

**ISSUE 12**

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# CABI in Africa

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Morris Akiri, Regional Director, CABI Africa.  
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## Regional Director's Remarks

Dear reader,

**Welcome to this issue of the CABI in Africa newsletter. We hope you are keeping well and staying safe during this challenging time.**

As the second quarter of 2020 concludes, agriculture continues to suffer from the negative effects of the COVID - 19 pandemic. It is widely expected that food production in the coming seasons will be negatively affected as a result of disruption on various supply chains, including farm labour supply as countries implement and enforce various forms of lockdowns and social distancing. This will undoubtedly increase food insecurity among poor and vulnerable households and further disrupt small and medium businesses across the continent.

At CABI-Africa, we join hands with other stakeholders to help mitigate the effects of the pandemic on food systems in the countries where we work.

As the crisis unfolds, it is heartening to see that African governments, donors and the international community, in general, have classified agriculture as an essential sector by recognizing that farmers' continued ability to grow, harvest

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and sell their crops is part and parcel of the mitigation and resilient efforts against the pandemic alongside the more mainstream public health interventions.

The disruption due to the pandemic is not only affecting farmers' daily livelihoods directly but also hampering the efforts of other very important support systems for farmers. For instance, it is complicating and limiting access to advisory services and other forms of knowledge brokerage necessary for improving productivity. So we need to ensure that information continues to flow between farmers, decision-makers, extension agents, and the private sector during this period.

CABI is supporting continuity and resilience of the agricultural sector during this period by working with partners to develop, adapt and deploy digital and online capacity building and decision support tools that help users translate data and information into positive action and impact on crop health.

Various digital tools and resources are now at the disposal of stakeholders to support capacity building and knowledge brokerage to address the needs of agricultural personnel including plant doctors, plant health advisors and trainers, as well as the private and public sector organizations.

For example, the CABI Academy developed and rolled out a trial free e-learning course on Crop Pest Diagnosis that provided approximately 15 hours of learning time on the principles of symptom-based diagnosis for various

cadres of farmer intermediaries. The course provided online training opportunities for agricultural extension professionals whose ability to continue providing interpersonal extension services has been disrupted.

The e-learning course also provided them with an opportunity to continue building skills during the time in lockdown. The recently launched BioProtection Portal also remains active in creating linkages between farmers and suppliers of biocontrol and biopesticide products registered for use in any particular country. This complements other resources such as the CABI Fall Armyworm Portal and the newly launched CABI Fall Armyworm Research and Collaboration Portal.

CABI has also made 17,000 relevant records from across Global Health and CAB Abstracts free to access for public health professionals, researchers, academia and policymakers who are vital in the response to the COVID-19 pandemic.

We continue with our commitment to support resilient food production and supply systems during this challenging period. Our key programmes continue to operate while ensuring that the health and safety of all staff and stakeholders are maintained.

We hope you enjoy the latest news and stories in this newsletter.

**Morris Akiri**

Regional Director, CABI Africa

# Green Muscle providing strength against devastating locusts in the horn of Africa

CABI and Swiss biological control producers Éléphant Vert are stepping up the fight against crop-destroying locusts and grasshoppers with a safe and environment friendly product called Green Muscle™ which is now being used in Africa.

Around 20 million people in Ethiopia, Kenya, Somalia, South Sudan, Uganda and Tanzania are facing acute food insecurity, according to the Food and Agriculture Organization (FAO), due to a second desert locust outbreak and the COVID-19 crisis.

Locusts and grasshoppers regularly decimate crops in many parts of Africa and Asia with locusts, in particular, responsible for invading in swarms of millions leaving

behind ravaged fields and putting livelihoods and food security at severe risk.

The FAO says widespread rains that fell in East Africa in March and April could now lead to an explosion in desert locust numbers with new hopper bands and swarms possibly forming in Ethiopia, Kenya and Somalia during May and June.

