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Stakeholders impressed by GM cotton research

Stakeholders observe GM cotton at the CFT site in Mubuku prison farm, Kasese. Foreground L-R : PI, DAO Kasese, Trial Manager, Chairperson Nyakatonzi Cooperative Union.

Peter Wamboga-Mugirya, Scifode

SERERE—Farmers, politicians, ginners, civil society activists, local administrators and journalists alike, could not believe their eyes recently when they touched a genetically-modified (GM) cotton plant. This, they said, is contrary to what they had heard before, that GM plants are harmful to human beings plus the environment.

They were also impressed to see birds, bees, butterflies, moths, flies and other insects freely visit the cotton plants to nibble at nectar from the plants' yellowish and purple flowers, and fly away safely. The group was also utterly surprised with the GM cotton, which has been able to grow for over two months in rainy season unaffected by pests especially bollworms—cotton's No.1 destroyer.

This is Serere village in Serere County, Soroti District, where GM cotton technology has been planted inside the National Semi-Arid Resources Research Institute (NaSARRI), where it is growing in a fenced-off (confined field trial) site. This cotton has been modified with a gene to protect it against bollworms and also given immunity from effects of herbicides, when sprayed to kill weeds. The visitors were amazed by the anti-weed chemicals or herbicides—which had a little earlier before this visit, been sprayed against the weeds growing among cotton plants, and only the weeds were killed by the herbicides that did not affect the cotton because of the herbicide tolerance gene incorporated in some of the cotton varieties being tested.

The visiting team to the CFT site on 8th of October 2009, included Mrs Eseza Eriaku, the teacher-cum-farmer resident near NaSARRI; LC-5 Chairman Soroti, Mr Stephen

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Uganda making strides in GM research

Dr. Theresa Sengooba, PBS

Genetic engineering (GE) technologies have come with significant legislation and guidelines to promote benefit while ensuring safe use. Many countries subsequently developed stringent guidelines for research and use of products developed through GE. Transgenic crops have been tested and commercialized in over twenty countries but only South Africa, Egypt and Burkina Faso have reached this stage in Africa. One prerequisite for eventual commercialization of GM crops is conducting field research and this has initially to be done in Confined Field Trials (CFTs).

Uganda has now built sufficient human and infrastructural capacity to successfully conduct GE research. Scientists in the country have already transformed some materials and further research in under field trials and containment in screen houses. The first GM trial, Black Sigatoka resistant banana, was established in November 2007 and is still running. This gave impetus to further research in other crops and to date, two other CFTs are underway: GM cotton at Serere and Mubuku; and GM cassava at Namulonge. Another CFT is in the offing for transgenic maize developed for drought tolerance; a mock CFT has already been established at Mubuku Irrigation Scheme in Kasese.

These developments indicate that Uganda is making strides into harnessing available technologies for the benefit of small scale farmers. PBS congratulates all contributing scientists and regulators for these achievements and is proud to have been a partner. The regulatory agencies and agricultural research institutions have done extremely well to ensure the successful establishment and running of CFTs in accordance with guidelines prescribed by UNCST.

However, CFT stage is one of many stages in the GE technology development process. Further trials at various locations and incorporation of traits in desired cultivars are still needed. Farmers' and other end-users participation in the research will be necessary prior to commercialization of GE plants. Current legislation allows for CFTs but there is need for government to provide guidelines for open multi-location and commercialization of selected, desirable GM products. The outcry for this law has been loud and clear from many fora. ■

Africa-Wide biotech communication strategy in the offing

Arthur M. Makara, Scifode

With support from the Bill and Melinda Gates Foundation, an Africa-wide communication strategy for biotechnology and biosafety is to be developed. This was resolved by the members of the Core Planning Committee of an upcoming project on Biotechnology Risk Communication and Outreach in Africa that convened on 20th November 2009 at Centurion Lake Hotel, Pretoria, South Africa. They said, irrespective of several efforts to sensitize the public and policy makers in Africa on the potential of biotechnology to improve productivity, Africa has been sluggish on adoption of these technologies mainly due to slow development of biosafety regulatory frameworks in most countries.

