



Stewardship

CropLife Uganda develops “Pilot SSP Project” in partnership with IFDC – CATALIST

CropLife Uganda was awarded a grant of around \$100,000 by the International Fertilizer Development Centre (IFDC) for the implementation of a Spray Service Provider project in Uganda. The agreement is the realization of activities to increase productivity of 1,000 small-scale Irish potato farmers in the South West region and 1,000 small-scale maize, soya bean and sunflower farmers in the Lango sub-region of Uganda by improving the access of crop protection products and fertilizers and the correct usage of these products through professionally trained farmers (SSP's) as selected by the CATALIST project. The contract was signed on 27 May 2014 and activities commenced during June.

A Spray Service Provider (SSP) is a farmer who has received special training to apply pesticides and who hires out his services to (fellow) farmers to spray their lands. This implies that untrained farmers will no longer handle pesticides, and that those who are properly trained will only undertake this application.

CropLife Uganda Chairman, Stephen Matovu and Betty Atto, Finance and Admin Manager will be responsible for the management of the project. They will be assisted by 2 Field Coordinators, 2 Trainers and 1 Assistant. The week following the signing of the contract, the project team organized a planning meeting facilitated by Manon Dohmen of CropLife Africa Middle East. This was to go through all the steps of the project management cycle and to develop a detailed action plan and formats for activity and financial reporting. In addition, all documents, posters, radio jingles, etc. that were used in the SSP project in West Africa were adapted to the local conditions.

The first two months of the project will be focused on training. For the first training activity, Regional Trainer, Perry Ngoma from Zambia trained the 2 field coordinators and 2 trainers as SSP-training experts during a Training-of-Trainers (ToT) intervention. The program took place from 9-14 June 2014 in the Lango region. Perry believes that the training was highly successful and his observations and recommendations have been made known to Stephen Matovu.



L-R, Denis Ocaya (field coordinator, Lango region), Stephen Matovu, Betty Atto and Destine Ariye (assistant)



After the first ToT, the field coordinators and trainers train 45 farmers in both Lango and the South West region as SSPs. All 90 SSPs will receive a technical training on the safe and responsible use of pesticides, application and weed control, as well as business training on how to sell their services as SSPs to farmers. In addition, 15 agro-dealers in each region will be trained on the safe and responsible use of pesticides and shop management. Linkages will be created between farmers, SSPs and agro-dealers to ensure access to quality agro-inputs and the safe and responsible use of these inputs.

Each SSP will receive a full set of Personal Protective Equipment and a knapsack sprayer. Their services will be promoted with radio jingles on local radio stations and displayed on posters that will be distributed among farmers and partner organizations. The second part of the project will be focused on monitoring of the SSPs in the field to ensure they deliver quality work.

The SSP project falls under the CATALIST Uganda project of IFDC which is helping to sustainably commercialize smallholder farmer agriculture through improved productivity and market development, resulting in marketable surpluses that raise farm incomes and food security in Uganda. IFDC has indicated that the current SSP project is a pilot and that a possible extension to more SSPs and probably other regions will depend on the success of this project.

The first SSP program was introduced in 2010 in Zambia in collaboration with the USAID/Profit project where mainly maize farmers were targeted. The results were improved weed control leading to significant yield increases. Coupled with this, sales of herbicides increased by more than 700% over a 3-year period. Other programs were established in Madagascar with CIRAD for rice farmers and in Egypt with ACIDI-VOCA targeting the horticultural sector. In 2013, CropLife set up a regional spray service provider program in the cocoa sector in Ivory Coast, Ghana, Nigeria and Cameroon with funding from the World Cocoa Foundation and the Crop Protection Product industry reaching 40,000 farmers

Manon Dohmen & Les Hillowitz



Geoffrey Okullo presenting on the topic "Why Wear Personal Protective Equipment"



Denis Ocaya presenting on "guidelines for buying pesticides".

