

Twolined Spittlebugs in Turfgrass ¹

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Spittlebugs are present throughout the entire state, but they are more abundant in northern and northwestern Florida. They attack all turfgrass species, but centipedegrass is the most susceptible. Adults also feed on ornamental plants, especially hollies (*Ilex cassine* or *I. opaca*).

Biology and Behavior

Adult twolined spittlebugs, *Prosapia bicincta* (Say) (Figure 1), are black with red eyes and legs and have two orange stripes across their wings. They are about 1/4 inch long. The nymphs are yellow or creamy in color with a brown head (Figure 2). They are surrounded by a mass of white frothy spittle (Figure 3) that they excrete for protection. Both adults and nymphs suck juices from the grass with their piercing-sucking mouthparts. But, damage (Figure 4) is caused primarily by the adults through the injection of phytotoxic salivary substances. Adults are most active in early morning and hide near the soil surface during the heat of the day.

There are usually two to three generations per year. There are four nymphal instars and the life cycle requires about 2 1/2 months. Eggs are laid at the base of the grass in the thatch, in hollow grass stems,



Figure 1. Twolined spittlebug adult. Credits: Lyle Buss, University of Florida



Figure 2. Exposed spittlebug nymph. Credits: J. L. Castner, University of Florida

or behind the leaf sheaths. Eggs laid by the second generation overwinter and hatch the following spring,

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Figure 3. Spittle mass on grass. Credits: E. A. Buss, University of Florida



Figure 4. Spittlebug damage on centipede grass. Credits: Larry Williams, UF/IFAS

usually from late March to late April. First generation adults are abundant in June. The adult population may peak again in August or September.

Detecting Infestations

Spittlebug feeding causes a purple and/or white stripe to run along the grass blades of infested turfgrass, especially centipede grass. In heavy infestations, the turf wilts and the tips turn yellow, eventually brown, and then curl. In St. Augustine grass, spittlebug injury resembles that of chinch bugs. However, unlike chinch bug injury, which tends to occur in sunny areas, spittlebug injury usually appears in shady areas.

Most spittle masses occur near the soil surface or in thatch, so they are not readily visible. However, some dried spittle masses may appear on grass blades during adult emergence (Figure 3). High moisture and humidity conditions favor their development. Typically, spittlebug numbers are higher during years with more spring and summer rainfall. Excess thatch also favors their development.

Cultural Control

Follow approved practices regarding mowing, fertilization and irrigation to reduce thatch buildup. If a thatch problem exists, dethatching should reduce spittlebug problems. Avoid over-irrigating turf to minimize infestation. Spittlebugs will not survive drought conditions.

If possible, plant a more resistant turfgrass species or cultivar (e.g., St. Augustine grass, seashore paspalum, zoysiagrass) and avoid centipede grass.

Biological Control

None of the natural enemies of the twolined spittlebug have been identified.

Chemical Control

To minimize turf injury, chemical control may be required when spittlebug populations are heavy. See Tables 1 and 2 for examples of products available on turfgrass. Be careful not to use a product labeled only for ornamental use against spittlebugs (e.g., cyfluthrin, imidacloprid). To improve control, mow and dispose of clippings before an insecticide is applied. Irrigating before treatment, or increasing the amount of water used in the spray solution will improve control. Granular formulations may not be as effective as liquids. It is best to monitor or apply insecticides late in the day when nymphs are higher on the plants than during the hot midday. Adult spittlebugs are usually more successfully controlled than nymphs, but may be on ornamental plants in addition to being in the turfgrass. The nymphs are protected by the spittle masses.

Reference

Pass, B.C. and J.K. Reed. 1965. Biology and control of the spittlebug *Prosapia bicincta* in coastal bermudagrass. *J. Econ. Entomol.* 58: 275-278.

Table 1. Insecticides registered in Florida for non-commercial (homeowner) use against spittlebugs in turfgrass.

Chemical Name	Florida Registered Products	Chemical Class	Signal Word
Bifenthrin	Ortho Bug B-Gon Max Lawn and Garden Insect Killer	Pyrethroid	Warning
	Scott's Max Guard Insect Protection with Turf Builder Fertilizer		Caution
Carbaryl	Garden Tech Sevin Concentrate Bug Killer	Carbamate	Caution
Cyfluthrin	Bayer Advanced Lawn and Garden Multi-Insect Killer	Pyrethroid	Caution
	Bayer Advanced Triple Action Insect Killer for Lawns & Gardens		Caution
Deltamethrin	Southern Ag Mole Cricket and Chinch Bug Lawn Insect Control	Pyrethroid	Caution
Imidacloprid + Beta-cyfluthrin	Bayer Advanced Complete Insect Killer for Soil & Turf	Pyrethroid	Caution
Lambda-cyhalothrin	Spectracide Triazicide Lawn & Garden Insect Killer	Pyrethroid	Caution
Permethrin	Bonide Eight Liquid	Pyrethroid	Caution
	Real Kill Multi-Purpose Insect Killer		

Table 2. Insecticides registered for professional use against spittlebugs in Florida turfgrass.

Chemical Name	Florida Registered Products	Chemical Class	Signal Word
Bifenthrin	Onyx	Pyrethroid	Warning
	Talstar Lawn & Tree Flowable		Caution
	Talstar One		Caution
Carbaryl	Sevin SL	Carbamate	Caution
	Sevin 80 WSP		Warning
Deltamethrin	DeltaGard T&O	Pyrethroid	Caution
	DeltaGard T&O 5SC		Caution
Lambda-cyhalothrin	Scimitar CS	Pyrethroid	Caution
Permethrin	Astro	Pyrethroid	Caution
	Permethrin Pro Termite-Turf Ornamental		Caution