

## IPM CRSP Trip Report

**Dates:** May 22-June 5, 2011

**Traveler:** Jeffrey Alwang, George Norton

**Country visited:** Ecuador

**Objectives:** Review current-year work program, discuss plans for 2011-2012 fiscal year, work on publications.

**May 23:** Visited INIAP central headquarter and discuss project with Julio Cesar Delgado Arce, the Director General of INIAP. Subsequently visited with CORPOINIAP the quasi-private entity that manages the CRSP finances. Discussed issues associated with project vehicles and prompt communications with management entity regarding timely reimbursement. Bookkeepers need to notify ME when invoices are placed in scholar site.

**May 24:** Visited USAID. Met with Hugo Ramos, who has been charged with coordinating CRSPs in Ecuador. Dr. Ramos discussed the USAID strategy of concentrating their work geographically due to budget constraints, and suggested that the CRSP could have more impact if it focused on market and value chains in addition to technical problems associated with pest management. Both naranjilla and blackberry (IPM CRSP focus crops) are of interest to USAID, especially if their producers can be encouraged to produce high-quality and residue-free fruits and if producer groups can be linked to final markets. Much of the focus of USAID agricultural programs is on market linkages.

**May 25:** Visited INIAP's Sta. Catalina experiment station. Met with Jose Ochoa and Patricio Gallegos, two CRSP researchers to discuss research progress and plans. The nanjilla IPM package is now complete, and blackberry and tree tomato work is progressing. The main pest problems are: anthracnose (*Colletotrichum sp*), late blight (*Phytophthora infestans*) and various leaf insect pests (tree tomato); and botrytis (*Botrytis cinérea*), mildew (*Peronosphora sp*) and scarab larvae in the plant's root system (blackberry). There is an important need to coordinate Penn State's efforts in biological controls with the work being done on Andean Fruits. Met with Dr. Giaconda Garcia, director of the experiment station to discuss CRSP project.

**May 26:** Visited INIAP's fruit experiment station in Tumbaco. Met with Dr. Wilson Vasquez and Pablo Viteri. It is important that IPM CRSP activities in Andean Fruits be coordinated with research being done at Tumbaco. In particular, findings from variety selection trials for blackberry at Tumbaco should be incorporated into the farmer field studies being conducted by IPM CRSP researchers in Guaranda. Currently, there appears to be little cross-cutting work between the Sta. Catalina-based researchers and the work being done at Tumbaco.

**May 27:** Worked on IPM CRSP-related publications. Ecuador national holiday.

**May 30:** Visited on-farm naranjilla trials at Tandapi with Barrera and Ochoa. Work on evaluating alternative rootstocks for naranjilla grafting is ongoing. Local farmer (who lends his land to INIAP for naranjilla trials) has made a number of adaptations to naranjilla IPM package based on local conditions. This experience is important and needs to be more widely publicized. Sales by Pilbix (a private nursery operation that dominates sales of grafted naranjilla) of grafted naranjilla exceeded 200,000 plants in current growing season. Grafting by local artisans is limited because Pilbix has penetrated market and now sells large quantities to local governments, who have become increasingly involved in providing technical assistance to farmers.

**May 31 and June 1:** Worked on publications and planning for next year. It is important that stronger connections be made between IPM CRSP US scientists and scientists working on the CRSP in Ecuador.

**June 2:** Planning meeting at INIAP central headquarters in Quito. Met with Sergio Guzman, USAID functionary in Quito to discuss alternatives for CRSPs given budget cuts and USAID's Feed the Future program.

**June 3:** Continued to work on publications and planning.

**June 4:** George Norton arrived in Quito.

**June 5:** Alwang departs.

**June 5:** Norton travels to Guaranda where he will assist Virginia Tech undergraduate students collecting cost of production data from farmers on the SANREM CRSP and will review progress on the IPM CRSP. Only the IPM CRSP activities are listed below.

**June 15:** Norton visited the Culibrias community above Guranada where the IPM CRSP has potato experiments. Giovanni Suquillo and Cesar Martinez of INIAP made presentations to a group of producers about means for bio-control mechanisms for managing the Tuber moth and Andean weevil problems. A baclovirus product has been developed by the IPM CRSP in Carchi which is quite effective against the tuber moth. We observed the IPM CRSP experiments in the field with the farmers. One of these experiments uses a plastic mechanical barrier to impede weevil movement into the field. Another uses a potato rap crop on the edges of the field. They are also attempting to mass produce beneficial nematodes in seedbeds

**June 16:** Norton visited the Bola de Oro community in the lower watershed with Patricio Gallegos and Jose Ochoa of INIAP to observe trials with blackberry, naranjilla, and tree tomatoes. The naranjilla are doing well with almost no diseases because the crop is new to the area. They are testing a large number of varieties. The blackberry experiment is focused on disease control and so is the tree tomato experiment. It appeared that diseases remain a serious issue on tree tomato given the high humidity in the area.

**June 18:** Norton returned to Quito and back to the states on June 19.

## Observations/follow up

- 1) Barrera will produce a quarterly report to USAID highlighting the activities, findings and impacts of the IPM CRSP.
- 2) Alwang will discuss with Zara Shortt how to facilitate CORPOINIAP's notification when invoices are uploaded to scholar.
- 3) Penn State will coordinate with INIAP to ensure that biological control work under Penn State's portion of the project is consistent with INIAP needs. In particular, Penn State research should focus on pest problems associated with Andean fruits.
- 4) Ochoa and Barrera will coordinate with farmer at Tandapi to produce user-friendly publications describing IPM naranjilla package and his adaptation of package to local conditions.
- 5) Subsequent year's activities will focus on following: (i) systematization of the naranjilla IPM package and assessment of overall impact; (ii) practices to address key pests and diseases in tree tomato and blackberry; and (iii) assessment of impact of potato IPM packages in Carchi.

- 6) Alwang will follow up with Fayed at ME to see if information from Ecuador to modify the PERSUAP is complete.
- 7) Norton has his doubts about the viability of tree tomato in the lower Guaranda watershed. While the environment may be good for exposing the experiments to extreme disease pressure due to the climate, he doubts the crop will ever become economically viable in the area unless greater success can be achieved with disease management than seems likely.