



## Workshop builds cassava researchers' capacity on bioinformatics

IITA-Nairobi hosted a Cassava Genomics and Bioinformatics Techniques Workshop on 20-24 September, to build the capacity of local researchers to use available information on the cassava genome sequence in their work.

Two eminent scientists served as resource persons: Simon Prochnik of the US Department of Energy, Joint Genome Institute (JGI), who has worked extensively on the annotation of the cassava genome sequence, and Pablo Rabinowicz, University of Maryland, who is working on developing a physical map of cassava together with SNP identification.

The workshop brought together researchers from two projects; one is implemented predominantly in the USA and aims at improving the annotation of the cassava genome sequence, in identifying a large number of SNP (single nucleotide polymorphism) markers and in facilitating the application of the cassava genome sequence to cassava improvement by cassava breeders in Africa. The second, coordinated by IITA, focuses on



*Participants and resource persons, Cassava Genomics and Bioinformatics Techniques Workshop*

the application on the cassava genome sequence to identify molecular markers associated with cassava brown streak disease tolerance.

According to Morag Ferguson, the workshop opened up a whole new suite

of information and research tools for the participants. "May the learning curve continue," she said.

The workshop was attended by 18 participants, 12 of whom are working directly with cassava genomics.

## Scientists create a banana Wiki

Information on all banana-growing areas in Africa, the socioeconomic status of the people, and the diseases attacking banana will be available at the click of a mouse, thanks to a recently launched website.

The website was developed by Philippe Rieffel, a student of Science in applied Geography at the University of Muenster, Germany, under supervision of scientists at IITA. The aim of the website is to make reliable spatial information on banana readily available. It will also allow anyone to view and post information on the crop, such as socioeconomic aspects, production technologies, and pests and diseases.

According to Hein Bouwmeester, a GIS specialist with IITA, the website currently focuses on banana-growing areas in Africa, but if successful, it will expand to include the whole world.

He said the website was developed entirely with open source software and uses 'crowdsourcing' to build onto an existing geo-database. No accurate geospatial data on banana in Africa currently exist, so the idea behind 'crowdsourcing' is that, the creation of these

data will be 'outsourced' to the 'crowd' of local experts in Africa. The core of the website is the editor that enables a user to view and edit banana-growing areas and define the characteristics of those areas. All edits will be saved to the database in a transparent manner," he said.

To guarantee accuracy and reliability, the website creators will regularly check and correct the database. The current database and all approved previous versions can be downloaded by anyone, either as a GIS shapefile, a text file, or a customized premade map.

According to Bouwmeester, the website is important as it will allow information to be shared across projects and organizations for research and development work.

The platform comes in handy as scientists are grappling with the spread of two deadly diseases that are ravaging the crop and threatening the livelihoods of millions of farmers in the Great Lakes region. These are the banana *Xanthomonas* wilt and the viral banana bunchy top disease.

IITA plant pathologist Fen Beed

encouraged researchers and development workers to share information on the platform to make it an information powerhouse.

"The more people with experience on local, national, and regional banana production and its constraints contribute to the website, the more robust the data housed in this website."

The data can then be used as a baseline reference to monitor the impact of any interventions or changes in practice such as disease control strategies.



# Voices from 5th World Cowpea Research Conference

The Fifth World Cowpea Research Conference is ongoing this week in Saly, Senegal, with more than 130 scientists discussing the state of the art in cowpea research.

Below are excerpts of interviews with scientists at the conference, which IITA organized with the Institut Senegalais de Recherches Agricoles (ISRA), Dry Grain Pulses Collaborative Research Support Program, and Purdue University.

For more information about the conference go to: <http://cowpea2010.iita.org/> or the IITA News blog site at <http://iitanews.blogspot.com/>.

*There is progress in cowpea research towards improving productivity, resistance to pest and diseases, and post harvest handling... So, cowpea has a big role to play in agricultural development not only in West and Central Africa but also in other parts of the world.*

*Cowpea is a profitable crop, it is good for food security, and has the positive benefit of improving soil quality.*

—J. Lowenberg-DeBoer, Purdue University



*On Bt cowpea: The result of the confined trial of Bt cowpea in northern Nigeria indicated that the gene which was used in transforming IT86D-1010 is very efficient against the insect pest. We discovered that the transgenic material did not sustain any damage on their pods as opposed to serious damage on untransformed material. This means increase in productivity with accompanying increase in the incomes of local farmers in the future when the variety will be adopted. Depending on the level of infestation, this could mean an increase of between 25 and 4% grain yield.*

*The issue of transgenics should not be viewed in isolation of the other parts of the world. Transgenic crops have been consumed in other parts of the world and the people consuming these crops are human beings like us. The gene in question has been used in maize and other crops and has been consumed with no adverse reactions on humans or the environment, so we should not be an exception.* —Mohammed Ishiyaku, Institute of Agricultural Research, Ahmadu Bello University, Zaria, Nigeria



*A diet has to be diverse. Our bodies don't make protein, so we need to eat protein and plants (legumes) are the primary sources of protein. In developed countries, meat is preferred but the poor cannot afford it. So a large percentage of the world depends on pulses for their protein. The rich also need pulses because they promote health.*

*Cowpea is a neglected crop. I don't know the reason for that. It is an unknown crop and donors do not appreciate the value of cowpea in the diets of millions of people in Africa, Asia, and South America.*

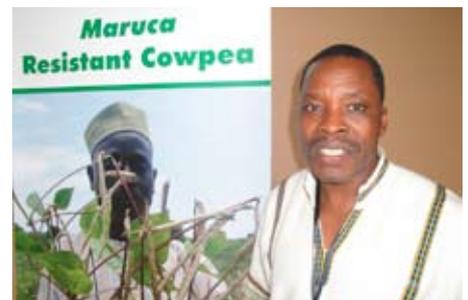
*We hope that the proceedings from this conference will help change donor perception about cowpea. More importantly, this conference provides the opportunity for people to interact and talk to themselves and to prioritize which technology is important for the benefit of our farmers.* — Irv Widders, CRSP



*The molecular tools being developed in advanced labs should be put into the hands of African scientists and breeders... I would hope that people go home with a lot of optimism on the future of the work that is being discussed.* — Edwin Southern, Kirkhouse Trust



*Today, we have a lot of scientific tools that give us results that we would never have dreamed of... Pure science is fine but it becomes more important when applied in the field.* — Lakshmi Menon, IITA



*This conference is important because we are talking about food security in Africa.*

*We are taking stock, addressing challenges facing cowpea, and charting a way forward because we are in research not just for the sake of it but how it can benefit the farmers.* — Jacob Mignouna, AATF

## Scientists look at root crops in DRC meeting

Next week, root crops will be the focus of another big forum that will be held in Kinshasa, DRC. The forum, organized by the International Society for Tropical Root Crops-Africa Branch (ISTRC-AB), will be attended by more than 130 scientists working on root crops.

The theme of this 11th symposium is "Root crops and the challenges of globalization and climate".

The symposium will be held at Hotel Memling, Kinshasa, DR Congo.

Topics that will be covered include Socioeconomics, Breeding and Selection, Agronomy and Physiology, Postharvest, and Integrated Pest Management, with a special session on Unleashing the Power of Cassava (UPoCA) in Africa in response to the food price crisis.

Energy conservation tips: Power down computers, monitors, and peripherals when not in use; and make use of natural light whenever and wherever possible.