



MINISTRY OF AGRICULTURE AND IRRIGATION

STATUS OF THE FALL ARMY WORM (FAW) IN KENYA

1: Overview

Invasion of the Fall Armyworm (*Spodoptera frugiperda*) was first reported in Africa in September 2016. Since then, it has been reported in most Sub Saharan Countries, where severe damage in maize fields has been observed. In Kenya, the pest was first reported in western region (Trans Nzoia, Busia and Bungoma counties) in March, 2017. By the end of the year, this pest had been confirmed in forty two (42) counties including the major seed maize production areas of Rift valley, Coastal and Western regions. The rapid spread of fall army worm poses unprecedented threat to food security, incomes and livelihoods in the country.

2: What is fall army worm?

This is a nocturnal moth which lays large numbers of eggs in batches of 1500-2000. The larvae (caterpillars) are the destructive phase causing severe damage to mainly maize and over 80 other plant species in cereals and vegetables. The caterpillars are voracious feeders and attack all parts of the maize crop (stem, leaves, cobs, tassels,) at all stages of the crop development. The nocturnal adult moths have ability to fly up to 100Km in a single day.

Managing this pest is very challenging due to the pest characteristics of high reproduction, long distant flight, diverse pathways of spread coupled with favorable prevailing climatic conditions for its population build up.

3) Government efforts to manage the Pest

A) Constitution of Technical Team

The Government constituted a Multi-Institutional Technical Team (MITT) consisting of experts drawn from public and private institutions – Ministry of Agriculture (Plant protection Services), Food and Agriculture Organization (FAO), Kenya Plant Health Inspection Service (KEPHIS), Kenya Agricultural & Livestock Research Organization (KALRO), International Centre for Insect Physiology & Ecology (ICIPE), Pest Control Products Board (PCPB), Centre for Agriculture & Biosciences International (CABI) and University of Nairobi). The team has been monitoring the pest and giving technical guidance on its management.

B) Rapid Response to fall army worm infestations

In 2017, the Government through the State the Ministry of Agriculture allocated about Ksh.300 million towards capacity building, surveillance, awareness creation, procurement of demonstration materials (pesticides, knapsack sprayers and PPE equipment). The procured materials were distributed to the counties for rapid response and control support to vulnerable farmers. County Governments also mobilized varied resources to support fall army worm control

C) Capacity Building for County Extension Staff

The Multi-institutional Technical team has trained 1300 extension staff from the 42 affected Counties on identification and management of the pest. In addition, the team developed, packaged and disseminated FAW management technical materials in form of brochures, posters and fliers to counties and other relevant stakeholders.

D) Recommended Pesticide Active Ingredients

The ministry recommended the following 10 pesticide active ingredients that have been registered for control of fall army worm in other countries while fast tracking efficacy trials and registration of individual products in the country

ACTIVE INGREDIENT (AI)	PESTICIDE EXAMPLES (S)	PESTICIDE CLASS	MODE OF ACTION	WHO CLASSIFICATION
Gamma-cyhalothrin	Vantex 60CS	Pyrethroid	contact	NL (not listed)
Alpha-Cypermethrin	Bestox 20EC, Navigator 100EC	Pyrethroid	contact	II
Flubendiamide	Belt 480c	Ryanoid	systemic	III
Chlorantraniliprole	Coragen 20SC,	Ryanoid	systemic	U
Indoxacarb	Merit 150SC, Avaunt 150SC	Oxadiazine	contact	III
Acephate	Ortran 97, Orthene pellet	Organophosphate	contact/systemic	III
Carbosulfan	Marshall 250EC	Carbamate	systemic/contact	II
Lufenuron	Heritage 5%, Legacy, Match	Benzoylurea	systemic	II
Lambda Cyhalothrin	Duduthrin, Karate	Ryanoid	Contact	II
Abamectin + Chlorantraniliprole	Voliam Targo 063		Contact	II

Efficacy trials for various control products are at the final stages, which will pave way for registration of products effective for FAW control under the Kenyan conditions.

E) Sourcing for Technical Experience

Together with other African Countries affected by FAW, the Government of Kenya sent a team to Brazil in early April this year, to learn how that country has been managing this pest over the years. These officials have come back with a lot of technical information which need to be domesticated to suit the Kenyan conditions.

F) Community Involvement

In collaboration with FAO and County Governments, the State Department for Crops Development is implementing a community based fall armyworm Monitoring and Early Warning System (CBFAMEWS). Selected people in the community are trained on how to monitor and report on FAW infestations and finely equipped with necessary monitoring equipments such as pheromone traps.

4: Key Recommendations for Management of fall armyworm

To mitigate the negative effects of this pest, the following management practices have been recommended:

- i. Adhere to regional planting schedules; avoid off-season and late planting of maize

- ii. Intercrop maize with legumes like beans, groundnut and soy beans as these can help reduce the pest spread
- iii. Apply all other Good Agricultural Practices (GAP) like timely weeding, use of manure and fertilizers to ensure plants stay healthy
- iv. Grow maize only during main season while in short rains season grow crops which are not alternative hosts to FAW such as beans, groundnut, cow peas, sunflower, sweet and Irish potatoes.
- v. Avoid planting new maize crop near FAW infested plants
- vi. Use FAW pheromone traps to ensure early detection of FAW invasion to your farm.
- vii. Scout weekly after maize crop emergence and take control timely action if any FAW damage or signs are noted. Application of control measures at early signs of infestation gives better results compared to application of control measures to late infestation when caterpillar are big and less sensitive to the insecticides
- viii. Implementation of a collective FAW area-wide management approach will yield better results compared to interventions by individual farmers due to the rapid spread of this pest once present in a given locality
- ix. Scout for and destroy egg masses by crushing them
- x. Scout for and destroy caterpillars by crushing or picking and putting them in a bucket with soapy water. (Remember killing one caterpillar prevents more than 1500 new caterpillars after a period of less than 4 weeks).
- xi. Avoid moving FAW infested plant materials to areas of low infestation to limit pest spread
- xii. Spray insecticides during early morning or late evening using an insecticide containing any of the above listed active ingredients, targeting the plant growing points (whorls) where the caterpillars hide. Use pesticides in a responsible manner to prevent contamination to the human, livestock and the environment



Egg mass on lower leaf surface



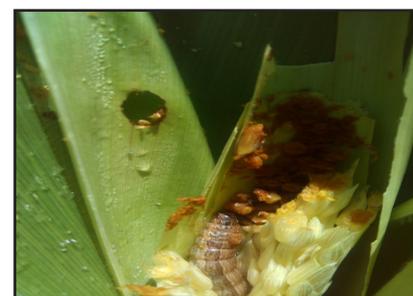
Young larvae (caterpillars) in maize plant whorl



Advanced larva stage and its frass (excreta)



Typical FAW foliage damage on maize



Typical FAW damage on maize tassels



The "Y" pattern on head of Armyworm larva and 4 distinct dots on last segment