

Armyworms In Turfgrasses

Brad Fresenburg
Research Associate

University of Missouri Turfgrass Research Center
(573) 442-4893 or FresenburgB@missouri.edu

While armyworms are on the move in southern Missouri, our offices in Columbia have not received any calls of armyworm problems in home lawns. However, with the cooler, wet conditions we have been experiencing, the potential for another problem this year is great.

One year ago several reports were received in the Columbia area of armyworm damage. While the late spring was a little dry and cool, it was on home lawns that regularly irrigated that had the problems develop. Our problems with armyworms lasted well into June before reports of infestations subsided.

Armyworms are stout-bodied, hairless, striped caterpillars that chew the foliage of grasses and grain crops. The name Army applies very well, due to the fact that they moved across the ground like a feeding army in the hundreds of thousands. They seem to appear overnight and can basically chew turfgrasses down to the crown consuming the entire plant. There are several species of armyworms that have the potential to attack turfgrasses.

One armyworm (*Pseudaletia unipuncta*) is sometimes called the Acommon or Atrue armyworm. It only occasionally damages cool-season turfgrasses. Most damage occurs at night in small grain crops and pastures where large populations are built up. When these food sources are depleted, the worms will move to nearby turfgrasses.

Adult armyworms are uniformly pale-brown to grayish-brown moths with a wingspan of about 1 2 inches. There is a small, distinct white spot in the center of each forewing. The hind wings are dirty white to light gray-brown. Egg masses typically contain 25 to several hundred eggs. Egg masses are usually laid on the foliage, often between the leaf sheath and blade, in a leaf fold, or covered by another leaf blade fastened about the eggs with a sticky secretion. Eggs hatch in as little as 3 days in warm weather. Newly hatched larvae are pale green and about 1/16 inch long. They crawl by looping, in the same manner as inch worms, until about half grown. Larvae reach full size in about 3 to 4 weeks. Full-grown armyworms are about 1 2 inches long, of general grayish to greenish-brown color, with two pale-orange stripes along each side of the body and another pale-colored, broken, stripe down the middle of the back. The head is brown and honeycombed with dark lines, and the mandibles (upper pair of jaws) lack distinct teeth. Like cutworms, large armyworms will often curl into a tight ball when disturbed. Pupae are reddish-brown, about 5/8 to 3/4 inch long and shaped like a football, but blunt at the head end and tapering sharply at the tail.

Armyworms do not overwinter in the northern half on the States. The first moths arrive in April, producing larvae that feed during May and June. A second generation occurs during June and July, and a third brood is active in late summer and early fall.



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Fall armyworms (*Spodoptera frugiperda*) is a sporadic, but occasionally severe pest of turfgrasses. Damage is very similar to the armyworm, consuming the entire plant. Newly hatched larvae feed gregariously at first, scraping the underside of leaf blades and leaving the clear, upper epidermal layer, or chewing the leaf margins and producing a tattered look. Each large worm devours the equivalent of a good-sized handful of grass. The fall armyworm feeding is not as aggressive as the true armyworm, therefore home lawns are progressively thinned over several days. They feed anytime during the day or night, but move about mostly in the early morning or after dark.

The adults are dull-colored, medium sized moths that resemble those of their close relatives, the cutworms. The wingspan is about 1 2 inches. Front wings of males are dark gray, mottled with lighter and darker splotches, with a noticeable whitish blotch near the extreme tip. Forewings of females are more uniform gray, with less distinct markings. The hind wings of both sexes are grayish white. The adult moths are mainly active at night. Eggs are laid in clusters of 50 to 250, in two or three layers. Individual eggs are tiny, globular, and greenish-gray, becoming darker before hatching. Egg masses are covered with hairs from the female adults body. Females can lay three to five egg masses if they survive. Eggs hatch in 7 - 10 days in cool weather, but in as little as 2 - 3 days during mid-summer. Newly hatched larvae are about 1/16 inch long and light grayish-green in color. Larvae require as little as twelve days to mature in mid-summer. Older worms range from light tan, to olive green, to nearly black, with longitudinal stripes along their sides, and are about 1 2 inches long when full grown. Fall armyworms resemble true armyworms, but can be distinguished by the more prominent, light-colored, inverted Y-shaped marking on the front of the head and by the presence of four distinct, black tubercles (a little projecting knob) on the back of each abdominal segment. Unlike armyworms, fall armyworms have well-defined teeth on their mandibles. Pupae are similar to those of armyworms.

Fall armyworms have two generations per year with moths usually arriving in July. Adult moths will migrate south in the fall to overwinter.

Management of Armyworms: Because the occurrence of armyworms is sporadic, preventative treatments are rarely justified. Also, blanket sprays kill natural enemies that normally help keep armyworm populations under control. Armyworms are easy to control by spot treatment on an as needed basis. Early scouting for armyworm damage followed by treatment is the best way to control this pest.

Scouting for armyworms can include a soap drench to count the number of worms per square yard. Add three tablespoons of a liquid lemon-scented dish soap to three gallons of water and pour over one square yard of turf. After two or three minutes, worms should begin to emerge from the thatch for easy counting. Threshold levels will vary depending on the level of turf management being used and the amount of damage that can be tolerated.

Almost any of the surface insecticides will provide good control. Liquid applications work best, because the objective is to leave residues of insecticide on the foliage for consumption by the worms. Therefore, mowing and irrigation should be avoided for 24 hours after application.



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Insecticide products requiring irrigation are less suitable for armyworm control. Granular formulations generally are less effective because they sift into the canopy of the turf, below the target area. Insecticides available for armyworm control to homeowners include acephate (e.g. Orthene), carbaryl (e.g. Sevin), cyfluthrin (e.g. Advanced Garden Spray), and diazinon. Two new kind of insecticides, halofenozide (e.g. MACH 2), an insect growth regulator, and Conserve SC, a spinosad-based product, are effective against armyworms. There are other insecticides ,like chlorpyrifos (e.g. Dursban), available for control of armyworms, but they need to be applied by a licensed, professional lawn care applicator.

Most of the descriptive information in this article came from: Destructive Turfgrass Insects - Biology, Diagnosis and Control by Daniel A. Potter, University of Kentucky, Ann Arbor Press, 1998.



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