MU Certified Strip Trial Program

2017 ILeVO® Trial Harvest Report

Site number: 11
County: Lincoln
Extension Contact – Charles Ellis, Agricultural Engineer

Results Summary

- Whole strip yields indicate ILeVO increased yield 1.4 bushels/acre and the difference was not statistically significant.
- An assessment of within-strip variability estimated that the benefit of ILeVO was greater or equal to zero for about 70% of the trial.
- Scouting found no confirmed Sudden Death Syndrome at this location.
- Soil sampling in spring indicated variable (low to high) levels of Soybean Cyst Nematode (SCN). Mean SCN numbers after harvest were over eight times higher. There was no evidence that ILeVO reduced this increase.

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 29, 2017, showing strip trial layout in the field.

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Figure 2. Yield monitor data reported as bushels per acre. Field was harvested October 2, 2017.

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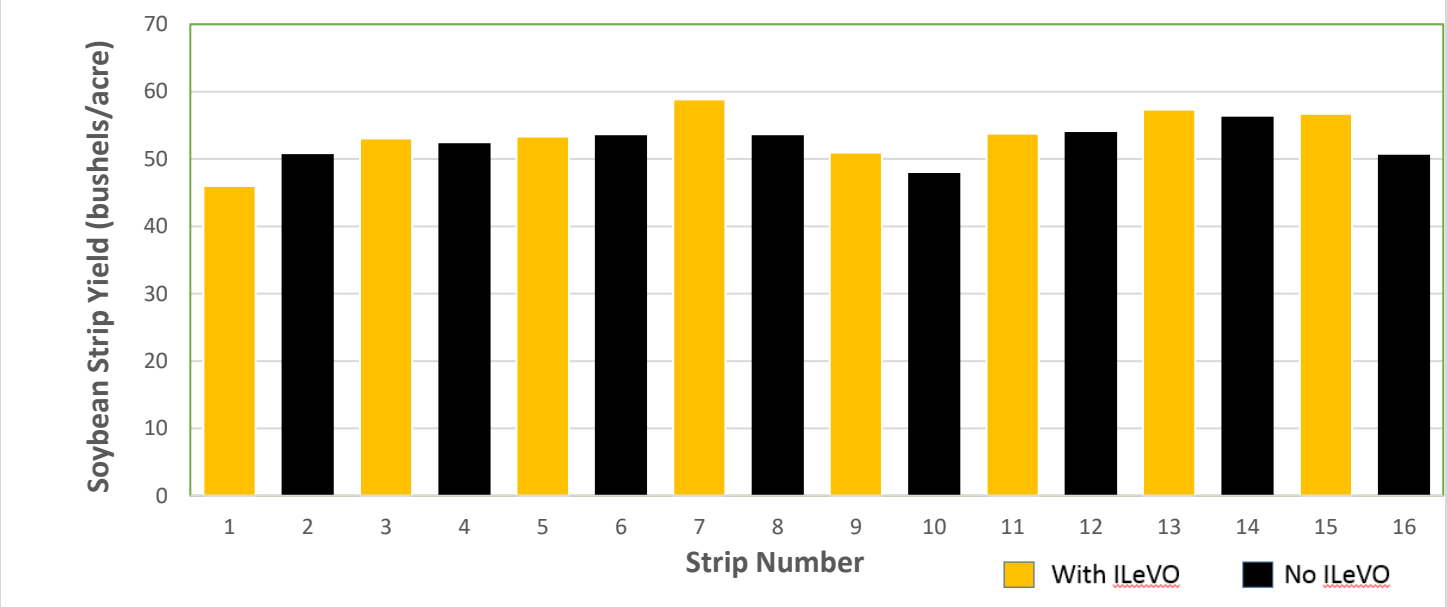
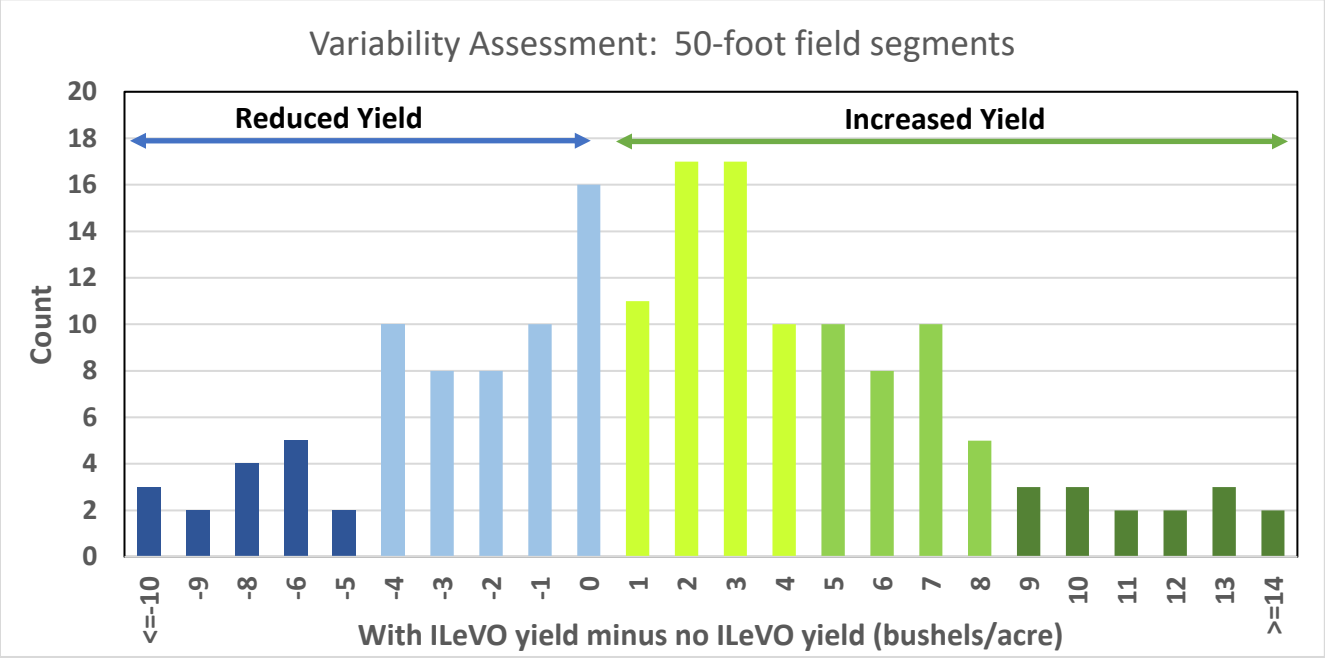
Table/Graph 1. Whole Strip Yields:

