Effect of Conventional Tillage and Stale Seedbed on Rice Water Weevil Control
Eagle Lake, TX
2005

Agronomic and Cultural Information

Land preparation:  
Stale seedbed (SSB) area last disked on Jan 25  
Conventional tillage (CONV) area disked, worked with a rotterra and leveled with a harrow just prior to planting

Planting date:  
Cocodrie drill-seeded into Nada soil (CONV and SSB) @ 90 lb/acre on Mar 24  
Plot size = 10 rows, 7.5 in. row spacing, 16 ft long  
Experimental design: split plot with 4 replications; main plot = tillage (CONV or SSB); sub plot = rice water weevil (RWW) treatment (Icon 6.2FS, Karate Z or untreated)  
Barriers erected around the 6 middle rows of Karate Z plots to prevent interplot movement of insecticide when applied

Herbicide:  
Cyclone @ 0.75 lb (AI)/acre on Mar 18  
Command @ 0.3 lb (AI)/acre and Roundup @ 1.0 lb (AI)/acre on Mar 25  
Clincher @ 0.28 lb (AI)/acre, Permit @ 0.06 lb (AI)/acre, Facet @ 0.25 lb (AI)/acre and COC on May 13

Fertilizer:  
45-45-45 lb (N-P$_2$O$_5$-K$_2$O)/acre on Apr 7  
70 lb N/acre (urea) on May 19  
70 lb N/acre (ammonium sulfate) on Jun 2

RWW treatments:  
Icon 6.2FS: seed treatment applied (using the "LeSak" method) @ 0.0375 lb (AI)/acre on Mar 19  
Karate Z: foliar spray applied @ 0.03 lb (AI)/acre immediately before permanent flood with a hand-held CO$_2$-pressurized spray boom (3-800067 nozzles, 50 mesh screens, 25 psi, 26 gpa final spray volume)

RWW sampling:  
All cores collected from the middle 6 rows of each plot  
Five cores/plot were collected on Jun 8 and Jun 17 (each core 4 in. diameter, 4 in. deep, containing at least one rice plant). Core samples were stored in a cold-room and later washed through 40 mesh screen buckets and immature RWW counted.  
Prior to analysis RWW counts were transformed using $\sqrt{x + 0.5}$.

Harvest:  
Harvested on Aug 4  
Size harvested plot = 6 middle rows, 7.5 in row spacing, 16 ft long  
Yield converted to lb/acre adjusted to 12% moisture  
All data analyzed using ANOVA and LSD.
**Effect of Conventional Tillage and Stale Seedbed on Rice Water Weevil Control.**
Eagle Lake, TX. 2005

**Discussion**

Utilizing a stale seedbed (SSB) as opposed to a conventionally tilled seedbed (CONV) may have an effect on rice water weevil (RWW) larval infestations in rice. This experiment was designed to compare RWW larval populations and yield in these two types of tillages. Due to a sampling error, data from untreated plots in the CONV area were lost. Statistical comparisons could not be made so these data are not presented. However, plots treated with Karate Z in the CONV area out-yielded Karate Z-treated plots in the SSB by 700 lb/acre. RWW control (with both Icon 6.2FS and Karate Z) was similar in both tillage areas so insecticide efficacy was not affected by tillage practice. Yield differences of treated plots are probably due to the crop's response to soil conditions (SSB or CONV). Comparison of larval populations in untreated plots of SSB and CONV could not be made.

Data from SSB plots were analyzed separately as a randomized complete block (Table 1). Treated rice (Icon 6.2FS and Karate Z) out-yielded untreated rice only by an average 253 lb/acre and the data were not statistically different. Both insecticides showed good control of immature RWW in a SSB. This experiment will be repeated at the Eagle Lake research site in 2006.

**Table 1. Effect of stale seedbed on rice water weevil (RWW) control. Eagle Lake, TX. 2005**

<table>
<thead>
<tr>
<th>Tillage</th>
<th>Treatment</th>
<th>Rate [lb (AI)/acre]</th>
<th>No. immature RWW/5 cores</th>
<th>Yield (lb/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stale seedbed</td>
<td>Icon 6.2FS</td>
<td>0.0375</td>
<td>6 b</td>
<td>2 b</td>
</tr>
<tr>
<td></td>
<td>Karate Z</td>
<td>0.03</td>
<td>6 b</td>
<td>5 b</td>
</tr>
<tr>
<td></td>
<td>Untreated</td>
<td>---</td>
<td>39 a</td>
<td>24 a</td>
</tr>
</tbody>
</table>

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

**Note:** Jun 17 immature RWW/5 cores are significant at the 10% level. Data for conventional tillage are not available due to sampling error.