The project is spearheaded by AfricaBio, a South African based NGO in collaboration with other organizations that include African Biotechnology Stakeholders Forum (ABSF), AfricaHarvest Biotech Foundation (AHarvest), International Service for Acquisition of Agribiotech Applications (ISAAA), all based in Nairobi Kenya and Biotechnology-Ecology Research and Outreach Consortium (BioEROC) based in Malawi. According to Prof. Joselyn Webster, the Executive Director of AfricaBio, the project is intended to create a better understanding among policy makers, regulators, and the public on the benefits and any potential risks associated with GM crops, and the end purpose of biosafety assessments, so as to provide a favourable environment for informed decision-making by regulators and informed choice by the consumers.

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Among the Core Planning Committee of the Project that convened in Pretoria were the renowned World Food Prize Laureate and the Chief Executive Officer of AHarvest Biotech Foundation, Dr. Florence Wambugu who said that she was impressed that at a last, Africa is getting a framework through which all stakeholders interested in public understanding of biotechnology are going to network and operate with a harmonized voice. Other participants included, Mr. Arthur Makara, Executive Director of Science Foundation for Livelihoods and Development (Scifode) based in Kampala, Uganda, Mr. Daniel Kamanga, the Director of Communications at AHarvest, Dr. Faith Nguthi, a senior Programs Officer at ISAAA, Dr. Felix M'boyi from ABSF, Dr. Tichona Mangwede from NEPAD/SANBio, Mr. Wisdom Chengadeya, Director of BioEROC, Dr. Dave Keech and Ms.Remi Aknabi both from AfricaBio among others.

The meeting developed a framework that will form a basis for development of the strategy and will inform the regional stakeholders' meetings scheduled for early 2010. The regional stakeholders' meetings will solicit the priorities of the stakeholders in the different regional blocks of the African continent and will in-feed into the overall strategy and proposal that is anticipated to be completed by April-May 2010. This proposal, it is hoped will be supported by the Bill and Melinda Gates Foundation for a long-term project that will focus on diffusing knowledge on biotechnology and biosafety amongst key stakeholders and the public in Africa. ■

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Ochola; Mr Amos Mugisha, chairman of the Uganda Cotton Ginners Association; journalists: Ronald Kalyango (New Vision); Joseph Miti (Daily Monitor); Robert Isaur (Nation TV Correspondent) and journalists from Soroti-based Kyoga Veritas FM radio. Others included LC-3 Chairman Kalaki sub-county; NaSARRI LC 1 village Chairman; representative from the Cotton Development Organisation (CDO) and from the Soroti Catholic Development Organisation (SOCADIDO); the Regional Coordinator of the Program for Biosafety Systems (PBS) in Uganda, Dr Theresa Sengooba, and Mr Arthur, Executive Director Science Foundation for Livelihoods & Development (Scifode).

These visitors were conducted around the CFT by the Principal Investigator of the GM Cotton project and Director NaSARRI, Dr Thomas Emeetai Areke; the Trial Manager, Mr Pius Elobu and other NaSARRI staff. On entering the CFT site, after they signed in visitors' and security books respectively, the excited visitors were ushered into the field where the healthy-looking GM cotton–the first of the kind ever in Uganda—was a major attraction. The cotton confined field trials are being conducted to enable scientists observe for efficacy of the GM traits in the test varieties. Once successful, stakeholders in Uganda will devise the most appropriate solutions for cotton farmers in the country. Many stakeholders at the meeting requested the scientists conducting research on the GM cotton to include both the insect resistance and herbicide tolerance genes into one variety as both technologies are needed by farmers.