Mean yield for all strips was 52.9 bu/A (53.6 bu/A with ILeVO; 52.2 bu/A without).

Strip	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ILeVO	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Yield (B/A)	46	51	53	52	53	53	59	52	51	48	54	54	57	56	57	51



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



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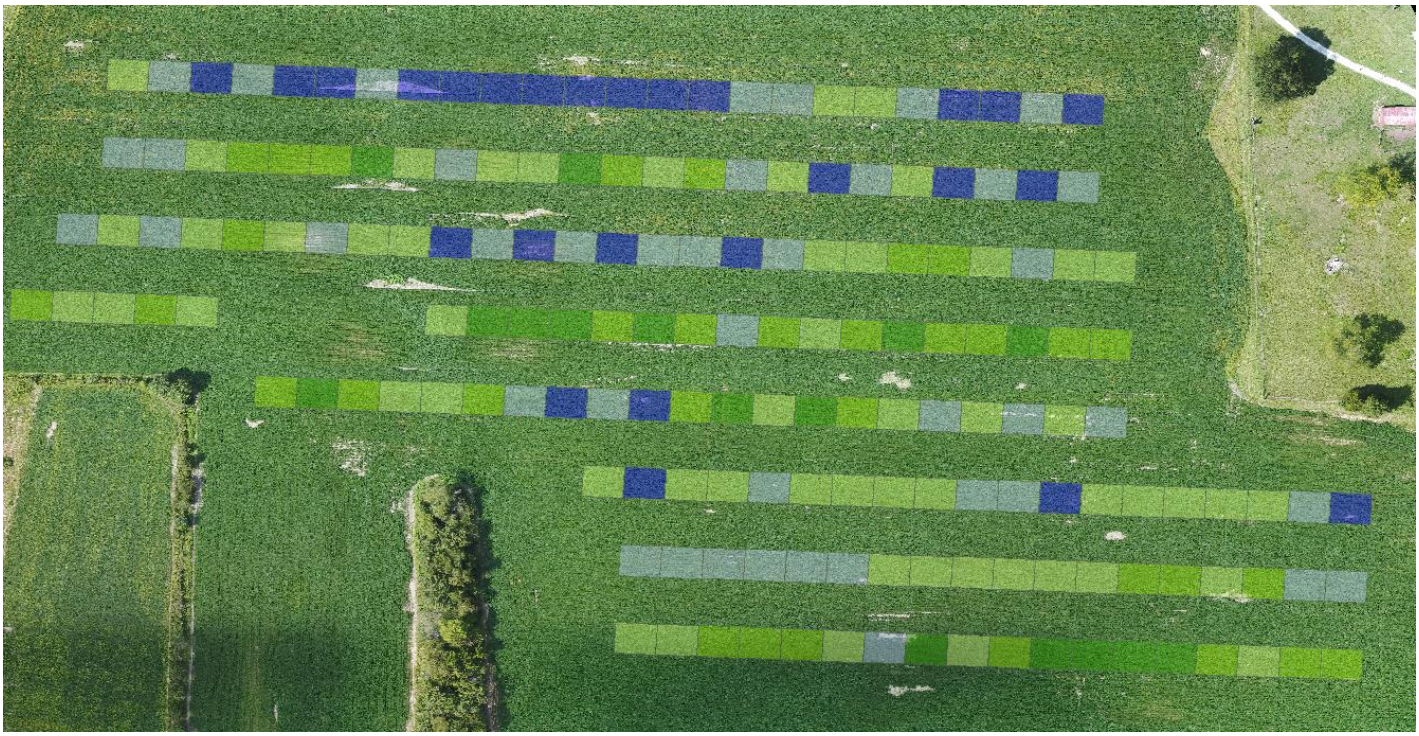

