IITA
Transforming African Agriculture
CGIAR

IITA news
No. 2642, 30 May - 3 June 2022

Aflasafe wins Best Innovative Research Project at 2022 World BioProtection Awards

The IITA-developed aflatoxin biocontrol technology, Aflasafe, has won the Best Innovative Research Project at the World BioProtection Awards 2022. The dry spore innovation, one of the Institute's technologies for solving the problem of aflatoxin contamination in crops such as maize, soybean, and groundnut, won the award in a category shortlisting 38 finalists from 32 different organizations.

IITA Plant Pathologist Alejandro Ortega-Beltran (center) received the award on behalf of the Institute.

With the generic name Aflasafe, the dry spore innovation has maximized opportunities for the private sector in countries like Nigeria, Senegal, and Tanzania. It has allowed hundreds of thousands of hectares of commercially produced crops in 12 African countries to be treated against aflatoxin. African smallholder farmers are now harvesting tons of aflatoxin-safe crops and producing high-quality crops that meet the most stringent food safety standards.

In recognition of these outstanding contributions to agriculture, the IITA Aflasafe won the World Bioprotection Forum (WBF)-organized award, which celebrates remarkable biocontrol and biological agriculture achievements.

According to IITA Plant Pathologist Alejandro Ortega-Beltran, who was in the United Kingdom to receive the award on behalf of IITA, the WBF hosts many bioprotectant industries leaders

to page 3

Kibaha District Commissioner lauds IITA for its agricultural digital tools

IITA Research Technician Veneranda Ngazi (left) demonstrating the Plant Nuru app with a smart phone to Guest of Honor, Sarah Msafiri.

IITA Tanzania, researchers, farmers, and agricultural stakeholders in Coastal and Dar es Salaam regions convened at Tanzania Agricultural Research Institute (TARI) Kibaha campus for a farmer field day event organized by TARI Kibaha in May. The campus was in a festive mood with different exhibitions for more than 100 attendees.

to page 2

Kibaha District Commissioner lauds IITA for its agricultural digital tools Continued from page 1

The farmers were introduced to IITA agricultural innovations, including the Plant Village Nuru, a tool that diagnoses plant diseases using a mobile phone; the Afya soil Kit, which measures soil health; AKILIMO, which provides agronomic advice and recommendations; and the Cassava seed tracker, an app that shows where farmers can access clean cassava seeds within their proximities.

The field day created the opportunity and space for farmers to learn and witness the new, improved technologies that would enhance their farming operations.

At the IITA booth, Kibaha District commissioner, Sarah Msafiri, lauded the Institute's innovations and underlined the need to maintain partnerships with other agricultural institutes and farmers. "I would like to recommend that IITA disseminate these innovations to more farmers and extension officers. I am particularly interested in Plant Village Nuru because if farmers can detect the diseases, it would be much easier to combat them," Sarah said.

Khadija Masawanga, Kibaha extension officer, was fascinated with the lamp machine due to its high capacity to diagnose cassava diseases quickly in the field. Other good elements of the technology are its portability, time efficiency, and affordability. IITA uses the tool to train seed inspectors to do their work effectively, assuring farmers of clean seed to boost their yields.

"You are doing a fantastic work for the benefit of the farmers and the whole country, if the farmers get high yields, their income will increase, and the government revenue will also increase," She noted.

Moreover, the farmers and stakeholders learned how Information and Communication Technology tools are crucial in modern farming, especially in facilitating agricultural practices like getting information about good agronomic recommendations and markets. They learned to use their smartphones to enhance productivity. For instance, with the Plant Village Nuru app, participants witnessed how Cassava brown streak disease (CBSD) and Cassava mosaic disease (CMD) are diagnosed. While with the AKILIMO app, they learned how to get site-specific recommendations for cassava growing, including the yield predictions.

Nuhu Chakinde, a 57-year-old farmer from Mkuranga, saw the smartphone as a massive opportunity for their farming operations after seeing the functions it can do beyond those he is used to. "I am happy! This is a big opportunity for us farmers. Now I know how to effectively use my phone for important functions like immediate disease diagnosis on crops for quick results. But also, I am super excited about the AKILIMO app since I can get much information about cassava growing," Nuhu said excitedly.

Hashimu Omari, a 42-year-old farmer from Kibaha, noted that the appropriate use of these innovations would address the shortage of agricultural experts. "These technologies are excellent, and if they reach many farmers, they will help us reduce extension service challenges, especially when facing disease challenges," Hashimu said.

This suite of cassava-focused digital tools will help revolutionize information provision for farmers and enable them to improve their productivity and livelihoods.

Contributed by Hadi Rashid

Showcasing IITA technologies at the Institute's booth. Photo: IITA/Hadi Rashid

Got a story to share?

