Uganda
Integrated Pest Management Innovation Lab country profile

Population: 36 M
GDP per capita: $1,500
Feed the Future country? Yes
Involvement in this country since: 2006

Challenges:
- Severe losses due to insect pests and diseases
- Pesticide overuse and reliance
- Value chain issues
- Bacterial wilt in the soil
- Invasive pests: Twig borer and Tuta absoluta
- Upsurge in plant viruses

Related project name: Regional IPM Projects in East Africa

Project overview: IPM Innovation Lab work in Uganda focuses on improving the productivity of high value horticultural crops and reducing chemical pesticide-related environmental pollution by adopting IPM technologies. In Uganda, IPM Innovation Lab activities focused on coffee, tomato, and passion fruit.

Accomplishments:
1. IPM techniques improve coffee yield: Impact results show that farmers who participated in the Arabica coffee IPM training had an average of 46.5% more yield than non-IPM farms.
2. Disease-resistant tomato variety drives down costs: Research showed that a bacterial wilt-resistant tomato variety can decrease production costs by 21%.
3. Training and education improves capacity: A total of 451 (355 male and 116 female) extension agents were trained at national and institutional levels to improve detection and support clean seed certification. Thirteen MSc and ten BSc students (16 male and 7 female) have been trained.
4. Environmentally-friendly weed suppression yields results: IPM technology supported the suppression of weeds through straw-mulching in passion fruit production, which resulted in increased yields.
5. Research suggests ways to improve women’s participation: To be more effective, IPM techniques to control the black twig borer in Robusta coffee will need to encourage women’s engagement in phytosanitation practices. Suggested changes include more gender sensitization for men and women as well as specific gender and leadership training for women farmers as part of the IPM farmer field school curriculum.
Fending off pests without jeopardizing environmental or human health

In Uganda, researchers have been working on tomato, Arabica coffee, Robusta coffee, and passion fruit. They have focused on measures that are reducing the excessive use of chemical pesticides and improving the livelihoods of thousands of Ugandan farmers. For instance, in the case of tomato crops, the Uganda project developed and disseminated the tomato variety MT56, which is resistant to bacterial wilt. Grafting desired varieties of tomato onto this rootstock has become popular with farmers in bacterial wilt-infected areas. But tomato woes don’t end there: Surveys of tomato virus diseases were conducted in many tomato growing regions, and a variety of viruses were found in the plants. Field trials are being conducted for the management of tomato diseases as well as for boll worm, leafminer, and mites.

Passion fruit is a priority crop for more than 12,000 small-scale farmers in Uganda. Researchers have evaluated the resistance of KP4, a local passion fruit cultivar, to collar rot disease. Many farmers also rely on their coffee crop, which is threatened by the coffee root mealybug, the white stem borer, and the coffee berry borer. Integrated pest management measures include the use of locally designed odor-based traps, bio-fungicides, and the de-suckering, pruning, and burning of infested coffee plant parts. Community-based management trials were implemented through Twekembe Coffee Farmers Field School and Kezimbira Coffee Farmers Field School.

**Relevant website**

**Local Implementers**
Makerere University, National Agricultural Crops Resources Research Institute, National Coffee Resources Research Institute

**Regions/provinces**
Kirimagondo, Kamila, Wakiso, Mubuku, Bugusege Mt. Elgon, Mukono, Ntenjeru, Nakaseke, Nakanyonyi

**Principal Investigator**
Mark Erbaugh, Ohio State University

**Contact Info**
Director, IPM Innovation Lab: Muni Muniappan
Email: rmuni@vt.edu
Phone: (540) 231-3516