IPM CRSP Trip Report

Country Visited: Honduras

Dates of Travel: November 28, 2011 through December 2, 2011

Travelers Names and Affiliations: Dr. Stephen Weller and Dr. Ricky Foster, Purdue University

Purpose of Trip: Visit collaborators on the IPM CRSP in Honduras, visit research plots, discuss research activities, plan new research and visit USAID Mission.

Sites Visited: FHIA Headquarters, La Lima, Honduras; FHIA research Field Station, La Esperanza, Honduras; FHIA Field Station, Comayagua, Honduras; Universidad Nacional de Agricultura, Catacamas, Honduras; Zamorano, Tegucigalpa, Honduras; USAID Mission, Tegucigalpa, Honduras

Description of Activities/Observations:

FHIA headquarters – visited the new biological pesticides laboratory where FHIA is beginning production of *Metarhizium anisopliae* for use in sugar cane for control of spittlebugs. The laboratory is well equipped for the production of the spores in a clean laboratory situation. We observed all aspects of the preparation of the inoculum and product for application. The facility has a laminar flow hood that was purchased with IPM CRSP funds and will soon have a gyratory shaker for spore production, again purchased with IPM CRSP funds. This is a positive output of our project to encourage use of biorational pesticides.

FHIA Field Station at La Esperanza – Visited with Dennis Ramirez who is the district director for the new ACCESO horticulture cropping project in Honduras headed by Fintrac. Dennis provided an overview of the project objectives, areas of work and goals. The project is focused on six Departments in Western Honduras and focuses on food and income security for small holder farmers. The project expects to impact 6000 farmers. Our IPM CRSP partner FHIA is part of this project which is funded by the Honduran USAID Mission. We anticipate cooperating with ACCESO as we continue our IPM CRSP activities. We visited two ACCESO farm sites where we observed potato and tomato projects. Major activities of ACCESO include technology transfer to improve farmers' ability to grow higher value horticulture crops and manage production and marketing problems better. We discussed the potato zebra chip problem and IPM CRSP zebra chip research which is involved in variety evaluation, insect lifecycle and how the

season affects prevalence of the insects and control practices relating to protected culture and appropriate pesticide timing.

FHIA Field Station, Comayagua, Honduras. Visited with station manager Javier Diaz and reviewed activities related to IPM CRSP activities with bacterial wilt of cucurbits, nematode control in cucurbits and discussed the design of new experiments for management of purple nutsedge in vegetables. We toured the research station experiments with bacterial wilt in eggplant and tomato variety tests for tolerance to various bacterial diseases and viruses. Many experiments are just being planted so no new results are yet available. We visited a grower location where nematode management experiments are being conducted in bitter melon using cover crops of three cultivars of cowpea (two from University of California Davis and a locally developed cultivar from FHIA) and Caliende mustard. Preliminary experiments using ten cowpea cultivars showed the three cultivars used in this test had provided the best suppression of nematodes. The mustard has been reported to provide nematode control and this is the initial test for its effectiveness in Honduras. The cover crops are planted and allowed to grow for six weeks and then are plowed into the soil and three weeks later the crop is planted. Two treatments involve immediately covering the plowed soil with plastic or leaving the soil uncovered. Measurements include nematode counts in soil and on the plant roots throughout the growing season and crop yield. Measurements are also being taken on cover crop influences on weed presence and abundance. The effects are being compared to a control with no cover crop. This research is complementing research that is being conducted by David Perla who is a new Master of Science graduate student in the Entomology Department at Purdue University under the direction of Dr. Rick Foster.

Universidad Nacional de Agricultura (UNA), Catacamas, Honduras. Our IPM CRSP team visited with faculty and administrators at UNA to discuss and evaluate the first year of our undergraduate internship program. The overall consensus was that the two interns who came to Purdue University in the summer of 2011 (June 1 –August 15) had a successful program and achieved the goals of conducting research, learning more about the U.S. and becoming more immersed in speaking English. Changes to the program will be minimal but both Drs. Weller and Foster will work closely with UNA faculty to plan the activities and reporting system for future interns. The visit also included a report from the 2011 interns on their experiences and recommendations for future programs and Drs. Weller and Foster meeting the four potential interns for the 2012 program.

Zamorano, Tegucigalpa, Honduras. The IPM team of Drs. Weller, Foster, Espinosa and Melgar met with Dr. Alfredo Rueda of Zamorano. This meeting was to discuss current activities at Zamorano related to pest management but were primarily meant to

discuss IPM CRSP involvement in the Central America IPM Conference planned for October 2012 in Honduras. The IPM CRSP will partially support this conference and will work with local entities – Zamorano, FHIA and other projects within the IPM CRSP to determine if we would be able to co-sponsor workshops at Zamorano for capacity building in IPM techniques. In 2009, there were workshops on nematodes, viruses and weeds held in conjunction with the IPM regional conference. We will be in discussions about what IPM workshops might be organized for the 2012 conference.

USAID Mission, Tegucigalpa, Honduras. Our core IPM team of Drs. Weller, Foster, Espinosa and Melgar met with Mission personnel Eduardo Chirinos, Hector Santos and Marco Galvez to discuss our current activities and possible collaborations on various Mission funded projects. In particular, we discussed how the IPM CRSP can cooperate on the new ACCESO program in horticulture crops under the leadership of Fintrac. FHIA is a collaborator on this project. Our discussions centered on how to improve communications for better overall focus in common areas of interest and to work to facilitate activities that mutually benefit all our various programs. Drs. Weller and Foster along with FHIA personnel will work to better coordinate and complement our research activities and outreach with the goals of ACCESO and the Mission.

Future visits to Honduras will emphasize the building of the necessary partnerships to accomplish this goal.

List of Contacts Made:

Name	**Title/Organization**	**Contact Info (address, phone, email)**
Mauricio Rivera	Pest Program Coordinator/ FHIA	mauricio_rivera@fhia-hn.org
Hernan Espinosa	Entomology/ FHIA	hernan_espinosa@fhia-hn.org
Jose Melgar	Plant Pathology/ FHIA	Jose_melgar@fhia-hn.org
Javier Diaz	Comayagua Manager/ FHIA	fjdiaz15@gmail.com
Dennis Ramirez	ACCESO Manager/Fintra	
Roy Menjivar	Director of Investigations/ Universidad National de Agricultura	rmenjivar@unag.edu.hn
Juan Amilcar Colindres	Director de Cooperacion Externa/ Universidad National de Agricultura	colindres@unag.edu.hn
Katrina E. Spillane	International Program Coodinator and Director of the English Program/ Universidad National de Agricultura	kspillane@ung.edu.hn
Miguel Hernon Sosa Lopez	Faculty/ Universidad National de Agricultura	mhsosa52@yahoo.com

Hector Santos	USAID/H/EG	hrsantos@usaid.gov
Eduardo Chirinos	USAID/H/EG	echirinos@usaid.gov
Marco Galvez	USAID/H/EG	malvez@usaid.gov