

Effect of Modified Relay Intercropping on Wheat Yield Grown in 15 inch Rows

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Objective

To evaluate yield response of Modified Relay Intercrop soybeans on wheat yield.

Background

Crop Year: 2014	Fertilizer: (wheat & beans) 90-0-0
Location: OARDC South Charleston	Wheat Planting Date: 10-1-13
County/Town: Clark	Wheat Variety: Pioneer 25R39
Soil Type: Crosby	Wheat Seeding Rate: 1 million sds/acre
Drainage: Systematic	MRI Soybean Planting Date: May 28, 2013
Previous Crop: Soybeans	Soybean Variety: NK S 2.9
Tillage: No – tillage	MRI Seeding Rate: 225,000 seeds/acre
Soil Test: pH 6.5, P 48 (M3) ppm, K 152 ppm	Herbicide: Post 1 quart Glyphosate (7/22)
SCN # in area of plots: 60 eggs per 100cc	Wheat harvest date: July 10, 2014
Row width: 15 inches	Date of MRI Soybean harvest: Oct. 28
	Rain fall: 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 July 10, 2014 with a Kincaid small plot combine with a 5 foot header.

This study used a completely randomized design with two treatments replicated 3 times to compare planting of soybeans into wheat versus wheat not interseeded over yield. A small plot combine was used to harvest wheat plots on July 10, 2014. Plot size averaged 80 inches by 40 feet.

Treatments

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



Results

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

Treatment	Ave. Moisture	Ave. Yield (bu/A)
MRI wheat	14.0	79.1
Control	13.6	86.3

F=1.61, Not significant; P>F= 0.25, CV = 9.6

Table 2. Four Year Average Wheat Yield (Adjusted to 13.5% moisture)*

Treatment	Ave. Yield (bu/A)
MRI wheat	83.3
Control	86.5

* 10 inch row wheat grown first 3 years and 15 inch row wheat in 2014. The wheat varieties were different each year.

Summary

There was not a significant difference in yield between wheat interseeded and wheat alone in 2014 for this study conducted at OARDC South Charleston located in central Ohio. Over 4 years of small plot replicated trials in North Central Ohio and South Charleston, MRI wheat averaged 84.7 and wheat not interseeded averaged 86.6. The difference in yield over 4 years was 3.2 bushels per acre which is about a 3% wheat yield loss in interseeded wheat.

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