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A MOBILE APP AND A GLOBAL PLATFORM FOR MANAGING FALL ARMYWORM

Fall Armyworm (*Spodoptera frugiperda*), or FAW, is an insect native to tropical and subtropical regions of the Americas.

In the absence of natural controls or good management, it can cause significant damage to crops. It prefers maize, although it can feed on more than 80 additional species of crops including rice, sorghum, millet, sugarcane, vegetable crops and cotton.

FAW was first detected in Central and West Africa in early 2016 (Benin, Nigeria, Sao Tome and Principe, and Togo) and

further reported and confirmed in the whole of mainland southern Africa (except Lesotho), Madagascar and Seychelles (Island State). In July 2018, it was confirmed in India and Yemen. By early 2019, it had been reported in Sri Lanka, Bangladesh, Myanmar, Thailand and China.

Today, in Africa and Asia, maize is the crop most infested with FAW. As a staple crop, farmers and their families are unlikely to abandon maize. However, there are ways of managing

FAW in maize, as demonstrated in the Americas.

FAO is taking an active role in coordinating partners' activities, plans and approaches to provide sustainable solutions to the FAW challenge. An integral part of FAO's sustainable management programme for FAW is the FAW Monitoring and Early Warning System (FAMEWS), which consists of a mobile app for data collection and a global platform for managing the current situation.

FAMEWS MOBILE APP

FAO has developed the **FAMEWS mobile phone** app to be used by farmers, community focal persons and extension agents to send vital data about FAW infestation levels. This helps to generate detailed and reliable information that can be used to manage FAW.

The FAMEWS mobile app is an Android (v6 or higher) application. The app should be used whenever a field is scouted and pheromone traps are checked for FAW.

The app has three sections:

1. Start survey – here, users may collect, record and transmit data on:
 - (a) farms and crops;
 - (b) scouting; and
 - (c) traps.
2. Collected data – this section is for data storage.
3. About – here, information on FAMEWS and FAW is provided.

KEY FACTS

FALL ARMYWORM (FAW)

FAW IS AN INSECT NATIVE TO TROPICAL AND SUBTROPICAL REGIONS OF THE AMERICAS

IF LEFT UNCHECKED, FAW COULD THREATEN THE FOOD SECURITY OF MORE THAN 300 MILLION PEOPLE IN AFRICA AND CAUSE SIGNIFICANT ECONOMIC LOSSES (UP TO USD 4.8 BILLION FROM MAIZE PRODUCTION ALONE)

