

Evaluation of Foliar Fungicide and Insecticide on Yield of Modified Relay Intercrop Soybeans

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Objective

To evaluate yield response of Modified Relay Intercrop soybeans to the tank mix of Headline fungicide and Taiga insecticide.

Background

Crop Year: 2009	Soybean Planting Date: June 5, 2009
Location: OSU Unger Farm	Soybean Variety: Pioneer 92M91
County/Town: Crawford	Row width; 10 inches
Soil Type: Blount	Fungicide: Headline @ 6 ounce/acre on 7/28/09
Drainage: Systematic	Insecticide: Taiga @ 3.2 ounces/acre on 7/28/09
Previous Crop: Soybeans	Fertilizer: For wheat and soybeans, 102- 69-60
Tillage: No – tillage	Soybean Seeding Rate: 230,000 seeds/acre
Soil Test: pH 6.8, P 23 ppm, K 124 ppm	Soybean Harvest Date: Nov. 11, 2009

Methods

Pioneer 25R47 soft red winter wheat was planted Oct. 7, 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 88 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 coulter cart).

This study used a completely randomized design with two treatments replicated 4 times to compare Headline and Taiga 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 30 feet). A small plot combine was used to harvest plots on Nov. 11, 2009.

Treatments

- 1) Headline @ 6.0 ounces plus Taiga @ 3.2 ounces per acre
- 2) Control – untreated soybeans

Results

Table 1. Moisture and Yield of MRI Soybeans in Pioneer 25R47 Wheat

	Moisture	Yield (bu/A)
Headline/Taiga	15.3	34.8
Control	15.9	32.3
	LSD (P=0.05)	NS
	CV(%)	24.0

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.

Soybean plants in this cropping system are in competition for light, nutrients and water with the wheat crop and in general are spindly in appearance. Therefore, it was conjectured that soybeans in this system might be more susceptible to soybean insect feeding and/or soybeans diseases.

For this single-year study, there was not any significant difference between treatments over yield. Insect feeding due to grasshoppers and Japanese beetles was observed, but this feeding was below thresholds for soybeans at reproductive stage 2. Also, not any leaf disease was observed in soybeans during the growing season.

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