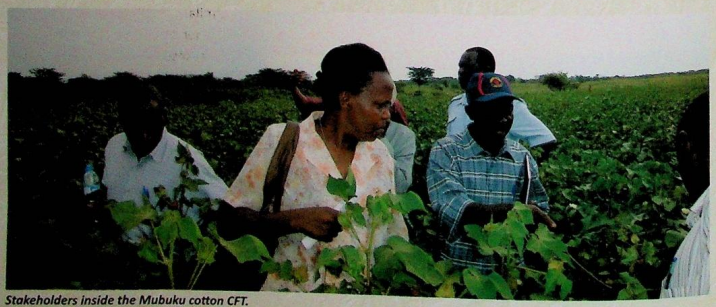
"include both the insect resistance and herbicide tolerance genes into one variety"

A similar seminar was held on December 12 2009 at Mubuku Prison Farm, Kasese where the other cotton CFT is being conducted. Farmers leaders and other stakeholders were highly impressed by the prospects of the technology and requested that biotechnology information should be distributed as widely as possible. Leaders from Nyakantozi Cooperative Society, a major producer block in Kasese District, vowed to lead their farmers to view the CFT trials and appreciate the technology for themselves. Stakeholders further called for an enabling law so that the technology can be deployed to farmers once the field testing and economic analysis yield postive results. ■

GM cotton trials in Uganda

Soroti LCV Chairman Mr. Stephen Ochola and other stakeholders inside the Serere cotton CFT fields.

GM cotton at the Mubuku cotton CFT.



Stakeholders inside the Mubuku cotton CFT.

Bill Gates Says Environmentalism Hurting Africa

From Internet

Microsoft founder Bill Gates said on October 15 that environmentalists who are adamantly opposed to using genetically modified crops in Africa are hindering efforts to end hunger on that continent. Gates was speaking at the annual World Food Prize forum, which honors those who make important contributions to improving agriculture and ending hunger. He noted that genetically modified crops, fertilizers, and chemicals could all help small African farms produce more food, but environmentalists who resist their use are standing in the way.

"This global effort to help small farmers is endangered by an ideological wedge that threatens to split the movement in two," Gates told the forum. "Some people insist on an ideal vision of the environment. They have tried to restrict the spread of biotechnology into sub-Saharan Africa without regard to how much hunger and poverty might be reduced by it, or what the farmers themselves might want."

The Bill and Melinda Gates Foundation has committed $1.4 billion to developing agriculture by assisting poor, small-scale farmers to grow and sell more crops, thereby alleviating hunger and poverty simultaneously. Gates announced at the forum nine new grants totaling $120 million that will be directed toward increasing crop yields and enhancing farmers' skills. Projects receiving the funding include those developing legumes that fix nitrogen in the soil, sorghum and millet that have higher yields, and sweet potatoes that resist pests. Another project will aid governments in Africa to put in place policies that would benefit small farms. Gates specifically pointed out that these small-scale farmers need training and access to markets, not just a supply of improved seeds.

The Gates Foundation is also partnering with researchers who are using both conventional crop-breeding and biotechnology to produce drought-

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GM Cassava at the Namulonge CFT fields. If results from such a trial are positive, concerns by environmentalists may delay adoption.

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tolerant maize. Other work is being conducted on flood-tolerant rice and wheat that is resistant to a virulent form of rust disease. "The technologies will be licensed royalty free to seed distributors so that the new seeds can be sold to African farmers without extra charge," Gates declared. "I hope that the debate over productivity will not slow the distribution of these seeds."

For all the technology at Gates' disposal, he apparently never received the memo that politically correct environmental extremism must be adhered to even when — if not especially when — it causes humans to suffer. For Gates to openly, publicly, and honestly criticize environmental extremists shows he is probably genuinely concerned about the people he is trying to help, which is the opposite attitude from those who always put the environment ahead of people.

It would never even occur to radical environmentalists that people are the most valuable natural resource in need of saving. It is refreshing to hear a public figure emphasizing "how much hunger and poverty might be reduced" and focusing on providing "what the farmers themselves might want" rather than fanatically insisting on "an ideal vision of the environment."

