



Solution Sheet

Annual bluegrass weevil

The problem

Annual bluegrass weevil (*Listronotus maculicollis*) (ABW), first isolated in Long Island, NY, in 1957, can severely damage both annual bluegrass and creeping bentgrass turf equally. This pest is commonly found in Ontario and Quebec and has now spread to five provinces including Prince Edward Island. Experts predict that ABW will continue to spread, especially since it can be transported in sod.

Life cycle facts

Adult ABW overwinter in the top 1-2" of soil, leaf litter and higher mowed turf, often up to 200 feet away from fairways and into the edges of tree lots. Adult migration to fairways and tees may spread out over many weeks due to slow movement, distance to desired turf and downward spikes in temperature. Peak migration of overwintering adults usually occurs at peak yellow bloom of Forsythia. Overwintering adults will start laying eggs in the turfgrass when Forsythia is half-yellow, half-green and when Eastern redbud are in early bloom. Larval stages that feed in and on the stems of annual bluegrass are the causal agents of turf damage. In Canada, two generations are typical, with the worst visual damage occurring throughout June and then to a lesser extent again end of July and August.

What to look for

Identification

Adult ABWs are small, 1/8-inch long, dark-gray beetles. Younger beetles are reddish but will darken within days of hatching. The major distinguishing factor between adult ABW and adult billbug is that the ABW has an elbowed antennae attached near the snout tip and a pronounced pronotum behind the head. Adults cause minor damage, chewing holes or notches in the turf leaf blades. Adults lay eggs in between leaf sheath and stems, with females able to lay 60-90 eggs each in a lifetime. *Poa annua* is the preferred grass for laying eggs, but feeding occurs in both *Poa annua* and creeping bentgrass equally.

Feeding

Hatching larvae feed inside turfgrass stems and eventually burrow out of the stem. Older larvae live at the soil surface and feed mostly on crowns. ABW larvae are smaller than billbugs, are creamy white with a brown head, and range from 1/32-inch long as newly hatched instars to 3/16-inch long as fully developed instars. Larvae can feed on crowns of multiple plants during their development. As third instars grow, they tunnel and feed on stems, which then break off easily from the crowns.

Damage

Damage typically begins along edges of fairways, greens and tees, especially next to overwintering areas such as tree lots. Symptoms begin as yellowish to browning spots or small dead patches that eventually coalesce into large areas as larvae develop. Larval densities can exceed 450 per square foot, with reports of visual damage in pure *Poa annua* as low as 10 per square foot and in pure creeping bentgrass at 160 per square foot. Symptoms are usually worse from first-generation larvae in June than second-generation larvae in late July and August. Damage from the second generation reaches farther into fairways away from overwintering habitat. *Poa annua* damage tends to be more extensive than creeping bentgrass, which can also recover better.

The solution

Cultural management

Despite the effort to control the pest population under economic threshold, cultural practices maximizing turf health are also critical. If practical, conversion away from annual bluegrass to creeping bentgrass or perennial ryegrass and fescues will minimize ABW damage. Adequate fertility and irrigation to promote growth through damage periods are important. Adult ABW can survive mowing, so discard clippings from infested fairways as far away as possible. However, detecting adults in mower baskets can help determine application timing. Larvae start appearing in soil around the time that Catawba rhododendron is in full bloom, at which point curative larvicide programs can be used.

Pesticide control

Many control tactics start with targeting overwintering adults as they emerge and migrate to fine turf areas. Contact insecticides such as the synthetic pyrethroids have been used to manage adults with some success. For more consistent and reliable control, a program that targets first-generation larvae to limit damage – as well as the future generation – is required. Systemic larvicides such as Tetrino® insecticide can be highly effective when used in a program. Tetrino insecticide is especially useful in controlling both early and late-instar larvae, with recommended timing around peak egg lay (late April) through full rhododendron bloom (late May/early June). In areas with high populations, optimal control will usually require a second application of a residual product such as Tetrino insecticide in early July to target second-generation larvae, which will also help to control white grubs such as Japanese beetles and masked chafers.

Envu solutions for annual bluegrass weevil management

Solution	Rate (Per Acre)	Application Notes
Tetrino® insecticide	11.6-23.2 ml/100 m²	Up to four applications per year at the 11.6 ml rate. Programs incorporating Tetrino insecticide provides season-long ABW, white grub, Chinch bugs and other turf-infesting insect control.



Annual bluegrass weevil adult. (Envu)



Typical damage from annual bluegrass weevil in creeping bentgrass/annual bluegrass fairways and collars. (Envu)



Late-instar annual bluegrass weevil feeding on crowns and stems beneath turf area exhibiting damage. (Envu)