

Soybean Applications to Maximize Yield

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Objective

To determine if applications of foliar fertilizers, or fungicide plus insecticide influence soybean yield.

Background

Crop Year: 2012

Location: Hodge Farms

County/Town: Miami/ Tipp City

Soil Type: Celina & Crosby

Drainage: Pattern tiled

Previous Crop: Corn

Tillage: No-till

Soil Test: pH 5.6, BpH 6.7, CEC 10.3, OM 2.7%,
P 21 ppm, K 70 ppm.

Planting Date: April 27, 2012

Nitrogen: N/A

Seeding Rate: 177,000

Harvest Date: October 10, 2012

Methods

All applications were made to soybeans at the R3 growth stage on July 21st, applied with TurboTeeJet 11003 tips at 90 psi. Treatment comparisons included two different foliar fertilizers (products of AGRA Solutions, Inc.) and a combination of a fungicide with insecticide. Treatment size was 30 feet wide by 785 feet long. Harvest was with a Gleaner combine with a 30-foot head and weighed with a grain cart with on-board scale. Yield was adjusted to 13% moisture.

Treatments:

- Spunk 0-0-9.75-6.75% S foliar fertilizer
- Prudent Presto Red 6-18-5 foliar fertilizer with: Chelated Manganese and Boron, patented Urea Phosphite and plant growth promoters: KaPre AG, KaPre Embella plus sugar at 1 lb/A
- Quadris fungicide (azoxystrobin) at 10 oz/A with Tombstone insecticide (cyfluthrin) at 2 oz/A

Results

Results are shown in Table 1 for soybean yield in bushels per acre. An ANOVA (analysis of variance) was conducted to determine the differences among the treatments. The probability value of 0.55 indicates a very low likelihood of a response from these treatments.

Table 1. Soybean yield in 2012 in bushels/A at Tipp City, Ohio for R3 applications.

<u>Trt #</u>	<u>Yield bu/A</u>	<u>Treatment</u>
1	36.0	untreated check
2	36.3	Spunk 1 gal/A applied at R3
3	37.5	Fungicide & Insecticide - (Quadris & Tombstone)
4	36.8	Prudent Presto Red (foliar fert) 1 gal /A with sugar
<i>LSD 0.10</i>	<i>NSD</i>	
<i>C.V.</i>	<i>4.3</i>	
<i>Prob > F</i>	<i>0.55</i>	

Summary

Results indicate that there were no significant differences in yield among the treatments compared to the check, suggesting that a producer would lose money by purchasing and applying any additional product. The grower reported rainfall in 2012 was well below average for adequate soybean growth, yields were approximately 70% of previous years as a result.

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