Syngenta Crop Protection, Inc.
Residual activity of Centric and Karate Z for Rice Stink Bug Control
Beaumont, TX
2006

Agronomic and Cultural Information

Planting:  
**Drill-planted Cocodrie @ 90 lb/A into League soil (pH 5.5, sand 3.2%, silt 32.4%, clay 64.4%, and organic matter 3.8 - 4.8%) on Jun 8**
Plot size = 7 rows, 7 in. row spacing, 18 ft long
Experimental design: randomized complete block with 4 replications
Emergence on Jun 14

Irrigation:  
Flushed blocks (temporary flood for 48 hours, then drain) on Jun 9
*Note: Plots were flushed as needed from emergence to permanent flood*
Permanent flood on Jul 5

Fertilization:  
All fertilizer (urea) was distributed by hand.
113.3 lb N/acre (⅔ of 170) on Jun 9 at planting
56.7 lb N/acre (⅓ of 170) on Jul 19 at panicle differentiation
*(Total season N/acre = 180 lb N/acre)*

Herbicide:  
Applied Stam 80EDF @ 2.0 lb, Basagran @ 0.75 lb, Facet 75DF @ 0.25 lb and Ordram @ 2.0 lb (AI)/acre and Agri-Dex @ 1.0 pt/acre with a 2-person hand-held spray boom (13- 80015 nozzles, 50 mesh screens, 21 gpa final spray volume) on Jun 28 for early season weed control

Treatments:  
**All treatments were applied with a hand-held CO₂-pressurized spray boom**
(3-800067 nozzles, 50 mesh screens, 20 psi, 24 gpa) **on Sep 5.**
*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 6.** 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 Sep 11 (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.*
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**Discussion**

This was the third of three experiments at the Beaumont Center to investigate residual activity of insecticides for rice stink bug (RSB) control. Adult RSB thrived well on untreated panicles with little to no mortality (Table 1). Centric 40WG provided some control at 1 day after treatment (DAT). Karate Z provided little to no control. The tank mix of Centric and Karate Z provided some control at 1 DAT but is most likely due to the activity of Centric. There was no residual activity in any treatment at 6 DAT. These insecticides may provide control of RSB with direct contact, but neither product produced a desirable level of residual RSB control.

**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&lt;sup&gt;a&lt;/sup&gt;</th>
<th>6 DAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>24 h&lt;sup&gt;b&lt;/sup&gt;</td>
<td>48 h&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Untreated</td>
<td>---</td>
<td>0 c</td>
<td>0 c</td>
</tr>
<tr>
<td>Centric 40WG</td>
<td>0.05</td>
<td>13 ab</td>
<td>23 ab</td>
</tr>
<tr>
<td>Karate Z</td>
<td>0.03</td>
<td>3 bc</td>
<td>10 bc</td>
</tr>
<tr>
<td>Centric 40WG + Karate Z</td>
<td>0.05 + 0.03</td>
<td>20 a</td>
<td>28 a</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<sup>a</sup> DAT = days after treatment  
<sup>b</sup> 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).