Training of Trainers Program - Sudan



Group Photo



River Nile is a state within Sudan with Ad-Damir the capital city. The 5-day Training of Trainers program took place at this venue. Participants from the Northern State and Khartoum joined the training of which their major crops are vegetables (tomatoes and henna), fruits and field crops (sorghum – maize)

The course title was Training of Trainers (ToT), covering both IPM / Responsible Use and Anti-Counterfeiting and was held at the Eldamir training Centre, Eldamir City under the auspices of SAGA (CropLife Sudan) and the Ministry of Agriculture (River Nile / Northern State). Participation included 42 trainees from the Ministry of Agriculture (Plant Protection – Khartoum), River Nile State (Plant Protection / Extension service), Northern State (Plant Protection / Extension service) and the private sector.

The training was conducted by CropLife Africa Middle East in Arabic and all participants received a training manual (IPM/ACF), hand-outs, presentation CDs and training videos covering anti-counterfeiting.

All participants passed a written exam and demonstrated competence in all practical aspects of training as well as on the technical aspects of undertaking training. The participants also undertook participative exercises, marked work sessions, produced training plans and were subjected to a competence assessment test.

All participants now have the necessary training and delivery skills to conduct training of which SAGA will use in their overall training requirements.

Master Trainers are committed to cascade down their training skills within a model endorsed by SAGA.

SAGA will provide training materials for all accredited trainers.

Said Abdella

Said Abdella coaching the group



Spray Service Provider Activities in Nigeria Contribute to Increased Sales for Member Companies

Member companies of CropLife Nigeria that are participating in the Spray Service Provider (SSP) project have noticed an increase in sales of their products. Salesmen in the field that are involved in SSP activities have confirmed this.

Although companies are not willing to share detailed figures because of fierce competition in the market, words such as 'significantly' and 'substantially' are used when describing their increase in sales. One company mentioned that although SSPs are specifically trained in the application of pesticides, several have requested additional knowhow in the application of foliar fertilizers and an increase in the sales of this product category have also been noticed.

Since project activities started in Nigeria in early 2013, member companies of CropLife Nigeria that sell products in the cocoa sector have embraced the SSP concept. Six of these are actively training farmers from different farmers' organizations as part of SSP activities. So far, 312 people have been trained of which 220 succeeded in all tests and thus qualify as an SSP. In addition to this, two member companies have trained over 1,000 farmers in the application of pesticides as part of their own activities.

The trainers establish a good relationship with the SSPs they train and actively monitor their activities in the field. Monthly meetings are organized with SSPs at community level and farm visits are made on a regular basis. SSPs can always contact their trainers if they encounter problems they are unable to resolve. Member companies mention that in most cases the SSP purchases the product for the farmer, which means the trust between farmers, and SSPs have been well established.

The low level of education of smallholder farmers is mentioned as one of the major challenges by the trainers. This said, while in other countries in West Africa where the SSP project is being implemented, 90% of all participants pass the necessary tests, in Nigeria only 70% are able to qualify as SSP's. Another challenge mentioned is the lack of mistblowers. The project introduced the mistblower as the preferred application tool in Nigeria where it was hardly used beforehand. Because mistblowers cannot be rented which is common practice in other cocoa producing countries, the project even facilitated the sales of mistblowers and provided subsidies to encourage this. So far, 28 SSPs have purchased mistblowers and many others have shown interest in doing so.

The SSP activities in Nigeria are part of the SSP project that is currently implemented in Cameroon, Cote d'Ivoire, Ghana and Nigeria reaching 40,000 farmers in 2 years.

Manon Dohmen



Training of Spray Service Provider's

A Spray Service Provider at work



Cocoa Farmers in Ghana increase yields after SSP intervention

Cocoa farmers in Ghana that made use of the services of Spray Service Providers (SSP) have reported increased yields as a result of better pest and disease management. SSPs that are actively selling their services mention that the concept has provided them with additional income. In addition, access to pesticides has been improved because of the direct linkages between SSPs and farmers' organizations on one-hand and member companies on the other. These are the results of an internal evaluation of the SSP project implemented by CropLife Ghana.

Project activities in Ghana commenced after receiving a grant from the World Cocoa Foundation in early 2013. So far, 39 SSP trainers have been trained who in turn trained 971 SSPs. The SSPs have currently reached over 10,000 farmers and the willingness among growers to use the services of SSPs is still increasing.

