Valent U.S.A. Corporation
Seed Treatments for Rice Water Weevil Control. Experiment I
Protocol # ST72.01
Beaumont, TX
2007

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 Mar 30
Experimental design: randomized complete block with 8 treatments and 4 replications
Plot size = 7 rows, 7 in. row spacing, 18 ft long with metal barriers
Emergence on Apr 16

Irrigation: Flushed blocks (temporary flood for 48 hours, then drain) on Mar 30; barriers pushed into mud after flush
Note: Plots were flushed as needed from emergence to permanent flood (PF)
PF on May 9 [23 days after emergence (DAE)]

Fertilization: All fertilizer (urea) was distributed by hand.
42.5 lb N/A (25% of 170) on Mar 30 at planting
59.5 lb N/A (35% of 170) on May 9 at PF
68.0 lb N/A (40% of 170) on May 23 at panicle differentiation
40 lb N/A on Jun 11 at late boot/heading
(Total season urea = 210 lb N/A)

Herbicide: Stam 80EDF @ 2.0 lb, Basagran @ 0.75 lb, Facet 75DF @ 0.25 lb and Ordram 8E @ 2.0 lb (AI)/A and Agri-Dex @ 1.0 pt/A with a 2-person hand-held spray boom (13-80015 nozzles, 50 mesh screens, 16 gpa final spray volume) on May 5 for early season weed control

Treatments: Treatments 3 – 8 were seed treatments provided by Valent
Treatment 2 (Karate Z) applied before flood (BF) with a hand-held CO2-pressurized spray boom on May 9 (3-800067 nozzles, 50 mesh screens, 20 psi, 24 gpa)

Sampling: Stand counts on all plots (2- 3 ft counts in rows 2 and 6 of each plot) on Apr 24
Rice water weevil (RWW) cores (5 cores per plot, each core 4 inch diameter, 4 inch deep containing at least one rice plant) were collected on May 31 (22 days after PF) and 11 days later, then washed through 40-mesh buckets and immature RWW counted.
Whitehead (WH) counts in rows 2, 3, 5, and 6 of each plot on Jul 18
Note: Prior to analysis RWW core and WH data transformed using $\sqrt{x + 0.5}$

Harvest: Harvested plots on Aug 10 (117 DAE)
Size harvested plot = 7 rows, 7 in. row spacing, 18 ft. long
Yields converted to lb/A and adjusted to 12% moisture
Note: All data analyzed using ANOVA and LSD
Discussion

No differences in root damage or tiller development were noted among treatments and/or rates in plants from cores taken May 31. Untreated plants had severely pruned and discolored roots as well as smaller diameter and less robust (~ 1/3 less) tillers than treated plants which had minimal root damage. Rice plant stands were not affected by any of the treatments (Table 1). All seed treatments (regardless of rate) gave outstanding control of RWW on both sample dates. Some stem borer damage was observed. Stem borer damage was caused by a combination of sugarcane borer and Mexican rice borer. Although treatments did not significantly reduce stem borer damage, all seed treatments resulted in numerically fewer WHs. Seed treatment yields were significantly higher than the untreated. The lowest seed treatment rate outyielded the untreated by 1453 lb/A.

Table 1. Evaluation of V-10170 seed treatments for rice water weevil (RWW) and stem borer control. Experiment I. Beaumont, TX. 2007.

<table>
<thead>
<tr>
<th>Trt. #</th>
<th>Descriptiona</th>
<th>Rate g AI/hkg seed</th>
<th>Standb plants/ft</th>
<th>No. immature RWW/5 cores</th>
<th>WHs/plotc</th>
<th>Yieldd lb/A</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Untreated</td>
<td>---</td>
<td>15</td>
<td>96 a</td>
<td>35 a</td>
<td>15</td>
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<tr>
<td>2</td>
<td>Karate Z</td>
<td>0.03 lb AI/A</td>
<td>18</td>
<td>1 b</td>
<td>3 b</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>V-10170</td>
<td>100</td>
<td>18</td>
<td>0 b</td>
<td>2 bc</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>V-10170</td>
<td>125</td>
<td>17</td>
<td>1 b</td>
<td>1 bc</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>V-10170</td>
<td>150</td>
<td>16</td>
<td>1 b</td>
<td>1 bc</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>V-10170</td>
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<td>18</td>
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<td>1 bc</td>
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<tr>
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</tbody>
</table>

*a Karate Z = foliar treatment; V-10170 = seed treatment.
*b based on no. of plants in 2, 3 ft of row samples/plot.
*c WHs = whiteheads in 4 middle rows of each plot.
*d Yield data taken from reps I-III because rep IV experienced urea drift from an adjacent rice field.

Means in a column followed by the same or no letter are not significantly different (NS, $P > 0.05$, ANOVA and LSD).