This follows a first outbreak in May 2018 in the Arabian Peninsula, exacerbated by Cyclone Mekunu, which then spread to the Horn of Africa in December 2019 fuelled by the winds of Cyclone Pawan. It is also feared that changing winds have also blown locusts to Pakistan and India.



Green Muscle™ is based on a specific isolate of a fungus called *Metarhizium acridum* which only attacks locusts and grasshoppers, effectively stopping them in their tracks. In the first few months of this year, the FAO released tenders for the supply of a *Metarhizium acridum*-based product for Somalia, Kenya and Ethiopia. Éléphant Vert subsequently delivered Green Muscle™ to the authorities and spray teams are currently applying it under the supervision of the FAO. Samples of the product have also been sent to Uganda, Pakistan and India where the locust situation is getting worse.

Green Muscle™ stems from a programme called LUBILOSA “**L**utte **B**iologique contre les **L**ocustes et **S**Auteriaux”, (biological control of locusts and grasshoppers), which was funded by the governments of Canada, the Netherlands, Switzerland, Britain and the USA. The resulting product has been proven to work better than chemicals – provided it is applied on time to hopper bands before swarming starts.

Dr Morris Akiri, Regional Director CABI Africa said, “We are pleased that Éléphant Vert is able to mass produce and market Green Muscle™ across Africa and parts of Asia where it is needed urgently to assist in the battle against locust swarms which are devastating crops and livelihoods.

“CABI formulated the product over 20 years ago when it was studying fungi that could be used to fight a range of insects. Back in 2009, the FAO reported that Green Muscle™, which it was later to be called, was effective in treating 10,000 hectares of Red Locust-infested land in Tanzania that otherwise may have suffered a full-blown invasion – thereby threatening crops to feed 15 million people.

“Green Muscle™ was also used again to great effect in Madagascar and we are hopeful it can now be used with similar results in other parts of Africa.”

Sebastien Couasnet, Éléphant Vert’s CEO, said: “We are delighted to be working alongside CABI, who share our passion to promote environment friendly biological solutions, to manage pests such as locusts and grasshoppers which threaten economic stability and global food security. In partnership, we are sharing our technical and production capabilities to bring this effective product to market in areas where it is really needed as part of an integrated pest management approach to fight these and other invasive pests.”

As well as working with Éléphant Vert on the supply of Green Muscle™, CABI has also been part of multi-agency responses to the locust problem in countries including Kenya which suffered the worst infestation in 70 years.

CABI’s research has confirmed that Green Muscle™ is effective against various species including Desert locust (*Schistocerca gregaria*), Red locust (*Nomadacris septemfasciata*), Brown locusts (*Locustana pardalina*), Sahelian tree locusts (*Anacridium melanorhodon*), Variegated grasshopper (*Zonocerus variegatus*), Senegalese grasshopper (*Oedaleus senegalensis*), African rice grasshoppers (*Hieroglyphus daganensis*) and Sahelian grasshoppers.



Locust swarm. Stock photo (Pixabay)

# Working in partnership to increase the safe and efficient trade of agriculture in East Africa

CABI, together with a law firm KO and Associates, have been contracted by Land O Lakes Venture 37 (V37) TRASE (Trade in Agriculture Safely and Efficiently) project, funded by the United States Department for Agriculture (USDA), to conduct a comprehensive assessment of sanitary and phytosanitary (SPS) systems implemented in the East African Community (EAC).

Trade between EAC partner states is hindered by a variety of SPS regulatory issues.

The CABI-led assessment will prioritize investment opportunities that would unlock SPS trade related constraints. Competent authorities, the private sector and the EAC secretariat are integral partners in the assessment. It is expected that once implemented, TRASE investments will contribute towards increased regional and international trade.

MaryLucy Oronje, SPS Manager at CABI's centre in Nairobi, Kenya said, "The EAC Secretariat has recently taken important steps to create common SPS standards that have been harmonized among Partner States, also referred to as the EACSPS Legal Framework (ESLF) which have impacted on how Partner States conduct business.

