Effect of Quilt XL Applied at R2 or R4 on Soybean Grain Yield

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Objective

To evaluate yield response of soybeans to Quilt XL (Azoxystrobin & Propiconazole) fungicide applied at soybean growth stages late R2 or R4.

Background

Crop Year: 2014
Location: OSU Unger Farm
County/Town: Crawford
Soil Type: Blount/Pewamo
Drainage: Systematic
Previous Crop: Corn
Tillage: No – tillage
Soil Test: pH 6.5, P 63 ppm, K 197 ppm

Soybean Planting Date: May 11, 2014
Soybean Variety: NK-S29-V2 CMV+C (twin)
Herbicide: 3.5 oz Canopy, 1 quart glyphosate
Post: 1 quart glyphosate
Treatment Date: July 17, 2014 or August 1, 2014
Soybean Seeding Rate: 160,000 seeds/acre-twins
168,000 Seeds/acre (10 inch)
Date of Harvest: October 2, 2014
Rainfall: 12.5 inches (from 5/11-9/1)

Methods

Trial A (Twins): Soybean cultivar NK S29-V2 with SCN resistance source PI88788 was planted at a rate of 160,000 seeds per acre on May 11th with a Great Plains YP 425A twin row (rows 8 inches apart with a 22 in skip) precision planter.

Trial B (10 inch): Soybean cultivar Pioneer P93Y05 also containing SCN resistance PI88788 was planted at a rate of 168,000 seeds per acre on May 10th with a Great Plains 2010P 10 inch precision drill.

All treatments received the following burndown and pre-emergent herbicides on May 1: Canopy at a rate of 3.5 oz/acre with 1 quart/acre glyphosate. Post emergence weed control was accomplished with one application of 1 quart of glyphosate/acre, applied on July 2. Treatments were Quilt XL (azoxystrobin and propiconazole) at 10.5 ounces/A applied at R2/R3, Quilt XL at 10.5 ounces/A applied at R4, and a control. The R2/R3 treatments were applied on July 17, with 20% of the leaf area affected by Septoria Brown Spot on the bottom half of the plant; upper canopy contained less than 1% Frogeye Leaf Spot; and leaf feeding injury was below 3% most likely from grasshoppers, Japanese beetles and corn rootworm beetles. R4 applications were made on August 1. Leaves with Septoria brown spot in the lower canopy had fallen off. Frogeye Leaf Spot was still less than 1% with none on the top two trifoliate leaves affected; feeding injury from insects was approximately 4 percent; from grasshoppers, bean leaf beetles, and green stink bugs.

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This study was arranged in a randomized complete block design replicated four times. Each plot was 10 feet wide and 45 feet long. Plots were trimmed to 40 feet in length. Plots were harvested on October 2nd using a Kincaid 8 XP small plot combine harvesting, seven and a half feet of the plot and the entire 40 foot length.

**Treatments**

1) Quilt XL applied on July 16th R2/R3  
2) Quilt XL applied on August 1st R4  
3) Non treated Control

**Results**

Table 1. Trial A (Twin row soybeans): Soybean yield adjusted to 13.5 % moisture

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean yield (Bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quilt XL @ R2/R3</td>
<td>68.4</td>
</tr>
<tr>
<td>Quilt XL @ R4</td>
<td>68.3</td>
</tr>
<tr>
<td>Control</td>
<td>67.7</td>
</tr>
</tbody>
</table>

P>F=0.951, NS;  STD=4.31; CV=6.32

Table 1. Trial B (10 inch soybeans): Soybean yield adjusted to 13.5 % moisture content

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean yield (Bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quilt XL @ R2/R3</td>
<td>71.5</td>
</tr>
<tr>
<td>Quilt XL @ R4</td>
<td>71.2</td>
</tr>
<tr>
<td>Control</td>
<td>71.1</td>
</tr>
</tbody>
</table>

P>F=0.97, NS;  STD=2.66; CV=3.73

**Summary**

There were no significant differences observed in yield.

**Acknowledgement**

The authors express appreciation to Chuck Smith for his cooperation and aid in the planting and harvest of this trial. Also to the OSU soybean performance team for harvesting the trials.

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