MU Certified Strip Trial Program

2017 ILeVO® Trial Harvest Report

Site number: 2
County: Lincoln
Extension Contact – Charles Ellis, Agricultural Engineer

Results Summary

- Whole strip yields indicate ILeVO increased yield 4.2 bushels/acre and there was evidence that the difference was statistically significant.
- An assessment of within-strip variability estimated that the benefit of ILeVO was $\geq$ 0 for about 74% of the trial.
- Scouting found no confirmed Sudden Death Syndrome at this location.
- Soil sampling in spring indicated low levels of Soybean Cyst Nematode (SCN). There was little change in SCN numbers between the pre-plant and the post-harvest sampling times. There was no evidence that ILeVO reduced SCN numbers.

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 30, 2017, showing strip trial layout in the field.

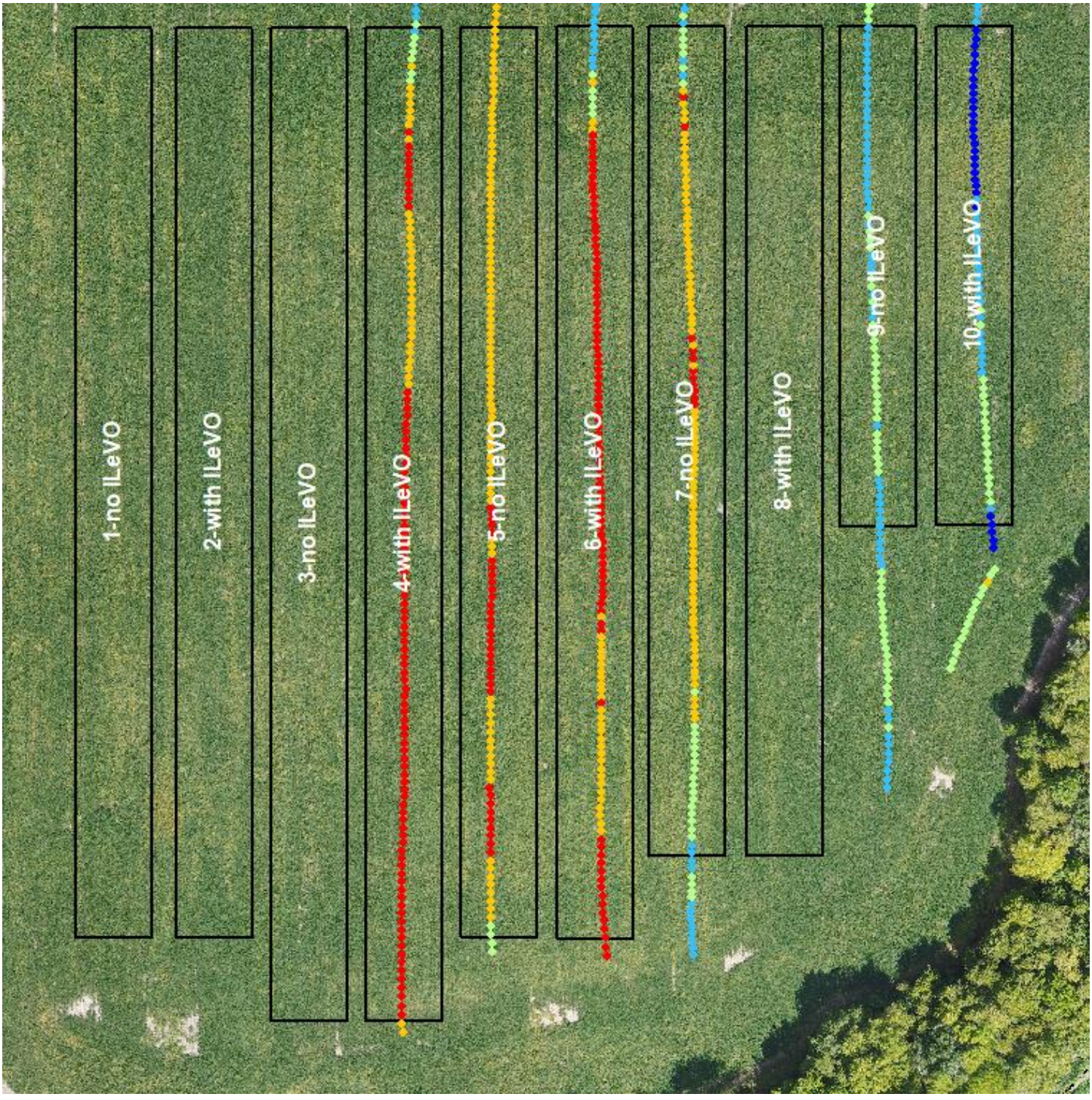

Figure 2. Yield monitor data of soybean yield reported as bushels per acre. Field was harvested September 22, 2017. Note that problems with the yield editor resulted in missing or problematic data in four strips.

