

CropLife International & CropLife Asia Position on Fall Armyworm

Fall Armyworm (FAW) is a destructive pest native to the tropical and subtropical regions of the Americas, having been found everywhere from South America to eastern and central North America. FAW targets more than 80 different plants including maize, rice, cotton, sugarcane, wheat and soybeans, and has been particularly devastating in the maize producing regions of Brazil, Africa and recently India.

The pest was first detected on the African continent in Nigeria in January 2016 and has quickly spread to 44 countries across sub-Saharan Africa. In 2018, the pest was reported in Asian countries such as India, Thailand, Sri Lanka, Myanmar, and Bangladesh. Its spread across the continent has continued in 2019 and most recently, FAW has been detected for the first time in Pu'er City and Dehong in the Yunnan Province of China. The [FAO¹ warned it could threaten the food security](#) and livelihoods of millions of small-scale farmers in Asia as the pest is likely to spread further, with India, South East Asia and South China most at risk. It is thought the pest could also [spread to Europe](#).

Based on data from Africa, [CABI² estimates FAW will reduce annual maize production by 21%-53%](#) in the absence of pest management.

This CropLife International and CropLife Asia position paper outlines the holistic approach to ensure effective management of FAW through integrated pest management (IPM); clear, evidence-based advice to farmers; a regulatory environment that gives access to technology; stakeholder coordination and emergency phytosanitary measures. Our collective goal must be to protect farmer livelihoods and ensure food security globally, but especially in the high-risk regions of Asia.

1. An Integrated pest management (IPM) approach

CropLife International and CropLife Asia support an IPM approach to dealing with FAW. The components of IPM should be based on evidence of their effectiveness and awareness of their risks. Such a [position](#) has been clearly outlined by the World Trade Organisation Committee on Sanitary and Phytosanitary Measures as submitted by Brazil, Kenya, Madagascar, Paraguay, the United States of America and Uruguay.

A sound IPM strategy should include effective scouting and monitoring for the pest and preventative measures to stop any infestation. Where an economic threshold is reached, farmers must be given access to effective tools to prevent the destruction of their crop, as outlined in the [US Agency for International Development](#) (USAID) guide for IPM in Africa.

For successful IPM intervention, the tools available to farmers should include:

- Insecticides

Insecticides are one of the few proven and effective tools for the management of FAW and their deployment should be given balanced consideration – through both foliar applications and seed treatments. A practical approach for small-scale farmers must focus on:

¹ United Nations Food and Agriculture Organization

² Centre for Agriculture and Biosciences International

- a) the use of in-country registered pesticides only, and pesticides that are recommended to effectively control FAW by credible resources (governmental / non-governmental);
- b) the avoidance of illegally traded pesticides and/or counterfeits;
- c) the avoidance of WHO³ class 1a acute toxic pesticide or only use them where farmers are trained and use respective precautions (or as a last resort);
- d) pesticide procurement that follows demand and requirement, and has appropriate measures in place to ensure obsolete stocks do not result;
- e) guidance to avoid build-up of resistance. An [Insect Resistance Management guide for FAW](#) has been developed by the CropLife International Insect Resistance Action Committee;
- f) countries to establish ways to enable emergency registrations to ensure modern and safer pesticides become available to farmers; and
- g) use well established government extension services, non-government and inter-government agencies, and the field staff of insecticide suppliers to promote the responsible use of registered insecticides as part of the IPM approach.

- Plant Biotechnology

Insect-resistant biotech crops have been another tool in the IPM approach and used successfully across North and South America in effectively managing FAW. The effectiveness of biotech maize against FAW has been demonstrated in field trials in Kenya, Mozambique, South Africa, Tanzania and Uganda through the [Water Efficient Maize for Africa](#) (WEMA) project. Furthermore, despite the millions of hectares of maize in Africa that have been devastated by FAW in 2017, South Africa has largely been exempt from the infestation. This is due in part both to the 1.6 million hectares of insect-resistant, biotech maize planted in South Africa and the commercially available and approved pesticides.

The FAO has [previously stated](#) that it is “imperative for Africa to make biotechnologies, knowledge and innovation available, accessible and applicable to small farmers to help them maximize their agricultural productivity while keeping the environment healthy and sustainable.” This statement of FAO is more so important for Asia where the pest is threatening maize growing regions. We urge policy makers in countries from Asia where biotech crops are currently unavailable, to develop the regulatory framework to provide farmers with choices and ability to access this important technology.

- Other pest management tools

Other pest control methods should be used in conjunction with pesticides as part of an IPM approach. These include agronomic practices, legitimate biological pesticides and natural enemies. CABI has been reviewing different approaches to [FAW management in Africa](#) and this work forms a strong basis for the promotion of pest management options. Farmers need to know about the efficacy and risks of pest management approaches and information on this should be evidence-based.

