



## IITA , partners launch project to fight killer aflatoxin in African crops

IITA and partners last week launched a project seeking to provide farmers with a natural, safe, and cost-effective solution to prevent contamination of maize and peanut by a deadly cancer-causing poison, aflatoxin, in a bid to improve the health and income of families in Nigeria and Kenya. It is funded by the Bill & Melinda Gates Foundation.

Aflatoxin is produced by a fungus scientifically known as *Aspergillus flavus*. However, not all strains of the fungus produce the toxins. The project's biocontrol technology introduces strains of the non-toxic fungus or 'the good guys,' in the affected fields which outcompete and reduce the population of the toxic ones, or 'the bad guys,' drastically reducing contamination.

Wilson Songa, Agricultural Secretary in Kenya's Ministry of Agriculture who was also the guest of honour at the launch, welcomed the initiative saying Kenya needed it like yesterday following recent losses of lives and millions of tonnes of maize to aflatoxin contamination. He said that the Kenyan government would work closely with the team to ensure the project was a success and the technology gets to the affected farmers quickly.

"Kenya has become a hotspot of aflatoxin contamination. Since 2004, nearly 150 people died after eating contaminated maize. Last year we had 2.3 million bags of maize contaminated. Currently we have 60,000 90 kgs bags of infested maize not only taking up storage but are also a problem to dispose. It is a nightmare," he said. "This launch should have been yesterday!"

Paula Bramel, IITA Deputy Director General, Research for Development, said that IITA had worked for many years to develop a biocontrol solution for aflatoxin and was pleased to be part of this exciting project which would see it reach the farmers.

"This project will take our biocontrol



(Above) Representatives of project partners during the launch in Kenya. (Right) Ranajit Bandyopadhyay answering questions from a journalist.

product, commercialize it, and make it available to farmers. We have worked on it for many years, tested it in many fields in Nigeria and we are pleased with its effectiveness," she aid. "And we are optimistic it will help farmers."

She thanked the Bill & Melinda Gates Foundation for their support, and Peter Cotty from the United States Department of Agriculture (USDA), for sharing on the experience in the US and his collaboration and commitment to the project.

Prem Warrior, a senior Program Officer from the Bill & Melinda Gates Foundation, said aflatoxin impacted negatively on human health and was a barrier to trade and economic growth.

"Today we have an opportunity to do something about it (aflatoxins). This project is a short term development strategy to test the technology and learn on product development issues. We have confidence in the technology but how we will commercialize it and who are our customers?" he said.

Acting Executive Director of African Agriculture Technology Foundation (AATF) Jacob Mignouna, noted that maize was an important staple food for



300 million people depending on the crop so its contamination was of great concern.

Director of Kenya Agricultural Research Organization (KARI) Ephraim Mukisira was happy to note the speed at which the discussions on aflatoxin were moving from the boardroom down to where the problem was.

Ranjit Bandyopadhyay, IITA's plant pathologist, was also happy with the opportunity accorded by the project to tackle an old problem with many partners and support of BMGF. He said the project was adding value to previous investments in biocontrol. "The project will support the final stage of commercialization of 'Aflasafe' in Nigeria and the selection of the most effective strains, development of a biocontrol product and gathering of efficacy data in Kenya."

# IITA-Cameroon, CIP conduct training on insect life cycle modeling and pest risk assessment

IITA-Cameroon organized a jointly training-workshop with the International Potato Center (CIP) on insect modeling and pest risk assessment using the CIP-developed ILCYM (Insect Life Cycle Modeling) software. The course was held at the IITA-Cameroon campus in Nkolbisson from 1 to 3 June 2011, and was attended by 13 participants from Cameroon, DR Congo and Benin.