"While the EAC SPS Protocol has not yet been fully ratified, some regulations have been adopted by the Council of Ministers as harmonized EAC SPS measures. These include harmonised pest risk analysis for maize, rice and beans, and food safety measures with nearly 80% of the work on harmonized animal health measures being completed.

"TRASE will build upon these successes by implementing a range of actions that include domesticating ESLF, a series of regulations, development of standard operating procedures and measures, at national levels while enhancing collaboration between public and private sector players."



Traders at a farmers' market in Kenya. Copyright CABI





Farmers harvesting potatoes from their farm. Stock photo (iStock)

## Stepping up the fight against devastating potato diseases in Kenya

CABI is working in partnership to step up the fight against a range of devastating potato diseases which are threatening to decimate the yields of nearly a million smallholder farmers in Kenya.

Dr Joseph Mulema, Senior Scientist, Research – who is based at CABI's centre in Nairobi, is leading a team of scientists in conducting a surveillance exercise to identify and map the distribution of *Pectobacterium* and *Dickeya* species, which cause blackleg and soft rots and *Clavibacter michiganensis subsp. sepedonicus* that cause ring rot.

The project, funded by Wageningen Centre for Development Innovation, is expected to fill gaps in data availability on disease prevalence, provide a regulatory framework for certification and recommend measures for better management and control of the diseases.

Potato is a key crop in Kenya's economy, contributing almost USD 30 million annually. The sector employs approximately 3.3 million people, out of which 800,000 are smallholder farmers – the majority of whom are rural poor and involved directly in production. Potato has been prioritised by the Agricultural Sector

Transformation and Growth Strategy.

However, production has consistently reduced over the last decade from 22 t/ha in 2008 to 8.6 t/ha in 2018. Kenya is the fourth highest potato producing country in Africa after Algeria, Egypt, and South Africa but with the lowest yield per hectare amongst these countries.

The country also has the fourth lowest yield (8.6 t/ha) in East Africa, marginally better than Uganda at 4.3 t/ha.

Dr Mulema, working with partners including the Ministry of Agriculture Livestock, Fisheries and Cooperatives, Kenya Plant Health Inspectorate Services (KEPHIS), Kenya Agricultural and Livestock Research Organization (KALRO), International Potato Center (CIP), National Potato Council of Kenya (NPCK), University of Nairobi and TechnoServe, Kenya said,

“Pests and diseases contribute to an estimated 80% reduction in production which threatens improved seed availability and food security. Some of the diseases are difficult and expensive to manage and there is limited information on their nature, occurrence, and impact.

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“Given that farmers recycle their seeds, potato diseases have spread to most of the traditional potato producing regions, limiting availability of disease-free zones for improved seed production.

“However, not only is there low availability of disease-free seed but poor agronomic practices, declining soil fertility, low usage of agro-inputs and abiotic factors such as drought, as well as high pest incidence, all contribute towards declining yields.”

Dr Mulema added that information gained from the project is important to allow for the detection and monitoring of target pathogens, preventing their introduction or managing them if present, as well as supporting market access and trade in potatoes.

“We hope that the aims of the project will ultimately promote trading partners’ confidence by ensuring the availability of current and reliable information on the status of the target pathogens in Kenya; update the regulated pest list and technically justifiable import requirements for the host commodity,” Dr Mulema said.

So far, the project has developed a protocol for the identification of blackleg, tuber soft rots and ring rot diseases of potato. This was followed by a fact-finding mission which aimed at explaining the rationale of the potato disease surveillance exercise and shared the surveillance protocol with officials from the six selected counties (Elgeyo Marakwet, Meru, Nakuru, Narok, Nyandarua, and Trans Nzoia).

