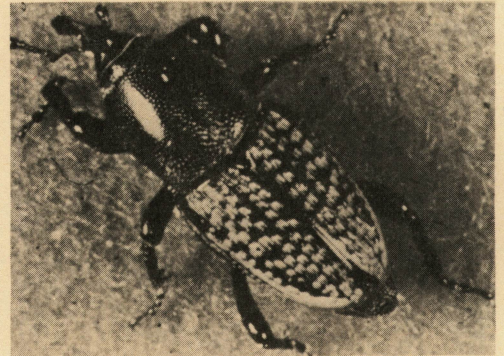




## Bluegrass Billbug In Idaho Lawns

Craig R. Baird  
Ext. Entomology Specialist

Hugh W. Homan  
Extension Entomologist



The bluegrass billbug is a relatively new pest in Idaho but has already caused severe damage to lawns in the Treasure Valley and adjoining areas. Although other billbug species are found in the state, their damage to lawns is much less severe than that caused by the bluegrass billbug.

### Description

The adult bluegrass billbug is a hard-shelled beetle about  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long. It is usually dull gray or gray-black in color and has a long, curved snout or bill. Although the adult has wings, it seldom flies.

The larva is a white, legless, humpbacked grub with a distinct brown head. It measures  $\frac{1}{8}$  to  $\frac{1}{2}$  inch in length. Unlike the hard-shelled adults, billbug larvae are soft and fleshy.

### Life History

With spring's warm weather, adult beetles become active. Eggs are laid in grass stems from late May through June. After hatching, the larvae feed as they move to the crown area. By late July the larvae complete their feeding and development and change to the pupal (resting) stage. Adult beetles emerge from the pupae after 2 to 3 weeks and are most often seen along sidewalks and driveways from late July until cold weather. They overwinter in any protected location such as under trash, dead grass or litter. There is one generation per year.

### Damage

Adult billbugs feed on grass leaves to some extent, but the larvae or grubs cause the main damage to the grass plants. Primary damage occurs in early to mid-summer as the developing larvae feed on grass stems, the grass crown and, eventually, the roots. As sod becomes dry and loose, you can easily peel it back and expose the grubs.

Damage may be extensive or may appear only in small patches in the lawn. Extensive damage indicates

a large population of billbugs has built up over several years.

The first symptoms of billbug damage are dry, irregular size, dead spots appearing in the lawn, usually from early to midsummer. While several other conditions may result in dry spots, the presence of loose sod and small white grubs (larvae) in the root zone will help you identify billbug damage.

### Control Measures

Billbug damage is controlled only with careful attention to the pest and knowledge of its life cycle. You will get best results by controlling the adult billbugs with insecticides in mid-May before egg laying. When applying these chemicals, treat the entire lawn. Do not water or soak the turf after spring treatment unless you have used granular materials. Retreat about June 1 if rain (0.1 inch or more) washes the insecticide from the grass stems.

If you miss the May insecticide application or poor results are evident, summer applications may be necessary. Billbug larvae are difficult to control during the summer because they lie protected within the grass roots and stems. These summer applications must be followed by sprinkle irrigation using  $\frac{1}{2}$  inch of water to move the insecticide into the root zone. Sprinkle immediately after treatment and, if possible, even before the insecticide is dry.

You may not get good results with the summer applications because the larvae are protected in grass stems. If you don't sprinkle after the application, the insecticide will not reach to the larvae. Also, some insecticides are "tied up" by organic matter of the grass thatch and don't get to the larvae. The summer applications should be used as a last resort only.

For spring or summer control, use one of the insecticides recommended in the table. Follow these suggestions:

1. Measure the size of the area to be treated to determine the amount of insecticide to use.



Use only one of the following insecticides for billbug control:

Insecticide	Formulation you buy*	Amount per 1,000 sq ft	Remarks
Diazinon	48% EC	4 fl oz (½ cup)	Apply mixed with 3 to 5 gallons of water per 1,000 sq ft.
	25% EC	8 fl oz (1 cup)	Apply mixed with 30 gallons of water per 1,000 sq ft.
	16.75% EC	12 fl oz (1½ cup)	Apply mixed with 30 gallons of water per 1,000 sq ft.
	50% WP	4 oz (¼ lb)	Apply mixed with 3 gallons of water per 1,000 sq ft.
	14% G	1 lb	Apply granules evenly to lawn. <b>Do not mix in water.</b> Water lawn after granule application.
	5% G	2.5 lb	Apply granules evenly to lawn. <b>Do not mix in water.</b> Water lawn after granule application.
	2% G	5 lb	Apply granules evenly to lawn. <b>Do not mix in water.</b> Water lawn after granule application.
Baygon**	70% WP	4 fl oz (½ cup)	Apply mixed with at least 15 gallons water per 1,000 sq ft. For pest control operator and commercial applicator use only.
Sevin	80% S	4 oz	Apply mixed with 30 to 40 gallons of water per 1,000 sq ft.
	50% WP	6.4 oz	Apply mixed with 30 to 40 gallons of water per 1,000 sq ft.
	Sevimol 4	6.4 fl oz	Apply mixed with 30 to 40 gallons of water per 1,000 sq ft.

\*WP = wettable powder; EC = emulsifiable concentrate (liquid concentrate); G = granules; S = sprayable wettable powder

\*\*This product currently registered for use by certified pest control operators only.

2. Before treatment, mow the lawn and remove clippings to allow maximum insecticide penetration.
3. Apply the insecticide mixture evenly and according to label dosage directions. Keep a liquid insecticide mixture agitated in the sprayer. Do not skip small areas even though they may not show billbug symptoms.
4. For May application, apply the insecticide mixture to the entire surface of the lawn using specified amounts of water. Do not sprinkle in. Reapply if rain occurs.
5. For summer applications, apply the insecticide mixture to the lawn's entire surface area. Thoroughly sprinkle the treated area immediately after applying the insecticide, using at least 5 gallons of water for every 1,000 square feet.
6. Small areas of damaged lawn will usually restore themselves without replanting. Extensive areas should be replanted or resodded once the pest has been controlled.

### General Warnings

All pesticides are poisonous to warm-blooded animals to some degree. They should be handled cautiously to prevent poisoning pets, livestock, wildlife, children or the user. When using any chemical, observe the following safe use procedures:

- Always read the label before using any chemical. Carefully follow the directions given. Each time before opening the container, note the warnings and cautions. Be sure the pesticide is labeled for use against the pest on the particular site.

- Keep insecticides out of reach of children and pets. Keep pesticides in their original containers, outside the home and in a locked storage.

- Be careful not to spill concentrates or sprays on the skin or clothing. If you do spill, remove the contaminated clothing immediately and wash your body and clothes thoroughly. Wash the contaminated clothing separately. To clean the washer after use, run it through the wash cycle with detergent and without any clothes.

- Never smoke while spraying.

- Avoid inhaling insecticide mists and vapors. When directed on the label, wear protective clothing and face mask. A handkerchief fitted to the face, coveralls and gloves will help prevent excessive inhalation and contact with the insecticide.

- Wash your hands and face and change your clothing immediately after spraying. Always wash clothing before reuse.

- Cover food and water containers when treating around livestock or pet areas. Do not contaminate fish ponds.

- Use separate equipment for applying hormone-type herbicides in order to avoid accidental injury to susceptible plants from contaminated spray equipment.

- Always dispose of empty containers by taking them to an approved sanitary landfill so that they pose no hazard to humans, animals or plants.

- Observe label directions and cautions to keep undesirable residues off fruits and vegetables.

*Brand names have been used for convenience only. No preference is intended nor implied.*

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