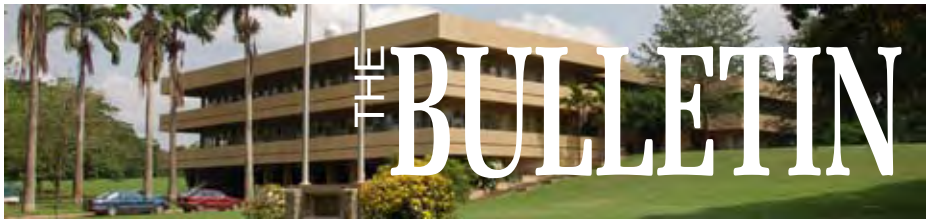
IITA

No. 1999, 11-15 January 2010



IITA to intensify fight against CBSD

Bill & Melinda Gates Foundation supports effort with $2.4M grant

IITA and its partners the Agricultural Research Institute (ARI), Tanzania, and the National Agricultural Research Organization (NARO), Uganda, have received a US$2.4 million grant from the Bill & Melinda Gates Foundation to identify and use molecular markers for faster and more accurate breeding of cassava varieties resistant to Cassava Brown Streak Disease (CBSD).

IITA and ARI have identified varieties with some level of resistance to the disease. The four-year project aims to identify the DNA markers associated with the resistance genes in these varieties and integrate marker-assisted selection into cassava breeding programs.

Ferguson: "The use of molecular markers could hasten the production of improved varieties by allowing selection earlier on in the breeding cycle and by increasing the accuracy of selection. It is like using a magnet in a game of 'find the needle in the haystack'!"

According to Dr Morag Ferguson, Plant Molecular Geneticist and team project leader, the project will enable one of the first applications of marker-assisted selection for cassava breeding by NARS) in Tanzania and Uganda. The markers identified will also be applicable to all countries either struggling with the disease, or concerned with pre-breeding in anticipation of the spread of the virus.

"Diseases like CBSD have devastating impacts on small farmers in the developing world who rely on staple crops for food and income," said Lawrence Kent, a senior program officer in the Agricultural Development initiative at the Bill & Melinda Gates Foundation. "By leveraging recently discovered scientific information, this project will enable African crop breeders to create enhanced varieties of cassava that are resilient to local diseases."

CBSD threatens the food security of more than 200 million people in sub-Saharan Africa dependent on cassava as staple as the disease results in a dry rot in the tubers, making them inedible.

CBSD results in a dry rot in the tuberous roots rendering them unfit for consumption and use, threatening the food security in sub-Saharan Africa as cassava is an important staple for over 200 million people who derive more than half of their daily carbohydrate intake.

Visiting scientist on the imperatives of banana biofortification

Dr Sona S Deb, visiting scientist, gave thought-provoking insights and benefits on the biofortification of bananas and other crops using recombinant DNA approach, describing the process as safe and pure.

Coming from the Institute of Bioscience and Biotechnology (SIBB), Cochin, India, Deb says her Institute has successfully transformed bananas to express lactoferrin using recombinant DNA approach.

"The work has been successful in the lab and we are planning to take it to the field," she says.

In an hour-long lecture at IITA-Ibadan, Deb says the fortification of bananas with lactoferrin provides man with better and more nutritious fruits considering the fact that lactoferrin is anti-inflammatory, anti-fungal, anti-tumor, anti-bacterial, anti-viral, anti-parasitic and immuno-stimulant.

Why Banana?

According to the visiting scientist, banana, which is among IITA's mandate crops, is preferred because it is easily and commonly cultivated.

Besides, lactoferrin – the glyco protein— can be expressed in banana fruits which are directly consumed. Also because bananas are vegetatively propagated, there is no undue risk with genetically modified plants.

Deb delivering her lecture on banana biofortification as some IITA staff listen intently.

Apart from the fortification of bananas, other areas which SIBB is using recombinant DNA approach to enrich crops are:

- Enhancement of PUFA profile in oleaginous crops by the over-expression of desaturase genes-FAD2 and FAD3 in groundnut
- Enrichment of Rebaudioside A – the natural sweetener in Stevia rebaudiana by over expressing UGT gene
- Molecular characterization of pathogen related genes in black pepper against Quick wilt disease and
- Molecular characterization of oxistress genes in cardamom (*Elettaria*).

She expressed her opinion that collaborations between SIBB and IITA would produce outstanding results in this area of research.