The project team also ascertained facts about potato production and associated pests and diseases with specific reference to the target diseases in the county, identified potato growing areas within the county suitable for undertaking the surveillance work and agreed on timelines and personnel to be involved.

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“We hope that the aims of the project will ultimately promote trading partners’ confidence by ensuring the availability of current and reliable information on the status of the target pathogens in Kenya”

Currently, the project has isolated bacterial isolates from more than 3000 samples (plant stems, tubers, and soils) which are undergoing molecular diagnostic tests. All the positive strains will be purified and preserved for future studies.

 [j.mulema@cabi.org](mailto:j.mulema@cabi.org)



Oliviah Nyaundi and Moses Kobia, both interns at KEPHIS, processing potato samples at the KEPHIS laboratory after collection from farmers’ fields. Copyright Joseph Mulema, CABI



# CABI refurbishes laboratory for Biological Control of Invasive Species in Ghana

Through its global Action on Invasives (Aoi) programme, CABI has refurbished a laboratory housed by the Plant Protection and Regulatory Services Directorate of Ghana's Ministry of Food and Agriculture (MoFA-PPRSD). The lab supports research efforts aimed at discovering and promoting locally practicable biological control solutions for managing invasive species in Ghana. The refurbishment consisted of renovation works on some of the physical structures of the laboratory as well as provision of relevant equipment including a sterilizer cabinet, storage, parasitism cages, humidifier and other consumables needed for the daily operations.

Since its detection in Ghana in late 2016, the fall armyworm (FAW) has had significant negative impact on maize production in Ghana. Over 600,000ha of farmland was affected in 2017 and 2018 leading to an average annual yield loss of 26.6 percent, valued at \$177 million. Management options adopted by the government have largely relied on chemical pesticides which have raised considerable concern due to the potential threats these products pose to human health and environmental safety.

In response to this need, CABI has worked in close collaboration with PPRSD and other partners since 2018 to research and test the availability and viability of various biological control options for managing devastating pests. The refurbishment of the MoFA-PPRSD lab therefore comes as a timely boost to support these efforts.

The collaborative effort has led to the identification of natural enemies of FAW already existing in the country which include ten species of parasitoids. Two of these – *Telenomus remus* Nixon and *Coccygidium luteum* (Brullé) – have been found to be effective for FAW population control due to their voracious parasitic and predatory action on FAW egg masses and larvae respectively.

Development of an augmentative approach using these parasitoids is continuing in the lab. The main challenge is to find an economically viable method for mass rearing for use in smallholder systems.

The refurbished laboratory is expected to play a key role in ongoing efforts to develop and test cost effective mechanisms for mass rearing and release of these natural enemies as part of an integrated pest management (IPM) approach to sustainably manage the FAW across the country in the foreseeable future.



A scientist experimenting with FAW larvae feeding alternatives. Copyright CABI

# CABI-led Africa Soil Health Consortium helps over a million farmers grow more and better crops

The CABI-led Africa Soil Health Consortium (ASHC) has reached more than 1.3 million smallholder farmers in sub-Saharan Africa to grow more and better crops – thereby increasing their livelihoods as well as local, regional and national food security.

Supported by the Bill & Melinda Gates Foundation and working with a range of partners in Ghana, Nigeria, Tanzania and Uganda, the project developed communications campaigns designed to help farmers understand and adopt Integrated Soil Fertility Management (ISFM) practices when growing bananas, beans, cassava, maize and soybeans.

ASHC aimed to reach 450,000 farmers but, since its launch in 2013, the consortium had far exceeded its goal by tripling the number of those benefiting from its advice. These smallholders are now more aware of ISFM practices for key crops such as maize, rice and soybean and evidence from outcome studies showed that at least 20 percent of them went on to adopt a range of new soil health practices.

Aside from radio and text messages, ASHC and its partners also used novel ways to reach farmers such as comics books, drama productions and music videos with down-to-earth messages about soil health and encouraging families to share information about soil fertility and good agronomic practises. This strategy proved especially useful for reaching younger people within farming families.