Bill Gates' own words say it best: On one side is a technological approach that increases productivity. On the other side is an environmental approach that promotes sustainability. Productivity or sustainability — they say you have to choose. It's a false choice, and it's dangerous for the field. It blocks important advances. It breeds hostility among people who need to work together. And it makes it hard to launch a comprehensive program to help poor farmers. The fact is, we need both productivity and sustainability — and there is no reason we can't have both. ■

Source: *The NewAmerican*

Top rice producer

BEIJING, Nov 27 (Reuters) - China has approved its first strain of genetically modified rice for commercial production, two scientists involved in the approval process told Reuters on Friday, potentially easing the way for other major producers to adopt the controversial technology.

The approval of the locally-developed rice, as well as China's first GMO corn, shifts the global balance of power in food trade and could prompt other countries to follow suit, experts said. It will also enable China, the world's top producer and consumer of rice, to grow more of its staple food amid shrinking land and water resources. The Chinese Ministry of Agriculture's Biosafety Committee issued biosafety certificates to pest-resistant Bt rice, two committee members told Reuters on Friday, with large-scale production to start in 2-3 years.

"We expect that with the Chinese approval of Bt rice it will be much easier for other countries to do this," said Robert Zeigler, director general at the Philippines-based International Rice Research Institute, which is developing a number of GMO strains of rice.

But Greenpeace called the move a "dangerous genetic experiment" and said it had previously exposed illegal cases of genetically engineered (GE) rice in China. "If the Ministry of Agriculture cannot even control the illegal cultivation of GE rice, how can they manage the risks of large scale cultivation?" Lorena Luo, Greenpeace's food and agriculture campaigner in China, asked in an emailed statement.

China, which wants to raise grain production 8 percent to 540 million tonnes a year by 2020, has splashed out on GMO research, with $3.5 billion going on rice, corn and wheat. The phytase corn was also locally developed by China's Academy of Agricultural Science and Nadaq-listed Origin Agritech Ltd, which has seen its share price double since shareholders were notified of the approval on Saturday. Phytase corn will help pigs digest more phosphorus, enhancing growth and reducing pollution from animal waste and fertiliser runoff.

The rice and corn strains are China's first GMO grains approved for commercial production, although it already

China approves GMO strain

permits GMO papaya, cotton and tomatoes. The strains still need to undergo registration and production trials before commercial production can begin in restricted areas, which may take 2-3 years, the scientists said. The scientists declined to be identified as the government has not officially published the information. Officials at the Agricultural Ministry's biosafety office declined to comment.

"According to our sources, our information is yes, there was a meeting of the Biosafety Committe on GE rice and corn and the meeting has granted certification," said Greenpeace's Luo.

China is the world's top producer of rice, growing 60 million tonnes in the 12 months to October, but it exports only around 50,000 tonnes a month as most is consumed domestically. "China is trying to ensure food security for its people and it will show a direction to many countries, such as India, that this is one of the ways of increasing productivity and ensuring adequate food supplies," said one Singapore-based rice trader with an international trading company.

Exports of GMO rice would be likely to face tough scrutiny abroad. Most of China's rice exports go to South Korea and West Africa, although there are buyers globally, including the United States, South America and Europe. China exports much more rice in prepared food, such as rice pasta or baby food.

The European Union's executive body, the European Commission, said in July that China needed to tighten export controls on rice products because shipments might contain traces of the Bt-63 strain, which is not authorised in the European Union. While China is not yet growing GMO rice commercially, there are numerous field trials going on around the country.

"If rice prices remain high, then countries will be more willing to consider Bt or any other technology to boost production,"

Bt rice, developed by Huazhong Agricultural University, would help reduce the use of pesticide by 80 percent while raising yields by as much as 8 percent, said Huang Jikun, the chief scientist with the Chinese Academy of Sciences. "We believe more genetically-modified technology will be used in agriculture production in future to increase production and reduce inputs," said Huang.

The IRRI's Zeigler said India and Iran were also developing Bt rice and the Philippines could approve the IRRI-developed Vitamin A-enriched GM Golden Rice by late 2011 or early 2012.

The advent of commercial GMO production in China could affect global prices for rice, which rocketed in early 2008, sparking fears that the bedrock of Asian cuisine might be in short supply. "This news signals that there will be no fear of food shortage as we can produce as much as we want and China itself will not have to import any more," said Kiattisak Kanlayasirivat of Thailand's Novel Agritrade Co Ltd.