The field coordinator of CropLife Ghana carried out a special monitoring activity in June 2014 focusing on five SSP "operational communities" in the Ashanti region. Farmers were asked about the differences in the number of cocoa bags sold the previous season versus that of the current season (yet to be completed). On average, farmers sold 241 bags (15 tons) per community, while this increased to 468 bags (30 tons) during the current season which means yields almost doubled.

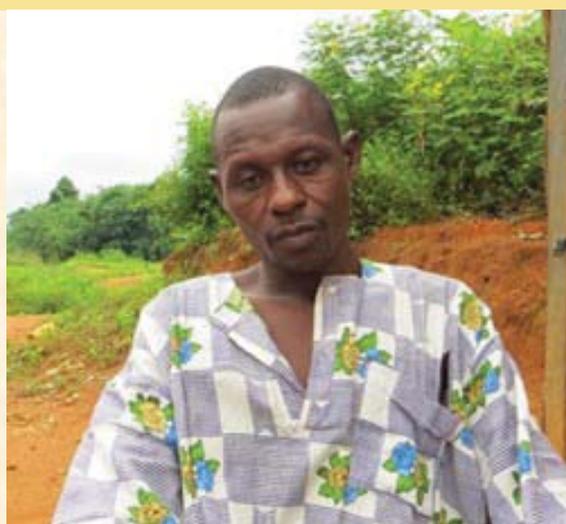
Of course the increase in yields cannot be contributed solely to the work of the SSPs. Farmers in the five communities that were visited are UTZ certified for several years. Every year, farmers see a steady increase in yields but never as dramatic. Farmers mentioned that the only factor that has significantly changed compared to the previous year, is the application of pesticides by SSPs.

Issifi Suleman (48) is from one of the communities that were monitored. He has a cocoa farm totaling 8.5 acres. He says: "Last season I harvested 19 bags (1188 kg) and this season 28 bags (1750 kg). The pesticide usage on my farm is applied by a SSP because he knows where to buy the recommended products. I pay him 10 GHC (3.5 USD) per acre. He also thought me how to scout to check if there are any pests or diseases in my field. I do that now every week. I have recommended the SSP to other farmers as well and when they see how much I have harvested this season, they will also want to hire him."

SSPs that were interviewed said the activities have given them additional income on top of their normal farming business. On average they get 3.5 USD per acre, which takes them 1 hour to apply. The yearly income of an average cocoa farmer in Ghana is approximately 700 USD.

Anthony Osei (30) is an SSP from Mmofra in the Ashanti region. He says: "I started my cocoa farm 4 years ago. The training to become an SSP was for me a good opportunity to earn some extra income since my trees have only just started bearing pods. I followed the training in May 2013. Up to two months ago I only serviced 20 farmers but then I was able to purchase a mistblower through the farmers' association. Now I have serviced more than 80 farmers in several communities."

Before Osei was trained as an SSP, he worked for the mass spray exercise of the government. "Even though I applied pesticides before, I learned a lot during the training, including how to measure the correct quantities, how to store the pesticides and how to manage my money. When I sprayed for the government I made 65 GHC (22 USD) per month, now I easily earn 100 GHC (35 USD) per month. I use one-third of the money I make for feeding my family and one-third for maintenance of my equipment. The rest of the money I use to hire labor to work on my farm because I have so much work as an SSP that I do not have time anymore to work on my farm."



One of the major challenges for farmers before the SSP project started in Ghana was the difficult access to good quality pesticides. To improve access, member companies have been linked directly to farmers' organizations and SSPs. In one of the farmers' association, products are being delivered directly to the warehouse of the association. All farmers have been informed that they can buy their agro-inputs at the warehouse. Also, extension officers and non-members can purchase their agro-inputs from the warehouse. Sales have increased steadily since the start of the year and more and more farmers come the warehouse to buy their pesticides.

