



IITA gets US\$7m approval for commercial products (COMPRO) project

IITA has received approval of about US\$7 million from the Bill & Melinda Gates Foundation for the implementation of the second phase of the Commercial Products (COMPRO-II) project, announced IITA Director General Nteranya Sanginga.

Tagged as 'Institutionalization of quality assurance mechanism and dissemination of top quality commercial products to increase crop yields and improve food security of small-holder farmers in sub-Saharan Africa,' the COMPRO-II project aims to institutionalize quality assurance mechanisms and facilitate the rapid dissemination of top quality commercial products to increase yields and improve the food security of small-holder farmers in the region.

"The plan is to raise awareness among over two million small-holder farmers on effective and profitable commercial products by 2016 through public-private partnership," Sanginga explains.

Of these households, 420,000 will have tested at least one effective commercial product and at least 50% of these will have adopted the technology and achieve a 15-30% yield increase with substantial impacts on food security and income.

"The key expected outcome of the project is the institutionalization of screening and approval of commercial products," says Prem Warrior, Senior Program Officer with the Foundation.

In the last decade, sub-Saharan Africa has witnessed economic growth amid population increases and rising demand for food. Consequently, investments in



A soybean farmer tends her field

soil fertility have become indispensable to increase agricultural productivity, and access to agricultural inputs is required to achieve this goal.

But more than having access to inputs, quality assurance of agricultural inputs is of utmost importance to protect farmers, retailers, wholesalers, and importers, and to minimize health and environmental hazards.

For instance, new biofertilizers, biopesticides, and chemical agro-inputs have been commercialized, but these products are often insufficiently evaluated for quality and efficacy due to weak national and regional regulatory systems, says Bernard Vanlauwe, IITA's Director for Natural Resource Management and Central Africa.

In the past three years, scientists working under the first phase of the project, COMPRO I, have identified three effective commercial products

out of the over 100 products evaluated that enhance yields by 15-30%. These products include *Rhizobium* inoculants for legumes, mycorrhizal inoculants for bananas, and seed coating for maize.

"COMPRO-II will leverage on the gains earlier made in phase one, which covered Kenya, Ethiopia, and Nigeria," says Vanlauwe.

COMPRO-II proposes to:

- transit these technologies into Ghana, Tanzania, and Uganda,
- institutionalize regulatory and quality control processes,
- disseminate effective products through public-private partnerships,
- develop communication tools, and
- strengthen human capacity.

At the end of the project, more farmers are expected to confidently use these products because their safety, efficacy, and quality will be ensured through institutionalized regulatory and quality assurance mechanisms.

IITA will lead COMPRO-II and will work with the African Agricultural Technology Foundation, Alliance for a Green Revolution in Africa – Soil Health Program (AGRA), Farm Input Promotions (FIPS), Tropical Soil Biology and Fertility Research Area of the International Centre for Tropical Agriculture (TSBF-CIAT), Centre for Agricultural Bioscience International (CABI), and universities, national research organizations, extension organizations, and quality control entities in the different target countries.

The COMPRO-II project will be officially launched on 16 and 17 May 2012 in Dar es Salaam, Tanzania.

Campus crèche gets facelift, excites mothers



Renovated campus crèche

Mothers working in IITA have expressed joy over the renovation of the campus crèche, thanks to management.

The campus crèche takes care of children, giving nursing mothers peace of mind to work. However, aging facilities and growing children population stretched the carrying capacity of the crèche.

"But the environment now is very accommodating and I feel like giving birth to a baby so that she/he can grow up in that environment... And the kids are happy," says the President of the Senior Staff Association, Mrs. Bukky Adeyemo.

"I see the nursing mothers becoming calmer and having better concentration at work because they are assured that their children are in a good environment," she added.

Part of the renovation which took place includes the installation of air conditioners, re-tiling of the floor, painting and the furnishing, among others.

HarvestPlus and IITA re-echo commitment to fight hidden hunger

IITA and HarvestPlus have reaffirmed their commitment towards fighting the menace of hidden hunger in the world.

The two institutions plan to step up efforts towards the development and dissemination of improved and more nutritious crops to vulnerable groups.