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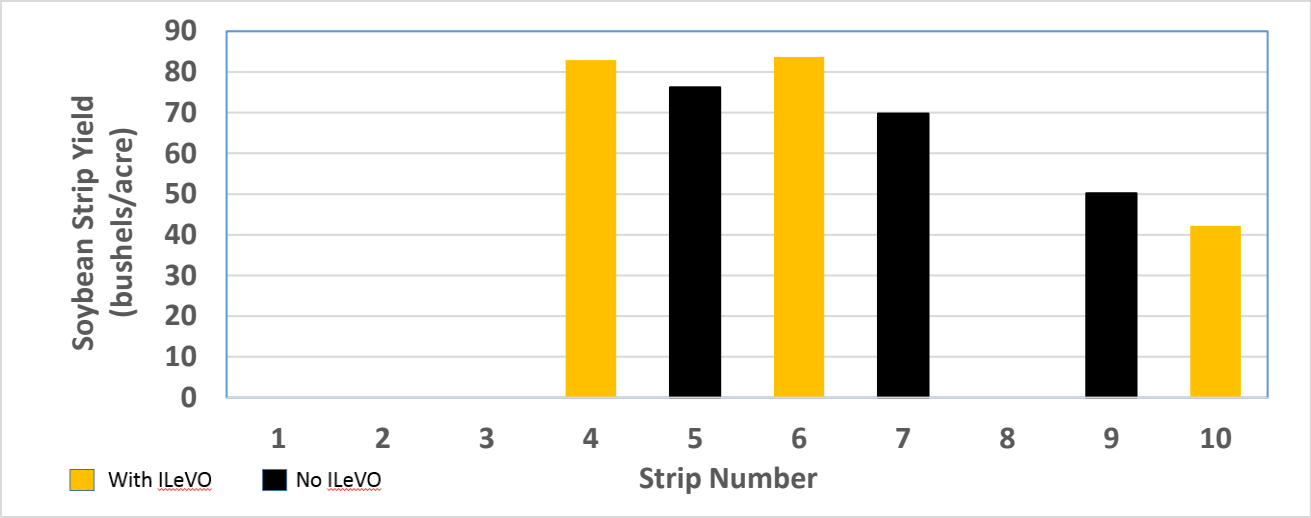
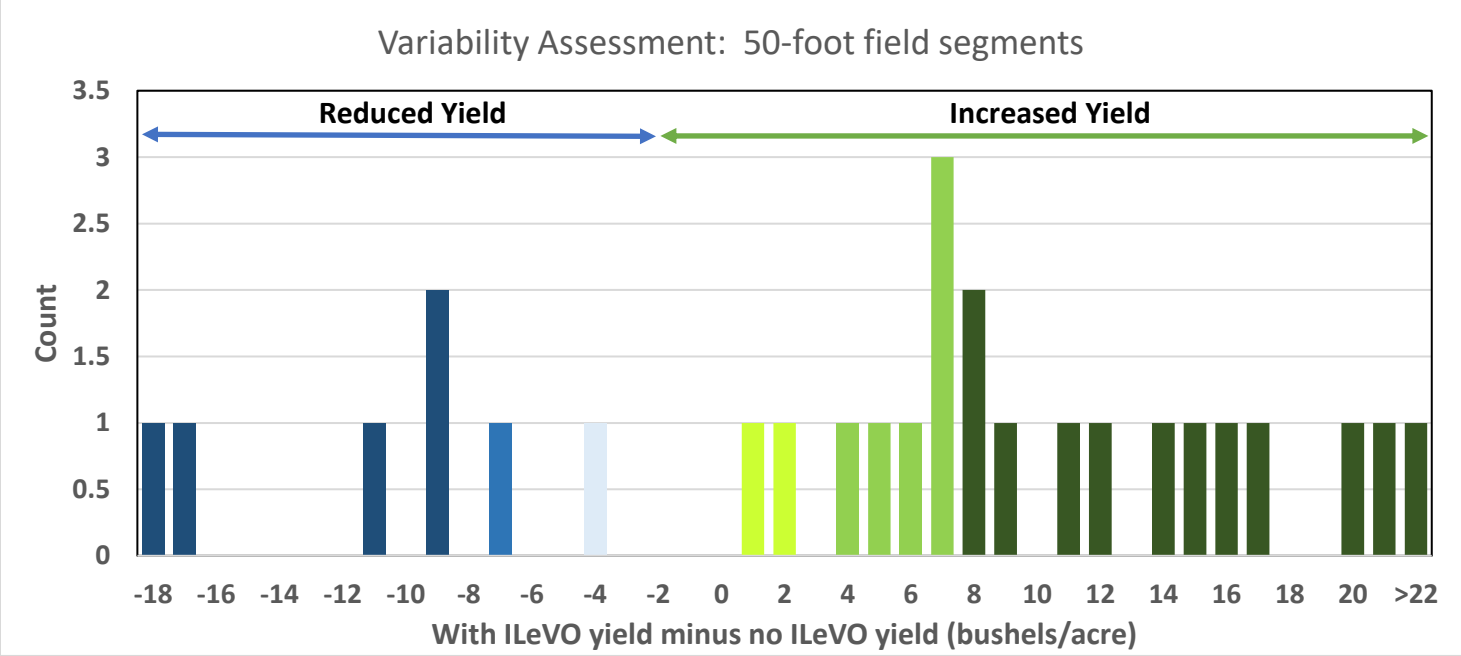
Table/Graph 1. Whole Strip Yields.

