

# Fall armyworm on maize

*Spodoptera frugiperda* Fall armyworm



Fall armyworm caterpillar (Russ Ottens, University of Georgia, Bugwood.org)



Fall armyworm damage in whorl of maize (Victor Clotey, CABI)



Egg mass of *S. frugiperda* (Desiree van Heerden, Syngenta)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> <li>• Avoid late or off-season planting and avoid planting new crop near infested fields</li> <li>• Ensure optimum use of fertilizer for strong maize plants able to compensate for damage done and apply at the right time</li> <li>• Keep the surrounding of the plot free of grass weeds</li> <li>• Conserve shelters and flowering plants on the edges for beneficial insects such as ground beetles and parasitoids</li> <li>• Intercrop maize with less susceptible crops such as legumes</li> <li>• Avoid spraying broad spectrum insecticides which might kill beneficial enemies</li> <li>• Do not move infested maize materials from one area to another; instead feed to livestock</li> </ul>	<ul style="list-style-type: none"> <li>• Start monitoring for the pest one week after germination, continue weekly or every second week.</li> <li>• Monitor 10 consecutive plants in 10 locations of the field</li> <li>• Look for creamy/grey egg masses covered in silk located on the underside or top of the leaves and on the stems</li> <li>• Look for light green/dark brown caterpillars with longitudinal stripes, dark head with an upside down pate Y-shaped. The second-to-last body segment has 4 dark spots forming a square. Do so in early morning or evening hours</li> <li>• Look for light coloured patches (“window panes”) to large ragged and elongated holes in the leaves emerging from the whorl</li> <li>• Look for caterpillars and accumulation of frass in the whorl or burrowed into the side of the cobs</li> <li>• At early whorl stage, take action if &gt;20% of plants are damaged or infested with larvae. At late whorl stage, if small larvae can be found then take action if &gt;40% of whorls are damaged. At tassel and silk stage, do not spray anymore</li> </ul>	<ul style="list-style-type: none"> <li>• On small-scale farms, handpick and destroy the egg masses and larvae</li> <li>• If available, spray young caterpillars with neem-based products before they enter the ears or whorl</li> </ul>	<ul style="list-style-type: none"> <li>• Insecticides are most effective on young larvae and before they enter the funnel and ears. Spray early morning or late afternoon when larvae are active.</li> <li>• Spray only according to needs identified by monitoring (including decision for a second application)</li> <li>• Minimise usage of WHO class II chemicals for own safety and protection of natural enemies which will help in pest control. Always check label for details and wear appropriate PPE</li> <li>• If you use chemical pesticides, use a different sort each time to avoid pesticide resistance.</li> </ul>	<ul style="list-style-type: none"> <li>• WHO Class II (moderately hazardous). REI: 1 day. PHI: 21 days (grazing 42 days). Do not apply more than three applications in one growing season. Toxic to beneficial organisms.</li> </ul>



## Malawi

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