HarvestPlus Director General, Dr. Howarth Bouis and IITA Director General Nteranya Sanginga, said after a closed door meeting in Ibadan, that the goal of eliminating hidden hunger required collaborative efforts.

Describing IITA as a dependable partner, Bouis commended IITA for 'a fantastic job' that led to the development of three yellow cassava varieties that are rich in vitamin A.

Sanginga said IITA would continue to support efforts that would lead to better nutrition globally, stressing that the competence and presence of IITA across several parts of Africa provided unique opportunities for research and dissemination of improved technologies.

The provitamin A cassava varieties, developed by IITA and partners with funding support from HarvestPlus, will help in overcoming the devastation of vitamin A deficiency in Nigeria where about 20% of pregnant women and 30% of children under 5 are affected.

Bouis also made a presentation to researchers at IITA and partners, where he underscored the importance of biofortification in tackling malnutrition. He also gave a glimpse of his organization's strategy in rolling out more nutritious foods in Africa and Asia in the years ahead.

Moderating the seminar presentation, IITA DDG for



L-R: Country Manager, HarvestPlus, Paul Ilona; IITA DG Nteranya Sanginga; HarvestPlus DG Howarth Bouis; and IITA DDG for Partnerships and Capacity Building Kenton Dashiell, after a closed-door meeting on the newly developed vitamin A cassava varieties in Ibadan.

Partnerships and Capacity Building, Dr. Kenton Dashiell commended Bouis for his vision, and the resilience in pursuing the vision to reality.

Bouis conceived the vision of biofortification 19 years ago. In one of the communities—Lagaye in Oyo State—that is benefiting from the introduction of the vitamin A cassava varieties, Bouis was crowned with a chieftaincy title.

Researchers achieve breakthrough in reinforcing plantain against devastating microscopic worms



Tripathi inspects a diseased banana plant

For the first time ever, scientists have built into plantain a viable genetic defense against nematodes—microscopic worms that infest and eat away plant's roots, weakening them and significantly reducing their production. Apart from bacterial wilt diseases, nematodes are among the most economically devastating pests of banana and plantain, the fourth most important staple in sub-Saharan Africa.

In experiments, researchers infused maize cystatin gene and a synthetic nematode-repelling protein into the plantain, cv. Gonja manjaya. The cystatin introduced from maize prevents nematodes from digesting proteins,

literally "starving" them to death and greatly reducing their population. On the other hand, the nematode-repelling protein makes the plantain's roots secrete a synthetic peptide that disables the nematodes' ability to find the host. In the study, scientists infused the plantain with either one or both of the genes for single or dual nematode defense.

Feeding on the roots, nematodes restrict the flow of nutrients into the plants, stunting their growth. Farmers easily lose 40% or more of their produce because of nematode infestation, especially in areas frequented by tropical storms and high winds. This is because nematodes damage the roots, weakening the plant's anchorage and causing them to completely topple in strong winds. Plants heavily laden with harvest-ready bunches are especially susceptible.

The transformation research was conducted by a team from IITA and the University of Leeds. The study assessed 245 independent transgenic lines (plantlets) for resistance to nematodes in screen house trials. Researchers have identified the 11 strongest lines that will be further evaluated in confined field trials in Uganda after getting approval

from the country's National Biosafety Authority.

"This is indeed a breakthrough in the fight against one of the most damaging pests of plantain, which many farmers are usually not aware of because they are too small to be seen by the naked eye," says Dr. Leena Tripathi, IITA's biotechnologist and one of the researchers in the study.

"This research has given us highly promising resistant lines as part of our efforts to enhance food security for the millions of people who depend on the crop for their food and income," she added. "And while the safety of the two genetic interventions has been proven in many other similar research, we will still carry out further safety studies during the field trials to ensure that they pose absolutely no risk to humans or the environment," she emphasized.

The cystatin, which naturally occurs in maize, has been in the diets of humans for as long as maize has been consumed. The safety of cystatin-based transgenic work has also been well established in rice for years. Additionally, scientists say a similar protein is present in human saliva.