Mean yield for all 6 strips was 67.5 bu/A (69.6 bu/A with ILeVO; 65.4 bu/A without ILeVO).

Strip	1	2	3	4	5	6	7	8	9	10
ILeVO?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Yield Monitor (bu/A)	-	-	-	82.9	76.2	83.7	69.8	-	50.2	42.9



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



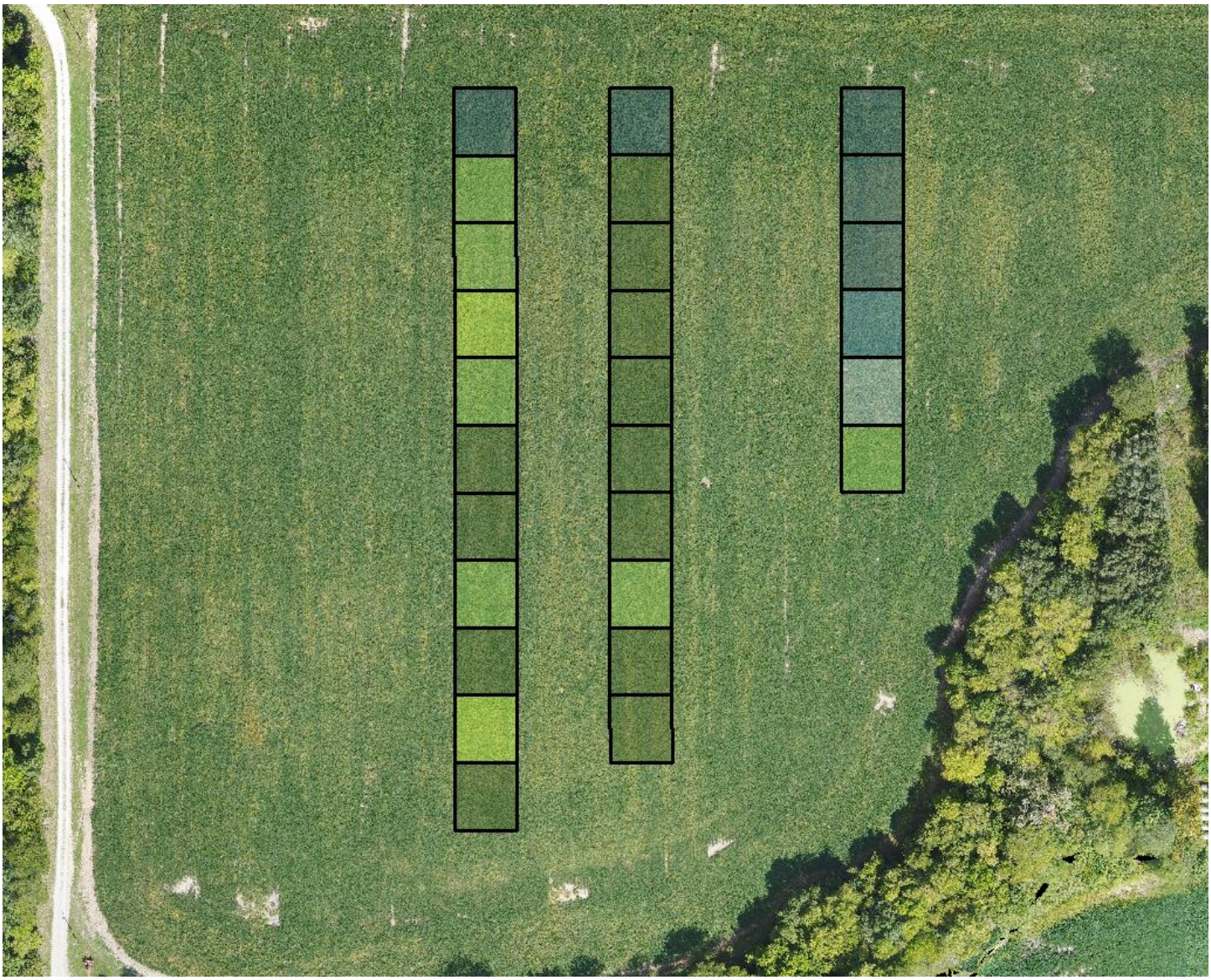


