Effect of Modify Relay Intercropping on Wheat Yield

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Objective
To evaluate yield response of Modified Relay Intercropping on wheat yield.

Background
Crop Year: 2011
Location: OSU Unger Farm
County/Town: Crawford
Soil Type: Blount
Drainage: Systematic
Previous Crop: soybeans
Tillage: No – tillage
Soil Test: pH 6.8, P 23 ppm, K 124 ppm
Wheat Planting Date: Sept. 30, 2010
Wheat Variety: Pioneer 25R56
Row width; 10 inches
Fertilizer: For wheat and soybeans, 107-81-75
Wheat Seeding Rate1.4 million seeds/acre
Wheat Harvest Date: July 6, 2011

Methods
Pioneer 25R56 soft red winter wheat was planted Sept. 30, 2010 in 10 inch rows with a Great Plains drill at a rate of 1.4 million seeds per acre. Soybeans were planted (intercropped) June 13, 2011 at a rate of 220,000 seeds per acre (Pioneer 93Y20) in 10 inch rows with the same drill used to plant wheat (minus coulter cart).

This study used a randomized complete block design with two treatments replicated 4 times to compare planting of soybeans into wheat versus wheat not interseeded over yield. A small plot combine was used to harvest plots on Nov. 18, 2011. Plot size was 5 by 45 feet.

Treatments
1) Interseeding of soybeans into headed wheat
2) Control – wheat not interseeded

Results (Spacing of Table)

Table 1. Moisture and Yield of MRI Soybeans in 25R56 Wheat

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Ave. Moisture</th>
<th>Ave. Yield (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI wheat</td>
<td>17.1</td>
<td>92.3</td>
</tr>
<tr>
<td>Control</td>
<td>17.1</td>
<td>90.3</td>
</tr>
<tr>
<td>LSD (P=0.05)</td>
<td></td>
<td>NS</td>
</tr>
<tr>
<td>CV(%)</td>
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<td>6.6</td>
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Summary
Modified Relay Intercropping (MRI) is the planting of soybeans into wheat that is headed out in late May or early June. MRI with soybeans into wheat is a practice where farm income may be improved over a wheat grain only crop. However, previous work has shown a yield decrease in wheat that has been interseeded. (http://ohioline.osu.edu/sc190/037.html). Therefore, to further test this observation, trials were established on June 12, 2011. There was not a significant difference in yield between wheat interseeded and wheat not interseeded in 2011.

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