

# Evaluation of Foliar Fungicide on Yield of Modified Relay Intercrop Soybeans

Steve Prochaska, Ohio State University Extension Educator, Crawford County

## Objective

To evaluate yield response of Modified Relay Intercrop soybean yield to the use of Headline fungicide.

## Background

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Crop Year: 2009  
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

Soybean Planting Date: June 5, 2009  
Soybean Variety: Pioneer 92M91  
Row width; 10 inches  
Fungicide: Headline @ 6 ounce/acre on 7/28/09  
Fertilizer: For wheat and soybeans, 102- 69-60  
Soybean Seeding Rate: 230,000 seeds/acre  
Soybean Harvest Date: Nov. 11, 2009

## Methods

Cooper soft red winter wheat was planted Oct.4. 2008 in 10 inch rows with a Great Plains drill at a rate of 1.7 million seeds per acre. Wheat yield over the soybean plot area was 96 bushels/acre. Soybeans were planted June 5, 2009 at a rate of 230,000 seeds per acre in 10 inch rows with the same drill used to plant wheat (minus coulters cart).

This study used a completely randomized design with two treatments replicated 4 times to compare Headline treated soybeans to untreated soybeans over yield. Treatments were applied on July 28, 2009 with soybeans near reproductive stage 2 to small plots (5 by 40 feet). A small plot combine was used to harvest plots on Nov. 11, 2009.

### Treatments

- 1) Headline @ 6.0 ounces per acre
- 2) Control – untreated soybeans

## Results

**Table 1. Moisture and Yield of MRI Soybeans in Cooper Wheat**

	Moisture	Yield (bu/A)
Headline	15.4	23.9
Control	15.9	24.0
	LSD (P=0.05)	NS
	CV(%)	17.3

## Summary

This study was conducted at OSU Unger Farm in north central Ohio where soybean double cropping following wheat harvest is not well adopted because in most years there is not sufficient time for the growth and development of the double crop soybeans. As such, Modified Relay Intercropping is a cropping system where soybeans are planted into wheat from Feeke's growth stage 9 to 10.5 in order to lengthen the soybean growing season. Long term soybean yields in this system (11 years of replicated trials) have averaged 29 bushels per acre.

Soybeans in this cropping system are in competition for light, nutrients and water with the wheat crop. Therefore, it was conjectured that soybeans in this system might be more susceptible to foliar diseases. Further, a supplemental label for "Plant Health" was issued by the United States Environmental Protection Agency for Headline fungicide that could be interpreted to invite use of the product even in the absence of disease to ameliorate yield robbing stresses.

For this single-year study, there was not any significant difference between treatments over yield. Also, not any leaf disease was observed in soybeans.

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For more information, contact:

Steve Prochaska  
Crawford County  
112 E. Mansfield St.  
Bucyrus, Ohio 44820  
prochaska.1@osu.edu