³ World Health Organization

2. Clear, evidence-based advice to farmers

Given that the FAW is an invasive species, there are few validated control methods available – farmers therefore require technologies that are evidence-based and scalable.

Farmers and those who advise them (such as extension officers and agricultural product retailers) also need clear and consistent advice. Importantly, farmers should be made aware of the danger of the pest, taught to recognize it, and informed of its ecology and lifecycle, including when it is most vulnerable to pest management options. Farmers need to be given information about pest management approaches, their efficacy, the extent to which they have been validated, and how insecticides should be applied so as to maximise their efficacy and mitigate human health and environmental risks.

For crop protection and plant biotech solutions, advice on identifying counterfeit products and resistance management should also be provided. Governments must also ensure biological pesticides available to farmers are legitimate and do not contain hidden (unlabelled) synthetic insecticide ingredients. We expect, over time, as research is conducted, that more pest management approaches will be incorporated into the IPM strategy, in particular the use of biological control agents.

Clarity and consistency are critical in FAW management. Unfortunately, there has been some inconsistency in the FAO's approach to FAW. The *FAO Integrated management of the Fall Armyworm on maize, A guide for Farmer Field Schools in Africa* contains unsubstantiated and unsuitable guidance on the management of FAW – a full critique has been provided by CropLife International.

3. Access to the technology

It is imperative that farmers have the opportunity to access a wide range of technologies to manage the problems caused by FAW. Science-based regulations are necessary to ensure continued access to a range of modern crop protection products and to improve access to biotech products.

Sound regulations need to be based on science and evidence, considering not only the products' intrinsic qualities but also its purpose and condition of use. This enables regulatory decisions to weigh risks and benefits, not just hazards.

A well-functioning regulatory system will give farmers a choice of tools to protect their crop from FAW, while also protecting human and environmental health, balancing risks and benefits. Evaluations should be grounded in real use-situations and where lacking, capacity of national and regional regulators should be increased to achieve this across Asia.

In the event farmer access to crop protection solutions required to mitigate FAW impact is lacking in a country, the need for emergency use regulatory permits should be explored with regulatory agencies. This process is in place in several western nations (including the United States among others) and has served a critical role in guarding against the unintended consequences posed by misuse, overuse and off-label use of registered pesticides as well as the impact of illegal products.

4. Stakeholder coordination

FAW management should entail multi-stakeholder engagement with farmers, governments, service providers, NGOs and the private sector. There needs to be effective coordination of all stakeholders involved with a focus on solution-oriented dialogues.

CropLife International's member companies research, manufacture and sell crop protection and plant biotechnology products, and the global CropLife network spans 91 countries; therefore, we feel we can make an important contribution on this issue.

Advancements by our members in technology, such as pesticides, plant biotechnology and precision agriculture, will aid the ability of farmers to deal with FAW, and a collaborative and constructive relationship with the FAO, UN Environment and wider stakeholders can be used to promote optimal and responsible use of plant science tools around the world, with our collective aim to successfully meet the Sustainable Development Goals.

As one specific example of where our industry can make a contribution, In 2018, CropLife Africa Middle East was engaged as a project partner on USAID's [Feed the Future project in Ethiopia](#) to train agricultural extension staff and farmers in FAW identification and control. In February 2018, CropLife Africa Middle East trained Master Trainers from Ghana, Mali, Cote D'Ivoire and Nigeria in FAW IPM. Each trainer has an action plan to cascade the training to other trainers. More widely, the global CropLife network is working with partners to incorporate FAW IPM into existing training projects across key countries in Africa and Asia.

5. Consideration of emergency phytosanitary measures for FAW

The seed industry suggests that governments considering implementation of emergency phytosanitary measures to address the risk of entry and establishment of *Spodoptera frugiperda* in their country take the following points into account when addressing any such risk associated with the importation of seed for sowing:

- assessment of risks associated with this pest are fairly straightforward when compared to other plant diseases or insect pests;
- infestation by this pest is known to spread from vegetative plant parts to ears (for corn) – risks of spread and introduction are also more prevalent through domestic and regional movement of the adults, where the moth can travel and spread;
- the degree of phytosanitary risk is therefore insignificant on seeds – for seed imports, the post-harvest stages of seed processing (which include husking, drying, shelling and cleaning) eliminate the potential for FAW larvae to survive;
- as such, the seed industry believes that it is NOT necessary to apply specific phytosanitary measures for FAW on imports of seed for sowing; and
- If phytosanitary measures are to be applied, a preferred approach that is currently in force in the European Union is that, where phytosanitary measures have not been applied to seed for sowing and grain imports of *Zea mays* to address FAW - however, an effective post-harvest treatment (or country or pest free place of production Additional Declarations) are required for the import of ears and other plant parts.