Farmer Suleman: "Before I used the services of an SSP, I was just buying anything I could get hold of at the market. I have wasted a lot of money because most products were of bad quality. The SSPs in my community all buy from the farmers' association, so we know for sure the pesticides are of good quality and we can get them in time."

The SSP activities in Ghana are part of the SSP project that is currently implemented in Cameroon, Cote d'Ivoire, Ghana and Nigeria reaching 40,000 farmers in 2 years.

Manon Dohmen



Manon Dohmen interviewing a farmer (L) with Eric Aboagye, Field Coordinator, SSP Ghana (R)

SSP Project Côte d'Ivoire: Certification of SSP's

On 27 June, under the WCF-ACI SSP Project, in Yamoussoukro, Côte d'Ivoire, the closing ceremony of the training session of SSP trainers provided an opportunity for the official certification of the SSP trainers and SSPs involved in the project. The ceremony was organized under the patronage of the Council of Coffee-Cocoa (CCC) and chaired by the Director of Technical Operations representing the Director General of the CCC.

The 13 candidates as SSP trainers' succeeded in all tests, both theoretical and practical sessions, and were certified as SSP trainers. They were awarded certificates, and called upon to urgently commence the training of SSPs to service farmers. Among the group were 4 agents of the CCC and 4 others from the extension service known as ANADER.

The pool of 140 SSPs, were all attendees of earlier SSP training sessions in the region of Yamoussoukro and Bouaflé. They too received certificates as SSPs and were called on to service farmers who are presently in need for the spraying of their farms. In addition to being accredited, each SSP received a full set of PPE and mistblowers as a donation from the CCC to contribute to the SSP program under a cooperation agreement with CropLife Côte d'Ivoire. CropLife Côte d'Ivoire has the responsibility of following-up on these SSP's to ensure the proper use of equipment, particularly the mistblowers.

In the addresses by the President of CropLife Côte d'Ivoire, the representative of the Directorate of Crop Protection Department, CropLife AME and the Director of Technical Operations of CCC, all stressed on the importance and benefits of the SSP program, as cocoa is a strategic crop for Côte d'Ivoire. The sustainability of cocoa production can only be ensured with effective and responsible pest and disease control with quality pesticides that member companies of CropLife Côte d'Ivoire are offering. SSPs therefore play a key role in this program through sound relationships with member companies of CropLife Côte d'Ivoire and the quality of the service provided to the cocoa famers.

The communication team of the "Funds for Interprofessional Research and counselling in Agriculture" (FIRCA) covered the event and will report on this in the regular Farmers TV Program on Saturday afternoon.

Bama Yao



A SSP trainer receiving his certificate from the Director of Technical Operations of CCC (above) and a SSP receiving his certificate, a mistblower a set of PPE from the Regional Director of CCC in Yamoussoukro (right)



Representing the Plant Science Industry

Regulatory

Meeting with COLEACP-PIP

As part of the on-going cooperation with COLEACP-PIP, A meeting took place on 22 June in Brussels.

The purpose of this get-together was to update the parties on their activities in the region. The meeting was also an opportunity to introduce Stella to the COLEACP-PIP team. The discussions focussed mainly on the on-going issues in W. C Africa. This covered :

- CILSS-CSP: the various issues that relate to the new application forms, minor changes, and eco-toxicological studies under the Sahelian conditions as indicated in the recommendations of the study by Ruelle and Van der Valk. The request to COLEACP for a capacity building workshop on the bio-efficacy studies as trials are not always in conformity with harmonized protocols and reports do not highlight the main information required. Such a workshop could be combined with the one CropLife AME is organizing on risk assessment (OpEx and surface water) to better manage time for the CSP participants. The workshop should be planned for September-October.
- ECOWAS regional registration: the implementation plan is still pending due to the tripartite convention ECOWAS-WAEMU-CILSSIS still under preparation.

Bama Yao



Anti-Counterfeiting

USAID Training Workshop on the “Prevention of Counterfeit and Illegal Agro-Inputs”: Mali

A 2-day training workshop was organized in Bamako, Mali, 17 – 19 June. This was a follow-up program of USAID Commercial Law Development Program (CLDP), with the support of CropLife International and IFDC following the meeting of the 3 organizations of which D’Arcy Quinn represented CropLife.

