

Sod Webworms in Fairways and Putting Greens

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Ordinarily when insect damage shows up in creeping bentgrass putting greens, we assume that cutworms are at fault. **This past summer, though, sod webworms reached outbreak levels on fairways and putting greens of many golf courses in the eastern half of the United States.**

Sod webworms are the larvae of small, buff-colored "lawn-moths" that often hover over turf while laying eggs at dusk. The larvae make silk-webbed tunnels in the thatch and soil, about the diameter of the stem of a golf tee. At night, they chew down the grass, leaving small sunken trails in the turf. In creeping bentgrass, the damage can look like some strange patch disease. The damage is compounded when flocks of foraging birds pull up tufts of grass to get at the larvae. Sod webworms don't form webs over the turf surface—those small patches of webbing made visible on the surface of greens and fairways by dew are the work of small, harmless spiders. A soap flush (2 tablespoons [30 mL] of lemon-scented liquid dishwashing detergent in 2 gal (7.6 L) of water poured or sprinkled over 1.0 yd² (0.8 m²) of turf will bring the small spotted caterpillars to the surface in 10 to 20 minutes. They don't come boiling out of the ground like cutworms and armyworms do.

I believe that the recent outbreaks of sod webworms in bentgrass fairways and putting greens were drought-related. Our problems in Kentucky seemed to be mainly from the bluegrass webworm (*Parapediasia teterella*) a ubiquitous species that normally is more abundant in roughs. Like most webworms, it has several generations per growing season. By mid- to late summer, the turf in nonirrigated roughs had become so dry that the moths were forced to lay their

eggs in irrigated turf. As summer progressed, the population became increasingly concentrated on fairways and greens.

Sod webworms are fairly easy to control. **Pyrethroids are fast and effective, and offer the advantage of very low use rates and low toxicity to mammals, although pyrethroids are very toxic to fish.** In our tests, pyrethroids such as bifenthrin (Talstar), cyfluthrin (Tempo), deltamethrin (DeltaGard), and lambda-cyhalothrin (Scimitar) typically provide better than 95% control within one day. Organophosphates or carbamates such as acephate (Orthene), bendiocarb (Turcam), carbaryl (Sevin), chlorpyrifos (Dursban), and trichlorfon (Dylox) also work well. We've also had good success with the sprayable formulations of halofenozide (Mach 2) and spinosad (Conserve), two of the newer, reduced-risk insecticides.

Use liquid applications when treating for sod webworms, and postpone irrigation at least overnight. Treatments can be applied when damage begins to build up, or timed by watching the moth flights which precede each of the two to four successive generations or broods. Eggs hatch in about a week, so **timing applications for 2 weeks or so after peak moth activity will coincide with feeding of the young larvae.** Gempler's (tel. 1-800-382-8473) markets inexpensive kits containing sticky traps and lures with the sex pheromone of the bluegrass webworm. These traps attract only the harmless male moths from relatively short distances away. By placing one or more traps in low-lying trees or shrubs near infested areas, you can monitor the moth flight for spray timing, and also get a feel for where the highest levels of that species may occur. 

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sites that contains computer-based prediction models with the findings derived from the sensing of key microenvironmental factors? The results are then transmitted to a central operations facility where the responsible individual can monitor the potential for various turfgrass disease and insect pests to occur in the upcoming few days or weeks, as well as suggested turfgrass cultural practices which should be considered within the particular environmental conditions relative to projected turfgrass shoot and root growth activity.

Energy and Water Conservation

Energy. Recent energy prices in the United States have minimized the concern about energy costs, that were an issue during the 1970s. However, high energy costs will reoccur during the 21st century, particularly as related to gasoline-powered internal-combustion engines. The conservation of energy should be a priority. Thus, it is important to give appropriate consideration and action to (a) energy efficient vehicles and machines,

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