Please send your story with photos and captions every Tuesday to iita-news@cgiar.org or Katherine Lopez (k.lopez@cgiar.org) and Uzoma Agha (u.agha@cgiar.org) for headquarters and Western Africa, Catherine Njuguna (c.njuguna@cgiar.org) for Eastern and Southern Africa, and David Ngome (d.ngome@cgiar.org) for Central Africa.

Aflasafe wins Best Innovative Research Project at 2022 World BioProtection Awards

Continued from page 1

across the world: Syngenta, FMC Corporation, UPL Limited, Koppert, among others.

Setting up aflatoxin biocontrol manufacturing facilities in Africa has been challenging despite the availability of effective and registered products. However, IITA and partners have developed well-planned, commercialization strategies that improve the technology archetype, making it easier for manufacturers to produce biocontrol products that are affordable for smallholder farmers without compromising effectiveness.

Aflasafe manufacturers now use IITA's dry spore technology in Nigeria, Senegal, Tanzania, and Mozambique without constructing a laboratory to produce fresh spores of the active ingredients. This means a reduction in construction, capital investment, and running costs, thus making the biocontrol product cheaper for the manufacturers and farmers.

On the future of Aflasafe, Ortega-Beltan said, "Aflasafe currently has activities in 21 African countries and supports aflatoxin management programs in various countries in the Americas, Asia, and Europe. We look forward to expanding our activities and contributing towards greater impact in food safety in additional countries in Africa and beyond."

IITA also received a nomination for the Industry Collaboration award category with Harvestfield Industries Limited (HIL). "Although the Industry Collaboration award was given to other nominees, it was great that our collaboration with HIL was showcased during the WBF. Participants realized the significant efforts by IITA to protect the safety and nutritional quality of foods and feeds by mobilizing private sector investment and action to scale aflatoxin biocontrol in several African countries. The collaboration demonstrates that it is possible to have research products implemented for practical use by smallholder farmers in African countries despite political, infrastructural, cultural, climatic, and agricultural challenges," said Ortega-Beltran.

The award is coming at a time when global efforts are focused on developing innovations, technologies, and systems that will provide solutions for the challenges of hunger, reducing climate change impact on the planet, malnutrition, poverty, and natural resource degradation. These objectives are part of the considerations shaping the One CGIAR transformation process in Africa and globally, repositioning to solve the present and future interconnected food, land, water, and climate crises.

Contributed by Timilehin Osunde

Take responsibility! Stop the spread of COVID-19!

Always clean your hands; practice physical and social distancing; wear face masks; avoid crowds and public places; keep a 2-meter distance from the next person; practice general sanitation and hygiene.

Fabricators laud IITA for Zero Hunger Project

Some beneficiaries of the International Fund for Agricultural Development (IFAD)-funded Zero Hunger Project in Nigeria's Ogun State have commended IITA for empowering them through training on wet hammer mill fabrication. This technology empowers cassava processors and feed millers to maximize the cassava processing value chain.

Postharvest Engineer Thierno Diallo (second from left) overseeing the wet hammer mill fabricators.

Fabricators constructing the wet hammer mill, supervised by IITA Postharvest Specialist Peter Kolawole (center background).

Training participants and the Zero Hunger Project Team showcasing a finished wet hammer mill.

The training, held in Odeda Local Government Area at the Oye Steel Global Construction company, lasted five days, from 25 to 31 May. Fourteen fabricators from four Local Government Areas—Odeda, Yewa South, Obafemi Owode, and Abeokuta South—across the state participated in the training. Of these participants, 86% were youth who owned fabricating facilities. The trainees were intensively trained in sourcing materials and fabricating a wet hammer mill and cassava presser.

The innovation (wet hammer mill) developed to enhance cassava processing can process fresh cassava tubers and dry cassava chips for food and cassava peels for animal feed. The wet hammer mill was successfully and satisfactorily fabricated under the supervision of IITA Postharvest Specialist Peter Kolawole and Postharvest Engineer Thierno Diallo.

During his visit to the training venue, Ogun State Programme Coordinator of the Federal Government of Nigeria and IFAD-funded Value Chain Development Program (FGN/IFAD-VCDP), Samuel Adeogun, thanked IITA for continually partnering with the FGN/IFAD-VCDP to lift the rural farmers out of poverty and for ensuring food security through the Zero Hunger Project. He noted that the training would help the VCDP to depend on fabricators in the state to produce equipment for farmers under the VCDP and the state at large. He added that before the training, the FGN/IFAD-VCDP relied on fabricators outside the state to produce agricultural equipment and repair them when needed. He further charged the trained fabricators to take the training seriously as the State Government will note their names as a go-to place for agriculture equipment fabrication in the state.

