

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 Rate 1.4 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

| Treatment | Ave. Moisture | Ave. Yield (bu/A) |
|--------------|---------------|-------------------|
| MRI wheat | 17.1 | 92.3 |
| Control | 17.1 | 90.3 |
| LSD (P=0.05) | | NS |
| CV(%) | | 6.6 |

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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