MU Certified Strip Trial Program 2017 ILeVO® Trial Harvest Report

Site number: 8 County: Holt Extension Contact – Wayne Flanary, Agronomist

Results Summary

- Whole strip yields indicate ILeVO decreased yield eight bushels per acre. There was some evidence that the difference was statistically significant. Differences were largely due to negative effects in the southern four strips where mean yield was substantially lower in both treatments.
- An assessment of within-strip variability estimated that the benefit of ILeVO was greater than or equal to zero for about 34% of the trial.
- Scouting indicated no Sudden Death Syndrome at this location.
- Soil sampling in spring indicated variable levels of Soybean Cyst Nematode (SCN). There was an increase over the growing season. There was no evidence that ILeVO affected these differences.

The mission of the MU Certified Strip Trial Program is to help farmers validate management decisions on their farm and document efficiency and environmental stewardship.

The MU Certified Strip Trial Program is funded by:

MU Extension, the Missouri Soybean Merchandising Council, and the Missouri Corn Merchandising Council.



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Figure 1. Aerial photography taken August 24, 2017, showing strip trial layout in the field.



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● <u><</u> 20 bu/A	• 21 – 40 bu/A • 41	L – 60 bu/A 🛛 😐 61 – 80 bu/A 🗨	>80 bu/A	

Figure 2. Yield monitor data reported as bushels per acre. Soybeans were harvested October 2, 2017.









Table/Graph 1. Whole Strip Yields.

Mean yields for all 10 strips:

All 10 strips: 56.2 bu/A

With ILeVO: 52.2 bu/A

No ILeVO: 60.2 bu/A

There some evidence that this difference was statistically significant. The strips on the south end of the trial had dramatically lower yield.

Analyzing only strips one through six:

All 6 strips: 68.4 bu/A

With ILeVO: 67.3 bu/A

No ILeVO: 69.4 bu/A

There was no evidence that this difference was significant.

Strip	1	2	3	4	5	6	7	8	9	10
ILeVO?	No	Yes								
Yield (bu/A)	69	72	72	68	67	62	50	37	42	22





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Graph 2. Field variability: Estimated yield "benefit" of ILeVO.

Across all 10 strips ILeVO had a positive impact on yield in 34% of the trial area. The apparent negative impact of ILeVO was over 90% in strips 7-10 and 54% in strips 1-6.





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Figure 3. Field variability in the yield effect of ILeVO: Colors match previous figure. Green segments are where the calculated yield difference was ≥ 0 ; blue segments are where ILeVO effect was negative.



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	Pre-l	Plant	Post-Harvest		
Treatment	SCN (eggs/cup)	SCN Rating	SCN (eggs/cup)	SCN Rating	
No ILeVO	10,125	High	8,625	Moderate	
With ILeVO	825	Moderate	7,125	Moderate	
No ILeVO	750	Moderate	563	Moderate	
With ILeVO	1,375	Moderate	750	Moderate	
No ILeVO	563	Moderate	1,313	Moderate	
With ILeVO	375	Low	0	Low	
No ILeVO	188	Low	375	Low	
With ILeVO	1,925	Moderate	2,250	Moderate	
No ILeVO	0	Low	3,375	Moderate	
With ILeVO	2,625	Moderate	10,125	High	
Means	1,875		3,450		

Table 2.	Soybean	Cyst Nematode	(SCN)	soil	sampling	results	(eggs/cup	of soil).
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Graph 3. Graphical representation of Soybean Cyst Nematode (SCN) numbers pre-plant and post-harvest from 10 sampling points in the field.



Samples were taken 4/27/2017 (pre-plant) and 11/1/2017 (post-harvest) in the same 10 locations in the field. Sampling points were 12 feet circles along transect running roughly north-south across the plots about 400 feet from the east of the strips.



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To assess the effect of ILeVO on SCN numbers, the ratio of SCN numbers were calculated at post-harvest divided by SCN numbers at pre-plant (Post-harvest SCN #/ Pre-plant SCN #) for each of the 10 sampling points.

In the figure below, no change in SCN numbers =1. Above 1, SCN numbers increased over the growing season.





SCN numbers increased in the fall compared to the spring. The mean increase was 3.3 (2.8 times higher with ILeVO and 3.8 times higher with no ILeVO). The higher mean value for no ILeVO was heavily influenced by one sampling point. There was no statistical evidence that ILeVO affected SCN numbers at this location.



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Image showing good stand and no visible difference from north side of field:



Images showing south side of field:





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Management Information

Location characteristics:	Trial size: 32 acres	Dominant soil type: Silty Clay			
Crop rotation:	Previous crop: Soybean	Current crop: Soybean			
Soybean variety:	Garst S34-N3	SCN resistant: Yes	SDS resistant: Yes		
Agronomic information:	Planted: 5/11/2017	Harvested: 10/2/2017			
Other seed treatments:	CruiserMaxx, Vibrance				
SDS history:	History of SDS: Yes	Confirmed SDS in 2017: No			

Location Notes:

• This trial had problems in the southern strips that apparently tended to impact ILeVO strips more than no-ILeVO strips. The August 24th imagery documents poor growth and weed issues in this part of the field.



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