Residual Activity of V-10170, Venom and Orthene for Rice Stink Bug Control
Beaumont, TX
2006

Agronomic and Cultural Information

Experimental design: Complete randomized block with 4 replications
This experiment was conducted late in the season on Jefferson rice which had previously been harvested and was making a ratoon crop. The treatments were applied on ratoon panicles. See "Interaction of Sheath Blight and Rice Water Weevil Activity" for agronomic and cultural information for the main crop.

Treatments: All treatments were applied with a hand-held CO$_2$-pressurized spray boom (3-800067 nozzles, 50 mesh screens, 20 psi, 24 gpa) on Sep 26. Rice panicles were in soft dough stage.

Sampling: Four rice stalks with panicles attached were removed from each plot 1 day after treatment (DAT) on Sep 27. The four stalks from each plot were inserted into sand-filled plastic cups (in a greenhouse) sitting in 1-2 in. of water to keep plant material moist. Each set of 4 rice stalks (with panicles attached) was then covered with a plastic tube and infested with 10 rice stink bug (RSB) adults. Number of dead RSB was recorded for each plot 24 and 48 hours after infestation. This procedure was repeated on Oct 2 (6 DAT).

Note: Number of dead RSB was transformed to percent mortality. Percent mortality was subjected to angular transformation to degrees and all data analyzed using ANOVA and LSD.

Discussion

This was the second of three experiments at the Beaumont Center to investigate residual activity of insecticides for RSB control. Minimal natural mortality occurred in tubes containing untreated panicles (Table 1). All three insecticides (V-10170, Venom and Orthene) showed promising results 1 DAT with 55, 65 and 75 percent mortality, respectively, after 48 hours exposure to treated panicles. At 6 DAT, however, residual activity of all treatments had declined significantly. Experiments on RSB mortality from direct contact with insecticides were not conducted this year. The insecticides in this experiment may provide control of RSB with direct contact and appear to have some residual activity for a short period following application.

See Table 1 below.
Discussion (continued)

Table 1. Percent rice stink bug (RSB) mortality after 24 and 48 h exposure to treated or untreated rice panicles. Beaumont, TX. 2006

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate [lb (AI)/acre]</th>
<th>1 DAT(^a)</th>
<th>6 DAT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>24 h(^b)</td>
<td>48 h(^b)</td>
<td>24 h</td>
</tr>
<tr>
<td>Untreated</td>
<td>---</td>
<td>5 b</td>
<td>8 b</td>
<td>0</td>
</tr>
<tr>
<td>V-10170 50WDG</td>
<td>0.06</td>
<td>40 a</td>
<td>55 a</td>
<td>10</td>
</tr>
<tr>
<td>Venom 20SG</td>
<td>0.13</td>
<td>60 a</td>
<td>65 a</td>
<td>5</td>
</tr>
<tr>
<td>Orthene 97SG</td>
<td>0.50</td>
<td>40 a</td>
<td>75 a</td>
<td>5</td>
</tr>
</tbody>
</table>

\(^a\) DAT = days after treatment

\(^b\) Percent RSB mortality after 24 and 48 hours exposure to treated or untreated panicles

Means in a column followed by the same or no letter are not significantly different (NS) at the 5% level (ANOVA, LSD).