Syngenta Seed Treatment Insecticides for Corn (Cruiser)
Evaluate Cruiser for control of grub species, stink bugs, sugarcane borer, and aphids in corn
Beaumont, TX
2005

Agronomic and Cultural Information

Land preparation: Disked on Mar 17 and Mar 21
Bedded into rows (30 in. row width) on Mar 21

Planting: Planted test into Morey silt loam (Corn variety = Pioneer 3223) on Apr 28
Plot size = 4 rows, 30 in. row spacing, trimmed to 18 ft with 4 replications in a randomized complete block
Emergence on May 7

Herbicide: Applied AAtrex 4L @ 2.4 pt/acre and Dual II Magnum @ 1.5 pt/acre (PRE) with a hand-held 2-nozzle spray boom (110-04 nozzles) at 25 gpa on Apr 29

Fertilizer: Applied 150-50-50 lb/acre (N-P₂O₅-K₂O) by hand on Jun 7 and incorporated with cultivator

Cultivation: Cultivated on Jun 7

Treatments: Seed treatments are under confidentiality with Syngenta.
Treatment 1 is untreated
Treatments 2-10 are seed treatments with the following additions:
Treatment 7 (STP15281) applied to seed in envelope just prior to planting
Treatments 8, 9 and 10 applied into seed furrow at planting

Sampling: The following data were collected from the 2 middle rows of each plot:
1. Stand counts (no. plants in 2 rows, 36 ft of row) on May 18
2. Thrips damage (% of 10 random plants with damage) on May 18 and Jun 7
3. Whorl damage (mainly corn earworm, % of plants with damage in the 2 middle rows, 36 ft of row) on Jun 7 and Jul 19
4. Chinch bug (no. adults and nymphs on 6 random plants) on Jul 19

Note: Prior to analysis, thrips and whorl damage data (%) subjected to angular transformation to degrees

Harvest: Hand-harvested 2 middle rows of each plot on Sep 2
Size harvested plot = 2 rows, 30 in. row width, 18 ft long

Note: Yield converted to bu/acre at 12% moisture and all data analyzed using ANOVA and LSD
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Discussion

The corn planting and additional treatment applications (seed box and in-furrow) went smoothly and a uniform plant stand was established across the entire test (mean 2.5 plants per foot of row). Eleven days after emergence (May 18), corn was inspected for thrips damage. All treatments (2-10) showed statistically less damage than the untreated. Treatments 3 and 5, which included the high rate of Cruiser 5FS [1.125 lb (Al)/acre], showed the best control of thrips activity (Table 1). Treatments 6, 9 and 10 (STP15199, STP15201 and Force 3G) also were noteworthy. Plots again were inspected on Jun 7 for thrips damage but plants generally outgrew early season damage.

Plots were inspected for whorl damage (mainly corn earworm) on Jun 7 and Jul 19. On Jun 7 (1 month after emergence), whorl damage was generally uniform throughout the test area. On Jul 19, corn in untreated plots showed the highest level of whorl damage but it is difficult to draw any conclusions concerning differences among the seed treatments (Table 1). Chinch bugs also were noted on Jul 19 and counts were taken from 6 random plants in each plot. Interestingly, Treatments 3 and 5 (with the high rate of Cruiser 5FS), had the least number of chinch bugs.

There were no statistical differences in yield among treatments. The insects and damage investigated generally were encountered during the first half of the growing season and plots yielded uniformly across the test.

Table 1. Syngenta corn seed treatments (Cruiser). Bmt., TX. 2005

<table>
<thead>
<tr>
<th>Trt. no.</th>
<th>Thrips damagea (%)</th>
<th>Whorl damageb (%)</th>
<th>Chinch bugs c/plant</th>
<th>Yield (bu/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 18</td>
<td>Jun 7</td>
<td>Jun 7</td>
<td>Jul 19</td>
</tr>
<tr>
<td>1</td>
<td>93 a</td>
<td>50</td>
<td>27</td>
<td>20 a</td>
</tr>
<tr>
<td>2</td>
<td>50 c</td>
<td>25</td>
<td>21</td>
<td>13 b</td>
</tr>
<tr>
<td>3</td>
<td>5 g</td>
<td>15</td>
<td>41</td>
<td>5 e</td>
</tr>
<tr>
<td>4</td>
<td>33 de</td>
<td>30</td>
<td>23</td>
<td>10 bc</td>
</tr>
<tr>
<td>5</td>
<td>8 g</td>
<td>20</td>
<td>35</td>
<td>10 bc</td>
</tr>
<tr>
<td>6</td>
<td>20 fg</td>
<td>45</td>
<td>30</td>
<td>8 c</td>
</tr>
<tr>
<td>7</td>
<td>80 b</td>
<td>25</td>
<td>18</td>
<td>11 c</td>
</tr>
<tr>
<td>8</td>
<td>40 cd</td>
<td>20</td>
<td>16</td>
<td>8 cd</td>
</tr>
<tr>
<td>9</td>
<td>30 def</td>
<td>25</td>
<td>16</td>
<td>6 de</td>
</tr>
<tr>
<td>10</td>
<td>23 ef</td>
<td>45</td>
<td>18</td>
<td>5 e</td>
</tr>
</tbody>
</table>

a Percent of 10 random plants from the 2 middle rows with thrips damage
b Percent of 10 random plants from the 2 middle rows with whorl damage
c (Adults + nymphs) from 5 random plants in the 2 middle rows of each plot
Means in a column followed by the same or no letter are not significantly different at the 5% level (ANOVA, LSD).