IITA
Research to Nourish Africa

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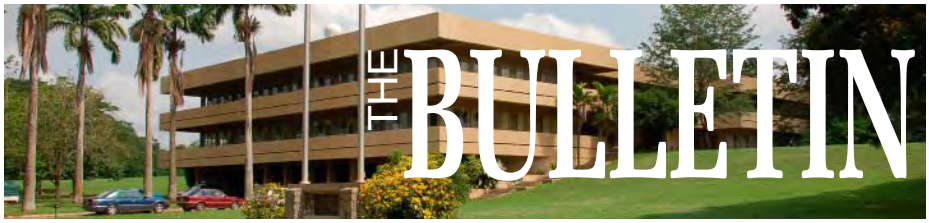


# Work on the genetics and genomics of cassava disease resistance gets a boost

*Gedil makes a point during his R4D seminar*

Work aimed at unraveling cassava's resistance to its most dangerous disease (cassava mosaic disease or CMD) will get a boost with the head of the Biotech Laboratory, Melaku Gedil, pledging to intensify genomic characterization and deployment of resistance genes using biotech tools.

Despite the CMD- and cassava brown streak disease (CBSD)-tolerant cassava varieties developed and released by IITA, the two diseases have remained major threats to cassava production in Africa.

In his R4D seminar presentation titled "A new paradigm," Gedil said he planned to continue work on the genetics of CMD resistance, and to look further into CBSD resistance, as well as focus on gene-targeted markers.

He highlighted his work geared towards harnessing the recent advances in genomics technology for tagging genes for CMD, and marker screening with anticipated spillover effect on tackling CBSD spread.

His "new paradigm" underscored the necessity of IITA adopting technology advancements used predominantly in the private and public sectors in developed economies. Such adoption might involve outsourcing high throughput assays and then building IITA's ability to analyze the returned results, or upgrading IITA's internal capacity to use these technologies.

On the genome sequence of key IITA crops and what the future holds, Gedil said, "Having the genome sequence is just the tip of the iceberg. From there, determining genes for disease resistance or positive traits, such as postharvest and nutritional quality must be identified for breeders to be able to select the best genotypes with genes that impart especially favorable traits."

He said the newest technology provides tools to design more efficient and effective breeding schemes by determining the genetic makeup of thousands of plants in a short time.

# Beta carotene in cassava easily converted to retinol

Findings from a study on gerbils have made researchers optimistic about the capabilities of cassava in getting vitamin A to consumers. In a contract review seminar on Tuesday, 29 June, IITA Crop Utilization Specialist Busie Maziya-Dixon talked about her work and highlighted the positive results, indicating that cassava has a higher bioavailability of provitamin A than leafy greens, citrus, yellow maize, and all other vitamin A-rich foods.

The study, conducted in gerbils because they process beta carotene to produce retinol in the same way that humans do, showed that 3.7 mg of beta carotene from cassava is processed into 1 mg of retinol. This refutes the previous estimate of about 12 mg of beta carotene in cassava being equivalent to 1 mg of retinol.

IITA breeders are working on enhancing the beta carotene content of cassava. With the bioavailability of beta carotene in processed cassava products, consumers should receive a substantial amount of provitamin A in their daily intake of cassava. Maziya-Dixon feels comfortable with consumers keeping their normal cassava diets to receive enough vitamin A, especially because consumers "can't eat cassava alone," she said. When supplemented with some greens and other foods, a cassava diet could be the best source of retinol that is readily available.

Maziya-Dixon plans to continue her work on food and diet quality assessment and bioavailability studies and efficacy trials, and food safety and on-farm nutrient retention among her other duties as a Crop Utilization Specialist.

*Maziya-Dixon speaks on biofortification during her seminar*

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-MARKETS holds workshops on agricultural mechanization

The IITA-MARKETS project held workshops to address the problem of inadequate access to agricultural mechanization by farmers in the southwestern and southeastern parts of Nigeria. The workshop took place at the NRCRI Station, Igabariam, Anambra State (for participants from the southeast) on 25 June, and IITA's Conference Center, Ibadan (for participants from the southwest) on 29 June.

The workshop was organized against the backdrop of the low profile of agricultural mechanization and its attendant limiting influence on agricultural productivity.

Paul Ilona, Lead Facilitator, noted that for cassava farmers to compete and produce cassava commercially, mechanization of farm operations was important.

"Farmers need to have access to prompt and affordable mechanization services,'' Ilona said.

According to him, traditional farm labor is becoming scarce and expensive, thereby limiting cassava cultivation and making production less profitable.

Earlier, Gbassey Tarawali, IITA-MARKETS Project Manager, stressed the importance of service providers in providing cost-effective farm operations to cassava farmers.

*Participants pose for a group photo during agricultural mechanization workshop .*

He said affordable services were needed for the transformation of the cassava sector. While welcoming the participants, Charles Iyangbe, Agribusiness Coordinator of the Project, explained that the workshops were organized to promote mechanization of farm operations and provide the much needed linkages between farmers and service providers.

Participants at the workshop included private sector service providers, commercial farmers, agricultural implement dealers, personnel from government agencies coordinating mechanization services, and other stakeholders in the project states

During the plenary session, participants identified solutions to mechanization problems. They pointed out that the development of relevant infrastructure, such as feeder roads, availability of tractor maintenance units, provision of credit facilities to service providers, and capacity building could enhance the mechanization of operations in the project states.

# Katherine Lopez is now Head of Communication

Katherine Lopez has been named Head of Communication effective 1 June.

Lopez, who was initially appointed as Communication and Publishing Manager in April 2009, became the Acting Head of the Communication Office in July 2009.

A development communication specialist by training, Lopez has many years of experience working as an editor/writer/publisher for international agricultural research organizations, such as the World Vegetable Center (AVRDC) in Taiwan, the International Rice Research Institute (IRRI), and the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEAMEO-SEARCA) in the Philippines.

# IITA gets a new head of Travel Services and External Liaison

Olayiwola Olatunji has been appointed as the new Head, Travel Services and External Liaison.

Olatunji takes on the former duties of Funmi Oshikanlu, who resigned effective end June. As Head, Travel Services, Olatunji will be the key contact for IITA in liaising with external organizations, government agencies, including the coordination and processing of diplomatic vehicle number plates.

"This is an important role since, apart from his role in Travel Services, he

will be our spokesperson to the different government departments and organizations in Lagos and Abuja," says Lakshmi Menon, IITA Deputy Director General (Support).

She called on staff to give Olatunji the necessary support and cooperation, and to keep him informed and involved in all issues dealing with the Federal Government of Nigeria.

Olatunji will use the GSM number 08057421209.

# Farewell

*Funmi Oshikanlu receives a plaque from Lakshmi Menon during her farewell party*

## Help conserve electricity!

Before leaving your workplace at the end of the day, 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.