James Watiti, Coordinator – Development, Communication and Extension, said, “Poor soil fertility is one of the biggest hurdles preventing small-scale farmers in sub-Saharan Africa from improving their farm’s productivity and, therefore, from increasing their incomes.

“A lack of access to reliable and timely information about ISFM means smallholders cannot easily learn about and put into practice these tried and tested practices even for the most commonly grown crops such as common beans and maize.

“CABI helped to bridge the gap in farmers’ knowledge by cultivating partnerships with over 70 different agencies to plan and implement more than 18 scale up campaigns which has seen a marked change in ISFM practices and, according, increases in yield.”

Between them, the partners helped create over 600 ISFM materials that are now available on the ASHC website for anyone to use. ASHC information materials and lessons have proved very useful and have been shared by many third-party agencies beyond the project’s original scope of four countries.

The ASHC family of projects includes many initiatives such as Gender and the Legume Alliance (GALA), and Upscaling Technologies in Agriculture through Knowledge Extension (UPTAKE) and Scaling Up Improved Legume Technologies (SILT).



Farmers discussing the effectiveness of banana print material during a pre-test activity in Tanzania. Copyright CABI

 [j.watiti@cabi.org](mailto:j.watiti@cabi.org)



# Working in partnership to ‘close the net’ on fall armyworm pest in Botswana

Since 2019, CABI has been working in partnership with the Food and Agriculture Organization of the United Nations (FAO) as part of its Global Action for Fall Armyworm Control to help farmers in Botswana ‘close the net’ on this devastating crop pest.

FAO has started rolling out a mobile phone app technology in the country under the Fall Armyworm Monitoring and Early Warning System (FAMEWS), which is proving to be a key weapon in the hands of smallholders who are helping to map the current situation.

The fall armyworm (*Spodoptera frugiperda*) is an insect native to tropical and subtropical regions of the Americas. Its larvae can feed on more than 80 crop species, including maize, rice, sorghum, millet, sugarcane, vegetable crops and cotton – causing up to 100 percent destruction if not properly managed.

FAMEWS data is providing valuable insights on how fall armyworm populations change over time across different regions in order to better understand its behaviour and guide best management practices.

CABI invasive species scientists and development communication specialists are working with FAO to promote the usage of FAMEWS as part of a countrywide campaign to step-up the capacity for Botswana’s farmers to manage the fall armyworm which in 2017 affected nearly 27,000 ha of crops.

So far CABI has helped train Ministry of Agriculture (MoA) staff in community fall armyworm management, introduced them to CABI communication platforms such as the Plantwise Factsheet Library and has facilitated farmer training sessions as well as helping them to produce a number of communications products. Further, more than 400 copies of a fall armyworm pocket guide have been given to frontline extension workers and farmers that include quick references to the identification and management of the pest.

Dr Ivan Rwomushana, Senior Scientist, Invasive Species Management based at CABI’s regional centre for Africa in Nairobi, said, “Since fall armyworm was detected in Botswana in 2017 it has quickly spread to become a significant crop pest nuisance not only across most of Africa but now other parts of the world including India, China and Japan.

[Read more on page 10](#)



A Trainer of Trainers (ToT) session with participants populating trap count data into the FAMEWS application.  
Copyright Mr Bautule Kealatotse–Ministry of Agriculture, Botswana

“Our training sessions and workshops form an important element of the overall communications and implementation strategy to help reduce the fall armyworm’s impact in areas where it is significantly threatening food security and the livelihoods of farmers and their families. The government has been responding with freely issued pesticides but this poses risks to humans and the environment.”

Dr Rwomushana said that widespread use of pesticides is not sustainable in the long run, and should only be used as part of an Integrated Pest Management (IPM) strategy together with safer to use and more environmentally friendly biological controls.