Institute welcomes new staff

Bernd Willi Neumann, IT Systems & Applications Manager

IITA has a new IT Systems and Applications Manager in ther person of Mr Bernd Willi Neumann. Prior to joining the institute, Bernd was with Ford Financials, Warley in Brentwood, UK since July 2006, working on IT infrastructure design and delivery. He has also worked in various IT companies such as Atos Origin in Hampshire as specialist for Middleware and related software, and 7irene Ltd in Richmond as specialist for z/OS, AIX, various Unix, Wintel-Middleware (WebSphere Application Server) and related software. He has also been a consultant with the Royal Bank of Scotland in the UK, and with USU AG (IBM Business Partner) in Moeglingen, Germany.

Bernd obtained a diploma in Computer Science and Accounting from Akademie fuer Datenverarbeitung in Boeblingen, Germany and is presently pursuing an MBA in the Open University Business School in London. He is a German citizen, married to Ida Neumann-Seidel, and has three children: Abigale Ruth, Erwin and Dorothea. Bernd currently resides at No. 3 IITA Drive (tel 2236), but he will soon move to No. 9 Africa Drive (tel. 2506) in February. His office is at Rm 224, Building 500 (tel 2307).

Titilayo Falade, Research Manager

Titilayo Falade has joined the IITA Pathology Unit on 4 January as Research Manager. Prior to her appointment with IITA, she was an Associate in Business Performance Services, with KPMG Professional Services, Lagos.

She holds a BSc in Microbiology from the University of Ibadan, Nigeria and MSc and DIC degrees in Environmental Technology from the Imperial College of Science and Technology, London, United Kingdom.

Falade is married and can be reached on extension 2649, Room 15A, within the Pathology lab in Building 400.

IITA cassava field trials in Liberia razed

The cassava Uniform Yield Trial (UYT) located at the Central Agricultural Research Institute (CARI) Compound in Suakoko, Bong County in Liberia has been destroyed by fire on 2 January.

Initial reports indicate that the blaze was started by yet unidentified unknown persons.

Some 6.5 hectares of cassava in the UYT and the seeding nurseries at the CARI compound were razed.

The burnt-out cassava trials in the CARI Compound in Bong County, Liberia.

The incident presented a major set back to the project, wiping out the 15 cassava genotypes being evaluated there. Seven of these varieties were slated for distribution to farmers.

The UYT involves 22 national programs and started in early 2007. IITA provides a yearly grant of US$20,000 to CARI for the trial. The Liberian Government contributes to land preparation, farm inputs and labor amounting to about US$150,000.

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

IITA/STCP-Ghana moves to new office

The Regional Office of IITA-STCP in Accra, Ghana has moved to a new location. STCP no longer operates from the TechnoServe Building in Accra.

The new location, mailing address and telephone numbers are as follows: IITA-STCP, Hse. No. 18, Okine Street, East Legon - Ambassadorial Area (behind A&C Shopping Mall); Private Mail Bag (PMB) L56, Legon, Accra, Ghana. Tel: +233 21 508 777 / 508 825 / 503 097

Library update

The Library is pleased to announce that IITA is now subscribed to CAB Abstracts for 2010.

To access the resource, please go to www.cabdirect.org. Staff should be automatically recognized as IP addresses of IITA computers have been registered. Please get in touch with the Library if you experience problems accessing the CAB Abstracts.

Latest additions:

1. The Nigerian Agricultural Journal 40(1&2), 2009.
2. Global food crisis and Nigerian agriculture: proceedings of the 43rd annual conference of the Agricultural Society of Nigeria held at National Universities Commission and Raw Materials Research and Development Council, FCT, Abuja, Nigeria, 20-23 October, 2009.

Google Books update:

Use statistics of IITA publications for week of 03/01/2010 ~ 09/01/2010:

- 730 book visits
- 9,274 pages viewed

For more information, please contact Elsie Ezomo, Library Services Manager, at e.ezomo@cgiar.org.

Announcement

Change of names

Former Ms Adesida, Aderonke Adelola of R4D wishes to be addressed henceforth as Mrs Oludare, Aderonke Adelola.

Former Ms Joseph, Funmilayo Omolara of HOTCAT wishes to be addressed henceforth as Mrs Joe-Oka, Funmilayo Omolara.

Former Mrs Babajide, Folakemi Beatrice of Supply Chain Unit wishes to be addressed henceforth as Mrs Adeyemo, Folakemi Beatrice.