



## CABI Updates

### Overview

1. CAB International (CABI) is a global, intergovernmental, not-for-profit organisation, owned and run by its 50-member countries. By providing information and applying scientific expertise to solve problems in agriculture and the environment, CABI's work contributes to the objectives of the IPPC, particularly in the areas of phytosanitary capacity building, value chains and trade, invasive species management, knowledge management and development, and communication and extension.

2. The contributions in the reporting period (February 2022 to March 2023) were made under various CABI's programmes and projects through activities that support phytosanitary capacity development and provide technical assistance relating to the overall implementation of the IPPC and its standards. In some of these activities CABI used its information resources and tools such as the Crop Protection Compendium, Horizon Scanning Tool and Pest Risk Analysis Tool to train personnel from National Plant Protection Organizations. In many cases work was undertaken collaboratively, such as with FAO sub-regional offices in Africa and Asia, the Standards and Trade Development Facility (STDF), Committee Linking Entrepreneurship-Agriculture-Development (COLEAD), RPPOs, as well as contracting parties' NPPOs and other public and private sector partners.

### Outline of the activities

3. As a member of the IPPC Technical Working Group on FAW, CABI contributed to the production of the "Prevention, preparedness and response guidelines for *Spodoptera frugiperda*" and in delivery of a series of global webinars on the topics covered by the guidelines. Contributions were made particularly in the area of communication and information. In a FAO webinar conducted on June 23, 2021, CABI presented a background to the PRISE project with focus on the FAW model. CABI also commented on an FAO draft concept note "Global Platform for Fall Armyworm Migration Monitoring and Early Warning System" in September 2021, drawing from outcomes of the PRISE project. CABI has now published the manuscript related to timing to intervention against FAW model on maize in Africa presented to FAO in 2021 (Lowry et al. 2022 10.1016/j.cropro.2022.105966). The PRISE team have also drafted a PRISE system paper which is due to be submitted March 2023, and as well as an associated impact paper due to be submitted April 2023.

4. CABI is participating as a member of the Pest Outbreak Alert and Response Systems Steering Group.

5. CABI submitted a discussion paper to the Expert Working Group on the reorganization and revision of pest risk analysis standards in September.

6. Under CABI's PlantwisePlus programme, national activities that start with horizon scanning, followed by PRA training and PRA write shops were continued or initiated in Kenya, Zambia, Ghana, Burkina Faso, Bangladesh and Pakistan during 2022. PRA training was also provided to Ethiopia and Uganda (through CABI member country support) and a PRA write shop was conducted in Nepal in December.

7. Likewise, as part of the PlantwisePlus programme in 2022, CABI completed an eight-month pilot to test the application of web monitoring services to detect new and emerging plant health threats. Information generated by these services was reviewed by scientific experts, collated into a series of Pest Insight Reports and disseminated to NPPOs to support pest alert systems and risk assessment. A total of 8 monthly reports were produced for each of the NPPOs in Burkina Faso, Ghana, Kenya and Zambia with workshops also held in Ghana and Zambia. Following on from this, development of Plant Health Risk Registers is planned for 2023 to continue to build capacity for risk assessment and prioritisation of risk management activities.

8. CABI continues to improve the PRA and Horizon Scanning Tools whilst working closely with NPPOs and regional organizations. Latest updates have included French language PRA reports (with translation assistance from COLEAD), the addition of regions for PRA, a new PRA type for intentional introductions and additional options for prioritizing pests during horizon scanning. Access to these tools is free to NPPOs of over 100 lower- and middle-income countries.

9. CABI conducted a second virtual regional PRA workshop for SADC member states funded by FAO in August during which 87 participants worked on priority PRAs, protocols and terms of reference for their national teams. Face-to-face regional training was also conducted for six Member States of ECCAS in November and for eight Caribbean countries under a GEF project in May. Further regional PRA workshops are planned for 2023 for EAC, SADC and ECOWAS.

10. In 2022 CABI's PRA training partnership with COLEAD resulted in a webinar to introduce the Compendium tools and use cases, two training sessions on the Horizon Scanning Tool for the NPPOs of francophone ACP countries and the first joint CABI-COLEACP Digital Collective Training on PRA, conducted for the Caribbean region during June. 19 participants from 10 countries used the CABI tools for practical work during the course. During the CABI COLEAD Virtual PRA training, the PRA Training content is now available under IPPC Guides and training materials e-Learning courses (<https://www.ippc.int/en/e-learning>) for other users. A second course was conducted without a CABI trainer in September, this time for African and Pacific participants. CABI also contributed a session for the IPPC-COLEACP COMESA cohort PRA training.

11. As part of activities for management of emerging invasive pests, CABI assisted Kenya's national programme to introduce *Acerophagus papayae*, a biological control agent of papaya mealybug, *Paracoccus marginatus*, in the country's coastal region, in accordance with ISPM 3 (Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms) following the completion of risk assessments and efficacy testing under quarantine. The parasitoid has established with early results in effectively controlling *P. marginatus*. Assessment of post release impact on the target pest is continuing in 2022, with plans to expand the release to inland counties in 2023. Risk analysis and consultations to be undertaken for release to other countries in EAC region with Papaya mealybug.

