

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

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## Objective

To evaluate yield response of Modified Relay Intercrop soybean yield to the use of Asana insecticide at reproductive growth stage 5.

## Background

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Crop Year:	2010	Soybean Planting Date:	June 19, 2010
Location:	OSU Unger Farm	Soybean Variety:	Pioneer 93Y20
County/Town:	Crawford	Row width:	10 inches
Soil Type:	Blount	Insecticide:	Asana
Drainage:	Systematic	Fertilizer:	93- 46 -60
Previous Crop:	Wheat	Soybean Seeding Rate:	220,000 seeds/acre
Tillage:	No – tillage	Soybean Harvest Date:	Oct. 18, 2010
Soil Test:	pH 6.8, P 23 ppm, K 124 ppm		

## Methods

Cooper soft red winter wheat was planted Oct.6. 2009 in 10 inch rows with a Great Plains drill at a rate of 1.75 million seeds per acre. Wheat yield over the soybean plot area was 61 bushels/acre. Soybeans were planted June 19, 2010 at a rate of 220,000 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 Asana insecticide treated soybeans to untreated soybeans over yield. Treatments were applied on August 26, 2010 with soybeans near reproductive stage 5 to small plots (60 by 50 feet) utilizing a John Deere pull type sprayer. A small plot combine was used to harvest plots on October 18, 2010.

### Treatments

- 1) Asana @ 8.0 ounces per acre
- 2) Control – untreated soybeans

## Results

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

Treatment	Ave. Moisture	Yield (bu/A)
Asana	11.5	45.2
Control	11.5	43.3
LSD (P=0.05)		NS
CV (%)		9.7

## Summary

This study was conducted at OSU Unger Farm in north central Ohio where modified relay intercropping is practiced. A perceived problem of intercrop and double crop soybeans has been bean leaf beetle migration from conventional planted soybeans to double or intercrop soybeans in August and early September. At this time of year, intercrop soybeans often have green leaves and pods whereas conventional soybeans with few leaves may become less attractive to beetles. As such, to test if bean leaf beetles cause significant yield damage to intercrop soybeans, Asana insecticide was applied on August 26, 2010 when bean leaf beetle populations were detected in the intercrop soybeans and leaf defoliation was at about 5%.

There was a 2 bushel per acre difference seen in this study, but the yields were not significantly different. Although using insecticides for defoliation control seems promising, additional work with more replicates will be needed to determine the efficacy of this practice.

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