

## Fall armyworm has reached the Indian subcontinent!

The Fall Armyworm (FAW), *Spodoptera frugiperda*, was detected for the first time on the Indian subcontinent in mid-May this year in maize fields at the College of Agriculture, [University of Agricultural and Horticultural Sciences \(UAHS\)](#), Shivamogga, [Karnataka](#). This was the report of [IITA](#) Scientist [Georg Goergen](#), who provided technical assistance in tracking the pest's identity.

Following morphological identification, Drs Sharanabasappa and Kalleshwara Swamy of UAHS confirmed the pest's identity using molecular techniques. Similar information has also just been released based on independent investigations by the National Bureau of Agriculturally Important Microorganisms (NBAIR) under the [Indian Council of Agricultural Research \(ICAR\)](#).

The FAW is a moth (family Noctuidae) native to the tropical and subtropical regions of the Americas where it is an



Fall Armyworm attacking a maize cob. Photo by G. Goergen, IITA

important pest, primarily of maize, but also of several grain crops, vegetables, and wild plants. Besides feeding on

various kinds of food, FAW undergoes a relatively short development cycle and has a high reproduction rate with about

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## IITA commemorates 51st anniversary

[IITA](#) marked its 51<sup>st</sup> anniversary on 24 July, highlighting the performance and all-round achievements of the Institute since inception in 1967. IITA Director, Country Alignment and Systems Integration, [Kwesi Atta-Krah](#), led staff members in congratulating the Institute and extending to all staff best wishes for the future.

He said that agriculture has the potential to drive economic development and wealth creation, and as such, IITA has been working with its partners for the realization of this vision and to ensure that agriculture becomes the engine for economic growth as the majority of the population in rural areas depends on

what they grow to feed themselves.

Since last year's 50<sup>th</sup> Anniversary celebration, IITA has continued to make gains in adopting a broader agricultural transformation agenda to bring about livelihood enhancement and economic development in sub-Saharan African countries. Through the establishment of the [Business Incubation Platform \(BIP\)](#), the Institute has continuously demonstrated that the technological barriers to outscaling and impact can be broken by establishing business-oriented facilities ([Aflasafe](#), Nodumax, GoSeed), and through private sector engagement to further influence the yield of farmers in sub-Saharan Africa.

"A major success highlighted this year is the construction of the new, massive building (opposite Akinwunmi Adesina Agriprenuer building) that was inaugurated during the 50<sup>th</sup> anniversary," said IITA Director General, [Dr Nteranya Sanginga](#).

"To my greatest surprise, this building which kicked off with the official laying of blocks at the 50<sup>th</sup> anniversary, will be operational in August. This innovation will birth the massive production of clean seeds of cassava, plantain, banana, cocoa, and yam. Thus far, I am so proud of this advancement, which has also been replicated in DR Congo with the intention to make sure that Africa feeds

itself through agriculture. In turn, this has an impact on changing the livelihood of farmers in sub-Saharan Africa,” he added.

Commending the Institute for the milestones achieved within the time frame of one year, Atta-Krah, stated, “A key instrument for progress in this regard is the launching of the Technologies for African Agricultural Transformation (TAAT) program. This program is supported by the African Development Bank (AfDB), led by IITA, with the involvement of several CGIAR centers and other national and international partners. 2018 is the kick-off year for TAAT, and there are activities going on in a number of countries which aim to bring agro-technologies to scale among farmers in Africa.”

“In the midst of various challenges, particularly related to declining core unrestricted funding, we refocused our attention and strengthened the project base of our operations through the leadership of the Institute at large. This has opened new doors of funding and the Institute continues to be strong and do exploits!! We see 2018 as a year of transformation and resilience.”



*Dr Kwesi Atta-Krah encouraged staff to don their anniversary ankara as a sign of celebration.*

“We will continue to work hard towards strengthening the contribution of IITA for the achievement of food and

nutrition security as well as economic development for the countries and people of Africa,” Atta-Krah concluded.

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1000 eggs per female. In addition, adult moths display a remarkable long-distance flight ability. All these attributes make FAW a high performing migrant and a potentially dangerous invasive species.

