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Trip Report
Mali/Senegal.
6-26 September 2009

IPM CRSP Associate Awards:
**Development and Promotion of Integrated Management of
Mango Pests in Senegal**

USAID/Senegal Associate Cooperative Agreement No. 685-A-00-08-00065-00

**Africa Food Security Initiative –
Quality Food Production, Availability, and Marketing**

USAID/EGAT Associate Cooperative Agreement No. EDH-A-00-08-00015-00

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Countries Visited/Dates of Travel::Mali 7-13 September. Senegal 13-26 September

Traveler Name and Affiliations: Larry Vaughan, IPM CRSP Associate Program Director

Other travelers covered by this trip report: Bob Gilbertson, Virologist, University of California at Davis, and Sue Tolin, virologist Virginia Tech

Purpose of Trip: Mali: coordination, field work, and planning for IPM CRSP AFSI activities on rice IPM among women's groups in Sikasso; rice disease survey in Baguineda, and experimental design work for blister beetle management in millet. Senegal: external evaluation of mango fruit fly associate award; follow-up on AFSI/Senegal progress with ISRA.

Sites Visited: Mali: Sikasso Region (M'pegnesso, Niena), Baguineda, Kati. Senegal: Basse Casamance (Oussouye, Loudia Oulof, Mlomp); Thies (), St. Louis

Description of Activities/Observations:

Itinerary:

Dr. Kadiatou Toure Gamby, head of IER's fruits and vegetables laboratory was going to be out of the country during our visit, so she arrange for her plant pathologist Aissat Traore Thera to accompany us to Sikasso for the rice work.

Monday 7 September. Arrive in Bamako at night

Tuesday 8 September. Moussa Noussourou of IER visited us at the hotel. He reported the farmers from Segou (Office du Niger) had visited Baguineda to see how a host-free period works for managing whitefly-transmitted tomato viruses. I did banking, and then we had a brief morning meeting at IER/Sotuba regarding logistics and blister beetles. Sue Tolin and Bob Gilbertson visited the IER biotech building briefly. We then drove to Sikasso in an IER vehicle with Aissata TraoreThera, IER plant pathologist.

Wednesday 9 September. We met with IER/Sikasso personnel: Yacouba Doumbia, head of IER's rice program, Moro Traore a rice virologist, PayfongoKonate a rice entomologist and Yossi, head of IER/Sikasso. We took an afternoon excursion to the Longorola rice research station of IER/Sikasso, then field trip to rice fields in M'Pegnesso. The fields were flooded from recent rain and we could not enter them. Nevertheless, some samples of suspect rice yellow mottle virus (RYMV) were collected. In the evening Sue prepared samples for ELISA detection and Bob prepared samples for DNA detection. Aissata and Moro came to assist. We learned that rice leaves, despite growing in water, are particularly dry and hard to do tissue blots.

Thursday 10 September. DRA office visit about seed quality surveillance and phytosanitary inspection. We learned how the rice certification process works. The G generation rice seed is produced by IER. Seed for multiplication (R generations) is given to growers by PAFISEM. The Direction Regionale d'Agriculture (DRA) takes samples of

rice seed and sends it to LaboSem in Sotuba where the samples are analyzed for several qualities including germination rate, weed contamination, number of seeds/500g. LaboSem has trained two technicians to be assigned to Sikasso to do rice seed measurement closer to the area of production. Field visits to certified rice plots are also part of the certification process. These assessments are carried out by DRA and include: producer and varietal identification, area, planting date, field health, plant density, isolation from other varieties (3m required), and other properties. Paddy rice gets about 300CFA/kg.

In the afternoon we went Niena to collect rice diseases and look at vegetable diseases. We met with Rokia Diarrou, president of the Niena women's association. We found symptoms of RYMV on rice (BW-348) and a wild relative *Oryza longistaminata*. We also found red rice, a serious weed. In general the rice was not in good condition. It lacked fertilizer. Those few spots where cow manure had been piled over the dry season or the few places that had received some urea stood in contrast to the rest of the rice. Soil fertility was a problem. The purchase of certified seed by the women was said only to be about 20%. The group was unable to get credit from Kafew Jigena even though the IICEM project had tried to facilitate it. We learned that certified rice seed production is not carried out by the women's group; it is an individual contractual relationship with DRA. We returned to Bamako in the evening.

Friday 11 September. We had a meeting at IER/Sotuba with station director Abdoulaye Hamadoune and leader of AFSI Baguineda rice activity. Bob and Sue then went back to the biotechnology building. Larry and Sediki Traore discussed AFSI blister beetle activity. In the afternoon we went to Baguineda with Issoufou Kollo (AVRDC) to meet Director Bamba at OPIB and Moussa Noussourou of IER to look for rice diseases. We found Nerica 4 rice being grown. Bob and Sue found zucchini yellow mosaic virus on zucchini there. It is an aphid-transmitted potyvirus.

