IPM Innovation Lab Summer 2017 Newsletter - correction

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IPM INNOVATION LAB
Feed the Future Innovation Lab for Integrated Pest Management

Summer 2017 Newsletter

Hello readers,

The quick, unfortunate march of the invasive fall armyworm through Africa has been keeping us very busy. The pest is a voracious eater and prefers maize, a staple crop in most of the continent. The IPM Innovation Lab works in four of the over 20 affected countries in Africa: Ethiopia, Kenya, Niger, and Tanzania, so we are very focused on finding solutions to this potentially devastating problem.

To address this pressing crisis, last month we hosted a Fall Armyworm Awareness and Management meeting in Addis Ababa, Ethiopia. We also visited Niger, where we work on fighting millet pests, to assess the fall armyworm damage there.

Beyond the fall armyworm, we recently had our annual joint meeting of our technical advisory committee and program coordinating committee in

USAID FROM THE AMERICAN PEOPLE

FEED THE FUTURE

VirginiaTech Invent the Future

The USAID-funded Feed the Future Innovation Lab for Integrated Pest Management at Virginia Tech raises the standard of living of people in developing countries by working with them to develop the best solutions to the agricultural challenges they face. In addition to reducing damage caused by pests and diseases, the program also deals with issues such as gender, health, nutrition, equitable use of resources, and agricultural education.

Ethiopia. And we've been busy attending planning meetings of our projects, helping our partners in Vietnam find the causative agent of witches' broom syndrome in longan, and preparing PERSUAPs on the South American tomato leafminer, *Tuta absoluta* and the fall armyworm.

Read on below to see what else the IPM Innovation Lab has been doing.

IPM Innovation Lab hosts Fall Armyworm Awareness and Management Workshop

The fall armyworm (FAW), *Spodoptera fruiperda*, is native to the Americas and arrived in Africa in early 2016. Since its arrival, it has moved quickly and is now in over 25 African countries including Ethiopia, Kenya, Niger, and Tanzania. The pest has the potential to cause significant damage and yield loss to over 80 plant species, including maize, rice, and sorghum. Already, it is estimated that it will cause over $3 billion in damage to maize throughout Africa in regions that are already food insecure.

In order to help farmers and policy makers manage this pest, the USAID-funded Feed the Future Integrated Pest Management Innovation Lab held an awareness and management workshop in Addis Ababa, Ethiopia on July 14-15. The workshop, co-organized by the International Centre for Insect Physiology and Ecology, had over 75 participants, including the Ethiopian Minister of Agriculture and members of the USAID mission in Ethiopia. Presentations covered topics including biological control, host plant resistance, and economic

impacts among many others.

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A potential parasite for fall armyworm in Niger

Laouali Amadou of INRA Maradi inspects a pheromone lure trap for incidence of fall armyworm.

In July, the IPM Innovation Lab visited Niger to meet with collaborators on a project through the Sorghum and Millet Innovation Lab. The project works on finding biological control for the pearl millet headminer and has expanded to include the pearl millet stem borer as well.

The larval parasite *Habrobracon hebetor* is currently being rearing in the INRAN lab in Maradi, Niger and the ICRISAT lab in Niamey, Niger as a weapon against the headminer. However, recent experiments have shown that in a lab setting, the tiny wasp will also parasitize the fall armyworm. Now, the INRAN team will release the wasp in untreated maize fields to see if the success can be replicated out of the lab.

During the July trip, Muniappan discussed this process with the students and help them set up an experiment. He also monitored the progress of rearing the *Habrobracon hebetor* wasps along with *Trichogrammatoidea armigera,* an egg parasite that has been shown effective against the headminer and stem borer.

East African Vegetable IPM project leads workshop on

seedling health

Joseph Mbuji (center) with workshop trainees during a seedling demonstration.

On a normal day, Joseph Mbuji's business is managing the production, harvest, and delivery components of his diversified Bagamoyo vegetable farm. But recently, he found himself delivering a lecture about his farm to an international audience at a Seedling Health Workshop at Sokoine University of Agriculture (SUA) in Morogoro, Tanzania.

Read Full Story >

Other highlights and happenings

Witches' broom on longan in Vietnam

USAID approves PERSUAPs from IPM IL
USAID has approved two PERSUAPs from the IPM Innovation Lab. One is for *Tuta absoluta*, and while it focuses specifically on Nepal, it can be used as a foundation for other countries that are dealing with the tomato pest. The second PERSUAP is for fall armyworm in Africa.

Identification of cause of witches' broom syndrome on longan
Our Exportable Fruit Crops in Vietnam project has made great progress and found the causative agent of witches' broom syndrome, which damages longan. It causes the young vegetative and flowering shoots to shrivel, stopping fruit production. It was speculated that causative organism was a virus or phytoplasma, but recently the IPM Innovation Lab team in Vietnam confirmed that it is in fact the eriophyid mite, *Eriophyes dimocarpi.* Currently our collaborators at the Southern Fruit Research Institute (SOFRI) is screening different miticides to protect the trees from the mite and developing an IPM program for management of longan. We expect that this finding and resultant control measures will increase longan production in Vietnam by 50%.

FAO Red Palm Weevil meeting
In March, Muniappan attended FAO's "Scientific and High-Level Meeting on Red Palm Weevil Management" in Rome, Italy from March 29-31. Red palm weevil is native to south and southeast Asia and has invaded the Middle East and Southern Europe in the recent years. It causes severe damage to date palms in the Arabian Peninsula.

IPM IL contributes to books on rice
The IPM Innovation Lab's Asia Program Manager, E.A. "Short" Heinrichs, contributed chapters to two books on rice cultivation. The volumes *Achieving sustainable cultivation of rice Vols. 1 & 2* draws on an international range of expertise to focus on ways of improving the cultivation of rice at each step in the value chain, from breeding to post-harvest storage.
The volumes, published by Burleigh Dodds are available here.

IPM IL in the media

Here are some of the recent stories about the IPM Innovation Lab:

University Innovations Cross Borders to Deliver Impact. *Feed the Future Newsletter.*

Virginia Tech scientists rally international coalition to stop a pestilent 'army.' *Virginia Tech News.*

As corn pest ravages crops in Africa, Virginia Tech program leads the charge. *Virginia Tech News.*

Preventing Famine and Protecting U.S. Interests: The Case for a Robust Agricultural Science Budget**.** *Center for Strategic and International Studies.*

Development of strategy to reduce Cambodian farmers' reliance on pesticides is on track. *Rice Today.*

A Look Ahead

Upcoming events:

American Phytopathological Society (APS) Annual Meeting: Changing Landscapes of Plant Pathology
August 5-9, San Antonio, Texas, USA

Entomological Society of America Annual Meeting
November 5-9, 2017 in Denver, Colorado, USA

12th Arab Congress of Plant Protection
November 5-9, 2017 in Cairo, Egypt

International IPM Symposium: Improving Health, Environment, and Global Sustainability
March 19-22, 2018 in Baltimore, Maryland, USA

International Congress of Plant Pathology (ICPP) 2018: Plant Health in A Global Economy
July 29 - August 3, 2018 in Boston, Massachusetts, USA