FAW PRIMARILY AFFECTS MAIZE, BUT ALSO RICE, SUGARCANE, SORGHUM, COTTON AND SOME VEGETABLES

THE ADULT MOTH CAN FLY UP TO 100 KM PER NIGHT AND THE FEMALE MOTH CAN LAY UP TO 1 000 EGGS IN HER LIFETIME

FAW HAS RAPIDLY SPREAD ACROSS AFRICA AND ASIA, POSSIBLY INFESTING MILLIONS OF HECTARES OF CROPS

FAO HAS PROPOSED A FIVE-YEAR PROGRAMME OF ACTION TO HELP COUNTRIES RESPOND QUICKLY TO THE CHALLENGES OF FAW INFESTATION

FAO-FALL ARMYWORM

E-MAIL

Fall-Armyworm@fao.org

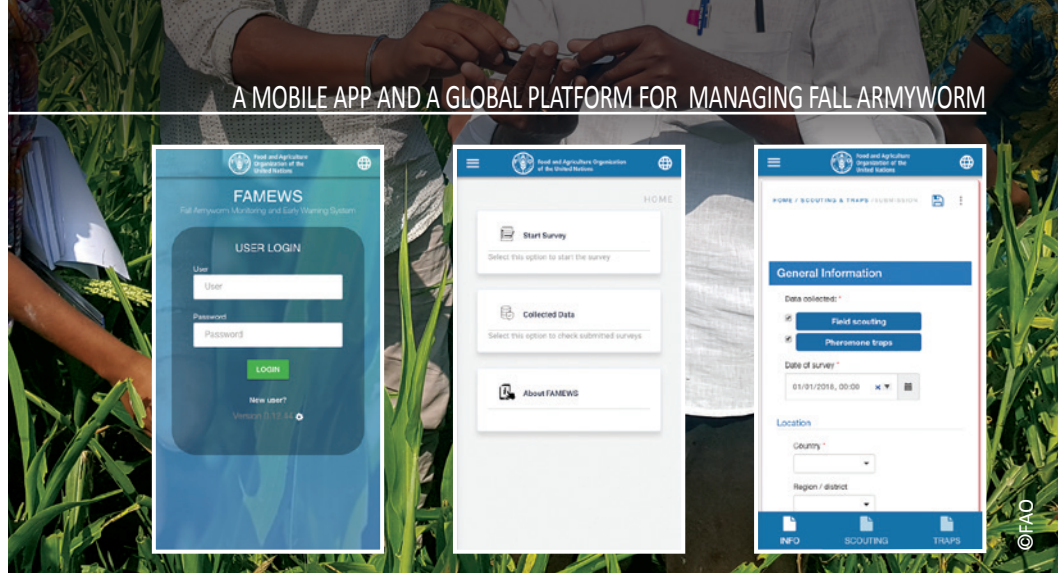
WEBSITES

www.fao.org/food-chain-crisis

<http://www.fao.org/fall-armyworm/en/>

Food and Agriculture Organization of the United Nations

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Data are entered by making selections from drop-down lists. Each item is accompanied with a useful explanation that may also include photographs (for example, of different pests and natural enemies) to help users enter accurate data. The app is highly intuitive, and it is easy and fast to use. It is currently available in 13 languages and may be translated rapidly into other languages. FAMEWS can be downloaded free of charge from the Google Play store. There are almost 10 000 registered FAMEWS users.

To ensure the accurate collection of high-quality and reliable data, standardized protocols have been developed as Guidance Notes for scouting and checking pheromone traps. This is further enhanced by Nuru, an artificial intelligence module that guides farmers in scouting fields and helps them to recognise plants that are infested by FAW.

Once there is a cellular network or an Internet connection has been established, collected data can be transmitted to a centralized cloud for validation by national FAW focal points before it is made available for further analysis, mapping and decision-making at farmer, community and national levels.

FAMEWS is designed to expand with the evolving needs of farmers, analysts and decision-makers. New updates focus on making the app more useful and educational for farmers, communities and agricultural extension agents as well as providing advice and maps of nearby FAW infestations.

FAMEWS GLOBAL PLATFORM

The **FAMEWS global platform** is an online resource for mapping data collected by

the FAMEWS mobile app whenever fields are scouted or pheromone traps are checked for FAW. The platform provides a real-time situation overview, with maps and analytics of FAW infestations at global, country and sub-country levels. The data and maps provide valuable insights on how FAW populations change over time with ecology, to better understand its behaviour and guide best management practices.

Similar to the mobile app, the global platform is designed to expand with the evolving needs of farmers, analysts and decision-makers. It is freely accessible by the global community.

WHAT ARE THE NEXT STEPS FOR FAW WORK?

FAW's presence in Africa and Asia is irreversible. Large-scale eradication efforts are neither appropriate nor feasible. Gathering and analysing experiences and best practices from the Americas are contributing to the design and testing of a sustainable FAW management programme for smallholder farmers.

FAO is working with research organizations and farmer-led groups, such as Farmer Field Schools, to continue the co-creation and validation of sustainable FAW management practices by smallholders. The best recommendations will be communicated and shared with farmers, farmers' organizations and governments.

There are many ways to manage FAW sustainably. Good management will depend on good knowledge, observation, innovation and action.



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