

Effect of Modify Relay Intercropping on Wheat Yield

Steve Prochaska, Ohio State University Field Specialist, Agronomic Crops

Objective

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

Background

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

<u>Treatment</u>	<u>Ave. Moisture (%)</u>	<u>Ave. Yield (bu/A)</u>
MRI wheat	12.0	91.4
Control	11.9	97.9

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>).

Acknowledgement

The author expresses appreciation to Chuck Smith for his cooperation and aid in the planting of this trial.

For more information, contact:

Name: Steve Prochaska

Address: 222 W. Center St.

Marion, Ohio 43302

prochaska.1@osu.edu