“Farmers have been using Cypermethrin and Bulldock granules as well as Chlorpyrifos and cultural controls using powdered soap mixed with water, weeding, handpicking of larvae and home-made botanical pesticides such as tobacco and chilli,” he added.

Under this initiative, CABI is also conducting household surveys to further understand the impacts of fall armyworm to the farmer and the country as well as pesticide use with a view to promoting more sustainable control methods such as the use of biopesticides, intercropping, good field sanitation, ‘push-pull’ and other agroecological approaches.

CABI’s support to fall armyworm management in Botswana is funded by the Government of Japan, and FAO TCP to the country. Yuka Irie, the project coordinator at FAO Botswana said, “We have already received some positive feedback from a farmer at the end of one of the farmer trainings, announcing that she will stop using chemical pesticides, after learning about the health and environmental risks. We hope that more farmers will learn about managing and controlling the pests to achieve more sustainable agriculture in Botswana.”



[i.rwomushana@cabi.org](mailto:i.rwomushana@cabi.org)

## CABI BioProtection Portal promotes use of safer bio products in farming

Innovative CABI BioProtection Portal launches first in Kenya to help growers reduce reliance on chemical pesticides and produce safer and healthier food.

CABI has launched in Kenya a dedicated online resource aimed at raising the awareness and uptake of more environmentally friendly biocontrol and biopesticide products by growers and their advisors.

The CABI BioProtection Portal ([bioprotectionportal.com](http://bioprotectionportal.com)), is available initially as an online website, viewable on smartphones, tablets and desktop computers, to help growers and pest management advisors identify, source and correctly apply biocontrol and biopesticide products for their specific crop-pest problems. An offline version will follow within the next weeks to enable growers in areas without reliable internet access to also be able to benefit from the tool.

The innovative free-to-use tool, is being made available by CABI in collaboration with its network of partner biocontrol manufacturers (Koppert Biological Systems, Syngenta and e-nema) and donors (the Ministry of Foreign Affairs of the Netherlands, the Swiss Agency for Development and Cooperation, African Development Bank and the UK Department for International Development) who provide invaluable support in

the form of technical inputs, strategic guidance and funding. The portal will be particularly beneficial for growers looking to replace chemical pesticides with biological products in order to meet market or export standards, satisfy consumer demands for healthier and safer food and reduce pressures on the environment.

The launch comes as CABI and its partners mark the inaugural International Year of Plant Health (IYPH) 2020 which aims to raise awareness of the importance and impacts of plant health in addressing world hunger, poverty, threats to the environment and economic development. As part of this CABI is itself collaborating with Wageningen University and Koppert Biological Systems to hold the first Plant Health, Agriculture & Bioscience Conference which will be held on 22-24 September, 2021 in The Hague, the Netherlands.

Users of the CABI BioProtection Portal enter their country and crop-pest problem query to start a search which generates information on biocontrol and biopesticide products that are authorised by national regulators for that specific search. Information is sourced directly from national governments’ list of registered pesticides and from partner biocontrol manufacturers.

[Read more on page 11](#)



The CABI BioProtection Portal will be rolled out to a further 10-15 countries in 2020, including Spain, Brazil, Uganda and Bangladesh, and in multiple languages, with further countries to follow in 2021. It is the aim that this tool becomes a global go-to resource for information on biocontrol and biopesticide products.

Dr Ulrich Kuhlmann, Executive Director, Global Operations at CABI said, “Globally, an estimated 40 percent of crops are lost to pests – such as the devastating maize pest fall armyworm and the tomato leaf miner – as well as a range of plant diseases.

“The widespread use of chemical pesticides to fight crop pests alone is not sustainable either economically or environmentally in the long run especially when you factor impacts exacerbated by climate change.

“CABI is helping growers to adapt to this major challenge through projects that apply, among other things, our expertise in digital development and crop health as well as products like the BioProtection Portal which promote sustainable approaches to pest management.”

