

IPM CRSP Trip Report

Country Visited: Tanzania

Dates of Travel: July 19-24, 2015

Traveler's Name and Affiliations: Miriam Judith Otipa

Purpose of Trip: Training on production and use of *Trichoderma* biopesticide

Sites Visited: AVRDC in Tanzania

Description of Activities/Observations:

This course was attended by 22 high-level scientists in the fields of plant pathology, entomology and IPM, from Ethiopia, Kenya and Tanzania. We visited the AVRDC field to collect maize and vegetable roots and isolate fungi from these samples. The practical sessions comprised of instruction and demonstrations on media preparation, screening of *Trichoderma* for its efficacy against soil-borne pathogens, identification of *Trichoderma* species, methods to count spore densities, and mass production of *Trichoderma* using cheap substrates. We also collected and studied other beneficial soil microbes such as Rhizobacteria and Pseudomonas. During lectures, the instructors talked about shelf life, formulations and delivery mechanisms, registration and regulatory issues for *Trichoderma* and other biopesticides, and current low cost mass production technologies.

The key observation was that accumulating the numerous fungal isolates, proper culture media, and laboratory teaching materials and organizing all supplies for the in-depth practical sessions, required a lot of preparation and planning.

Training Activities Conducted

Program Type (workshop, seminar, field day, short course, etc.)	Date	Audience	Number of Participants		Training Provider (US university, host country, institution, etc.)	Training Objective
			Men	Women		
International workshop on production and use of (biocontrol agents <i>Trichoderma</i> and <i>Pseudomonas</i>)	July 20-23, 2015	22 high-level plant pathologists from Kenya, Tanzania, Ethiopia	10	12	Prof Muni Muniappan from Virginia Tech University- Director of the IPM Innovation Lab and Thomas Dubois - Regional Director of AVRDC- Eastern and Southern Africa Tanzania. Training facilitators were professors Sevugapperumal , Nakkeeran and Karthikeyan Gandhi , from Tamil Nadu Agricultural University in India.	<ul style="list-style-type: none"> • Learning how to prepare and screen for efficacy of <i>Trichoderma</i> against soil-borne pathogens • Identifying of <i>Trichoderma</i> species • Mass producing of <i>Trichoderma</i> using cheap substrates • Collecting of beneficial soil microbes such as <i>Rhizobacteria</i> and <i>Pseudomonas</i> • Shelf life, formulations and delivery mechanisms, registration and regulatory issues for <i>Trichoderma</i> and other biopesticides,

Suggestions, Recommendations, and/or Follow-up Items:

This is an excellent course that should be taught for at least one and a half weeks to enable the participants to view the cultures they would have prepared, some of which take more than five days.

Trichoderma Training Workshop - IPM INNOVATION LAB

List of contacts made during the *Trichoderma* training course

Name	Contact Info (address, phone, email)
Sevugapperumal Nakkeeran	nakkeeranayya@gmail.com
Karthikeyan Gandhi	agrikarthi2003@gmail.com
USA	
Rangaswamy Muniappan	rmuni@vt.edu
Brhane Gebrekidan	bgebrekidan@gmail.com
Zara Shortt	shorttz@vt.edu
Ethiopia	
Bekele Kassa	bkassa74@yahoo.com
Solomon Yilma Mitiku	solomonyilma509@gmail.com
Netsanet Bacha Hei	netsanetbacha@yahoo.com
Mihiret Mekonnen	mihiretmekonnen@yahoo.com
DemelashTeferi	teferidemelash2008@gmail.com
Habetewold Kifelew	habtekifelew@gmail.com
Kenya	
Ginson Riungu	ginson.riungu@kalro.org ginson.riungu@yahoo.com
Carolyne C. Mutai	carochepmut@yahoo.com
Getrude Alworah	gedohal@yahoo.com getrude.alworah@kalro.org
Jesca Njeri Mbaka	jnmbaka@yahoo.com jesca.mbaka@kalro.org
Ruth Lodenyi Amata	amata_ruth@yahoo.com
Miriam Otipa	otipamj@gmail.com
Eston Njeru	njerues@yahoo.com

Tanzania	
Delphina Mamiro	delphimamiro@yahoo.com
Jackson Nahson	bagilisha@yahoo.com
Margareth Mziray	mmziray@gmail.com
Chrian Marceale	mmarciale@gmail.com
Hellen Mbije	hmbije@yahoo.com
Reinfrid Martin Maganga	maganga04@yahoo.co.uk
Osmund A. Ndomba	osmund.ndomba@gmail.com
Magreth Francis	maggyfrancy@yahoo.com
Mohamed Hussein MPINA	husseinmpina@yahoo.ie