

Evaluation of Foliar Products on Soybean Yields

Alan Sundermeier, Agriculture & Natural Resources Extension Educator

Objective

To evaluate various inputs on soybean yield.

Background

| | | | |
|----------------|----------------------------|----------------|---|
| Cooperator: | O.A.R.D.C. NW Branch | Fertilizer: | 200 lb/ac 10-26-26 on 10-21-10 |
| County: | Wood | Planting Date: | 6-7-11 |
| Nearest Town: | Hoytville | Planting Rate: | 180,000 seeds/acre |
| Drainage: | Tile, well-drained | Row Width: | 7.5 in. |
| Soil type: | Hoytville, clay | Herbicides: | Envive, 2,4-D Ester, Honcho, glyphosate, liquid AMS |
| Tillage: | Zone builder, disk, harrow | Harvest Date: | 10-17-11 |
| Previous Crop: | Corn | | |
| Variety: | Pioneer 92M91 | | |

Methods

The entries were replicated four times in a randomized complete block design. Plot size- 10 x 80 feet each entry. Harvest data was collected from the center 7 feet. All treatments received the same tillage, herbicide, and seeding rate. On August 3, 2011 applications were made to all treatments at growth stage R2- R3.

Foliar Fungicide = Headline at 4.5 oz/ac (active ingredient pyraclostrobin)

Foliar Insecticide = Mustang Max at 2.8 oz/ac (active ingredient zeta-cypermethrin)

Foliar Fertilizer = Crop Booster (5 % Mn, 2.8% Sulfur) at 1 qt/ac {source–Morrall Chemical Co.}

Table 1. Treatment List

| Treatment | Foliar Fungicide | Foliar Insecticide | Foliar Fertilizer |
|-----------|------------------|--------------------|-------------------|
| 1 | none | none | none |
| 2 | R 2 | none | none |
| 3 | none | R2 | none |
| 4 | none | none | R 2 |
| 5 | R 2 | R2 | none |
| 6 | none | R2 | R 2 |
| 7 | R 2 | none | R 2 |
| 8 | R 2 | R2 | R 2 |

Results

Table 2. Soybean Yields by Treatment

| Treatment | Foliar Fungicide | Foliar Insecticide | Foliar Fertilizer | Soybean Yield Bu/ac |
|-----------|------------------|--------------------|-------------------|------------------------|
| 1 | none | none | none | 76.4 AB |
| 2 | R 2 | none | none | 75.9 AB |
| 3 | none | R2 | none | 74.0 A |
| 4 | none | none | R 2 | 77.1 AB |
| 5 | R 2 | R2 | none | 78.8 AB |
| 6 | none | R2 | R 2 | 79.8 B |
| 7 | R 2 | none | R 2 | 80.3 B |
| 8 | R 2 | R2 | R 2 | 78.1 AB |

LSD (0.05)

5.2

Summary

Foliar insecticide alone was significantly different from foliar insecticide plus foliar fertilizer and foliar fungicide and foliar fertilizer applied at the R2. The remaining treatments were not significantly different from the non-treated control for yields. This location did not have significant insect feeding damage or significant foliar disease damage. In the absence of pest pressure, foliar applications did not have an effect on soybean yield. None of the single foliar products consistently improved soybean yield either alone or in combination at this location.

Acknowledgement

The author expresses appreciation to the staff at the Ohio Ag Research & Development Center, Northwest Agricultural Research Station for assistance with this research, Matt Davis manager.

Crop Booster foliar fertilizer donated by:

Morrall Companies, LLC

132 Postle Street

Morrall, Ohio 43337

Ph 800-569-8027

For additional information, contact:

For more information, contact:

Alan Sundermeier

Wood County

639 Dunbridge Road, Suite 1

Bowling Green, OH 43402

sundermeier.5@osu.edu

