Evaluation of USDA Soybean Inoculant in a Modified Relay Intercropping System

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Objective

To evaluate the effect of a new inoculate on soybean yield in a modified relay intercropping system.

Background

Cooperator: Dave Brewer
County: Crawford
Soil Type: Blount silt loam
Previous Crop: Soybeans
Tillage: No-till
Fertilizer: 21-75-75 N-P-K in fall
85 lb/A actual N in spring
Herbicides (W): 2,4-D (1.5 pt/A)
Herbicides (S): POST: Select (5 oz/A) Firstrate (0.3 oz/A)

Wheat Variety: Hopewell
Wheat Planting Date: October 1, 1999
Wheat Planting Rate: 120 lbs/A
Wheat Row Width: 10 inches
Wheat Harvest Date: July 5, 2000
Wheat Yield: 73 bu/A
Soybean Variety: Pioneer 9306
Soybean Planting Date: June 12, 2000
Soybean Planting Rate: 90 lbs/A
Soybean Row Width: 10 inches
Soybean Harvest Date: October 14, 2000

Methods

New soybean inoculants have been reported to give a positive yield response in conventional tillage soybeans. As such, USDA inoculate at the labeled rate was mixed well into soybean seed, and soybeans were immediately interseeded into wheat on 6/12/2000. Soils were moist at the time of planting.

A completely randomized design was used with four replications of two treatments USDA inoculate and untreated soybeans. Plot size per treatment was 0.138 acres. A 15-foot Great Plains 1500 drill was used to plant both the wheat and the soybeans in 10-inch rows. A 20-inch tramline was established in the wheat to facilitate soybean planting into wheat.
Results

Table 1. Soybean Inoculants.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield (bu/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>37.2</td>
</tr>
<tr>
<td>USDA Inoculate</td>
<td>37.1</td>
</tr>
</tbody>
</table>

Significance (P = 0.05)

| F <1, CV = 4.5% | NS           |

Summary and Notes

There were no significant yield differences between the soybeans inoculated with USDA inoculate and soybeans without inoculate in the modified relay intercropping system.

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