty of Agriculture  
University of Ruhuna

**Shyam L. Kandel, Ph. D.**  
Research Plant Pathologist (Research Associate)  
USDA-ARS  
Crop Improvement and Protection Research  
Salinas, California

A sample certificate distributed to participants after completion of the workshop.