Saturday 12 September. I had a morning meeting with Djiguiba Kouyate of the IICEM project to debrief him on our trip to Sikasso where IPM CRSP and IICEM are collaborating. Sue and Aissata remained at the hotel to prepare rice leaf samples for immunotesting for RYMV. They got positive results despite sub-optimal temperature conditions for the samples on the trip back to Bamako. Issa Sidibe of OHVN took Gilbertson, Kollo, Noussourou, and Vaughan on a field trip to the peri-urban production zone of Kati to see implementation of tomato no-host period and varietal demonstration plots). This is a zone where tomato is grown in the rainy season, an unusual practice in Mali. The pathologists found lots of *Septoria* sp and *Alternaria* sp. on tomatoes, but no *Ralstonia* sp. The Shasta and H8804 tomatoes – two of the improved varieties used in the no-host period IPM package – looked very good. We interviewed a woman grower and got information on the cost of labor for creating the ridges in her tomato fields. Building ridges is not “woman's work”, so she had to pay someone to do it for her. We visited the village of Dio-Gare and met the OHVN agent Siriman Traore, who led the effort to train growers about the no-host period. There we also found septoria and alternaria as well as *Xanthomonas campestris* pathovar *vesicatoria*, which causes bacterial spot. Sue departed for the United States in the evening.

Sunday 13 September. Gilbertson, Kollo, Noussourou, and Vaughan had a morning meeting to revise a tomato good practices extension brochure. Carlyle Brewster arrived in Dakar. I departed for Dakar in the afternoon and met Carlyle there. Gilbertson left for the U.S. in the evening.

Monday 14 September. Carlyle Brewster and I went to the Thies to meet with Saliou Ndiaye, Papa Diedhiou at the University of Thies (ENSA). On the way we stopped at Pout to visit the mango retailers. We talked with Kine Ndiaye. Madame Soumare, with whom we often visit, was not there. The mangoes were not in good condition. At ENSA I met with Marie Dieng about the fruit fly database. In the afternoon we met with Rector Papa Ibra SAMB regarding development of a doctoral program and the problems we have with two students who are supposed to be enrolled in it. We learned that our fruit fly project graduate student Assa Balayara was in the hospital, so we went with professor Papa Diedhiou to visit.

Tuesday 15 September. Brewster and Vaughan discussed the problems in implementing the AFSI blister beetle activities in anticipation of Carlyle's visit to Sidiki Traore at IER in Mali.. Vaughan and Brewster met Aminata Badiane, the fruit fly project AOTR at USAID/Senegal. Kemo Badji and I went to ANCAR to meet Mour Gueye and was introduced to the new Director General Makane Guissé. In the evening Kemo Badji and Carlyle met to discuss Kemo's doctoral thesis research. I briefly met Baba Sene, the videographer who is preparing a fruit fly video for the project.

Wednesday 16 September. Two USDA fruit fly experts, Jeff Austin of USDA/APHIS/Kenya, and Mervyn Mansell of USDA/APHIS/South Africa were met by Dennis Hannapel from the USDA/Senegal office. They came to Senegal with funds from an agreement between USAID/W. Africa and USDA/Foreign Agriculture Service. A comprising Jeff, Mervyn, Kemo Badji (DPV), Mour Gueye (ANCAR), Linda Logan (USDA/APHIS), Dennis Hannapel (USAID/Senegal), left for Ziguinchor.

Thursday 17 September. We picked up Demba Keita of the NGO, APRAN. We paid a courtesy visit to ANCAR/Ziguinchor. The team joined by Momadou Dione, Regional Director and Raphael Biagui. We made a courtesy visit to DRDR/Ziguinchor – Mamadou Konté Regional Director. During the meeting the DRDR director stated that 60% of the regions horticultural production is mango. 150,000 tons were produced before *Bactrocera invadens* arrived. Now production is about 6000 tons. Ibrahima Badiane of DRDR, who once worked on the CARE fruit fly project in Ziguinchor, joined us for the field trip. We visited Boukot Mankane in the *communauté rurale* of Niaguiss, then Djibelor. Upon returning the team had a review meeting.

Friday 18 September. Joined by Raphael Biagui, ANCAR and Ibrahima Badijane, DRDR. We visited to ISRA/Djibelor where we were joined by Saliou Djiba – Director of the Djibelor station. We carried out an evaluation trip to Department of Oussouye, visiting the villages of Loudia Oulof and Kahinda. These were efficacy test plots. In the evening

and through the night I installed anti-virus software and adjusted the system settings to the ANCAR agents' project computers.

Saturday 19 September. We returned to Dakar.

On Tuesday 22 September the team went to ENSA to meet graduate student Ousmane Ndiaye, IT specialist Marie Dieng, and professor Saliou Ndiaye. Mervyn gave helpful suggestions to improve the database. At noon we went to ANCAR Thies and picked up Binta Mbengue Dieye and Mamadou Lamine Mar. After lunch we went to the village of Taib Ndiaye to visit several orchards. We returned through Keur Mbir Ndao to see some other orchards. In the evening I worked on more agents' computers to install the anti-virus software and French language packages.

On Wednesday 23 September the team went to the *communauté rurale* of Diass. We visited the villages of Toglou Wolof (Garage Bintégné) and met the ANCAR agent Issa Diop. We returned through Pout and visited the women retail mango sellers.

On Thursday 24 September, the team met with Dick Cook and Mamadou Dabo at the SAGIC value chain project offices to discuss the mango market, particularly export markets. Linda Logan joined us. Afterwards Kemo and I met with Jeff, Mervyn, and Dennis to hear the review team's recommendations regarding the long-term monitoring network we had set up. These observations and recommendation were subsequently put into a report for our use. After the meeting, Kemo took me to ISRA/CDH where we met Samba Diaw. Samba is the tomato expert working on the AFSI food security associate award to promote the no-host period in the Senegal River Valley. We reviewed ISRA's activities for the food security project and discussed how to overcome problems.

On Friday 25 September I had a debriefing with Aminata Badiane at USAID Senegal. I left Senegal early morning on September 26 to return to the United States.

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