

# Evaluation of Effects of Foliar Fertilizer, Fungicide and Insecticide Applications on Soybean Yields

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## Objective

To determine soybean yield response from fungicide, insecticide and fertilizer inputs.

## Background

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Crop Year:	2010	Soil Test:	pH=6.8, CEC 12.8, ppm-P=39,
Location:	Delta, OH		ppm K=123, OM=3.5
County:	Fulton County	SCN Count:	0 eggs/100 g soil
Soil Type:	Mermill	Planting Date:	5/28/2010
Drainage:	Subsurface Drainage 50 ft spacing	Seeding Rate:	165,000
Previous Crop:	Corn	Variety:	93Y51
Tillage:	Chisel plowed	Harvest Date:	October 11, 2010

## Methods

This study was designed with three treatments and an untreated control replicated three times in a randomized complete block design. Treatments were:

1. Non-treated Check
2. Headline (6 oz/A) applied 7/30/2010
3. AMP LCO Promoter (4 oz/A) applied 7/2/2010
4. Asana XL (6 oz/A) + Headline (6 oz/A) applied 7/30/2010

The AMP LCO Promoter treatment was applied on July 2, 2010 to soybeans at growth stage V4. AMP is a lipo-chitooligosaccharide product that according to the product label provides an increase in photosynthesis and sugar production, and in turn advances plant growth. Headline and Asana XL are fungicide and insecticide products, respectively. These two products were applied on 7/30/2010 to soybeans at growth stage R2. All treatments were applied with water as a carrier at 12 gallons of total volume per acre. Products were tank mixed where multiple products were used. Individual plot sizes were 80 feet wide (one sprayer pass) by 1815 feet in length. Application was made with a Patriot 150 sprayer equipped with air induction nozzles.

The entire treatment area was planted to Pioneer 93Y51. The soybean is a 3.5 maturity soybean with Phytophthora profile of 1K resistance gene and 5 field tolerance rating, rated 7 for Sudden death syndrome, 9 for frogeye leaf spot and not rated for Brown stem rot or Sclerotinia by the company literature.

Insect and disease pressure was not noted during scouting.

Harvesting was accomplished with a John Deere 9660 combine equipped with a calibrated Insight yield monitor. A full swath width consisting of the center 34 feet of each plot were

harvested to determine yield. The data was post process with ArcView GIS 3.3 software and Enhanced Farm Research Analyst Version 1.12 module.

## Results

### Soybean Yield Response to Insecticide, Fungicide and Foliar Fertilizer Application

Treatment	Yield (lbs/A)	Moisture (%)
Non-treated Check	55.1	11.0
Headline (6 oz)	59.1	11.4
AMP LCO Promoter (4 oz/A)	57.1	11.5
Asana XL (6 oz/A) + Headline (6 oz/A)	61.0	11.1
LSD (0.05)	3.6	NS
CV%	3.1	1.7

## Summary

The treatments for Headline and Headline with Asana were both significantly higher than the non-treated check. Yield response seems to be driven primarily by Headline application. Disease incidence and insect injury were not noted during scouting visits to the field from V4 through R7 growth stages.

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