Figure 3. Field variability in the predicted yield effect of ILeVO: Colors match previous figure. Green segments are where the predicted yield effect was $\geq$ 0; blue segments are where yield effect was predicted negative.

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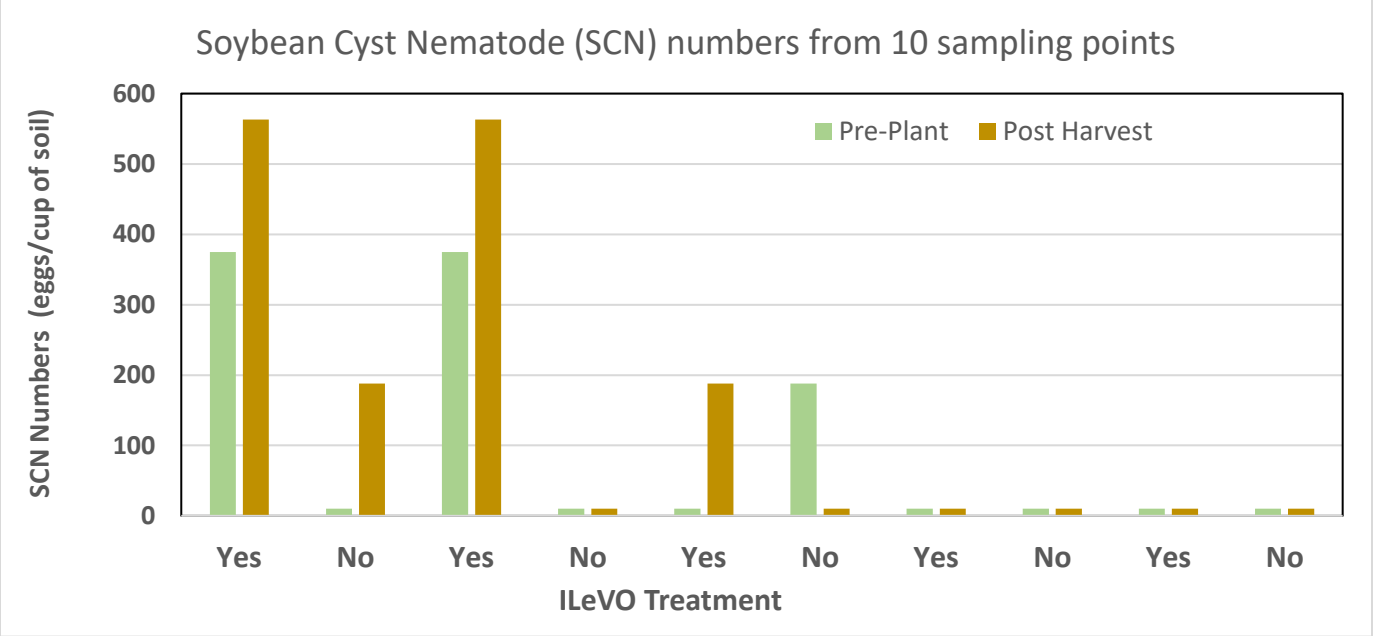
Table 2. Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup of soil).

