

Foliar Fungicide, Insecticide or Combination Treatments on Soybean Yield

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Objective

To evaluate the effect of foliar fungicide, insecticide and fungicide plus insecticide combination treatments applied at R2 (full flower) on soybean yield.

Background

Crop Year: 2014

Location: Delta, OH

County: Fulton County

Soil Type: Hoytville clay loam

Drainage: 25' Systematic, perpendicular

Previous Crop: Corn

Tillage: Conventional

Planting Date: May 8, 2014

Fertilizer: Applied according to Tri-State's in corn

Seeding Rate: 185,000 seeds/acre, 15" rows

Herbicide: Authority pre-emerge, glyphosate post

Harvest Date: October 16, 2014

July-August Rainfall: 2.59"

Methods

This study compared four treatments arranged in a randomized complete block design with three replications. Treatment plots were planted 100 feet wide by 2,500 feet long (field length). The soybean cultivar Pioneer 35T66 with Pioneer Premium Seed Treatment was planted with a 1790 JD Planter after light spring tillage. Harvest (yield) measurements were made by harvesting the center 70' within each treatment using a JD 9660 commercial combine. Yield measurements were taken with an Insight Ag Leader monitor and adjusted to 13% moisture content.

Treatments

- 1) 6 oz/ac Aproach fungicide at R2 growth stage
- 2) 6 oz/ac Aproach fungicide plus 6 oz/ac Asana insecticide at R2
- 3) 6 oz/ac Aproach fungicide plus 1 pt/100 gal Non-Ionic Surfactant (NIS) at R2
- 4) Untreated check (no fungicide, insecticide or surfactant application)



Results

Table 1. Mean Yield (Bu/A) in Response to Foliar Fungicide & Insecticide applications on soybean

Treatment	Yield (Bu/A)	**Gross Revenue/Ac	***Cost per acre	Net Revenue/Ac
Approach fungicide*	60.5 a	\$605	\$22.00	\$583.00
Approach fungicide plus Asana insecticide	60.6 a	\$606	\$29.00	\$577.00
Approach fungicide plus NIS	60.2 a	\$602	\$22.50	\$579.50
Untreated check	57.0 b	\$570	-	\$570.00

LSD 1.79; CV 1.5; P value \leq 0.05

Yes, significant difference between untreated check and treatments.

*Only two replications of this treatment were available for harvest.

** Based on \$10.00/bu marketing price

***Based on \$15/ac fungicide, \$4/ac insecticide, \$0.50/ac NIS and \$7/ac custom application

Summary

The research found a statistically significant difference in grain yield among the untreated check and all treatments of at least +3.2 bushels per acre. While there was no statistical difference among the top three treatments, an economic analysis shows a slight advantage to the fungicide treatment this year. Pesticide application should be made based on economic thresholds established from research. Further data in the form of multi-year replications will add to the validity of these results.

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