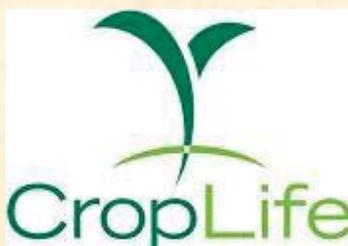
The workshop aimed in assisting the Malian authorities in setting-up control policies and procedures for the distribution of agro-inputs as well as a nationwide sensitization campaign on the fight against the illegal trade of agricultural inputs.

Bama Yao, Regional Coordinator, CropLife AME and Alassane Keita, Secretary of Information and Communications, CropLife Mali, represented CropLife.

Following the opening ceremony chaired by the Secretary of Cabinet of the Ministry of Rural Development and the introductory remarks by Marianne McManus, Senior Counsellor, CLDP, US Department of Commerce, focusing on the impacts of counterfeit products on public health, the presentations and discussions covered the following:

- Types of counterfeits in the region (W. Rogé, International Institute of Research Against Counterfeit Medicine): definition, identification, traceability, authentication and inviolability.
- Preserving Seed Integrity and Quality through Seed Certification (Central Laboratory of Seeds Control, Mali).
- Assuring the Quality and Integrity of Pesticides (Bama Yao, Coordinator CropLife AME) focusing on global challenges and the role of agricultural technologies. How the counterfeit of CPPs, impacts on trade and the adverse repercussions on operators and consumer health, stressing on the need for cooperation and action in combating this crime.
- IFDC Study on the Quality of Fertilizers in W. Africa, and the UDP Technology.
- USAID Strategy on Food Security (David Yanggen, USAID Mali).
- Regulatory Harmonization and Improving Oversight of Registration, Importation, and Handling of Agrochemicals (Bama Yao, CropLife AME). This covered the pesticide regulations and status in Mali (CSP and national laws and decrees), the concept of harmonization for pesticides management, the ECOWAS regional registration framework.
- Malian government efforts for fertilizer and seed regulations. This covered discussions and presentations on the challenges faced by farmers.
- Working groups facilitated by the organizers led to a number of recommendations, which will be discussed and implemented as actions by the USAID delegation in Mali.

Bama Yao



Representing the Plant Science Industry

Association Management

CropLife Africa Middle East Holds Board Meeting & AGM

CropLife Africa Middle East held its Board Meeting and AGM in Brussels on 10 June

Highlights from these meetings were:

- The Annual Accounts for 2013 were reviewed and supported.
- Eric Bureau was elected as President and Michel Chartouni, John Barnes and Kobus Steenekamp as Vice Presidents for the new term.
- Project activities including “obstocks”, the SSP programs and the Anti-Counterfeiting Flagship program were covered in detail.
- The next Board Meeting will be held in Milano on 6 & 7 November.

Les Hillowitz



Participants at the Board Meeting

Joint Plant Biotechnology / Crop Protection Communications Committee Meeting, Brussels, 12 & 13 June

Highlights covered at this meeting were:

- “The Messaging Workshop – Increasing Trust” by Jennifer Sosin, from KRC Research.
- Project Updates
 - The online stakeholder community continues to grow and engages in “issues management activities”.
 - The Plant Science Post is being updated and the new product will be launched in fall 2014.
 - The new CropLife International website was launched in May. The CropLife International Annual Report was published in June and is posted on the website.
 - The committees were updated on the corporate communications campaign which is using social media (mainly Twitter) to promote CropLife International’s three core messages – looking after the environment, feeding a growing population and progressing rural communities – through members and close allies. The campaign has been successful on Twitter so far with 750+ engagements with followers, 800k impressions and extensive sharing of messages between members and partners. The campaign will continue through 2014, with new material including an updated ‘Who We Are’ brochure and animated images.
 - On RNAi materials, the committee was informed that an RNAi ‘101’ document is currently being drafted to help explain the technology and its significance. The first draft will be completed in June/July.
 - On cross-platform stewardship communications, a small cross-platform working group had been established to develop communications on stewardship in preparation for the 2016 Global Stewardship Dialogue. Some potential ‘themes’ for cross platform communications include the role of stewardship as part of the plant science industry’s business model, stories and case studies on stewardship and training programs, and resistance management.