	Pre-Plant		Post-Harvest	
Treatment	**SCN (eggs/cup)**	**SCN Rating**	**SCN (eggs/cup)**	**SCN Rating**
With ILeVO	375	Low	563	Moderate
No ILeVO	0	Low	188	Low
With ILeVO	375	Low	563	Moderate
No ILeVO	0	Low	0	Low
With ILeVO	0	Low	188	Low
No ILeVO	188	Low	0	Low
With ILeVO	0	Low	0	Low
No ILeVO	0	Low	0	Low
With ILeVO	0	Low	0	Low
No ILeVO	0	Low	0	Low
Means	94		150	

Graph 3. Comparing SCN numbers before and after soybean crop.



Samples were taken 4/25/2017 (pre-plant) and 10/11/2017 (post-harvest) in the same 10 locations in the field. Sampling points were 12 feet circles along transect running roughly east-west across the plots about 100 feet from the north edge of the strips.

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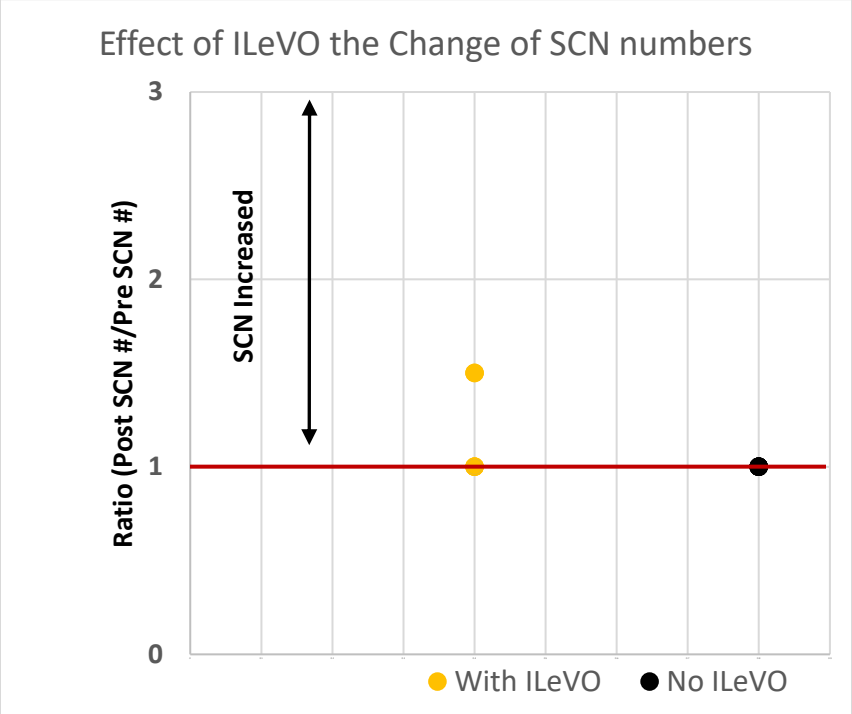
To assess the effect of ILeVO on SCN numbers, the ratio of SCN numbers were calculated at post-harvest divided by SCN numbers at pre-plant (Post-harvest SCN #/ Pre-plant SCN #) for each of the 10 sampling points.

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

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



SCN numbers averaged 1.1 times higher in fall compared to spring. There was no evidence that ILeVO affected this change (1.0 times higher with no ILeVO; 1.2 times higher with ILeVO).

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Management Information

Location characteristics:	Trial size: 8 acres	Dominant soil type: Silt Loam	
Crop rotation:	Previous crop: Corn	Current crop: Soybean	
Soybean variety:	P35T58R-SU26	SCN resistant: Yes	SDS resistant: Moderate
Agronomic information:	Planted: 5/10/2017	Harvested: 9/22/2017	
Other seed treatments:	Ipac		
SDS history:	History of SDS: No	Confirmed SDS in 2017: No	

Location Notes:

- This field was a no-ILeVO field that had five strips of ILeVO-treated seed.
- There was missing data in two strips and issues with swath path and width in two other strips. This resulted in analyzing data from only six strips.
- Scouting did not confirm sudden death syndrome in this field.
- There was substantial weed pressure at this location.