



SOD WEBWORMS IN HOME LAWNS

Several species of sod webworms or “lawn moths” commonly infest home lawns. These include the silver-striped sod webworm (*Fissicrambus mutabilis* (Clemens)), the bluegrass sod webworm (*Parapediasia teterrella* (Zincken)), and the larger sod webworm (*Pediasia trisecta* (Walker)). Over the past few years, we have observed another sod webworm species, burrowing sod webworm (*Acrolophus popeanellus* (Clemens)). On warm, balmy evenings, you may notice a group of pale-brown moths with prominent “snouts” taking flight over turfgrass. Sod webworm larvae can cause major damage to residential turfgrass, especially during periods of drought.

DESCRIPTION

Adult moths at rest often face downward on a grass stem and wrap their wings around their abdomen. Sod webworm adults have siphoning (straw-like) mouthparts, are dull-colored moths with a wingspan of $\frac{3}{4}$ to 1 inch, and their front wings frequently are whitish, dull gray to tan-brown, often with longitudinal stripes and other markings. The adult is easily recognized by a pair of projections arising from the front of the head, resembling a snout (Fig. 1). The mature larva is about $\frac{3}{4}$ inch long, brown to green with darker spots on the surface of its body, and has a long setae rising from the dark spots and mottled brown head capsule (Fig. 2).



Image courtesy of David Cappaert, www.insectimages.org

Figure 1. Adult sod webworm moth.

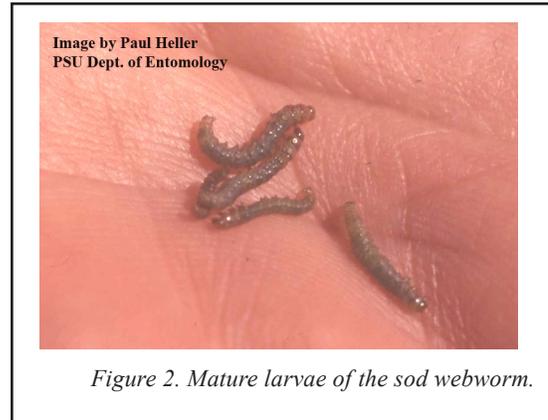


Figure 2. Mature larvae of the sod webworm.

GENERAL LIFE HISTORY

Sod webworms overwinter as mature larvae in their silken tunnels. Larvae resume feeding in the spring and then pupate from late May through early June. Sod webworm cocoons are constructed from soil particles, plant debris, and fecal pellets. Young pupae are approximately $\frac{1}{2}$ inch long, pale yellow, and eventually turn brown prior to adult emergence. Adult moths emerge 10 to 14 days later. During daylight hours, moths hide in shrubbery or other sheltered areas. Adult moths can be recognized by their jerky zigzag flight patterns over the turfgrass at dusk. After mating, adult female moths while flying drop white oval to elliptical eggs with longitudinal ridges, which are yellow and then turn brown as they mature, on the surface from June through early July. Each female can lay up to 200 eggs. After 7 to 10 days, eggs hatch into young larvae. Sod webworm larvae may complete 6 to 10 larval instars, with an average of 8. Larvae feed from July through early August and pupate. Most feeding by sod webworm larvae occurs at night. The second generation of adult moths are active from late July through August. Eggs are laid and hatch into young larvae, which feed through late September and then overwinter. Multiple generations of sod webworm can occur on an annual basis.

DAMAGE

Sod webworm larval damage often is observed as brown patches up to the size of a baseball in the lawn. In some instances, the brown patches are punctured with pencil-sized holes a result of birds searching for the webworm burrows. Feeding damage from sod webworm larvae frequently goes unnoticed during periods

of drought. The most severe damage usually occurs in July and August. Larvae chew off leaves and stems just above the crown. As webworm larvae continue to grow and feed, the injured areas enlarge and coalesce into big, brown patches. The economic threshold for sod webworm larvae has been suggested to be 4 to 6 per square foot but can be variable. Fine fescue, Kentucky bluegrass, and other grass species are susceptible to larvae. Areas frequently infested include steep slopes, banks, and other locations that are difficult to water. Another good indicator of fresh sod webworm larval feeding is the presence of moist, fresh, green fecal pellets in the thatch. Damage caused by dogs may be confused with sod webworm damage. Dog urine on a lawn produces a small patch of yellow grass. This patch may turn brown and die later, but the border of the patch will be very green and there will be no signs of grass having been clipped. Sod webworm spots are not bordered by rich, green grass and do not yellow before turning brown.

Sod webworm larvae can be detected by examining the turf for their silken tunnels and associated frass (green fecal pellets). You can also sample for the larvae by using a soap disclosing solution (soapy water) that irritates the body of the insect and then forces the insect to the surface of the turfgrass. Monitoring references often suggest mixing up 2 gallons of tap water with 2 tablespoons of liquid dishwashing detergent. Sprinkle the disclosing solution over 1 square yard of turf. If 10 to 15 larvae are present in 1 square yard of turf, then treatment may be warranted. Since adult sod webworms are attracted to lights, they can be surveyed with a light trap. You can also purchase sex pheromones to monitor adult activity for select sod webworm species.

CONTROL

Nonchemical—Cultural

A control alternative is using endophyte-enhanced turfgrass seed as part of your management program. (Endophytes are usually beneficial fungi that live between the cell walls of grass plants.) In most instances, fungal endophytes produce alkaloids, which give enhanced resistance to insects and disease. Currently, endophytes occur in tall fescue, fine fescue, and perennial ryegrass seed. Sod webworms can be repelled by the use of endophyte-enhanced turfgrass cultivars. Please follow all label directions regarding where you use endophyte-enhanced seed since you do not want to negatively impact the health of livestock, which often is referred to as endophyte toxicosis. In some instances, fertilization and irrigation can assist in masking sod webworm damage. However, if you are developing a sustainable turfgrass management system, fertilizer may not be favored.

Nonchemical Curative—Biological

Insect-parasitic nematodes are available to curatively suppress various sod webworm species. *Steinernema* spp. are available to suppress sod webworm larvae. Insect-parasitic nematodes do not have a long shelf life. Likewise, be sure to follow all label directions regarding irrigating in this organism immediately following their application. If you rely on this nonchemical control method, then you need to remember that these nematodes are living, breathing organisms and should be handled with special care. Prior to applying this type of curative control measure, be sure to check the expiration data on each package of insect

parasitic nematodes. It is important to select the proper nematode species when trying to control a particular pest. Likewise, select formulations of the bacterium *Bacillus thuringiensis* are labeled to control sod webworm. *Follow all label directions.*

Chemical—Curative Home Lawn Sod Webworm Strategy

Most control measures are applied to suppress larval populations when they are feeding on turfgrass on an as-needed basis. Sample the thatch for larvae to determine the number of sod webworms present before applying a registered insecticide. For best results, apply insecticides in late afternoon or early evening when larvae are active. *Follow all specific label directions.*

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