

INSECT REFERENCE

Billbugs, *Sphenophorus* spp.

DESCRIPTION OF INSECT

Immature stage:

Soft-bodied, small white grubs

Slightly tapered abdomen with a brown head capsule.

Larvae have no legs, unlike true white grubs.

Range in size from 1.3mm – 10mm (0.05 - 0.4 inches)

Pupae are cream color at first and turn reddish brown before adult emergence.

Mature stage:

Typical weevil form with snout (i.e. bill), elbowed antennae, and elytra (hard wing covers).

10-15mm in length. Body is longer than it is wide.

Damaging stage(s):

larvae (grubs)

Predictive models (degree day, plant phenology, threat temperatures, other)

To date there is not a degree day model developed for billbugs. Depending upon species the adults become active in April and early May, mate and lay eggs. In the southern states hunting billbug adults have been observed year round.

Life cycle:

30 - 60 days from egg to adult (dependant on species and location)

Females lay eggs into holes in the stems of grass where they had been feeding.

Eggs hatch in 6 -10 days

Larvae live for 30 – 50 days

Young larvae feed up and down the stem of the grass.

Older larvae can tunnel into the crown of the plant to feed and kill it.

Larvae pupate in the soil near the surface and emerge in 8-10 days.

Conducive environmental conditions:

temperatures above 65F (18C)

Geographic distribution:

North America



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DAMAGE CAUSED:

Plants attacked:

Common name	Host plants
Bluegrass billbug <i>Sphenophorus parvulus</i>	Bluegrass, rye, fescue, bentgrass (occasionally) zoysia
Hunting billbug <i>S. venatus vestitus</i>	Zoysia & hybrid Bermuda. Occasionally on bahia, centipede & St. Augustinegrass
Phoenician billbug <i>S. phoeniciensis</i>	Bermuda, zoysia and kikuyugrass
Denver billbug <i>S. cicatristriatus</i>	Cool-season turf, esp. bluegrass and ryegrass

Symptoms of damage:

Stems turn straw color as they die.

Small patches of dead grass that resemble dollar spot.

Larger patches of dead grass that can be mis-diagnosed as white grub damage, late green up, drought damage.

Tufts of grass will easily lift from the rest of the sod mat.

Timing of damage:

Most symptoms of damage appear in late June and July or when the grass begins stress from the summer heat.

Insects that look similar; Pests that cause similar damage:

White grub larvae maybe mistaken for billbugs. The key difference is the presence of legs on white grubs while they are absent from billbug larvae.

Billbug damage can be mistaken for white grub damage and/or dollar spot damage.

Slow green up or winter kill in warm season grass also looks similar to billbug damage.

MONITORING TECHNIQUES:

Soapy water flush for adults. Begin weekly soap flushes in the springtime, once average air temperatures exceed 65F (18C).

Adults are very active and can be seen walking across side walks and cart paths in the spring once temperatures warm up.

THRESHOLDS:

There are no thresholds for this pest.

Turf can tolerate very high numbers with out any obvious signs of damage, so it is usually best to wait until early signs of damage are observed.

If damage is noted adult billbugs may not be present.

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Investigation of the stem and crown of the grass will then be needed to detect the larvae.

MANAGEMENT STRATEGIES:

Follow resistance management guidelines by rotating products as outlined in IPM Template Reference “Insecticide Resistance Management Groups.” Always consult the most recent version of all product labels before use.

Billbug management strategies				
TYPE	TIMING/ THRESHOLD	PRACTICE		COMMENTS
Cultural	N/A	If infestations are light, and/or if damage is minimal, turf can sometimes “grow out” of the damage, especially if the turf is babied with more frequent irrigation and light fertilizer applications		
Biological	N/A	Use endophyte enhanced seed, if available		
Chemical*	Preventive control: target grubs in springtime, about 4 wks after adults 1 st seen	Active Ingredient (Product)	Label signal word	
		Imidacloprid (Merit)	Caution	
		Halofenozide (Mach 2)	Caution	
		Clothianidin (Arena)	Caution	
		Thiamethoxam (Meridian)	Caution	
	Curative: target adults in springtime before they lay eggs	Bifenthrin (Talstar)	Caution	
		Chlorpyrifos (Dursban)	Danger	
		Cyfluthrin (Tempo)	Caution	
		Deltamethrin (Deltagard)	Caution	
		Lambda cyhalothrin (Scimitar)	Caution	
	Curative and preventive: treat in spring, soon after adults first appear	Imidacloprid + bifenthrin (Allectus)	Caution	