Soybean Yield Response to Insecticide Seed Treatment

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Objective
To determine the response of soybean yield to insecticide seed treatment

Background
Crop Year: 2017
Location: Defiance, Ohio
County: Defiance County
Soil Type: Roselms loam, Paulding clay
Drainage: Surface & Random Subsurface
Previous Crop: Soybean
Tillage: No till
Planting Date: June 6, 2017
Seeding Rate: 165,000 seeds/A
Harvest Date: September 6, 2017

Methods
A soybean trial was established to evaluate the soybean yield response to insecticide seed treatment compared to soybean yield without insecticide seed treatment (control). The design was a split plot with two treatments and five replications. Plots were 120 feet wide by approximately 1,000 feet field length. Soybean seed treatment was commercially applied to the same seed lot number for both the treatment plots and the control plots. All seed was treated with a fungicide seed treatment (active ingredient urea phosphite) but only the treatment plots received the additional insecticide seed treatment (active ingredient imidacloprid) at the rate of .05 oz per 100 pounds of seed. Soybeans were planted with a twin row planter that has 8 inch spaced twin rows on 30 inch center spacing. All plots received the same nutrient and weed control practices. Plots were harvested with a commercial combine with the yield record taken from the entire 120 foot width and length of each plot. Yield was determined by a calibrated yield monitor with yield adjusted to 13% moisture. Data were analyzed using ANOVA and means separated using LSD at $\alpha=0.05$.

Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insecticide Seed Treatment</td>
<td>37.2 A</td>
</tr>
<tr>
<td>Control</td>
<td>36.0 A</td>
</tr>
</tbody>
</table>

Yields with the same letter are not significantly different

\[
\text{LSD (0.05)} = 1.7 \\
\text{C.V.} = 2.58
\]

Summary
There was no significant different in soybean yield between the insecticide seed treatment and the control. During 2017, no early season insect pressure (such as seed maggot, wireworm, or
bean leaf beetle) was observed. Additionally, no early or late season soybean aphids were detected.

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