




Fall armyworm on maize

Spodoptera frugiperda

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Fall armyworm larva and frass on maize tassel (J. Crozier, CABI)</p>	<ul style="list-style-type: none"> • Avoid late planting. Plant early to avoid peak immigration of adults • Remove and destroy all crop residues after harvest • Plough the soil deeply to bury the larvae and pupae in the soil • Regularly weed the field and surroundings • Ensure optimum fertilization. Recommended fertilizer rates (4 bags or 200kg of NPK 15:15:15 per ha) to increase the growth vigour • Remove volunteer crops and alternative hosts to reduce carryover of larvae • Rotate with non-host crops (e.g. Cassava, Yam) • Intercropping maize with cowpea, pigeon pea, cassava. 	<ul style="list-style-type: none"> • Start monitoring for presence of the pest or symptoms 2 weeks after emergence • Look for cream or grey egg masses on the stem, lower and upper parts of leaves • Check for light green to dark brown larvae with three thin yellowish white stripes down the back and a distinct white inverted "Y" on head • Check the whorl for larvae covered with a plug of yellowish brown frass • Look for patches of small shot holes "window pane" in the leaves emerging from the whorl • Monitor damage on 10 consecutive plants in 10 randomly selected sites. Take control measures if >20% of plants are infested with larvae • At tassel/silk stage, do not spray anymore 	<ul style="list-style-type: none"> • On small-scale farms, handpick and destroy the egg masses and larvae • Put a handful of sand (mixed with lime or ash), sawdust or soil in the whorl of the attacked plants to kill the larvae 	<ul style="list-style-type: none"> • When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label. • Do not use chemicals with the same mode of action three successive applications as this can lead to resistance. • Always consult the most recent list of registered pesticides of MOFA, Ghana. • For recommended synthetic insecticides (Contact any District/Regional Dept. of Agric. for advice). • Apply Maltodextrin Eradicoat • Apply biopesticides: <i>Bacillus thuringiensis</i> products (e.g. Agoo Bypel1) and <i>Beauveria</i> sp • Apply Azadirachtin (e.g. Nemazaal) • Apply ethyl palmitate +ethyl oleate+elcosen (e.g Adepa) 	<ul style="list-style-type: none"> • WHO class U (Unlikely to present acute hazard). Apply 50ml/15lt water. REI and PHI is 0. Apply weekly based on monitoring result. Ensure good coverage of the foliage • WHO class U (Unlikely to present acute hazard). Apply at three weeks intervals @ 50g (1 sachet)/15lt water based on monitoring result. REI is 3hrs. Ensure good coverage of the foliage • WHO class U (Unlikely to present acute hazard). Apply 60-80ml per 15 litre knapsack. REI is 3 hrs. Apply weekly based on monitoring result. Spray late afternoon 4-6:00pm. Ensure good coverage of the foliage • WHO class U (Unlikely to present acute hazard) Apply 100ml/15lt water at three weeks interval. REI is 24hours. Ensure good coverage of the foliage
 <p>Damage cause to cob by larva (J. Crozier, CABI)</p>					
 <p>Top - Damage on maize leaves (J. Crozier, CABI); Bottom - Egg mass on cotton leaf (@Ronald Smith/Auburn University/ Bugwood.org - CC BY 3.0 US)</p>					

Ghana

CREATED/UPDATED: December 2016/March 2018

AUTHOR(S): Patrick Beseh (PPRSD, MOFA)

EDITED BY: Plantwise



MOFA