# Fall armyworm on maize

*Spodoptera frugiperda*

## Prevention

- Sow maize according to agriculture department recommendations
- Do not plant near already infested fields
- Use recommended maize varieties and certified/ good quality seed
- Remove and destroy crop residues. Deep plough soil to expose pupae to birds and other predators
- Use dose of fertilizer based on soil analysis
- Weed regularly to minimize alternative hosts
- Avoid moving infested plants from the field
- Do not use broad spectrum chemicals at early crop stage.

## Monitoring

- Install pheromone traps for monitoring (1 trap per 3 acre)
- Moths are 2-3 cm with mottled greyish-brown forewings, whitish hindwings with dark edge
- Start scouting 5 days after germination. Continue weekly monitoring until tasselling.
- Monitor the field weekly, check at least 3 sets of 10 plants per acre
- **Early symptoms:** Cream/grey egg masses covered in silk on the underside or top of the leaves and stem
- If you see shot holes and window panes on leaves, search for caterpillars in whorl.
- **Late symptoms:** Chewed leaves with big ragged elongated holes.
- Search for sawdust like frass in whorls.
- Older caterpillars 1-4 cm grey to brownish with whitish and dark stripes along the back and sides. Dark head with a pale inverted Y. Body has 4 dark spots on back in a square.
- If damage appears, destroy by hand. If damage exceeds 5% or moths are found, consider control.

## Direct Control

- Destroy egg masses and caterpillars by crushing with hand.
- Apply neem-based bio-products
- **Spray virus-based biopesticide (** *Spodoptera frugiperda* NPV)**
- Spray a mixture of water and sugar to attract ants to eat young caterpillars.
- Use entomopathogenic fungi
- Avoid spray at silk and tassel stage in maize crop

## Direct Control

- Flat sprays over a maize field are ineffective as caterpillars hide. Spray into the whorl and furl. If plants are re-infested, repeat spray every 2 weeks.
- Use insecticides with different mode of actions within a season to avoid resistance. Prefer biopesticides and pesticides of WHO toxicity class U over more hazardous ones.
- **When using a pesticide or botanical, always wear personal protective equipment (PPE). Follow the instructions on the label, e.g. dosage, pre-harvest interval (PHI) max number of sprays, restricted re-entry interval (REI)**
- **Apply chemical in calm weather when rain is not expected**

<table>
<thead>
<tr>
<th>Prevention</th>
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