Dr Kuhlmann said the portal is not just of benefit to growers but also to national authorities responsible for the regulation/registration of plant protection products, private-sector decision-makers – such as cooperatives and organisations operating voluntary certification schemes – and biocontrol manufacturers looking to promote wider uptake of their products.

“The CABI BioProtection Portal brings together in one place the various safer and more environmentally friendly biocontrol and biopesticide products that growers can add to their ‘arsenal’ against crop pests as part of an integrated pest management plan.” he added.



Hon. Prof. Hamadi Boga, PS Ministry of Agriculture Livestock, Fisheries and Cooperatives officially launches the portal. Copyright CABI



# Biopesticides effectively halt the devastating fall armyworm in South Sudan

CABI has briefed the Food and Agriculture Organization of the United Nations (FAO) on a successful project to deploy a safe-to-use and environmentally friendly biopesticide in the fight against the fall armyworm (FAW) pest in South Sudan.

Dr Ivan Rwomushana, Senior Scientist, Invasive Species Management, based at CABI's centre in Nairobi, Kenya, told the FAO and more than 150 scientists how 500 smallholder farmers have already seen 63% yield increases – worth \$609/ha – from using Fawligen, a product based on a baculovirus.

The technical webinar, entitled 'Pesticide and Biopesticide in Fall armyworm Control: Protecting Health of Plants, People and the Planet,' heard how smallholder farmers – instead of deploying synthetic pesticides that can pose serious risks to human health as well as natural enemies and pollinators – were encouraged to use more biopesticides as part of their Integrated Crop Management (IPM) plans.

The project, a collaboration between CIMMYT, USAID, the FAO and AgBiTech and run in partnership with the South Sudan Ministry of Agriculture and Food Security (MAFS) and the Star Trust Organization (STO), is seeking more funding to extend the benefit to an extra 600 smallholders who are keen to protect their crops from FAW – which can reduce losses of between 20-55% – as well as their livelihoods, local, regional and national food security.

Drawing from experience gained from testing Fawligen in Kenya, Dr Rwomushana told the webinar how CABI designed the protocol for the demonstration of the product and built upon its experience in community action programmes to run the pilot in South Sudan. He also advised that CABI provided local technical training and support to the farmers as part of the first pilot study.

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Extension worker in Yambio showing fall armyworm larvae on maize. Copyright CABI



In the first phase of the project, the farmers, in the Yambio, Bor and Juba regions, were clustered into 10-20 groups of 50 farmers. Each cluster identified a lead farmer who was trained to support other farmers and use his, or her, own farm as a learning /demo site where they could follow a standard protocol and use available tools.

Crop yield data collected at the end of the growing season from three of the four sites, representing a total of 315 feddans in Bor, Juba, and Yambio, demonstrated that the application of Fawligen resulted in a 63% yield gain on average, or 0.81t/ha, when compared to untreated maize fields. This was equivalent to \$609/ha, which was estimated to cover the \$72/ha cost for six sprays of Fawligen.

Dr Rwomushana said, “Pesticides are currently the main method for managing FAW in Africa. Their extensive use is attributed to ease of access and the widespread belief that they provide better control than other management methods. However, given the high number of sprays and highly hazardous products being deployed, (some banned internationally), they can pose serious risks including both acute and chronic human health burdens, effects on natural enemies and pollinators.

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“Pesticides are currently the main method for managing FAW in Africa. Their extensive use is attributed to ease of access and the widespread belief that they provide better control than other management methods”

“Biopesticides can, however, be a highly effective alternative to FAW management as they are generally more specific than most pesticides and do not pose the same health risk to spray operators and the environment. When used in conjunction with good crop management, they can help to keep FAW levels under control, reducing the need to apply other pesticides.”

Dr Rwomushana revealed that a survey carried out at the end of the first pilot with farmers showed that 63.2% felt the Fawligen treatment had been very successful, and 95% were willing to pay for Fawligen if it was available at an agrodealer near to them, at a price comparable to a synthetic insecticide.

