MU Certified Strip Trial Program 2017 ILeVO® Trial Harvest Report

Site number: 18 County: Ralls Extension Contact – Wyatt Miller, Agronomist

Results Summary

- Whole strip yields indicate ILeVO increased yield 2.5 bushels per acre and there was some evidence that the difference was statistically significant.
- An assessment of within-strip variability estimated that the benefit of ILeVO was greater than or equal to zero for about 78% of the trial.
- Scouting indicated no Sudden Death Syndrome at this location.
- Soil sampling in the spring indicated primarily low levels of Soybean Cyst Nematode (SCN). There was a small decrease 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 25, 2017, showing strip trial layout in the field.



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Table/Graph 1. Whole Strip Yields.

Mean yields:

All strips: 62.0 bushels/acre

With ILeVO: 63.2 bushels/acre

No ILeVO: 60.7 bushels/acre

There was some evidence that this difference was statistically significant.

Strip	1	2	3	4	5	6	7	8	9	10
ILeVO?	Yes	No								
Yield (bu/A)	61	60	63	59	64	60	65	61	63	64





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



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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-F	Plant	Post-Harvest		
Treatment	SCN (eggs/cup)	SCN Rating	SCN (eggs/cup)	SCN Rating	
With ILeVO	0	Low	0	Low	
No ILeVO	563	Moderate	563	Moderate	
With ILeVO	563	Moderate	0	Low	
No ILeVO	188	Low	375	Low	
With ILeVO	0	Low	0	Low	
No ILeVO	938	Moderate	0	Low	
With ILeVO	188	Low	0	Low	
No ILeVO	188	Low	0	Low	
With ILeVO	188	Low	0	Low	
No ILeVO	0	Low	0	Low	
Means	282		94		

 Table 2.
 Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup of soil).

Graph 3. Graphical representation of Soybean Cyst Nematode (SCN) numbers pre-plant and post-harvest from 10 sampling points in the field.



Soil samples were taken before planting and after soybean harvest and tested for soybean cyst nematode (SCN). Soil samples were taken 5/18/2017 (pre-plant) and 10/10/2017 (post-harvest) from sampling points that were 12 feet circles along transect across the plots about 250 feet from the southern edge of the plot area.



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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.

Graph 4. Increase in SCN numbers between pre-plant and post-harvest samplings.



SCN numbers averaged less in fall compared to spring. The decrease in ratio averaged 0.85 for all strips (0.8 for with ILeVO and 0.9 for no ILeVO). There was no statistical evidence that ILeVO affected this change.



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Management Information

Location characteristics:	Trial size: 22 acres	Dominant soil type: Silt Loan	า
Crop rotation:	Previous crop: Corn	Current crop: Soybean	
Soybean variety:	Beck's 394L4	SCN resistant: Yes	SDS resistant: Yes
Agronomic information:	Planted: 5/30/2017	Harvested: 10/20/2017	
Other seed treatments:	Escalate		
SDS history:	History of SDS: Yes	Confirmed SDS in 2017: No	

Location Notes:

- This field was planted completely with ILeVO leaving five no-ILeVO strips.
- This location had 75-foot wide strips planted with two passes of a 37.5-foot planter. It was harvested with a 30-foot wide combine. Usually, there is only one harvest pass that falls within each treatment strip. In this case, more than one harvest pass fell within each treatment strip. The passes harvested in the same direction were selected and used in the analysis.
- The field was scouted with an aerial survey August 25, 2017. There were some minor visual differences between treatments in a few parts of the field.





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