Other

- The committees were updated on the post-launch promotion of the IFPRI report. IFPRI outreach has included briefings with USAID, FAO, OECD, and the German and British governments, with upcoming events scheduled with the Swiss government and IUPAC 2014, among others. The global CropLife network has continued to promote the IFPRI results in the context of climate change with the development of new materials, including a presentation and info-graphic.
- The messaging guidelines previously brought forward as the “pesticide usage messaging” have been adapted to become the “biotech benefits messaging”. The document remains based on the key principles in addressing all benefits messaging – the content must be factual, positive and effective. Specifically the ‘biotech benefits’ messaging document has been amended so that ‘reduced pesticide applications’ messages can only be used as a plant biotech benefit when specific examples are cited.
- Global strategy plans had been approved on three priority areas – pollinators, endocrine disruptors and HHPs. On stewardship, an updated IPM brochure has been published and work is ongoing on a Ghana cocoa video project. The Vector Control Team ‘Block the Bite’ campaign and the upcoming IUPAC meeting in August was also mentioned

Les Hillowitz



Members of the “combined” committees

Eduardo Daher of CropLife Brazil delivering a presentation



Representing the Plant Science Industry

Plant Biotechnology

Second “Cross-Platform” initiative: Ghana

The second “cross – platform” workshop on anti-counterfeiting took place at the Miklin Hotel, Kumasi, Thursday, 12 June 2014.

William Kotey, President of CropLife Ghana, opened proceedings by covering the purpose and expectations of the workshop. He stated that, the workshop had brought together all stakeholders in the pesticide, fertilizer and seed, value chain in order to assess the impact of counterfeiting and how collectively to address this. That this was also an opportunity to address the issue of biotechnology in agriculture in order to prevent misinformation to farmers.

Presentations covered an overview of CropLife and its activities in Ghana by Frederick Boamong. He outlined CropLife’s collaborative activities with the regulatory bodies on fertilizers, pesticides and seed in Ghana. This started from the seed advocacy workshop with PPRSD & AGRA at which 400 farmers received training on Responsible Use, demo plots established and the on-going Spray Service Providers (SSP) Project in the Ashanti Region.

He added that, due to inadequate knowledge on the subject of counterfeiting, enforcement agencies, such as CEPS and the police were not able to effectively tackle the issue, hence the invitation to the CEPS Commanders to give them the needed insight into the issue and how they could contribute in addressing this.

Mr. Samuel Yao Adzivor, Director of Seed-PPRSD outlined the qualities and characteristics of good seed. He went further to outline the items that are mostly counterfeited in the seed industry; these included packaging materials, labels, brands and seed itself. He further showcased sample designs of packaging materials used since 1972 to the current design in line with the Plants and Fertilizer Act, 2010 (Act 803). He mentioned the punitive measures in place for anyone caught counterfeiting either the packing material or the seed itself.

Mr. Joseph C. Edmund, Deputy Director, Chemical Control & Management Centre (CCMC)-EPA spoke on the enforcement strategies to eradicate counterfeiting of agrochemicals in the industry. He emphasized that the EPA Act 490 grants the authority, to among other things; register pesticides for use in Ghana, issue licenses to pesticide dealers, as well as to carry out enforcement activities relating to the handling of pesticides in the country. He further added that most of the pesticides found in Ghana are imported as very little formulating and repacking takes place in the country. He said that, as at June 2014, 384 pesticides had been registered or approved for use in Ghana.



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Representing the Plant Science Industry

He acknowledged that, in spite of the progress made there are indications that the counterfeiting of pesticide products is taking place and that this has become one of the major challenges facing the regulatory authority. He was very clear on the fact that counterfeiting occurs at the retail level within the industry and provided a few examples of this.