FAW was first [detected by IITA scientists](#) on the African continent in early 2016, following initial caterpillar outbreaks on maize in Central and Western Africa. Shortly thereafter, the pest was also found in Southern Africa and to date, FAW has established in 44 countries of tropical Africa, a perimeter of more than 22 million km<sup>2</sup>. On the African continent, FAW already exacerbates the food insecurity of some 208 million maize consumers and jeopardizes the economies of numerous countries, thereby affecting the livelihoods of millions of maize producers, mostly small-scale farmers.

Recent investigations by the [Centre for Agriculture and Biosciences International](#) (CABI) in 12 African countries have revealed that in the

absence of adequate management measures, FAW has the potential to inflict yield losses averaging 21–53% or an equivalent of 8.3 to 20.6 million tons of maize per year. The monetary value of these losses is estimated to reach between US\$2.5 and 6.2 billion, with an additional \$13 billion worth of crop at risk.

To provide an adequate response for FAW containment, IITA has become a leading partner in Africa to develop— together with national and international partners—management solutions focusing on low toxicity biopesticides, biological control involving natural enemies and entomopathogens, varietal tolerance, and low-cost agronomic practices.

Since the introduction of FAW on the African continent, its rapid expansion in all geographic horizons has remained unbroken with steady incursions beyond the main continent. Thus, by mid-2017 the voracious pest had established on the Cape Verde islands and later on

the Seychelles, some 800 and 1300 km away from the mainland, respectively.

The outbreak in the Indian subcontinent is particularly worrying because with this new foothold, FAW now has unrestricted access to a whole new region of the globe. Its occurrence and high incidence in the South Indian state of Karnataka is likely to spread to the Tamil Nadu and Andhra Pradesh states, major regions for hybrid maize seed production in India.

Further expansion of FAW to countries adjacent to India such as Bangladesh, Nepal, Pakistan, and beyond will put maize production of the whole Asian continent seriously at risk with dire economic consequences.

See links below for more information:

[Presence of Fall Armyworm, \*Spodoptera frugiperda\* \(J E Smith\) \(Lepidoptera: Noctuidae\), an Invasive Pest on Maize in University jurisdiction](#)

[PEST ALERT](#)



# CocoaSoils launched in Côte d'Ivoire

As part of its four-country launches, the CocoaSoils program has been launched in Côte d'Ivoire. The program dubbed "Sustainable intensification of cocoa production through the development and dissemination of integrated soil fertility management", (« Intensification de la production durable de cacao par le développement et la diffusion de la gestion intégrée de la fertilité du sol »), took place at the headquarters of the [Centre National de Recherche Agronomique](#) (CNRA), in Abidjan on 24 July.

The two-part program was attended by over 40 scientists and key partners including CNRA, [Nestlé](#), the [World Agroforestry Centre](#) (ICRAF), [IDH](#), [Mondelez International](#), the [International Cocoa Organization](#) (ICCO), IRAD, [CEMOI](#), [Timac-Agro](#), and [ANADER](#).

The launch was chaired by Dr Abdoudramane Sangre, the Director General of CNRA and featured a speech by [IITA](#) Coordinator for Cocoa R4D, [Richard Asare](#), who is also



*The Coordinator of CocoaSoils making a presentation at the technical session.*

the Coordinator of the CocoaSoils Program.

The program ended with a technical session, where participants discussed

varying scientific questions with regard to the project protocol design, the CocoaSoils partnership, as well as its extension and dissemination tools.

# IITA hosts workshop on Water—Energy—Food systems in sub-Saharan Africa

To ensure economic development and technology advancement in agriculture, [IITA](#) and partners organized a workshop focused on achieving sustainable water, energy, and food systems in sub-Saharan Africa.

The workshop was held at the IITA conference center, Ibadan, 25 to 27 June. It proposed to build an alliance of partners committed to developing a significant water, energy, and food system in sub-Saharan Africa, thereby developing partnerships between institutions or individuals interested in immediate collaboration around specific nexus research, education, or outreach projects. Some of the institutions involved are [Pennsylvania State University \(USA\)](#), [University of Ibadan \(Nigeria\)](#), IITA, and the International Institute for Water and Environmental Engineering (Burkina Faso).