Figure 3. Field variability in the predicted yield effect of ILeVO: Colors match previous figure. Green segments are where the predicted yield effect was ≥ 0; blue segments are where yield effect was predicted negative.

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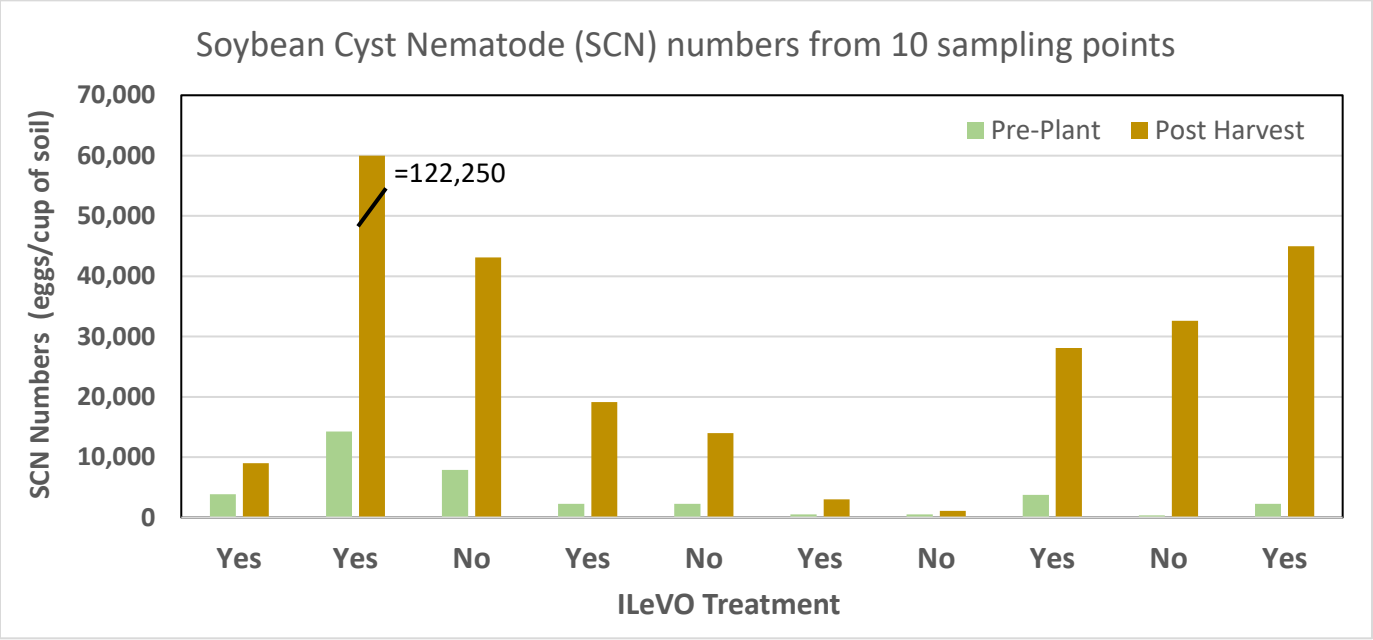
Table 2. Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup or soil).

