

2016 ILeVO® Seed Treatment Trial

Purpose: Soybean producers have identified seed treatments as a high priority for evaluation in SMaRT on-farm research trials. ILeVO, a relatively new seed treatment from Bayer Crop Science, was selected because Sudden Death Syndrome (SDS) is increasing in Michigan. The purpose of this trial was to evaluate the effect of ILeVO seed treatment on soybean yields and income in fields having a history of (SDS).

Procedure: This trial compared two treatments (a complete seed treatment without ILeVO vs. the same complete seed treatment with ILeVO). We worked with seed dealers, MSU Extension staff and independent crop consultants to identify fields having a history of SDS that would be planted to soybeans in 2016 when selecting the seven trial locations. The cooperating producers worked closely with their seed dealers to ensure that all seed planted in each trial was the same variety and came from the same lot. All seed treatments were applied by local seed dealers and the ILeVO was applied at 1.18 oz per 140,000 seeds.

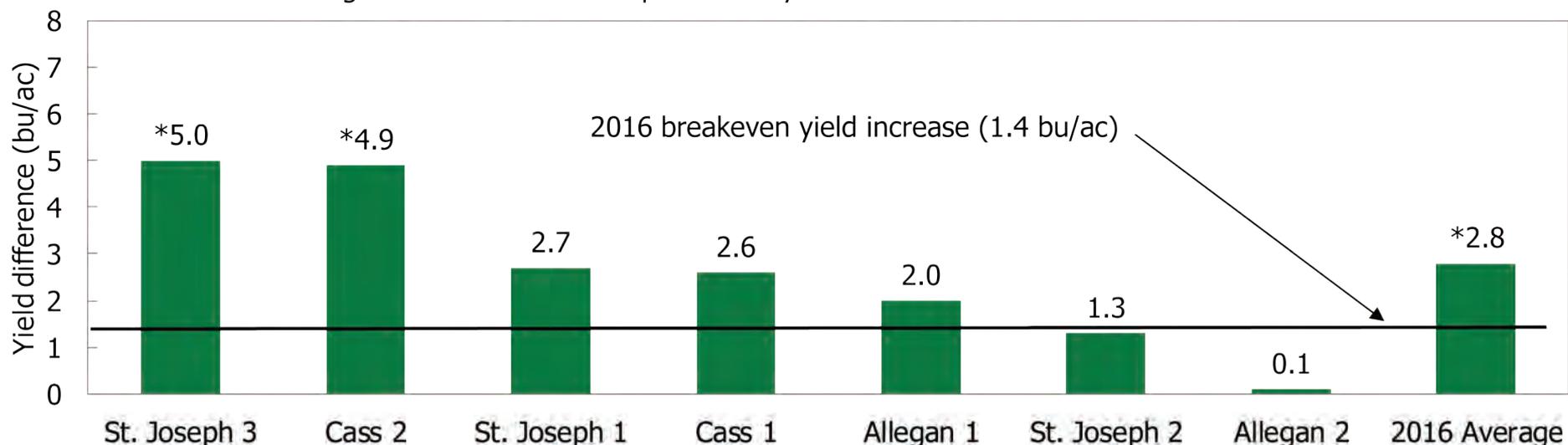
Soil samples were collected from each treatment after planting and again before harvest to determine the effect of the two seed treatments on soybean cyst nematode (SCN) population development. We made sure that the SCN soil samples were taken from the same locations for both sampling dates. The number of SCN eggs and juveniles found in the pre-harvest sample (PF) was divided by the number of SCN eggs and juveniles in the post-planting sample (PI) to determine the SCN reproductive index (PF/PI) for each seed treatment at each site. When the reproductive index is less than one, the treatment reduced the SCN population.

Table 1. The effect of a ILeVO seed treatment on soybean yield and income in 2016

Location	Untreated control	ILeVO	LSD _{0.10}	Yield difference
	----- Yield (bu/ac) -----			Yield (bu/ac)
St. Joseph 3	66.8 b	71.8 a	2.3	5.0
Cass 2	52.0 b	56.9 a	4.5	4.9
St. Joseph 1	52.2	54.9	4.2	2.7
Cass 1	27.2	29.8	4.6	2.6
Allegan 1	67.7	69.6	2.2	2.0
St. Joseph 2	72.7	74.0	2.5	1.3
Allegan 2	62.2	62.3	4.2	0.1
Average	57.2 b	60.0 a	1.1	2.8
	----- Income (\$/ac) -----			
Average Income	\$526	\$540		

ILeVO cost = \$12.45 per 140,000 seed unit

Figure 1. Yield difference produced by ILeVO seed treatment in 2016



* The yield difference was statistically significant at these locations

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Results: The occurrence of above-ground symptoms of SDS was minimal at all of the sites in 2016. Despite this, the ILeVO seed treatment increased soybean yields by 5 bushels per acre at two of the seven locations (figure 1). The numerical yield increases occurring at the other five sites were not statistically significant. However, when all seven sites were combined and analyzed, ILeVO increased soybean yields by 2.8 bushels per acre and increased income by \$14.00 per acre. ILeVO's effect on SCN population development was mixed in 2016 (table 2). SCN development was numerically reduced in the ILeVO treatment at three locations and numerically increased at two locations.

We want to thank Bayer Crop Science for providing and delivering some of the ILeVO and Dan Rajzer for coordinating these trials. We also appreciate the help provided by local seed dealers.

2016 ILeVO trial locations



SDS foliar symptoms



Table 2. ILeVO seed treatment effects on SCN population development in 2016

Location	SCN population after planting (PI)		SCN population before harvest (PF)		SCN reproductive index (PF/PI)	
	Control	ILeVO	Control	ILeVO	Control	ILeVO
	----- SCN Eggs and juveniles per 100 cm ³ of soil -----					
St. Joseph 3	--	--	2,070	1,225	--	--
Cass 2	470	440	5,450	3,372	12	7.7
St. Joseph 1	440	235	39,150	40,900	89	174
Cass 1	15	4	1,690	626	113	156
Allegan 1	21	30	5,470	2,240	260	75
St. Joseph 2	81	51	2,947	1,735	36	34
Allegan 2	0	0	0	0		