12. In the project STDF 543, Facilitating Uganda's Horticulture Export Sector, co-funded by the Royal Netherlands Embassy (RNE) in Kampala, with the overall goal of improving market access to the European Union (EU), other high-end and regional markets for Ugandan fresh fruits and vegetables (FFVs), CABI has provided coordination that is now showing improved compliance of Uganda's FFVs with

international phytosanitary standards with increased preparedness do reduce interceptions in the EU. The main outcome of this project has been the improved coordination of activities, collaboration and capacity for phytosanitary compliance among public (Department of Crop Inspection and Certification (DCIC), Ministry of Trade Industry and Cooperatives (MTIC), Uganda Export Promotion Board (UEPB), National Agricultural Research Organization (NARO) and private sector (producers and exporter associations) stakeholders.

13. The FAO engaged CABI, the Kenya Plant Health Inspectorate Service (KEPHIS), and the African Union Commission (AUC) through letters of agreement to convene and facilitate technical consultations as part of the dialogue among national and regional organizations on the need for a sub-regional pest early warning and response system to deal with some of the high-risk pests in Eastern Africa (Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan and Uganda). The overall general finding was that there is some form of early warning and response activities in all countries, but these tend to target only certain pests. The information available did not indicate that pest early warning and response is conducted under a structured arrangement except in the cases where such activities are driven by international organizations e.g. desert locust and fall armyworm. All countries expressed interest in establishing a sustainable early warning and response system for priority pests and that the system should be operational at national and regional levels. Ideas gathered from these consultations, the associated desk reviews and key informant interviews were synthesized into a working paper on early warning and response system for priority pests in Eastern Africa. It is expected that FAO, working with AUC, will present the paper for endorsement at a ministerial meeting of the African Union and that, thereafter, the paper will also serve as an investment proposal for a six-year, multi-donor funded program.

14. CABI is currently collaborating with AU-IAPSC and AU-DARBE, with funding from USDA, in a project to provide technical support to the RPPO and the member country NPPOs in various work areas of the IPPC (e.g. best practices in Pest Risk Analysis (PRA, pest surveillance, inspection, certification and other official controls for market access) including capability to implement electronic phytosanitary certification system (ePhyto) besides support to the implementation of certain phytosanitary aspects of the Continental Plant Health Strategy, once it is ratified by the AU member states. A draft Implementation Plan has been developed with additional support to finalise and launch the Plant Health Strategy in 2023. The project has also supported ePhyto adoption study to identify challenges and strength of the AU Member States in the implementation of the ePhyto. The study draft report has been presented at the AU IAPSC Pre CPM meeting in Douala Cameroon. An ePhyto workshop is organised in May 2023, in Uganda. As part of the support for implementation of the Plant Health Strategy, CABI also prepared an inventory of guidelines and regulations governing the registration of biopesticides in Africa and identified areas of overlap, divergence and opportunities for alignment. This analysis included identification of policies related to the export, shipment, import and release of biological control agents and other beneficial organisms.

15. CABI received funding from the UK Research and Innovation (UKRI) Science and Technology Facilities Council (STFC) January 2022 for a 3-month proof of concept study to improve irrigation data layers used in species distribution modelling using earth observation data (EO). CABI worked with Assimila LTD who provided EO expertise and Cervantes Agritech (Australia) who helped to apply the data layer to CLIMEX species distribution models.

The consortium won further funding from STFC in February 2023 to develop this into a global data layer with delivery expected 2025. The ultimate aim is to provide the agricultural sector with tools to assess the impact climate change has on pest and diseases associated with agricultural production and their associated biological control agents.

16. CABI with support of United States Department of Agriculture, Foreign Agriculture Services (USDA-FAS) led an initiative “Regulatory harmonization in Pakistan for MRLs and Biopesticides” with collaboration of Government of Pakistan. CABI partnered with Pakistan Agricultural Research Council (PARC) and an industry partner – Rafhan Maize Co Pvt Ltd aimed to provide safer food with reduced levels of aflatoxin and promoting regional trade. Through this cooperation, CABI demonstrated aflatoxin biocontrol technology in country and being pioneer in South Asia. This public-private partnership led the development of guidelines for registration of biopesticides in country, which are under due process with NPPO for approval. Additionally, residue decline studies were conducted to provide sustainable management of concerns associated with maximum residue limits (MRLs).

17. In 2022, CABI collaborated with leading researchers to summarise and assess new reports of plant disease epidemics and outbreaks. Information was gathered through a literature review on articles published in 2021 relating to emerging pathogen problems. This was compared with new records added to the CABI Distribution Database. The team assessed the two approaches and reported on the most significant results, reviewing patterns in the host plants and geographic trends. The preprint is available here: <https://www.preprints.org/manuscript/202209.0152/v2>

18. CABI conducted a study on behalf of CropLife International to support considerations of what the private sector’s role is or could be in emergency pest prevention, preparedness and response (EPPPR). The study projected how the future looks in terms of invasive pests. It provided an overview of the global community’s response to recent emergency pest outbreaks – particularly in relation to pesticide management. CABI gathered stakeholder views on the actual and potential role of the private sector in EPPPR. The study made recommendations for the private sector on how they can (better) responsibly support future management efforts of invasive and migratory pests.