Effect of Modify Relay Intercropping on Wheat Yield

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

Background
Crop Year: 2012
Location: OSU Unger Farm
County/Town: Crawford
Soil Type: Blount (Silt Loam)
Drainage: Systematic
Previous Crop: Soybeans
Tillage: No – tillage
Soil Test: pH 6.8, P 23 ppm, K 124 ppm
Wheat Planting Date: Oct. 17, 2011
Wheat Variety: Marion
Row width: 10 inches
Fertilizer: For wheat and soybeans, 99-46-60
Fall Fertilizer: 18-46-100
Spring Fertilizer: 81-0-0
Wheat Seeding Rate: 1.3 million seeds /acre
Wheat Harvest Date: June 26, 2012

Methods
Marion soft red winter wheat was planted Oct. 17, 2011 in 10 inch rows with a Great Plains drill (with coulter cart) at a rate of 1.3 million seeds per acre. Soybeans were planted (intercropped) May 30, 2012 at a rate of 220,000 seeds per acre (Pioneer 92M91) 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 the treatment wheat yield effect of interseeding of soybeans and a control (wheat not interseeded). A small plot combine was used to harvest plots on June 26, 2012. Plot size was 5 by 45 feet.

Treatments
1) Interseeding of soybeans into headed wheat – (MRI wheat )
2) Control – wheat not interseeded with soybean

Results

Table 1. Moisture and Yield of Wheat (adjusted to 13.5%)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Ave. Moisture (%)</th>
<th>Ave. Yield (bu/A)</th>
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<tbody>
<tr>
<td>MRI wheat</td>
<td>12.0</td>
<td>91.4</td>
</tr>
<tr>
<td>Control</td>
<td>11.9</td>
<td>97.9</td>
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F=6.0; Not significant (p>.05); CV = 3.4
Summary
There was not a significant difference in yield between wheat interseeded and wheat not interseeded in 2012 for this study conducted at OSU Unger Farm in north central Ohio where Modified Relay Intercropping (MRI) is practiced. This is consistent with previous work done in 2011 (http://agcrops.osu.edu/on-farm-research/research%20reports/2011/Wheat%20Yields%20MRI%20vrs%20noMRI%20soy%20FINAL.pdf).

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