

## Bluegrass Billbug Insecticide Test

**Adult billbug control, 1988:** Insecticide treatments were applied to fescue rough at Warwick Hills Country Club. Plots were 11'-11' in size with a 3' buffer between plots. Insecticides were applied with an R&D CO<sub>2</sub> sprayer at 40 psi with an 80° LF3 nozzle. Insecticides were mixed in water and the solution applied at a rate of 175 gal/A. The entire plot area received irrigation twice during the test period to reduce drought injury to the turf. Each treatment was replicated six times except the 0.5 lb ai rate of Diazinon and the 0.8 lb ai Danitol. These treatments had only five replications because of an error during application. Diazinon was applied at approximately 1/6 and 1/12 the recommended rate for the purpose of comparison to the same amount of active ingredient of Dursban. Insecticides were applied on June 9, 1988. It was cloudy and 70°F with a trace of precipitation later that day. Plots were evaluated on July 13 and 14 by removing nine cup-cutter (4"-diameter) plugs from each plot and examining them for damaged grass plant crowns and billbug larvae. Each plug was cut in half with a shovel, and each half torn twice to look for damage and larvae.

The number of billbug larvae and damage was greater in some insecticide treated plots than damage found in control plots. The low rate of Orthene treatment came very close to having a significantly greater number of grubs and damage than the control treatment. Apparently some biological factor reducing billbug activity in control plots was suppressed by insecticide treatment. The only significant difference between treatments was between Triumph, the most effective treatment, and Orthene at 0.375 lb ai rate, the least effective treatment. Triumph probably had a toxic effect on larvae in the soil as well as on adult billbugs still active on June 9th. There is a good relationship between application rate of Danitol and effect on billbug activity. Danitol was the next most effective treatment after Triumph.

## Conclusions

- Triumph 4 E and Danitol 2.4 EC look promising
- Some insecticide treatments seemed to have more billbug injury than the control treatment. Suppression of predators?
- Triumph, Turcam, Oftanol, Proxol, and Dylox recommended for larvae in soil. Dursban is recommended for adults in May. Do not apply insecticide unless there is a damaging population present.

**Bluegrass Billbug Adult or Larval  
Control at Warwick Hills Country Club  
Flint, MI  
1988**

Treatment	Rate lbs ai/A	Mean number of grubs per square foot
Triumph 4E	1.0	4.2 a <sup>2</sup>
Danitol 2.4 EC	0.8	5.3 a
Danitol 2.4 EC	0.6	6.6 a
Dursban 4E	0.75	7.3 a
Control	---	7.8 ab
Danitol 2.4 EC	0.4	8.2 ab
Dursban 4E	1.0	9.0 ab
Orthene 75 SP	0.75	9.2 ab
Diazinon Ag 500	1.0	10.2 ab
Diazinon Ag 500	0.5	10.4 ab
Dursban 4E	0.5	10.8 ab
Orthene 75 SP	0.375	15.8 b

<sup>1</sup>Each damaged crown observed and each billbug larva were counted as one unit. Number of larvae and number of damaged crowns were added together. Mean of six replications per treatment.

<sup>2</sup>Treatments followed by the same letter are not significantly different at P = .05, Duncans multiple range test.