The workshop was attended by dignitaries including His Excellency Godwin Obaseki, Executive Governor



*L-R: Prof. Abubakar Rasheed, Executive Secretary, National Universities Commission, Nigeria; Prof. Olanike K. Adeyemo, Pioneer Deputy Vice-Chancellor - Research, Innovation and Strategic Partnership, UI; Dr. Kwesi Atta-Krah, Director, Country Alignment and System Integration Institution, IITA, during panel session*

of Edo State; Prof Michael Adewumi, Vice-Provost for Global Programs at Penn State University; [Dr. Nteranya Sanginga](#), IITA Director General; and

Prof Olanike Adeyemo, Deputy Vice-Chancellor, Research, Innovation and Strategic Partnerships, University of Ibadan.

In his opening remarks, Dr Sanginga stressed the importance of the discussion on resource management, which he says is a key topic, not just for now but also for the future. In his address, Governor Obaseki said his government is interested in partnering with IITA as they are proud of IITA's success over the last 50 years. He said, "Edo State is committed to agricultural development and we are honored to be part of this initiative."

The network of academic, public, and private sector institutions present at the workshop was looking to address significant scientific, social, environmental, and engineering challenges facing the building of sustainability and resilience of the

water, energy and food nexus, which is recognized as a critical foundation for poverty reduction and economic development.

IITA and partners plan to leverage on the strong land-grant tradition of Pennsylvania State University to improve the water, energy and food nexus. This will be done by focusing on gender and youth programs, workforce development, and entrepreneurial activities.

Prof Adewumi explained that one of the goals of Penn State University is to resolve global challenges in the areas of food, energy, and water security, which are considered of great importance. He explained that

this workshop will provide an interlink between the water experts, energy experts, and food experts as the university is ready to partner with other institutions.

The Director of the Oyo State Ministry of Agriculture and Rural Development, Mr Popoola Rasheed, highlighted the Government's concern about water, energy, and food systems, noting that the Ministry of Agriculture has the responsibility to regulate agriculture generally and water is very important for agricultural production, as was energy. He also said that the government is ready to partner with the organizers and is waiting for the outcome from the workshop for implementation.

## IITA yam breeders harvest SAH yam tubers

Yam seeds produced from Semi-Autotrophic Hydroponics (SAH) plants have been harvested by the [IITA](#) Yam Breeding team with some tubers weighing up to 1.1 kg. SAH plants were first transferred to the field on 5 June 2017 and harvested in November of the same year with the largest tuber of yam weighing 470 g. Based on this initial success, the fields were planted between October and November of 2017 and harvesting started in May 2018 when the plants were 6–7 months old.

SAH is a robust technique for efficient and rapid multiplication of clonal or vegetatively propagated crops with the potential to produce 720,000 plants per year. It is also a suitable technology that can enhance breeding activities.

It has been used to produce seeds, particularly potato and cassava and multiple planting materials majorly for two varieties of *Dioscorea rotundata* and three varieties of *D. alata*.

SAH technology is a low-cost, licensed method for high-ratio propagation of true-to-type virus free (VF) plants. The SAH facility for yam was initiated at IITA-Ibadan in April 2017, in the quest to expand the scope of technologies



*SAH yam harvested from the field.*

targeted at seed yam production and to complement the existing technologies, which are being developed or refined to meet the growing seed demand of yam growers in West Africa. The technology offers a fast multiplication rate, low-cost production, less than 2% plant loss, and little contamination.

Pelemo Olugboyega, IITA PhD student working on yam multiplication explained that, "The yield decline

challenge occasioned by virus and nematode infection can be averted now that there are alternative technologies that can deliver clean seeds to farmers."

SAH also makes available a very robust and accommodating value chain, which different cadres of seed growers can benefit from while growing their seed yam production businesses.

Previously published on [AfricaYam News](#).

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