Timing of Prolex for Rice Water Weevil Control
Beaumont, TX
2005

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 5
Plot size = 7 rows, 7 in. row spacing, 18 ft long with metal barriers around plots
Emergence on Apr 20

Irrigation: Flushed blocks (temporary flood for 48 hours, then drain) on Apr 6
Note: Plots were flushed as needed from emergence to permanent flood
Permanent flood on May 11

Fertilization: 56.7 lb N/acre (⅓ of 170) on Apr 6 at planting
56.7 lb N/acre (⅓ of 170) on May 11 at permanent flood
56.7 lb N/acre (⅓ of 170) on May 25 at panicle differentiation
40 lb N/acre on Jun 14 at late boot/heading
(Total season N/acre = 210 lb N/acre)

Herbicide: 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 May 10 for early season weed control

Treatments: All treatments applied with a hand-held CO2-pressurized spray boom
(3-800067 nozzles, 50 mesh screens, 26 gpa)
Treatments were applied as follows:
   Preemergence (PRE) on Apr 6 (soil was dry)
   At emergence on Apr 20 (soil was moist)
   7 and 14 days after emergence (DAE) on Apr 27 and May 4 (soil was moist)
   Immediately before flood (BF) on May 11 (soil was dry)
   3 and 10 days after flood (DAF) on May 14 and 21

Sampling: Rice water weevil (RWW) cores (5 cores per plot, each core 4 in. diameter, 4 in. deep, containing at least one rice plant) were collected on Jun 1 and 13, washed through 40-mesh screen buckets and immature RWW counted.
Note: Prior to analysis RWW core data transformed using $\sqrt{x + 0.5}$

Harvest: Harvested plots on Aug 14
Size harvested plot = 7 rows, 7 in. row spacing, 18 ft long
Yields converted to lb/acre adjusted to 12% moisture
Note: All data analyzed using ANOVA and LSD

Discussion

Immature rice water weevil (RWW) populations in untreated plots far exceeded the economic injury level (15 larvae per 5 cores) on both sample dates (Table 1). All timings of Prolex significantly reduced immature RWW populations on both sample dates. Prolex applied BF and 3 DAF provided excellent control of immature RWW. Treatments applied from PRE through 14 DAE provided good control but populations were on the rise by the second sample date (Table 1). Prolex applied earlier than a week before permanent flood may not adequately control immature RWW. Prolex applied 10 DAF, although not as effective on the first sample date, produced a marked decline in immature RWW by the second sample date on Jun 13.

Controlling immature RWW populations generally provided a favorable yield response in this experiment. The three timings which provided the best control (BF, 3 DAF and 10 DAF) yielded an average 762 lb/acre higher than the untreated (Table 1). Application of Prolex early in the season (PRE and E) did not result in a significant increase in yield over the untreated. Comparison of yield and RWW data from 7 and 14 DAE with the BF and DAF timings are somewhat unclear and may be partially due to bird damage and/or experimental error.

Table 1. Timing of Prolex [applied at 0.01625 lb (AI)/acre] for rice water weevil (RWW) control. Beaumont, TX. 2005

<table>
<thead>
<tr>
<th>Timing</th>
<th>No. immature RWW/5 cores</th>
<th>Yield (lb/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jun 1</td>
<td>Jun 13</td>
</tr>
<tr>
<td>Untreated</td>
<td>139 a</td>
<td>101 a</td>
</tr>
<tr>
<td>PRE</td>
<td>17 c</td>
<td>28 b</td>
</tr>
<tr>
<td>E</td>
<td>17 c</td>
<td>21 b</td>
</tr>
<tr>
<td>7 DAE</td>
<td>24 bc</td>
<td>31 b</td>
</tr>
<tr>
<td>14 DAE</td>
<td>12 c</td>
<td>27 b</td>
</tr>
<tr>
<td>BF</td>
<td>0 d</td>
<td>5 c</td>
</tr>
<tr>
<td>3 DAF</td>
<td>2 d</td>
<td>2 c</td>
</tr>
<tr>
<td>10 DAF</td>
<td>39 b</td>
<td>7 c</td>
</tr>
</tbody>
</table>

\[a\] PRE = preemergence
\[b\] E = at emergence
\[c\] DAE = days after emergence
\[d\] BF = immediately before flood
\[e\] DAF = days after flood

Means in a column followed by the same letter are not significantly different at the 5% level (ANOVA, LSD).