	Pre-Plant		Post-Harvest	
Treatment	**SCN (eggs/cup)**	**SCN Rating**	**SCN (eggs/cup)**	**SCN Rating**
No ILeVO	3,850	Moderate	9,000	Moderate
With ILeVO	14,250	High	122,250	High
No ILeVO	7,875	Moderate	43,125	High
With ILeVO	2,250	Moderate	19,125	High
No ILeVO	2,250	Moderate	14,000	High
With ILeVO	0	Low	3,000	Moderate
No ILeVO	188	Low	1,125	Moderate
With ILeVO	3,750	Moderate	28,125	High
No ILeVO	375	Low	32,625	High
With ILeVO	2,250	Moderate	45,000	High
Means	3,704		31,738	

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



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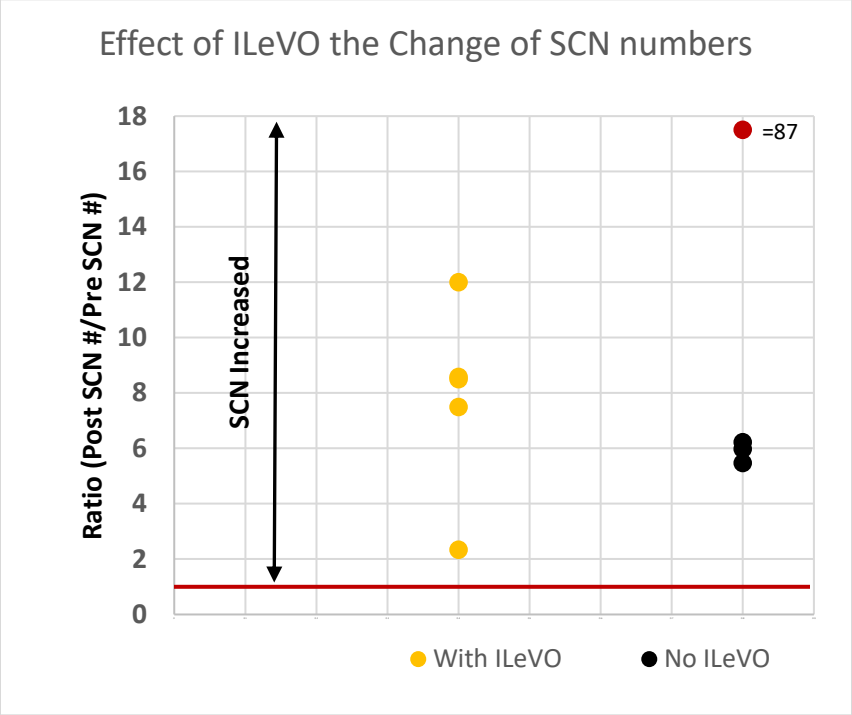
Samples were taken 4/25/2017 (pre-plant) and 10/9/2017 (post-harvest) in the same 10 locations in the field. Sampling points were 12 feet circles along a transect across the plots about 350 feet from the eastern edge of the strips on the north side of the field.

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 over eight times higher in fall compared to spring (the outlier was not included in the mean). There was no evidence that ILeVO affected this change.

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Management Information

Location characteristics:	Trial size: 28 acres	Dominant soil type: Silt Loam	
Crop rotation:	Previous crop: Corn	Current crop: Soybean	
Soybean variety:	Merschman Truman 38	SCN resistant: Yes	SDS resistant: Yes
Agronomic information:	Planted: 6/1/2017	Harvested: 10/2/2017	
Other seed treatments:	Merschman proprietary seed treatment		
SDS history:	History of SDS: Yes	Confirmed SDS in 2017: No	

Location Notes:

- This field was an ILeVO treated field that had eight strips of no-ILeVO seed.
- The field was surveyed on August 29th with aerial imagery. There was some weed pressure and some senescence of leaves across the location. SDS was not confirmed at this field.