"Prices of white rice would get back to $200-$300 per tonne again and supply should rise significantly," he said. Benchmark 100 percent B grade white rice RI-THWHB-P1 in Thailand, the world's top exporter and supplier of almost all of China's imports, was quoted at $565 per tonne this week. But lower prices could also slow the spread of GMO rice. "Suppose rice prices remain low in the next few years, countries will be reluctant to take in technology if they have some concerns about it," said Samarendu Mohanty, a senior economist at IRRI.

"If rice prices remain high, then countries will be more willing to consider Bt or any other technology to boost production," he said. "So the market has a role to play." ■

Source: Reuters

3rd Announcement | *Call for Papers*

agbiosafeseed2010

International Conference on Agro-Biotechnology, Biosafety and Seed Systems in Developing Countries: "AGBIOSEED2010"

"Tapping Agro-Biotech Potential for Improved Seed Production and Utilization"

Imperial Royale Hotel, Kampala, Uganda

8th - 11th March 2010

Science Foundation for Livelihoods and Development (Scifode) and the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in conjunction with other partners are pleased to once again announce the International Conference on Agrobiotechnology, Biosafety and Seed Systems (AGBIOSAFESEED2010) that will be held from 8-11 March 2010 at the Imperial Royale Hotel, Kampala, Uganda. The theme of Conference will be *Tapping Agro-Biotech Potential for Improved Seed Production and Utilization*. In addition to the main theme, the participants will have an opportunity to listen to experiences from other countries in Europe, Africa, USA, Asia and Latin America about modern agricultural biotechnology advancements in these regions.

TIMETABLE OF SUBMISSIONS

Activity	Start date	Deadline
Submission of abstract s	September 01 2009	Jan. 15 2010
Submission of full papers	December 01 2009	Jan. 30 2010
Submission of revised papers	December 15 2009	Feb. 15 2010
Submission of abstracts for posters	September 01 2009	Jan. 30 2010
Approval of posters	September 15 2009	Feb. 15 2010
Poster displays	March 07 2010	March 08 2010

CONFERENCE TOPICS

Subject to suitable offers, each topic will consist of a platform and a complementary poster session. The title of each topic below will help you chose the most appropriate session and area of your preference and offer.

1. Biotechnology and Plant Breeding Systems
2. GM Seed Production, Distribution Systems & IPR
3. Biotechnology in Fish, Livestock and Forestry Improvement.
4. Harnessing the Biotechnology for Mitigating the Effects of Climate Change and Energy Crisis
5. Exploring Biotechnology for Improved Nutrition and Food Security
6. Agro-Biotechnology Products, Business Opportunities, Marketing and Commercialization Challenges
7. Economic and social impact assessments of agrobiotech
8. Building Functional Biotechnology Policy, Legal and Regulatory Systems in Developing Countries
9. Addressing the Challenges of Communication and Public Engagement in Biotechnology Applications
10. Ensuring Laboratory Biosafety and Biosecurity
11. Governance Systems for Biotechnology in the ACP Countries
12. Ensuring environment Biosafety with biotech advancement

CONFERENCE REGISTRATIONS

Delegates

To be able to attend Conference, you will need to register as a delegate, which will entitle you to attend the Scientific Seminars and the Exhibitions.

Registration Fees

Registration Fees	US$ 150
Students Registration	US$ 50
Exhibition Space	US$100 per 2x2 metres

(2x2m constitutes one unit, companies can book for as many units as they deem sufficient for their displays)

The registration fees cover lunch and break teas/coffee during the conference and conference materials.
It does not cover accommodation and transport or any other extra expenses.

With about 12 platform sessions on a wide array of biotechnology topics and fully supported by complimentary poster sessions and exhibitions, this Conference promises to be an essential event for all parties interested in modern agro-biotechnology applications and related topical issues.

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For more information about Biotechnology, partners and stakeholders, its practice and regulation, log on to www.biovisioneastafricacom

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