The training was conducted in the framework of a project entitled 'Predicting climate change induced vulnerability of African agricultural systems to major insect pests through advanced insect phenology modeling, and decision aid development for adaptation planning'. The project uses innovative phenology modeling and risk mapping to understand the effects of rising temperatures caused by climate change on the distribution and severity of major insect pests on important food crops in Africa. The project is funded by the German Federal Ministry of Economic Cooperation and Development, BMZ, and is a collaborative effort of CIP, IITA, the International Centre of Insect Physiology and Ecology (icipe), the University of Hohenheim, Germany, and partners at

national agricultural research institutes and universities in Africa.

The ILCYM software is used to facilitate the development of temperature-driven phenology models for insect mites (including pests and their natural enemies) to predict their potential for population growth for the wide range of climatic conditions where these insects and mites are present. The phenology model is then linked with GIS and temperature data to predict future changes in the distributions of the targeted specie using several scenarios of global warming on a world-wide scale. The software uses experimental data of an insect or mite to build the phenology model and to analyze its life table and validate existing models. The GIS environment allows for spatial simulation of the insect or mite to provide pest risk maps.

In his opening remarks, Rachid Hanna, IITA-Cameroon Country Representative, welcomed the participants and emphasized the need for tools that can help in predicting the effects of climate change on the distribution and abundance of pests and their natural enemies, which the ILCYM software promises to provide. Henri Tonnang,

principal instructor of the course from CIP, presented the general concept of ILCYM, He then focused on the general methodology from data collection to the generation of function and Model simulation in ILCYM as well as input of life table data. Each participant received a copy of the software and the user manual. These tools allowed the participants to build their own model during hands-on sessions on "Model Builder" on the first day and "Model Validation" on the second day. On the third day, participants linked the models to the GIS environment embedded in the ILCYM software to produce pest risk maps.

At the close of the training, Hanna thanked all the participants for their active and enthusiastic involvement during the three days of the course. Tonnang also expressed his satisfaction and thanked all the participants for their active interaction. On behalf of the trainees, Sevillor Kekenou of the University of Yaoundé lauded the initiative and said ILCYM was a tool that will allow ecology lecturer to move from theory to practice. Each participant received a certificate of completion at the training's closing ceremony.

## Welcome Ghislaine Bongers, new Associate Scientist



*Ghislaine Bongers*

IITA-Uganda is pleased to announce the arrival of a new Dutch associate scientist, Ghislaine Bongers, who will be working on banana x coffee agronomy. She will be reinforcing the IITA-Uganda team for the next three years and will be working on

the banana-coffee based cropping systems not only in Uganda but also in neighboring countries where IITA has projects related to this topic such as Rwanda, Burundi, and Eastern DR Congo.

Ghislaine has an MSc in Forest and Nature conservation from Wageningen University. During her MSc training, she spent 6 months at CIFOR in Cameroon, during which she gained valuable experience on working within the CGIAR and familiarization with the mission and activities of IITA. In her new assignment, Ghislaine will study trade-offs that smallholder farmers are facing when cultivating banana and coffee in their farming system – this includes both biophysical aspects such as appropriate (intercrop) plant density and nutrient investments, but it also includes socio-economic aspects such as household labour availability and division, management of financial inputs and outputs, and trade-offs in food versus income security.

Ghislaine is accompanied by her

partner, Luqman Aslam, who is wrapping up his PhD research on the Turkey genome at Wageningen University.

### Help conserve electricity!

Before leaving the workplace at the day's end, make sure that you have:

- (1) Powered off all unnecessary electrical office/lab equipment;
- (2) Turned off air conditioners; and
- (3) Switched off all lights.

The IITA Bulletin is produced by the Communication Office. For comments and/or contributions, please email: Jeffrey T. Oliver ([o.jeffrey@cgiar.org](mailto:o.jeffrey@cgiar.org)), Godwin Atser ([g.atser@cgiar.org](mailto:g.atser@cgiar.org)), or Catherine Njuguna ([c.njuguna@cgiar.org](mailto:c.njuguna@cgiar.org)).