SORGHUM (GRAIN): *Sorghum bicolor*

EFFICACY OF FOLIAR INSECTICIDES AGAINST CORN EARWORM AND SORGHUM WEBWORM, 2011

Ben Von Kanel  
Department of Entomology and Plant Pathology  
Mississippi State University  
121 Clay Lyle Building, Box 9775  
Mississippi State, MS 39762  
Phone: (662) 325-3195  
Fax: (662) 325-8837  
E-mail: mbv7@msstate.edu

Angus L. Catchot  
E-mail: acatchot@entomology.msstate.edu

Lucas N. Owen  
E-mail: lno9@msstate.edu

Joshua L. Jones  
E-mail: jlj493@msstate.edu

Brian P. Adams  
E-mail: bpa31@msstate.edu

William S. Scott  
E-mail: wss41@msstate.edu

Wes McPherson  
E-mail: jwm177@msstate.edu

Dung Bao  
E-mail: db3@msstate.edu

Jenny Bibb  
E-mail: jlbibb@msstate.edu

Kevin Lanford  
E-mail: rkl49@msstate.edu

Corn earworm: *Helicoverpa zea* (Boddie)  
Sorghum webworm: *Nola sorghiella* (Riley)

On 26 August 2011, a foliar insecticide efficacy trial was conducted on the R.R. Foil Plant Research Center in Starkville, Mississippi. Sorghum plants were approximately in the milk stage. Plot size was 4 rows by 40 ft long on 38 in centers. Treatments were arranged in a randomized complete block design with four replications. Insecticides were applied with a tractor mounted sprayer calibrated to deliver 10 gpa at 60 psi through TX-6 Hollow Cone nozzles (2 per row). Seven insecticides were evaluated against an untreated control (UTC) for control of corn earworm (CEW) and sorghum webworm (SWW). Insecticides were applied on 26 August and sampled 3 days after treatment (3 DAT) and 6 days after treatment (6 DAT). Each plot was sampled by randomly selecting 20 plants and shaking sorghum heads into a sweep net. Data was analyzed with ANOVA and means were separated using Fisher’s Protected LSD ($P \leq 0.05$)

All treatments significantly lowered the number of CEW larvae compared to the untreated check at 3 DAT, but were not statistically different from one another. There were not differences in SWW density between the UTC and any insecticide treatment at either 3 or 6 DAT. At 6 DAT however, Diamond at 0.032 and 0.039 lbs AI/acre and Belt had significantly fewer CEW compared to the UTC and Frenzy, but were not different from each other. Diamond at 0.026 and 0.058 lbs...
AI/acre had significantly fewer CEW than the UTC, but were not statistically different from Diamond at 0.032, 0.039 lbs AI/acre, Belt, Discipline, or Frenzy. Discipline had no statistical difference in CEW density compared to the UTC or any insecticide treatment.

Table 1.

<table>
<thead>
<tr>
<th>Treatment Formulation</th>
<th>Rate lb (AI)/Acre</th>
<th>3 DAT CEW</th>
<th>3 DAT SWW</th>
<th>6 DAT CEW</th>
<th>6 DAT SWW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond 0.83 EC</td>
<td>0.026</td>
<td>15.5b</td>
<td>2.6a</td>
<td>8.7bc</td>
<td>0.8a</td>
</tr>
<tr>
<td>Diamond 0.83 EC</td>
<td>0.032</td>
<td>17.3b</td>
<td>0.5a</td>
<td>5.3c</td>
<td>0.5a</td>
</tr>
<tr>
<td>Diamond 0.83 EC</td>
<td>0.039</td>
<td>8.3b</td>
<td>1.0a</td>
<td>6.0c</td>
<td>0.5a</td>
</tr>
<tr>
<td>Diamond 0.83 EC</td>
<td>0.058</td>
<td>11.5b</td>
<td>0.8a</td>
<td>9.0bc</td>
<td>0.5a</td>
</tr>
<tr>
<td>Belt 4 SC</td>
<td>0.063</td>
<td>4.5b</td>
<td>1.5a</td>
<td>4.0c</td>
<td>0.5a</td>
</tr>
<tr>
<td>Discipline 2 EC</td>
<td>0.067</td>
<td>19.8b</td>
<td>0.8a</td>
<td>16.5abc</td>
<td>0.5a</td>
</tr>
<tr>
<td>Frenzy</td>
<td>0.067</td>
<td>17.3b</td>
<td>2.5a</td>
<td>21.0ab</td>
<td>1.5a</td>
</tr>
<tr>
<td>Untreated Check</td>
<td></td>
<td>34.8a</td>
<td>1.5a</td>
<td>27.5a</td>
<td>1.5a</td>
</tr>
</tbody>
</table>

LSD (0.05) 11.12 1.83 9.44 1.40

Means within a column sharing the same letter are not significantly different (LSD; P > 0.10).