Soybean Fungicide and Inoculant Evaluation
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Objective
To evaluate the effectiveness of Apron/Rival fungicide seed treatment and three soybean inoculants.

Background
Cooperator: Defiance Ag Research
Herbicide: PRE: Canopy XL (3.8 oz/A), Lexone DF (4.0 oz/A),
Nearest Town: Ney            Lexone DF (4.0 oz/A), 2,4-D LV4 (0.75 pt/A),
Soil Type: Roselm silty clay  AMS, COC, Citric acid
           Paulding clay
Drainage: Surface            POST: Select (5 oz/A), 28% N, COC
Tillage: No-till             Variety: DeKalb 289
Previous Crop: Corn          Seed Trt.: Apron XL (0.25 oz/bu)
Planting Date: May 20, 1998  Rival (2.4 oz/bu)
Planting Rate: 182,400 seeds/A Hi-Stick (1.75 oz/bu)
Row Width: 7.5 inches        Hi-Stick NT (1.75 oz/bu)
                          RhizoStick (0.2 lb/bu)

Methods
A three-year study (1998-2000) was initiated to compare one fungicide treatment against no fungicide treatment for control of early-season seedling blights such as Phytophthora and Rhizoctonia. The fungicide study included a comparison of three soybean inoculants. Experimental design was a split plot experiment. Fungicide treatments were randomly applied to whole plots with four replications, and inoculant treatments were randomly applied to the split plots resulting in eight replications of inoculum levels. Split plots were 30 ft. by 660 ft. in size.

All fungicide treatments were commercially applied at a local co-op. All inoculant treatments were applied in the field in the drill seed box just prior to planting and after all no-inoculant treatments were drilled. The seed box was vacuumed following each treatment to eliminate residual inoculant between treatments.

Plots were harvested on October 1, 1998, with a JD 9600 combine with an Ag Leader 3000 yield monitor equipped with a Global Positioning System. Harvest data were collected from the center 25 feet of each subplot. The yield monitor was calibrated, and scale weights were used to verify accuracy.
Results

Table 1. Soybean Fungicide Yield Data.

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Yield (bu/A)</th>
<th>Treatment Cost ($/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apron/Rival Fungicide</td>
<td>62.1</td>
<td>4.05</td>
</tr>
<tr>
<td>No Fungicide</td>
<td>61.9</td>
<td></td>
</tr>
</tbody>
</table>

F = 0.01 No significant differences between treatment means at P = 0.05 CV = 4.3%

Table 2. Soybean Inoculant Yield Data.

<table>
<thead>
<tr>
<th>Inoculant</th>
<th>Yield (bu/A)</th>
<th>Treatment Cost ($/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiStick NT</td>
<td>62.9</td>
<td>4.32</td>
</tr>
<tr>
<td>HiStick</td>
<td>62.2</td>
<td>2.65</td>
</tr>
<tr>
<td>RhizoStick</td>
<td>60.3</td>
<td>2.13</td>
</tr>
<tr>
<td>No Inoculant</td>
<td>62.4</td>
<td></td>
</tr>
</tbody>
</table>

F = 0.52 No significant differences among treatment means at P = 0.05 CV = 7.1%

Analysis of variance was conducted by SAS PROC MIXED which detected no significant differences between the fungicide treatment levels and among the inoculant treatments at a probability level of P = 0.05. There were also no significant interaction effects on yield due to fungicide and inoculant combinations.

Summary and Notes

The spring of 1998 was relatively dry following the planting date in this study. Therefore, early season blight pressure was not heavy. Yields did not significantly respond to the protection of the fungicide. The 1998 growing season came with timely rainfall during both vegetative and reproductive stages of development. Yields did not significantly respond to the additional soybean inoculants. These results are the first of three years of data that will be collected.

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