

## Chemical control

- Chemical spraying should target young caterpillars before they can enter the fruit and should be done as soon as young caterpillars are noticed on the crop since control becomes increasingly difficult with older caterpillars.
- Use products containing cypermethrin or alpha-cypermethrin (e.g. Debush 5% EC, Alpha Cymba 10EC), Spinetoram (e.g. Radiant 120EC), lambda-cyhalothrin (e.g. Pentagon 5%EC, Duduthrin, Voltage 5EC).

**Warning! High concentration of these agrochemicals may cause harm to you (farmer), crop, consumers and the environment.**



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# INTEGRATED MANAGEMENT OF AFRICAN BOLLWORM IN TOMATO





## INTRODUCTION

The African bollworm (*Helicoverpa armigera*), also known as the tomato fruit worm, is one of the most destructive insect pests of tomato, causing yield losses as high as 70% due to fruit boring. They usually bore into the fruit from the stem end, and feed on the inner parts of the fruits, causing extensive fruit damage and promoting decay caused by secondary infections.

### Description

- This pest has a wide range of host crops including tomato, cotton, maize, sorghum, sunflower and beans.
- The caterpillars vary from dark green, reddish, brown, whitish and orange in color with a characteristic undulating white band on each side of the body.
- They grow up to about 40 mm in length.



### Damage on tomatoes

- One caterpillar can cause damage to several plant parts such as flowers, flower buds and fruits which are characterized by presence of one or two rounded worms.
- The caterpillars bore into fruit and feed on the inner part of the fruit releasing plenty of excreta (frass) which is noticeable on damaged fruits



African Bollworm on a young tomato fruit  
(Source: Ochieng V.)



Mature tomato fruit damage by African Bollworm larvae  
(Source: Wasilwa L.)

## Management Strategies

### Cultural control

- Scout the field for bollworm caterpillars to initiate control before actual damage is incurred.
- Practice deep cultivation to destroy pupae in the soil.
- Avoid planting susceptible crops in succession.

### Natural enemies

- Populations of parasitoids such as Trichogramma and predators (Syrphid flies, ladybird beetles) should be encouraged to build up through conservation of vegetation reservoirs and reduction in use of injurious pesticides.

### Bio-pesticide

- Apply commercially formulated biopesticides such as the ones based on *Bacillus thuringiensis* (Bt) (e.g. Baciguard 16 WDG, Bio-T-Plus), Nucleopolyhedrovirus (NPV) (e.g. Helitec SC), Metarhizium anisopliae (e.g. Biomysis Mean 1.15% WP, Mazao Campaign OD) and neem (e.g. Ozonem 1% EC).

