



Fall Armyworm Control in Action Newsletter

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Highlights

NSP Seminar: A successful NSP seminar on the Global Action for FAW Control (GA) on 28 October 2021 drew over 240 participants to review progress from two years' work under the GA to reduce crop losses due to fall armyworm. A well-received video told farmers' stories in combatting FAW in Kenya and later, presenters answered questions about technical solutions to manage FAW.



First webinar on FAW prevention, preparedness and response organized by the International Plant Protection Convention Secretariat was held 22 October 2021 with 120 participants from Asia, Africa, the Near East, Europe, and Pacific countries. The training was held in English with Arabic, French, and Russian interpretation. **A fall armyworm specimen was collected in Solomon Island** in August 2021 and the identity was confirmed in September 2021. The pest has also been confirmed on multiple sites in the country. Government, industry and other stakeholders are working to validate and scale up an integrated pest management strategy against FAW.

Implementation

On 18 October 2021, 49 people participated in a **geo-zone meeting and joint training event** on integrated pest management (IPM) in Northeast Asia and South Asia. Experts came from the National Bureau for Agricultural Insect Resources (NBAIR), India, and the Chinese Academy of Science (CAAS). Most participants came from the geo-zone's two GA demonstration countries, China and India. Also participating were plant protection and agricultural officers from pilot countries, including Nepal, Bangladesh, and Pakistan (South Asia); and the Republic of Korea, the Democratic People's Republic of Korea (DPRK) and Japan (Northeast Asia). On 7 October 2021, an online **joint geo-zone training for countries in Western and Central Africa** included 50 participants

and simultaneous interpretation in English and French. Researchers from the Centre for Agriculture and Biosciences International (CABI), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and the International Institute of Tropical Agriculture (IITA) presented findings on sustainable FAW management options. Case studies from the field were presented by GA demonstration countries, Burkina Faso and Cameroon. **The launch of a regional FAO emergency response project** to combat FAW in the Near East North Africa (NENA) region has led to new training activities in four countries – Jordan, Lebanon, and Syria, plus the West Bank and Gaza Strip. A series of workshops and lectures has provided farmers with detailed information on FAW damage, biology, behaviour, monitoring and possible control methods.

Communications and Partnerships

FAW guidelines in Arabic: The first Arabic-language management guide for FAW has been published, filling a large gap in existing information in this language concerning best practices to manage and control the voracious insect pest that is spreading rapidly. *Fall Armyworm: Invasive pest threatening crops and food security* provides advice, assistance, and proposals for mitigating FAW spread and minimizing crop losses, and was produced by FAO's Regional Office

New Developments

FAW specimens were collected in Queensland, Western Australia, the Northern Territory and New South Wales and were screened for mutations associated with insecticide resistance. **Gene mutations associated with resistance against carbamates and organophosphates were found to be common among the collected FAW specimens.** Complementary bioassay is necessary to confirm resistance against these active ingredients.

Continued monitoring of insecticide resistance among Australian FAW populations is recommended. Nguyen, Chen and Herron. 2021. Preliminary characterisation of known pesticide resistance alleles in *Spodoptera frugiperda* (Lepidoptera: Noctuidae) in its invasive Australian range. *Austral Entomology*.²

Field stories

World Food Day 2021: A demonstration of integrated pest management (IPM) tactics against FAW in Kenya. As Kenya marked WFD on 16 October 2021, the farmer field school (FFS) network in Bungoma County organized a field day, emphasizing the role of the Global Action in pest-control training for food crop protection. At the Mabanga Agricultural Training Centre (ATC) in Bungoma County, the FFS network presented methodologies for testing and evaluating technologies. The ATC has set aside five acres of demonstration and evaluation plots for training in management of FAW for the vibrant FFS network of 248 groups with a combined membership of 7 350 farmers – 4 200 of those women.



A field day on integrated pest management for fall armyworm conducted to celebrate the World Food Day 2021 in Bungoma county, Kenya

for the Near East (RNE) in collaboration with the FAW Secretariat.

FAO-IBRAF online capacity development course on sustainable FAW control targeting youth in Africa begins in November 2021 in English, while a French-language training on the same topic will begin in January 2022. The agenda for the course includes six modules and is focused on hands-on practices for sustainable management of FAW. The number of slots available for the online training is limited. Register interest at the link below those selected for the course will be notified.¹

***Melia volkensii*, a tropical tree species typically used for folk medicine in East Africa, showed promise as a source of botanical antifeedant against fall armyworm.** In a greenhouse study, a significant reduction in leaf damage rating was recorded in plants treated with the nut and pulp extracts of *M. volkensii*, compared to the negative control. Indeed, the leaf damage ratings on plants treated with extracts of the plant was comparable to those treated with emamectin benzoate (50 g/kg). There was also a significant reduction in whorl damage on plants treated with nut (17 percent) and pulp (35 percent) extracts compared to the negative control (96 percent). Jaoko, V.; *et al.* Laboratory and Greenhouse Evaluation of *Melia volkensii* Extracts for Potency against African Sweet Potato Weevil, *Cylas puncticollis*, and Fall Armyworm, *Spodoptera frugiperda*. *Agronomy* 2021, 11, 1994.³



FAW technical training in China held on 25 October 2021

China's FAW migration monitoring and early warning system, which is collecting and sharing critically important data, is proving successful as a basis for FAW control. Additionally, a national platform has been established through China's Ministry of Agriculture and Rural Affairs (MARA) to coordinate across relevant departments. The platform includes three region-specific management strategies. The first deals with annual breeding areas, in order to reduce immigration sources and reduce transit pest source. It is located in Southwest and South China, including in locations such as Hainan, Guangdong, Guangxi, Yunnan, Fujian, Guizhou, and Sichuan. The second category, the migratory transition area, is applied in the Yangtze and Huai rivers area. The third category, the critical protected area in North China, includes IPM measures such as ecological control, biological control, sex-pheromone traps, food-lure technologies, and chemical controls.

¹ <https://ee.humanitarianresponse.info/x/UF8V2laQ>

² <https://onlinelibrary.wiley.com/doi/10.1111/aen.12570>

³ <https://www.mdpi.com/2073-4395/11/10/1994>



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