



A. Gates Foundation consultant, Hector Quemada (second from the left) together with OSU's BioCassava Plus staff, Anthonia Soboyejo (left), Tawanda Zidenga (second from the right), and Elisa Leyva-Guerrero (right). B. Hector Quemada (left) with BioCassava Plus Director, Richard Sayre (right). C and D. Dr. Uzo Ihemere (in white coat), BioCassava Plus research associate from OSU, discusses standard laboratory procedures with Hector Quemada. E. BioCassava Plus graduate student, Elisa Leyva-Guerrero, discusses biosafety practices in OSU's cassava greenhouse. F. ETH Zurich's greenhouse at Eschikon (Switzerland) where genetically-improved cassava plants developed by Prof. Wilhelm Gruissem's laboratory are maintained. G. Hector Quemada also visited the Donald Danforth Plant Science Center's laboratory and greenhouse facility, which utilizes the electronic tracking system for transgenic plants. H. Low cyanide cassava plants that are currently on field trials at the University of Puerto Rico in Mayaguez, Puerto Rico. Dr. Dimuth Siritunga leads the field trials in this area.

### **BioCassava Plus Tackles BioSafety Issues**

"The Gates Foundation wanted to make sure that BioCassava Plus deals with biosafety issues for producing transgenic plants," opens Hector Quemada, a biosafety consultant of the Gates Foundation.

Following the Gates Foundation's initiative to invest its resources in dealing with biosafety issues alongside with developing genetically-improved plants to curtail malnutrition in Africa, Quemada visited three BioCassava Plus sites, the Donald Danforth Plant Science Center, St. Louis, Missouri, the Institute of Plant Sciences, ETH Zurich, Switzerland, and The Ohio State University, Columbus, Ohio. Lawrence Kent, a staff of the Gates Foundation, accompanied Quemada during the ETH Zurich visit.

At ETH Zurich, Quemada and Kent were hosted by Prof. Wilhelm Gruissem and Dr. Peng Zhang. Peng and the staff gave an overview of BioCassava Plus research progress on cassava mosaic disease, physiological post-harvest deterioration, and protein enhancement. Discussions were focused on biosafety issues such as documentation and tracking of plants from the laboratory to the greenhouse.

"ETH Zurich follows strict regulations of the Swiss Federal Government regarding genetically-modified organisms," explains Dr. Christof Sautter, a senior researcher at ETH Zurich.

"ETH Zurich has worked with Ghanaian and Kenyan Governments regarding field trials of cassava that we found resistant to cassava mosaic virus", says Peng, a senior researcher at ETH Zurich and Professor at the Chinese Academy of Sciences.

"I am impressed with the standard operating protocols for field trials developed by Dimuth Siritunga", Quemada affirms. All field trial protocols are available at the BioCassava Plus web site.

"Biosafety is a priority for BioCassava Plus. We will first test the transgenic cassava in Puerto Rico and then bring them to Africa for field testing. In this way, we will be able to solve potential biosafety concerns while the plants are in the U.S.", Richard Sayre, Director of BioCassava Plus, tells Quemada.

"The Donald Danforth Plant Science Center has biosafety personnel and infrastructure in place to assist BioCassava Plus with documentation, tracking of DNA products and genetically improved plants," says Sharon Berberich, Director of International Programs at the Danforth Center. Berberich has 15 years of experience in dealing with biosafety regulations for a multinational plant biotechnology company. BioCassava Plus has developed formal quality control plans for genetic improvement of cassava and has prepared written standard operating practices for gene development, transformation, and field testing.

*Prepared by Mary Ann G. Abiado, Richard Sayre, Sharon Berberich, Wilhelm Gruissem, Peng Zhang, and Dimuth Siritunga, BioCassava Plus, November 3, 2007. Released December 10, 2007.*