IPM CRSP Trip Reports

Country Visited: Tajikistan

Dates of Travel: June 4 - 14, 2011.

Traveler's Name and Affiliation: R. Muniappan, IPM CRSP ME, Virginia Tech

Purpose of Trip: To attend the planning meeting and diagnostics workshop of the IPM CRSP Central Asia regional project and to visit IPM CRSP sites.

Sites Visited: Dushanbe, and Hissor, Shahrimav and Muminabad districts.

Description of Activities/Observations:

I left Blacksburg on June 4^{th} morning and reached Dushanbe on June 6^{th} at 3.30 am.

June 6th: Karim Maredia called for the Central Asia regional project planning meeting at 10.00 am. I presented an overview of the IPMCRSP and pointed out the strengths and weaknesses in the Central Asia project.

Past work:

Wheat IPM: Focus country: Tajikistan. Team members: Nurali Saidov, Megan Kennelly, Mustapha El-Bouhssini, Anvar Jalilov, Doug Landis (did not attend), and Anvar Jalilov.

Nectar plant technology has been developed and integrated into the cropping systems.

Yellow rust of wheat is a serious problem in Tajikistan. Recently the resistant variety "Ormon" developed by ICARDA has been introduced. Cereal leaf beetle (Oulema melanopus (L.) (Coleoptera: Chrysomelidae)) is also a problem in wheat.

The egg parasitoid *Anaphes flavipes* (Förster) and the larval parasitoids *Tetrastichus julis* (Walker) and *Diaparsis carinifer* (Thomson) have been recorded. Another important pest of wheat is Sunn pest (*Eurygaster integriceps* (Hemiptera:Scutelleridae)), a native insect to Central Asia, which is managed by planting nectar crops such as coriander and basil that serve as food plants for the adult parasitoid *Trissolcus* sp. (Hymenoptera: Scelionidae).

Tomato IPM: Focus country: Uzbekistan. Team members: Barno Tashpulatova, Frank Zalem, Ravza Mavlyanova.

Barno mentioned several fungal diseases and tomato virus diseases to be problems in Uzbeksitan. She mentioned the use of yellow sticky traps for whitefly and pheromone traps for *Helicoverpa* monitoring. The parasitoid, *Encarsia formosa* is used for control of the whitefly, *Trialeurodes vaporariorum*. *Trichoderma* sp., *Pseudomonas fluorescens* and *Bacillus subtilis* are used for control of fungal and bacterial diseases.

Ravza Mavlyanova is screening tomato varieties resistant to *Fusarium* wilt disease and plans to use these varieties as rootstock to graft the scion of the desired variety.

Potato IPM: Focus country: Kyrgyzstan. Team members: Murat Aimatov, George Bird, Walter Pett.

Murat mentioned use of several biopesticides for control of fungal diseases of potato. Colorado potato beetle is a problem and only insecticides are used to control this pest.

At 3.00 pm a field trip was arranged for collection of disease and insect specimens for the diagnostics workshop to be conducted the following day. We visited wheat, tomato and potato fields. Russian wheat aphid, a pentatomid related to sunn pest and cereal leaf beetle were collected on wheat, Colorado potato beetle on potato and other samples.

June 7th: 9.00 am: Inauguration. Rector Saidov of Tajik National University gave a welcoming address and I welcomed the gathering on behalf of the IPM

CRSP Management Entity. Diagnostics workshop started at 10.00 am with Entomology and Plant Pathology presentations given in separate lecture halls at 11.00 am. Subject matter presented was very basic in the Entomology session that I attended. At 2.30 pm, George Bird gave lecture on Nematology and at 4.00 Megan Kennally talked about the National Plant Diagnostic efforts in the U.S. and IPDN of the IPM CRSP. At 4.45 pm, a group from Kyrgyzstan presented their crop protection programs. They used a modified poker game to educate farmers on IPM.

June 8th: In the morning, presentations were made by Megan Kennally on fungal diseases and Naidu Rayapati on IPVDN Global theme and Mustapha El-Bouhssini on entomology work on wheat at ICARDA. Simultaneous laboratory presentations on insect pests, nematodes and diseases were conducted in the afternoon. I attended and participated in the Entomology section of the presentation. It was not well organized and no attempt was made even to have microscopes during this session. Specimens collected in the field in plastic bags were shown to the audience.

June 9th: 8.00 am: Visited a demonstration plot of wheat at Turdi village in Hissor district. Wheat was planted with *Coriandrum sativum*, *Ocimum basilicum* and two other species of nectar plants. Later, we visited a tomato field trial with four varieties planted in the field in the Kahramon village in Shahrimav district. It was mentioned that spider mites, fruit borer, top rot, *Phytopthora* and leaf curl virus were problems in tomato crop.

Naidu Rayapati monitored a few potato and onion fields and identified Potato virus Y on potato using virus-specific immunostrips and Iris yellow spot virus on onions based on characteristic symptoms. In the afternoon, Naidu Rayaptati gave a lecture to undergraduate students on virus diseases and their management.

June 10th: 8.30 am. Met with officials of University of Central Asia's (UCA) Mountain Society Research Center. Aga Khan Development Network is a major partner of this project. Michigan State University has entered a memorandum of Agreement with UCA.

5.30 pm. Tomato, wheat and potato IPM research groups presented their draft plans of work for the coming year.

June 11th: The group visited a potato farm in Muminabad district about 300 km from Dushanbe. In addition to potato, the farmer was growing a small area of corn, beans, cucumber and flowering plants.

June 12th (Sunday): 2.00 pm. Karim Maredia, Nurali Saidov and I met with a local press person and explained about IPM CRSP and Central Asia project. At 4.00 pm, we met with Dr. Pierv Jalil and Dr. Tanzila Ergasheva and had a general discussion on IPM CRSP Central Asia project and various agricultural programs in Tajikistan.

Training Activities Conducted

Program type (workshop, seminar, field day, short	Date	Number of Participants Audience Number of Provider (US university,		Training		
course, etc.)	Men Women		host country institution, etc.)	Objective		
Program Planning Meeting	June 6, 2011	Scientists	10	5		Central Asia program planning
Workplan for next year	June 10, 2011	Scientists	10	5		Workplan preparation

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

- 1. Central Asia project should continue having a planning meeting every year in one of the host countries on a rotation basis with participants from all the three host countries.
- 2. The project should address IPM package development for tomato, potato, and wheat in all the three countries. Currently it is focusing one crop in each country.
- 3. A baseline survey should be conducted as soon as possible.

- 4. All scientists involved in the project should identify constraints in each component of IPM package of tomato, potato and wheat and develop remedial measures.
- 5. Some of the sessions in the diagnostic workshop addressed very basic principles in Entomology, Plant Pathology and Nematology. This aspect should have been completed in the last 6 or 7 years of the project's existence. If needed, host country scientists can handle those topics very easily and U.S. scientists should bring new information and various methodologies.
- 6. Presentations in the Virology section were useful and a survey to identify virus diseases of tomato, potato and wheat in Central Asia is needed.
- 7. Research and demonstration plots that we visited require more attention, planning and implementation.

List of the participants

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