

## BILLBUGS

**NOTE:** THE FOLLOWING INFORMATION IS OFFERED AS A GUIDE FOR PROSPECTIVE CHALLENGES TO MANAGING SEASHORE PASPALUM. ALL TURFGRASSES ARE SUBJECTED TO INSECT, DISEASE, AND WEED PRESSURES. PROPER MANAGEMENT IS THE KEY TO SUCCESS. YOU MUST CHECK ALL LABELS OF THE PESTICIDES TO BE USED ON THIS GRASS FOR LEGAL AND PROPER USE. MENTION OF A PARTICULAR PRODUCT IS NOT AN ENDORSEMENT OF THAT PRODUCT BUT REFLECTS WHAT IS KNOWN AT THE PRESENT TIME. ENVIRONMENTAL INTERACTIONS, INCLUDING SALINITY THAT IMPACT SPECIFIC SITES, MAY GIVE VARIABLE RESULTS IN THE USE OF SOME PRODUCTS.

### **BILLBUGS** Bluegrass billbug (*Sphenophorus parvulus* Gyllenhal)

Hunting billbug (*Sphenophorus venatus vestitus* Chittenden)

Phoenix or Phoenician billbug (*Sphenophorus phoeniciensis* Chittenden)

Denver (or Rocky Mountain) billbug (*Sphenophorus cicatristriatus* Fahraeus)

*Sphenophorus minimus* Hart

*Sphenophorus inequalis* (Say)

**Life cycle:** eggs are laid between leaf sheaths and hatch in 4-5 days. Young larvae burrow into grass stems, feeding and tunneling. Large larvae will burrow out and feed on the crown. 1-2 generations per year.

**Feeding symptoms:** stems turn straw-colored and die in a scattered fashion. Can feed on roots, crowns, and stolons. Turf will easily pull up.

**Management:** avoid stress-induced root or crown damage with sensible irrigation and fertilization.

Potential biological biorational control—fungus *Beauveria* and parasitic nematodes (*Steinernema carpocapsae* and *Heterorhabditis bacteriophora*); HETEROMASK, SCANMASK, BOTANIGARD MYCOINSECTICIDE (*Beauveria bassiana* strain GHA).

Potential Chemical control—best strategy is Spring or early season pesticide application to target adults emerging from hibernation sites and prior to egg laying (soil surface temperature at one inch/25 mm depth = 67-69°F or 19.4-20.6°C). ROTATE MOA CHEMISTRIES.

Potential systemic insecticides such as imidacloprid (MERIT, MALLET, GARANT, HAWK-I® N/O, WARRANT, ENFORCE, BENEFIT, QUALI-PRO IMIDACLOPRID, IMIDA PRO, POINTER, BOUNTY™, GRUBOUT™) and halofenozide (MACH 2) are effective if applied when adults become active and prior to egg hatching. Chlorotraniprole (ACELEPRYN, FERENCE); imidacloprid + beta-cyfluthrin (TEMPRID). Acephate + imidacloprid (Avatar PLX). BotaniGard ES + bifenthrin or other pyrethroids. MatchPoint™ (spinosad + lignin). Suprado (novaluron). Tetrno (tetraniliprole).

Potential contact insecticides: isofenphos (OFTANOL), chlorpyrifos (DURSBAN, INSECTICIDE III™), bifenthrin (TALSTAR, FIREBIRD®, CROSSCHECK, MENACE, PROSECT™), pyrethroid deltamethrin (DELTAGARD, TEMPO ULTRA), thiamethoxam (MERIDIAN), clothianidin (ARENA, GUILLOTINE), clothianidin + bifenthrin (ALOFT), imidacloprid + bifenthrin (ALLECTUS), bifenthrin + carbaryl (DIOCIDE™), azadirachtin (AZAGUARD EC), dinotefuran (ZYLAM, SAFARI®), bifenthrin + zeta-cypermethrin (TALSTAR XTRA), bifenthrin + zeta-cypermethrin + imidacloprid (TRIPLE CROWN T&O), dinotefuron + alpha-cypermethrin (Alucion 35WG).

Adulticides: chlorpyrifos, pyrethroids, indoxacarb

Systemic larvicides: chlorotraniprole (Acelepryn), cyanthraniliprobe (FERENCE)

Larvicides: indoxacarb, spinosad A&D, trichlorfon