Syngenta Crop Protection, Inc.
Seed Treatments for Rice Water Weevil Control
Protocol # UTH380A4-2007US
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 Apr 24
Experimental design: randomized complete block with 7 treatments and 4 replications
Plot size = 7 rows, 7 in. row spacing, 18 ft long with metal barriers
Emergence on May 2

Irrigation: Flushed blocks (temporary flood for 48 hours, then drain) on Apr 24; barriers pushed into mud after flush
Note: Plots were flushed as needed from emergence to permanent flood (PF)
PF on May 25 [23 days after emergence (DAE)]

Fertilization: All fertilizer (urea) was distributed by hand.
56.7 lb N/A (1/3 of 170) on Apr 24 at planting
56.7 lb N/A (1/3 of 170) on May 25 at PF
56.7 lb N/A (1/3 of 170) on Jun 11 at 2 weeks after PF
40 lb N/A on Jun 27 at late boot/heading
(Total season nitrogen = 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, 21 gpa final spray volume) on May 11 for early season weed control

Treatments: All treatments were seed treatments provided by Syngenta

Sampling: Stand counts (2- 3 ft counts in rows 2 and 6 of each plot) on May 8
Rice water weevil (RWW) cores (5 cores per plot, each core 4 inches diameter, 4 inches deep containing at least one rice plant) collected on Jun 15 (21 days after PF) and 12 days later; cores were later washed through 40-mesh screen buckets and immature RWW counted.
Whitehead (WH) counts on rows 2, 3, 5 and 6 on Aug 1
Collected WHs for dissection—2 Mexican rice borer found, not all WH result of borers. Note: Prior to analysis, RWW core and WH data transformed using $\sqrt{x + 0.5}$

Harvest: Harvested plots on Aug 15 (105 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 phytotoxicity was observed in any treatments. Although rice plant stands were significantly different among selected treatments, differences were too small to draw reliable conclusions (Table 1). Basically, none of the seed treatments reduced stand and stands in all treatments were good. On the first sample date, all Syngenta seed treatments performed as well as the standard Icon 6.2FS treatment. Untreated populations were well above the economic injury level of about 15 immature RWW/5 cores. On the second sample date, the A15977 treatment provided best control. Stem borer damage was minimal so treatment efficacy could not be assessed. Yields were high but not significantly different among treatments which was unexpected due to high RWW populations. However, average yields of Syngenta seed treatments were 400 lb/A more than the untreated.
Table 1. Evaluation of Syngenta seed treatments for rice water weevil (RWW) control. Beaumont, TX. 2007.

<table>
<thead>
<tr>
<th>Trt. #</th>
<th>Description</th>
<th>Rate g AI/kg seed</th>
<th>Timing</th>
<th>No. plants/ft of row</th>
<th>No. immature RWW/5 cores</th>
<th>Yield 10 A</th>
<th>No. WHs</th>
<th>NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Untreated</td>
<td>---</td>
<td>---</td>
<td>17.6 c</td>
<td>52 a</td>
<td>2</td>
<td>9314</td>
<td>NS</td>
</tr>
<tr>
<td>2</td>
<td>Cruiser 5FS</td>
<td>80</td>
<td>ST</td>
<td>18.2 c</td>
<td>5 b</td>
<td>10 b</td>
<td>9674</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>A15975</td>
<td>95</td>
<td>ST</td>
<td>18.4 bc</td>
<td>6 b</td>
<td>6 b</td>
<td>9838</td>
<td>NS</td>
</tr>
<tr>
<td>4</td>
<td>A15976</td>
<td>115</td>
<td>ST</td>
<td>20.2 a</td>
<td>3 b</td>
<td>5 bc</td>
<td>9560</td>
<td>NS</td>
</tr>
<tr>
<td>5</td>
<td>A19977</td>
<td>135</td>
<td>ST</td>
<td>17.6 c</td>
<td>2 b</td>
<td>2 c</td>
<td>9658</td>
<td>NS</td>
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<tr>
<td>6</td>
<td>Avicta 4.17FS + Cruiser 5FS</td>
<td>25 + 40</td>
<td>ST</td>
<td>20.0 ab</td>
<td>4 b</td>
<td>2 bc</td>
<td>9856</td>
<td>NS</td>
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<tr>
<td>7</td>
<td>Icon 6.2FS</td>
<td>42</td>
<td>ST</td>
<td>20.4 a</td>
<td>7 b</td>
<td>9 b</td>
<td>9606</td>
<td>NS</td>
</tr>
</tbody>
</table>

**a**ST = seed treatment.  
**b**based on no. of plants in 2, 3 ft of row samples/plot.  
**c**WHs = whiteheads.  
Means in a column followed by the same or no letter are not significantly different (NS, P > 0.05, ANOVA and LSD).