The Effect of Relative Maturity on Soybeans Grown in a Modified Relay Intercropping System

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Objective
To evaluate yield response of Modified Relay Intercrop (MRI) soybeans over 3 relative maturity soybean varieties.

Background

Crop Year: 2014
Location: OARDC South Charleston
County/Town: Clark
Soil Type: Kokomo/Stawn-Crosby
Drainage: Systematic
Previous Crop: Soybeans
Tillage: No – tillage
Soil Test: pH 6.5, P (M3) 48 ppm, K 152 ppm
SCN # in area of plots: 60 eggs per 100cc
Row width: 15 inches
Fertilizer: (wheat & beans) 90-0-0
Wheat planting date: 10-1-13
Wheat Variety: Pioneer 25R39
Wheat Seeding Rate: 1 million sds/acre
MRI Soybean Planting Date: May 28, 2013
Soybean Varieties: See below
MRI Seeding Rate: 225,000 seeds/acre
Wheat harvest date: July 10, 2014
Date of MRI Soybean harvest: Oct. 28
Rainfall: 8.9 inches (from 6/1-9/1)

Methods
Pioneer 29R37 soft red winter wheat was planted Oct. 1, 2013 in 15 inch rows at a rate of 1.0 million seeds per acre. Soybeans were interseeded into standing wheat with 15 inch row spacing on May 28 with a Great Plains units custom interseeder mounted on a 3 point hitch. Wheat was harvested on July10, 2014 with a Kincaid small plot combine with a 2 meter header.

This study used a completely randomized design with three treatments replicated four times to compare yield across relative maturity. A small plot combine was used to harvest soybean plots on Oct.28. Plot size averaged 80 inches by 40 feet.

   Treatment                     Relative maturity
   1) NK S39-U2                  3.9
   2) NK S34-U2                  3.4
   3) NK S29-V2                  2.9

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Results

Table 1. Moisture and Yield of Soybeans (Adjusted to 13.5% moisture)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Ave. Moisture</th>
<th>Ave. Yield (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK S39-U2</td>
<td>14.4</td>
<td>45.0</td>
</tr>
<tr>
<td>NK S34-U2</td>
<td>15.0</td>
<td>49.3</td>
</tr>
<tr>
<td>NK S29-V2</td>
<td>14.4</td>
<td>46.7</td>
</tr>
</tbody>
</table>

F=.47, Not Significant; P>F=.64, CV = 11.7, LSD= 11

Summary

There was a not a significant difference in yield among different maturity soybeans interseeded into wheat for this study conducted at OARDC South Charleston located in central Ohio.

Acknowledgement

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