Seeding Rates for Roundup Ready Soybeans

Steve D. Ruhl, Agriculture and Natural Resources Extension Agent
Ed Lentz, Extension Agronomy Specialist

Objective

To evaluate the effect of seeding rate on yield of Roundup Ready Soybeans.

Background

Cooperator: Tom Weiler
Fertilizer: None
County: Morrow
Herbicide: Valor 1.25 oz/A
Nearest Town: Chesterville
PRE: Roundup Ultra Max 26 oz/A
Drainage: Systematically tiled
POST: Roundup Ultra Max 26 oz/A
Soil type: Sleeth silt loam
Planting Date: May 22
Tillage: Conventional
Row Width: 10-inch
Previous Crop: Corn
Harvest Date: October 11
Variety: Pioneer 93B72RR
Soil Test: pH 7.0, P 23 ppm, K 154 ppm

Methods

Three seeding rates were used to determine the effect of seeding rate on yields. They were 120,000, 162,500, and 227,500 seeds per acre. The seed had a germination percentage of 90%. The treatments were replicated four times in a randomized complete block design. Plot size was approximately 4/10 acre. The soybeans were planted in 30-foot wide strips, and a 20-foot wide strip was harvested and weighed using a weigh wagon. Harvest population was calculated by counting plants in 1/1000 of one acre in each plot.

Results

Table 1. Harvest Population and Soybean Yield.

<table>
<thead>
<tr>
<th>Planted Population (seeds/A)</th>
<th>Harvest Population (plants/A)</th>
<th>Yield (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>120,000</td>
<td>92,000 a</td>
<td>54.4 a</td>
</tr>
<tr>
<td>162,500</td>
<td>120,000 b</td>
<td>57.2 a</td>
</tr>
<tr>
<td>227,500</td>
<td>171,000 c</td>
<td>56.0 a</td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td>17,329</td>
<td>NS</td>
</tr>
<tr>
<td>F-test</td>
<td>46.7</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Means followed by the same letter in the same column are not significantly different. NS = Not Significant
Summary

For 2002 the seeding rates did not have a significant effect on yields in this study. Similar results were found the previous year on the same farm with a different variety (Pioneer 93B01RR). The results support other studies indicating soybeans will compensate for thinner stands. The moisture levels were nearly uniform across the plots. They tested in a narrow range of 11.6% to 11.8%. Thus, yields reported were not adjusted to a standard moisture level.

Acknowledgments

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For additional information, contact:    Steve Ruhl
The Ohio State University
ruhl.1@osu.edu