Dr Rwomushana added, “While biopesticides are increasingly used against FAW outside the continent, very few products are registered for use in Africa. Therefore, if suitable products were available, they would offer safer alternatives to chemicals.

“It is hoped that if a second phase of the project is funded, CABI and partners could apply the lessons learned during the first phase and expand the biopesticide reach to additional farmers, and to further refine an integrated package of technologies to manage FAW as well as other maize crop pests.”

CABI seeks to work with partners to have such lower-risk products also registered in South Sudan, under the framework of the East African Community (EAC) harmonized guidelines for the registration of biopesticides and biocontrol agents for plant protection, that were adopted in September 2019. CABI was also involved in the harmonization process for the formulation of these guidelines.



[i.rwomushana@cabi.org](mailto:i.rwomushana@cabi.org)

# Programme providing commercial support to smallholders and agribusiness launched in Uganda

A new programme, which aims to increase global investment in agribusinesses trading with smallholders, was launched in Kampala, Uganda.

The Commercial Agriculture for Smallholders and Agribusiness (CASA) programme, launched in March 2020, will encourage global and local investors to invest in agribusinesses that source produce from smallholder farmers. The programme's goal is to attract more investment into the Ugandan agricultural sector. A GBP 3 million funding package for Uganda will boost economic growth and raise demand for Ugandan produce.

The UK Government is providing GBP 30 million through UKAid to fund the initiative globally over five years. CASA ultimately aims to improve the livelihoods of over half a million smallholder farmers and their families in Uganda, Malawi and Nepal. CASA will bridge evidence gaps, showcase successful business models and help investors and policymakers have access to the right information and people to make inclusive agribusiness models succeed.

Producers, traders, processors and other agribusinesses provide income and jobs for smallholder farmers and farm labourers. By supporting these small- to mid-size enterprises and helping them become better functioning and more inclusive, farmers and farm labourers will benefit and get access to agricultural value chains.

Over the coming months and years, CASA will be focusing on agribusinesses in the beans and sesame value chains in Uganda. The programme aims to stimulate not just the specific agribusinesses CASA will partner with, but also attract investments in other agribusinesses and value chains by showcasing success stories.

Paul Kalu, CASA Team Leader said at the programme launch in Kampala, "With agriculture serving as the backbone of most developing economies – employing the largest number of people and often generating the largest share of national income, it is a simple fact that support to the agricultural sector is one of the most effective ways of lifting people out of poverty in these countries.

"The CASA programme here in Uganda has identified and designed appropriate interventions with the potential of stimulating investment in emerging agri-markets that will lead to improved livelihoods and enhanced resilience of Ugandan smallholder farmers."

CABI is part of a consortium of partners delivering the CASA programme, responsible for the Research and Learning component of the programme.



[c.alokit@cabi.org](mailto:c.alokit@cabi.org)



A farmer gets her produce ready for the market.  
Stock photo (Pixabay)



Plants for life,  
to survive



# Plant Health, Agriculture & Bioscience Conference

22-24 September 2021  
The Hague, Netherlands

[phab2020.com](http://phab2020.com)

#PHAB2021



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# CABI centres in Africa

## AFRICA HQ

Canary Bird  
673 Limuru Road  
Muthaiga  
PO Box 633-00621  
Nairobi  
Kenya  
T: +254 (0)20 2271000/ 20  
E: africa@cabi.org

## WEST AFRICA

CSIR Campus  
No.6 Agostino Neto Road  
Airport Residential Area  
PO Box CT 8630, Cantonments  
Accra, Ghana  
T: +233 (0)302 797 202  
E: westafrica@cabi.org

## SOUTHERN AFRICA

5834 Mwange Close  
Kalundu  
P.O. Box 37589  
Lusaka  
Zambia  
T: +26 (0)967 619 665  
E: southernafrica@cabi.org

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