

Black armyworm on maize

Spodoptera exempta Black armyworm; African armyworm; Nutgrass armyworm

	Prevention	Monitoring	Direct Control
 <p>Black armyworm; dorsal surface of larva, showing markings (©Rikus Kloppers/PANNAR Seed (Pty) Ltd, Greytown, South Africa)</p>  <p>Black armyworm; underside of larva, showing true-legs (in anterior region) and pro-legs (©Rikus Kloppers/PANNAR Seed (Pty) Ltd, Greytown, South Africa)</p>  <p>Adult female <i>S. exempta</i> (museum set specimen) (©Georg Goergen/IITA Insect Museum, Cotonou, Benin)</p>	<ul style="list-style-type: none"> • Grow less susceptible varieties if available • Plant early to try and avoid severe damage by second generation armyworms • Avoid planting close to overgrazed grasslands which provide food and refuge for caterpillars • Remove weeds such as <i>Amaranthus</i> and grassy weeds since they are food for young caterpillars, and keep other weeds to provide shelter and food for natural enemies • Encourage the presence of natural enemies such as birds, toads, lizards, small mammals, insects and spiders, by planting trees and shrubs • If armyworm is suspect in the field, plough and harrow field thoroughly before planting to expose pupae to natural enemies and desiccation • Do not over-fertilize the soil since too much N can cause green, sappy growth which is attractive to armyworm caterpillars • Rotate maize with non-cereals such as legumes since these are less susceptible. Avoid crop rotation with alternative hosts such as barley, teff, oat, millet, sorghum, wheat. • Remove and destroy all plant debris after harvesting to reduce the food source for armyworm 	<ul style="list-style-type: none"> • Monitor immediately after germination and check weekly for symptoms. • Check for armyworms late evening/early morning. They often feed at night and hide under debris during the day • Look for caterpillars in field margins, low areas where plants have lodged, beneath plant debris around the base of plants, underneath plant leaves and on young, soft shoots and stems • Monitor closely when rains come after a long period of drought, causing grass growth. • Look for chewed leaves making the crop look ragged. Only the midribs are left in severe cases • You may find dark specks of frass from caterpillars on plant stems and leaves • Caterpillars: When young: <1 cm long; white to greenish with an orange head. When old: up to 3 cm long; grey-green to black; velvety black shiny head; inverted V-shaped mark on head; white/yellow strips along the sides and the back. • Black armyworm can be confused with Fall armyworm. See information on Fall armyworm for description of the caterpillar. • Adults/moths: Stout-bodied, 1.4-1.8 cm long, wingspan of 3 cm. Forewings dark brown with distinctive grey-black markings. Hindwings white with dark veins. Emerge from pupae in soil which are brown-black, 1-1.4 cm long, smooth and shiny. • Consider action when 10-25 % of plants show signs of feeding damage • When older, about 3 cm long, caterpillars eat large areas of leaf edges, leaving leaf midribs, or eat entire leaves, direct control may not be effective 	<ul style="list-style-type: none"> • For small farms, hand pick caterpillars and eggs and destroy them by crushing or feed to chickens or ducks • Dig a 30 cm deep trench with vertical sides around the field to trap marching caterpillars. Collect and destroy them • Apply neem. Seed extract: 50g/L water with a little soap. • Apply Pyrethrum: Grind Pyrethrum flowers into a dust, use pure or mix with a carrier like talc or lime, then sprinkle over plants <ul style="list-style-type: none"> • Or use Pyrethrum powder: 20 g powder/10 L water. Soap can be added to make the substance more effective but it is not vital. Apply immediately as a spray. • If available, place egg cards with <i>Trichogramma</i> wasps that will hatch and then parasitise and kill armyworm eggs (read and follow label instructions) • If available, apply product based on <i>S. exempta</i> nucleopolyhedrovirus (SpexNPV) against larvae (read and follow label instructions)

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.