



On-Farm Demonstration Trial: Crop Protection Studies ILEVO® Seed Treatment Trials on Soybean

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Objective

Determine the effects of seed treatment application on soybean yields to define best management practices.

Introduction

An application of seed treatment to corn and soybean has become a common practice for many farmers in Iowa. Seed treatments offer protection to germinating seeds and developing seedlings from fungi, insects, and nematodes. Some seed treatments can supply nutrients to the developing corn or soybean seedling. The objective of this trial was to evaluate whether the application of the seed treatments would result in a significant yield difference in soybean.

Materials and Methods

Crop Year–2021

Trial	210418	210704	210705
Trial County	Webster	Washington	Muscatine
Soil Type	Nicollet (55), Webster (107)	Kalona	Fruitland Coarse Sand
Previous Crop	Corn	Corn	Corn
Tillage	Conventional	Conventional	Conventional
Current Crop	Soybean	Soybean	Soybean
Hybrid–Number	P25A96	Arthur 2230E	Arthur 2230E
Hybrid–Company	Pioneer/Corteva	Merschman Seeds	Merschman Seeds
Row Spacing	30 in.	30 in.	30 in.
Seeding Rate	150,000/ac.	160,000/ac.	140,000/ac.
Planting Date	April 28	April 23	April 30
Harvest Date	October 4	September 27	October 18
Experimental Type	On-Farm Demo	On-Farm Demo	On-Farm Demo
Replications	3	4	4
Seed Treatment	ILEVO	Ilevo, Saltro, Merschmans Bonus Coat, Merschmans Tripidity ST, SYN (CruiserMaxx, Vibrance, Mertect 340, Vayantis	Ilevo, Saltro, Merschmans Bonus Coat, Merschmans Tripidity ST, SYN (CruiserMaxx, Vibrance, Mertect 340, Vayantis

Results

Trial Number	Treatment	Yield (bu./ac.) ^a	P-value ^b	Moisture	P-value ^b
210418	Ilevo Seed Treatment	73.2 a	0.65	13.3 a	0.37
	Control	73.8 a		13.1 a	
210704	Merschmans Bonus Coat + Merschmans Tripidity ST + Saltro	58.0 a	0.87	8.2 a	0.62
	Merschmans Bonus Coat + Merschmans Tripidity ST + Ilevo	57.9 a		8.3 a	
	SYN +Merschmans Tripidity ST + Saltro	54.8 a		8.3 a	
	Control	53.3 a		8.3 a	
210705	Merschmans Bonus Coat + Merschmans Tripidity ST + Saltro	75.0 a	0.38	9.9 a	0.69
	Merschmans Bonus Coat + Merschmans Tripidity ST + Ilevo	75.1 a		10.0 a	
	SYN +Merschmans Tripidity ST + Saltro	75.1 a		10.0 a	
	Control	71.6 a		10.0 a	

^a Values denoted with the same letter within a trial are not statistically different at the significance level of 0.10.

^b P-value = the calculated probability that the difference in yields can be attributed to the treatments and no other factors. For example, if a trial has a P-value of 0.10, there is 90% confidence the yield differences are in response to treatments. This is consistent for demonstration trials.

^c Return on Treatment based on Seed prices at \$3.27 per 1,000 kernels. Cost from ISU Ag Decision maker cost of production 2021. \$4.53 corn commodity prices. ((Yield x Price)-Costs). Commodity price is the 2020 national average cash price for corn.

Key Takeaways

- The use of various seed treatments in the three trials did not result in any significant yield or moisture differences.
- Trial 210704 was noted to have diminished stands and high yield variability, due to excessive rainfall events.
- NOTE: The results presented are from replicated demonstration trials. Statistics are used to detect differences at a location and should not be interpreted beyond the single location.