Effect of Gaucho (Imidacloprid) Seed Treatment on Corn Yield

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Objective

To evaluate the effect of Gaucho seed treatment on corn yield.

Background

Cooperator: Tom Weiler
Fertilizer: 170 lb/A N, 27 lb/A P_2O_5, 125 lb/A K_2O
County: Morrow
Herbicide: PRE: 1.5 pt/A Dual II
Nearest town: Chesterville
Magnum, 2 lb/A Atrazine,
Drainage: Naturally well-drained
Soil type: Chili loam
2 oz/A Balance Pro
Tillage: Conventional
POST: 4 oz/A Distinct
Previous Crop: Soybeans
Row Width: 30-inch
Variety: See below
Planting Date: May 16
Soil Test: pH 6.3, P 36 ppm, K 159 ppm
Planting Rate: 30,100 seeds/A
Harvest Date: October 22

Methods

Gaucho treated seeds from each corn hybrid, Vigoro V5110 and Golden Harvest 8770, were compared with untreated seeds of the same hybrid. A split-planter design was used. Each treatment strip was six-rows wide and 500 feet long (0.17 A), replicated six times. The entire area was harvested and weighed with a weigh wagon.

Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Hybrid</th>
<th>Yield (bu/A)</th>
<th>Yield (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaucho</td>
<td>Vigoro V5110</td>
<td>49.0 b</td>
<td></td>
</tr>
<tr>
<td>No Gaucho</td>
<td>Vigoro V5110</td>
<td>53.2 a</td>
<td></td>
</tr>
<tr>
<td>Gaucho</td>
<td>Golden Harvest 8770</td>
<td>62.0 b</td>
<td></td>
</tr>
<tr>
<td>No Gaucho</td>
<td>Golden Harvest 8770</td>
<td>75.8 a</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>LSD (0.05)</th>
<th>F-test</th>
<th>LSD (0.05)</th>
<th>F-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.8</td>
<td>9.4</td>
<td>11.5</td>
<td>11.0</td>
</tr>
</tbody>
</table>

* Means in same column followed by the same letter are not significantly different.
Summary

While monitoring the plots throughout the spring and summer, it was observed that the Gaucho-treated rows appeared greener and healthier compared to the untreated rows. When the plots were harvested on October 22, yields in the Gaucho-treated plots were significantly lower than the untreated plots (Table 1). Due to droughty conditions, the 2002 crop year may not have been a very good growing season to evaluate the use of seed treatments. We will try to evaluate the use of Gaucho-treated seed corn in the future when more normal growing conditions prevail.

Acknowledgment

The author would like to thank Royster Clark and Golden Harvest for providing the seed used in the study. A special thanks is extended to the cooperator, Tom Weiler.

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