Mr. Lawrence Alato, a pesticide and fertilizer inspector from the PPRSD spoke on the scale of counterfeiting in the industry and outlined the strategies adopted to address this. He covered the involvement of the private sector by government in the agro-input supply chain and went further to state reasons attributing to the counterfeiting taking place. This includes the lack of enforcement due to inadequate human resources and logistics, inadequate knowledge on the issue of counterfeiting by other security personnel as well as the high demand for the products by farmers.

Prof. Kenneth. E. Danso, Associate Professor-Plant Biotechnologies of the Biotechnology and Nuclear Agriculture Research Institute of the Ghana Atomic Energy Commission, covered the adoption of plant biotechnology in Ghana; prospects and public Concerns. In general, his talk touched on a brief introduction to plant biotechnology, Genetically Modified Organisms (GMOs), reasons for GMO/Gene Technology, public concerns on GMOs ending with the Ghana Biosafety Development.

He mentioned a growing population and the need for a 50% increase in food production to keep pace with this, which has resulted to placing tremendous pressure on agricultural resources. He added that, in order to address this, technologies such as plant biotechnology would be needed to double the green revolution with less pressure on the environment.

Mr. K. Offei Bonsu from CRI-Kumasi also gave a presentation on the technologies and processes needed for a researcher to produce a released variety. He mentioned that, it takes a minimum of 3 years for inbred development (new parents) and close to 4 years to combine two inbred lines making a total of about 7years to produce a hybrid seed. This said, fake seed is a major disincentive to seed developers and seed companies alike.

Fred Boampong - CropLife Ghana



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Nigeria

The Nigerian National Variety Release Committee (NVRC) has released the first generation of maize hybrids, resistant to Metsulfuron Methyl (MSM) herbicide, and also endowed with resistance to the parasitic weed, *Striga Hermonthica*.

The hybrids were developed by the International Institute of Tropical Agriculture (IITA) in partnership with DuPont Pioneer Seeds using conventional breeding with funding from IITA and the Integrated *Striga* Management in Africa (ISMA) project, as part of strategies to control *S.Hermonthica* in maize.

The hybrids were released as P48W01 and P48W02 and are recognized as IITA IR-Maize Hybrid 2 and IR-Maize Hybrid 4. The hybrids have a yield potential of up to 5 t/ha under *Striga* infestation in comparison with local varieties that produce less than 1 t/ha in such conditions.

"These hybrids are the product of introducing a single nuclear gene that confers resistance to Imidazolinone herbicides, including Metsulfuron Methyl into inbred lines with known field resistance to *S.Hermonthica*," IITA maize breeder, Dr Abebe Menkir, said.

Recent baseline studies conducted under the ISMA project showed that farmers ranked *Striga* as the number one constraint to maize production in northern Nigeria, with 50 to 100 per cent of the households reporting *Striga* incidences in their farms.

The parasitic weed infests millet, maize, and sorghum in Nigeria and severely lowers the production capacity of these crops.

Dr Menkir said yield losses in maize from damage by *S.Hermonthica* varied from 20 to 80 per cent among subsistence farmers, but 100 per cent loss could occur under severe infestation in marginal production conditions.

The herbicide-resistant hybrids allow seeds to be planted that have been treated with low doses of Metsulfuron Methyl herbicide. This targets *S.Hermonthica* before or at the time of its attachment to the maize root, killing the parasite underground before it inflicts damage on the crop.

These hybrids can thus be used to deplete the *Striga* seed bank in the soil and minimize yield losses in subsequent cereal crops. MSM-treated seeds of these hybrids can be integrated into the diverse farming systems in Nigeria because the herbicide effectively controls the parasite at a low rate of application.

The ISMA project works with the private sector to catalyze the process of producing and marketing treated seeds of herbicide-resistant maize hybrids to smallholder farmers in Nigeria to control *S.Hermonthica*.

Other collaborating partners engaged in testing of these hybrids include the Institute for Agricultural Research (IAR) and Agricultural Development Programmes in Bauchi and Kano States.

The ISMA project is being implemented by IITA in partnership with CIMMYT, ICIPE, BASF Crop Chemical, AATF and partners in Kenya and Nigeria.

