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Evaluation of Fungicide and Insecticide Seed Treatments on Soybeans

Alison E. Robertson
Iowa State University, alisonr@iastate.edu

Daren S. Mueller
Iowa State University, dsmuelle@iastate.edu

Stith N. Wiggs
Iowa State University, stithw@iastate.edu

Erin W. Hodgson
Iowa State University, ewh@iastate.edu

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Abstract
Iowa State University personnel assessed fungicide and insecticide seed treatments at the ISU Southeast Research Farm (Crawfordsville). The experimental design was a randomized complete block with four replications. Asgrow AG3632 was planted on May 14, 2012. The control treatment was soybean seeds with no fungicide or insecticide applied as a seed treatment (untreated seed). Within each block there were four treatments that were also treated with foliar insecticide [Leverage 360 (2.8 oz/ac)] and fungicide [Headline (6 oz/ac)] on August 1, which was when soybeans were at the R3 growth stage. Upper canopy foliar disease was assessed on September 4 when soybeans were at the R5/R6 growth stage. No upper canopy foliar diseases were found above 1 percentseverity in 2012,so no analysis of foliar diseases was completed. Plots were harvested on October 8. Total seed weight/plot and moisture was measured, seed weight was adjusted to 13 percent moisture, and yield was calculated.

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Plant Pathology and Microbiology, Entomology

Disciplines
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Alison Robertson, associate professor
Daren Mueller, assistant professor
Stith Wiggs, research associate
Department of Plant Pathology and Microbiology
Erin Hodgson, assistant professor
Department of Entomology

Introduction

Iowa State University personnel assessed fungicide and insecticide seed treatments at the ISU Southeast Research Farm (Crawfordsville).

Materials and Methods

The experimental design was a randomized complete block with four replications. Asgrow AG3632 was planted on May 14, 2012. The control treatment was soybean seeds with no fungicide or insecticide applied as a seed treatment (untreated seed). Within each block there were four treatments that were also treated with foliar insecticide [Leverage 360 (2.8 oz/ac)] and fungicide [Headline (6 oz/ac)] on August 1, which was when soybeans were at the R3 growth stage. Upper canopy foliar disease was assessed on September 4 when soybeans were at the R5/R6 growth stage. No upper canopy foliar diseases were found above 1 percent severity in 2012, so no analysis of foliar diseases was completed. Plots were harvested on October 8. Total seed weight/plot and moisture was measured, seed weight was adjusted to 13 percent moisture, and yield was calculated.

Results and Discussion

Yields averaged between 67.1–72.1 bushels/acre across all three locations. There was a positive effect from several seed treatments and from the R3 pesticide sprays that were duplicated over several treatments. Because of wet conditions at the beginning of May the planting time was pushed back approximately 2 weeks from our targeted planting date.

Acknowledgements

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Table 1. Treatments evaluated for yield response at the ISU Southeast Research Farm.

Treatment	Plant population[a] (planted 125K)	Moisture (%)	Yield (bu/A)
Untreated	104,544	10.3	67.1
Untreated[b]	105,996	10.7	70.2*
Poncho/VOTiVO	103,092	10.6	69.3
CruiserMaxx Plus with Avicta	94,380	10.2	71.7*
CruiserMaxx Plus	105,996	10.3	70.6*
CruiserMaxx Plus[b]	104,544	10.5	72.2*
Pioneer Premium	111,804	9.9	69.1
Inovate System	111,804	10.5	70.1*
Inovate + Metastar	98,736	10.6	69.7
Inovate + Metastar[b]	120,516	10.5	70.0
Overall LSD (0.1)	19,330	0.7	2.9
CV (%)	15.3	5.9	3.5

[a]Plants/acre, 30-in. row spacing.
[b]Sprayed with Leverage and Headline at R3/R4.
*Indicates significantly different from untreated control.