

## Sod Webworms in Turf

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Sod webworms are highly destructive pests of lawns, and are also important pests of athletic fields, cemeteries, golf courses, and parks. There are numerous species of sod webworms in the United States. However, the two most common species that attack cool-season turfgrass are the bluegrass and the larger, sod webworm. Damage to turf is caused by feeding of the larval, caterpillar or "worm" stage, and damage shows up as small dead patches of grass among



Sod webworm adult.



Sod webworm caterpillar.

healthy grass. Sod webworm caterpillars are relatively small larvae that live in silk-lined tunnels at or near the soil-thatch interface, and damage turf by clipping-off grass blades and shoots with their chewing mouthparts. These caterpillars are cream to gray or green in color with many dark spots spaced evenly over their bodies. Adult sod webworms are small, dull-colored moths that have large snouts and wings that fold close to their bodies.

**Plants Attacked and Damage:** Adult sod webworm moths do not cause damage to turf. However, sod webworm caterpillars attack and feed on most of the common cool-season turfgrass species, including creeping bentgrass, fine-leaf and tall fescues, Kentucky bluegrass, and perennial ryegrass. Sod webworms prefer sunny sites, south-facing slopes, or areas along sidewalks, where turf is hot and dry. Rarely are shaded turf areas attacked. Damage caused by sod webworms typically first appears in late spring with additional damage occurring in mid to late summer. The most severe damage usually occurs in July and August when temperatures are hot, and grass is experiencing drought stress and is not growing vigorously.

Sod webworm damage usually begins as general thinning of turf, followed by development of small patches of brown, closely-cut grass. A more thorough look reveals silk-lined tunnels in the soil-thatch interface. Green fecal pellets are commonly found near the entrance of a burrow. As feeding damage intensifies, small damaged areas often merge into large irregular patches of brown. Early symptoms of sod webworms may be masked if turf is dormant from drought stress. Consequently, sod webworm damage is often mistaken for heat or drought stress. Turf damaged by sod webworms may be slow to recover without sufficient rainfall or irrigation and

fertilization. Symptoms caused by fungal pathogens such as the brown patch pathogen and Fusarium may also be mistaken for sod webworm damage.

**Life Cycle:** Sod webworms overwinter as partially-grown larvae in silk-lined tunnels in the thatch or soil. Larvae resume feeding in the spring, grow rapidly, pupate (transform into adults), and emerge. Newly emerged adults then mate, and within one day thereafter females start laying eggs. Egg laying typically occurs at or near dusk, and continues for a few hours. Moths usually live for about two weeks, and each female can lay approximately 60 eggs per night and as many as several hundred eggs during her lifetime. Eggs typically hatch in about one week and caterpillars usually complete their development in four to seven weeks. A complete life cycle (egg to adult) typically requires six to 10 weeks. Most species of sod webworms have two to three generations per year depending on geographic latitude.

**Control:** While most of the common cool-season turfgrass species are susceptible to sod webworm damage, there are improved cultivars of perennial ryegrass that have meaningful resistance. These cultivars should be grown where appropriate.

When growing susceptible turfgrass species, sod webworms are relatively easy to control with insecticides. Chemical controls for sod webworms should be directed towards the caterpillars, and not the adult moths. However, moth flight may be used as an indicator for predicting subsequent caterpillar infestations (10 to 14 days after peak flight) and the optimal time to make a control application. Because most sod webworm caterpillar feeding occurs at night, treatments should be made in the late afternoon or early evening. This management strategy will minimize potential volatilization and photodegradation, as well as potential exposure to humans and animals. Liquid sprays often work more effectively than granules. However, to maximize efficacy when using liquid sprays, turf should not be irrigated or mowed for at least 24 hours. This will ensure that insecticide residues remain on the turf foliage. There are numerous carbamates, organophosphates, and pyrethroids that are labeled for use against sod webworms. There are also two relatively new types of insecticides, halofenozide (an insect growth regulator) and spinosad (a bacterium-based product) that are effective against sod webworm caterpillars.

As an alternative to conventional insecticides, so-called "biorational" products can also be used to control sod webworms. Products like entomopathogenic nematodes, azadirachtin or neem (a botanical insecticide), and products containing Bacillus thuringiensis (Bt) are labeled for use against sod webworms. These products work best against young larvae, and should be applied before sod webworm caterpillars are large enough to cause damage. Biorational products are sensitive to heat and sunlight, thus they should be applied late in the day.

**For more information on sod webworms:** See UW-Extension Bulletin A3714, or contact your county Extension agent.