Kolawole noted that the training was borne out of the mechanization Needs Assessment Survey conducted by the Zero Hunger Project in the state and the need to create value for cassava peels by making it easier to convert to animal feed instead of indiscriminate disposal causing environmental pollution. He further disclosed that the machine was an IITA model, and it was important to train local fabricators in line with the "do it yourself" philosophy for continuity and sustainability.

At the end of the training, two of the trainees, Ogunseye Olubodun and Moruf Oyebowale, expressed their appreciation to IITA and VCDP for the opportunity to learn and promised to put the knowledge to use.

Contributed by Zero Hunger Project Team

IITA and partners look forward to a better CocoaSoils program

IITA and partners organized an annual CocoaSoils forum themed "Looking back and moving forward: Overview of results, achievements, and key learnings" on 12 May. The conference highlighted the progress achieved and defined priorities for the program's next phase.

During the welcome address, the Director R4D, Central Africa and Natural Resource Management, Bernard Vanlauwe, said the forum aims to support the private and public sectors to improve the livelihood of cocoa farmers. Following the output presentation, Vanluawe stated, "We will be starting a second phase of the program to ensure we have conclusive data from the core and satellite trials."

He said that the program would capitalize on the challenges encountered in the first phase and how CocoaSoils will feature in the new CGIAR.

The Senior Adviser, Norwegian Agency for Development Cooperation (Norad), Department for Climate, Energy, and Environment, Daniel van Gilst, summarized the CocoaSoils program. He said the annual forum focuses on cocoa research with past meetings held in Ghana, Cameroon, and virtually in 2021. He noted that, based on the research outputs, Norad finds the program unique and full of potential and commits to "continue our support through the CGIAR Excellence in Agronomy initiatives," he said.

The Executive Director, Cocoa Research Institute of Nigeria (CRIN), Patrick Adebola, commended the program for considering the issue of soil fertility and soil degradation affecting cocoa production and the program's structure that is inclusive of end-users. He added that "CRIN is delighted to be part of the program, and we will give our utmost support to it."

Representing Dr Mohammad Abubakar, the Federal Minister of Agriculture and Rural Development (FMARD), Director of Extension, Engr Frank Kudla, complemented IITA, Norad, and other partners on the implementation strategies of CocoaSoils, and for providing all stakeholders, including farmers and extension agents, with a manual guide to decrease deforestation and increase productivity in cocoa.

Kudla said FMARD would ensure all research findings and lessons learned from Partnerships for Delivery (P4D) are adopted in the National Agricultural Extension System (NARES). "The findings will be used to meet our cocoa agronomic practices, global competitiveness to ensure food security, and improve Nigeria's economy," he stated.

The CocoaSoils Monitoring and Evaluation Specialist, Theresa Ampadu-Boakye, gave an overview of the results, achievements, and key learnings from the first phase of the program. She shared some of the achievements, including training 625 extension agents and 65,066 smallholder cocoa farmers on Integrated Soil Fertility Management (ISFM) and Good Agriculture Practices (GAPs), the establishment of 383 satellite trials in the four countries—Cameroon, Côte d'Ivoire, Ghana, and Nigeria—across various ecological zones. She added that private and public stakeholder partners now use new cocoa ISFM-related research products. Decision-makers use tools and knowledge to avoid increased deforestation and child labor while promoting intensified cocoa production.

Similarly, the multi-stakeholder and multiple-country approaches provide a conveying platform to address the challenges faced by the cocoa industry; and partnerships with the private sector serve as an excellent avenue for data sharing and sustain the dissemination of both existing and new research recommendations.

Wageningen University and Research (WUR) Professor of Plants Production Systems, Ken Giller, moderated a panel discussion where Mondelez International Research and Development Head Emmanuel Kassin, COCOBOD Research Scientist Prince Pobee, and CRIN Research Scientist Moses Ogunlade shared their thoughts on closing knowledge gaps.

Vanlauwe highlighted how the Excellence in Agronomy initiative would impact the future CocoaSoils program. He further explained the six elements that will deliver targets in the second phase: active partners engaging with cocoa farmers, sourcing areas of scaling partners, agronomy products for zero-deforestation cocoa intensification, scaling networks of partners, co-support of partners, and development of public goods.

He also outlined some of the activities in the second phase of the program, including selecting Core and Satellite trials, discontinuing those that are unlikely to deliver any beneficial result, developing the stepwise platform for perennial agronomy, and renewing the CocoaSoils consortium agreement.

Contributed by Anita Akinyomade

Bernard Vanlauwe welcoming participants at the forum.


Engr Frank Kudla explaining how the findings would contribute to improving Nigeria's economy.

Daniel van Glist explaining the uniqueness of the CocoaSoils program.