

# Soybean Seed Treatment Comparison

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## Objective

To evaluate soybean response to fungicide seed treatment.

## Background

Cooperator:	Mark Schwiebert	Herbicides:	Roundup 1 qt/A
County:	Henry	Hybrid:	Croplan RC2323 Roundup Ready
Soil Type:	Hoytville clay loam	Planting Date:	May 5, 2001
Previous Crop:	Soybeans	Planting Rate:	230,000 seeds/A
Tillage:	No-Till	Harvest Date:	September 14, 2001
Soil Test:	N/A		

## Methods

An on-farm comparison was set up with two treatments: (1) Check — no seed treatment — and (2) Apron XL plus Maxim-treated soybean seed. Two fields, with the same cropping history, about one mile apart, were set up with identical plot layout. Each location contained four replications of each treatment in a randomized complete block design. Each plot was 30 feet wide with a field length of 1,200 feet in one field and 2,120 feet in the other. The soybean variety used was Group II maturity with a phytophthora partial resistance rating of 3.0, no resistance genes.

The same seed-lot source of seed was used for treated and untreated plantings. A local retailer applied the seed treatment. Preharvest plant population counts were taken on September 10, 2001, by counting the number of plants in three feet of row in three different locations within each replication.

Results are combined for both fields since there was no interaction between treatment and location. Yields were taken from the center 15 feet along the full length of each treatment strip with a combine equipped with a yield monitor. Grain moistures were all below 13% with the yield data adjusted to 13%.

## Results

**Table 1. Soybean Population and Yield.<sup>1</sup>**

Treatment	Population (plants/A)	Yield (bu/A)
Untreated	191,675 a	33.1
Treated	217,812 b	32.2
LSD (0.05)	11,888	NS
F	24	1.1
CV(%)	5.2	5.7

<sup>1</sup> Means followed by the same letter are not significantly different.

## Summary and Notes

Syngenta Crop Protection, Inc., conducted the laboratory analysis of the treated seed. Apron XL fungicide was applied at the rate of 102 ppm or 0.44 fl.oz/cwt. This is within the application range for Apron XL. Ohio State University recommended a rate of Apron XL at 0.64 fl. oz/cwt. Maxim fungicide was applied at the rate of 42 ppm. This rate is higher than the expected 25 ppm recommended by Ohio State for Maxim. This analysis confirms that seed treatment applied by a local retailer was applied within recommended ranges. If seed treatment is not applied at recommended rates, less than adequate disease protection may result. Farmers need to be informed as to what seed treatment rates were applied.

Following soybean emergence, soil conditions were cool and wet for about two weeks. Symptoms from soilborne diseases were not observed on soybean plants at either location. These fields were well drained, and no ponding of water was observed during this period. Soil temperatures may have been too cool for disease activity. The remainder of the growing season did not have excess rainfall; as a result, no plant disease symptoms were observed at either location. The population of soilborne disease was not tested.

Although plant population counts were significantly higher for the treated plots, no significant difference in soybean yield was observed.

This one-year study does not endorse using untreated soybean seed. Farmers must consider variable soil conditions from year to year that may greatly affect the risk of soilborne disease infection. Soybean seed treatment is an insurance against potential yield loss that may not be needed every year.

For additional information, contact:

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