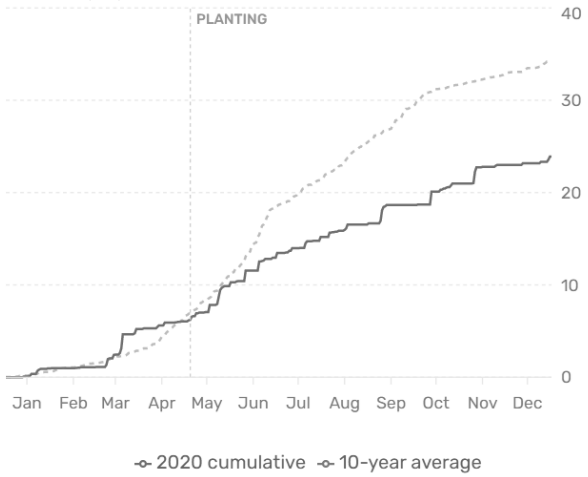
Impact of Fungicide and Insecticide Application on Soybeans

Study ID: 0926039202002
County: Cuming
Soil Type: Moody silty clay loam 6-11% slopes; Alcester silty clay loam 2-6% slopes; Moody silty clay loam 2-6% slopes, eroded; Calco silty clay loam occasionally flooded
Planting Date: 5/4/20
Harvest Date: 9/25/20
Seeding Rate: 135,000
Row Spacing (in): 30
Hybrid: Midland Genetics® 2990
Reps: 4
Previous Crop: Corn
Tillage: Disk
Herbicides: ***Pre:*** Treflan® ***Post:*** Enlist®

Fertilizer: None
Irrigation: None
Rainfall (in):



Introduction: This study builds on soybean benchmarking studies the grower has participated in during the 2019 and 2020 growing seasons. These studies examined an "improved" soybean practice of lower soybean seeding rate, earlier planting date, and using foliar fungicide and insecticide applications. The producer's improved practice resulted in a 7.5 bu/ac yield increase in 2019 and a 4.2 bu/ac yield increase in 2020. Because the study tested these factors in combination, it is not possible to determine how much of the yield difference is due to seeding rate, planting date, or fungicide and insecticide use. Therefore, this study evaluated fungicide and insecticide application at the same seeding rate and planting date. The earlier planting date (May 4, 2020) and lower seeding rate (135,000 seeds/ac) from the producer's 2020 benchmarking study was used for all treatments in this study. The study compared no fungicide and insecticide application (check) to 8 oz/ac Delaro® fungicide (active ingredients are prothioconazole and trifloxystrobin) and 8 oz/ac Tundra® Supreme insecticide (active ingredients are chlorpyrifos and bifenthrin) applied on 7/23/20. Little to no insect or disease pressure was noted in the field.

Results:

	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Check (no fungicide or insecticide)	12.1 A*	55 A	522.62 A
Fungicide & insecticide	12.0 A	56 A	512.34 A
P-Value	0.141	0.683	0.667

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 13% moisture.
‡Marginal net return based on $9.50/bu soybean, $12.50 for fungicide and insecticide, and $7.50 for fungicide and insecticide application.

Summary: There were no differences in soybean moisture, yield, or net return between the check and the soybeans with fungicide and insecticide.

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