Najeem Raheem, Ibadan, 28 June 2014



Dr Abebe Menkir

Vitamin A-rich Biotech Bananas to Undergo Human Trials

[KAMPALA] Farmers in Uganda and other East African countries could be growing bananas enriched with vitamin A by 2020 if the world's first human trial of the biotechnology — which is to start in October — becomes a success, experts say.

About 75 per cent of all Ugandan farmers grow bananas as a staple food, according to the country's National Agricultural Advisory Services.

James Dale, a distinguished professor at the Australia-based Queensland University of Technology (QUT), who is leading the trial, says the amount of macronutrients — such as vitamin A and iron — in African bananas is low.

“[Banana-enriched with vitamin A] still needs to go through some thorough testing, so [there's] no need to jump ahead and declare this [as] the silver bullet.”

Piet van Asten, International Institute of Tropical Agriculture, Uganda

The researchers hope to increase the amount of vitamin A in bananas by a minimum of 20 micrograms for each gram dry weight of the crop to enable African banana consumers improve their health, according to a statement from QUT published last month (16 June).

The statement adds that legislation to aid genetically-modified crops to be commercialised in Uganda, currently in Uganda's parliament, could be in place by 2020 to boost the adoption of the biotechnology by farmers.

The human trial of the bananas will take place in the United States and the results are expected by the end of the year, the statement notes.

Dale says field trial of the bananas, conducted first in Australia, yielded high-performing genes. The genes were then transferred to Uganda for further field trials, which they expect to yield elite banana plants in the next three years for large-scale tests throughout Uganda, he adds.

According to Dale, 650,000 to 700,000 children die worldwide a year from lack of vitamin A, and about 300,000 people deficient in the vitamin become blind. The project, backed by a US\$10 million grant from the Bill and Melinda Gates Foundation, has the potential to make a positive impact on staple food products across much of Africa, Dale explains.

Andrew Kiggundu, a plant biotechnologist and head of the National Agricultural Biotechnology Centre in Kawanda, Uganda, says about 35 per cent of children and 55 per cent in child-bearing mothers in rural Uganda suffer from vitamin A deficiency.

Kiggundu says Uganda already has a partnership with Australia since 2005, which has resulted in developing local banana varieties such as Sukaali Ndiizi.

Piet van Asten, an agronomist based at the International Institute of Tropical Agriculture, Uganda, tells SciDev.Net: “Banana-enriched with vitamin A] still needs to go through some thorough testing, so [there's] no need to jump ahead and declare this [as] the silver bullet, but no need either to throw the technology in the bin before we've explored what's good and bad about it”.

The genetically-modified banana will change colour inside from cream to orange — more like the Vitamin A-rich sweet potatoes now popular with farmers, according to Dale.

This article has been produced by SciDev.Net's Sub-Saharan Africa desk.



**Upcoming
Events****Upcoming
Events****Upcoming
Events**

Meeting with the Bill & Melinda Gates Foundation, Geneva	July 4
CropLife AME Regional Regulatory Committee meeting, Pau	July 8-10
Stakeholders meeting for WCF-ACI Côte d'Ivoire Project for activity review, governance and subsequent recommendations	July 8
Gap analysis workshop, Nairobi, Kenya	July 8
AFSTA Biotechnology Awareness workshop, Accra, Ghana	July 9
Stakeholders meeting for WCF-ACI Cameroon Project for activity review, governance and subsequent recommendations	July 11
Anti -counterfeiting training for customs and pesticide inspectors in Northern Côte d'Ivoire,	July16-17
Workshop with Regulators, South Africa	July 30
E & SA Hub + Regulatory Workshop, Lusaka, Zambia	Aug 26, 27



Photo: World Bank

GROWING FOOD - CREATING RENEWABLES - SUPPLYING SUSTAINABLY

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CropLife Africa Middle East
Avenue Louise 326, Box 35
1050 Brussels
Belgium

www.croplifeafrica.org

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Contributors:

Bama Octave Yao (West-Central Africa) bama@croplifeafrica.org

Les Hillowitz (East-Southern Africa) les@croplifeafrica.org