

MU Certified Strip Trial Program

2017 ILeVO® Trial Harvest Report

Site number: 19

County: Holt

Extension Contact – Wayne Flanary, Agronomist

Results Summary

- Whole strip yields indicate ILeVO increased yield 1.3 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 greater than or equal to zero for 64% of the trial.
- Scouting confirmed no Sudden Death Syndrome at this location.
- Soil sampling in spring indicated primarily low levels of Soybean Cyst Nematode (SCN). There was a small increase over the growing season. There was no evidence these differences were statistically significant.

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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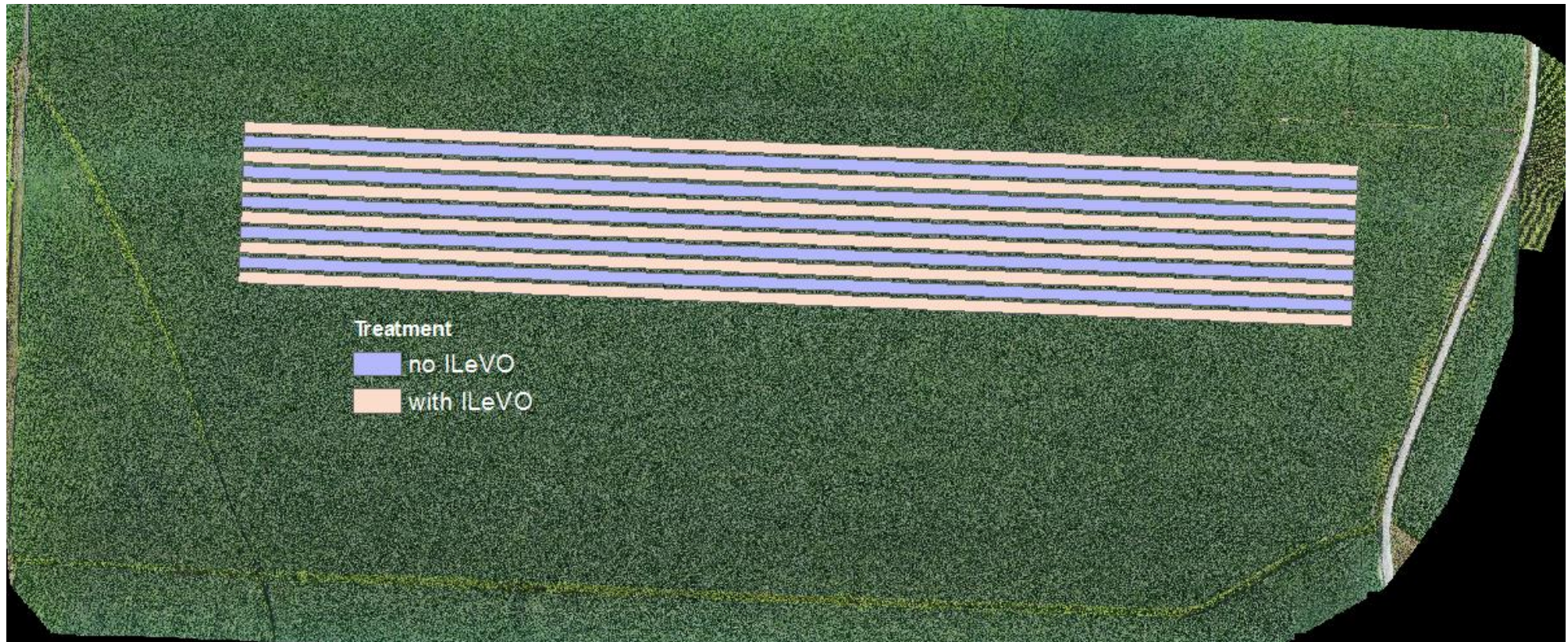


Figure 1a. Aerial photography taken August 24, 2017, showing strip trial layout in the field.

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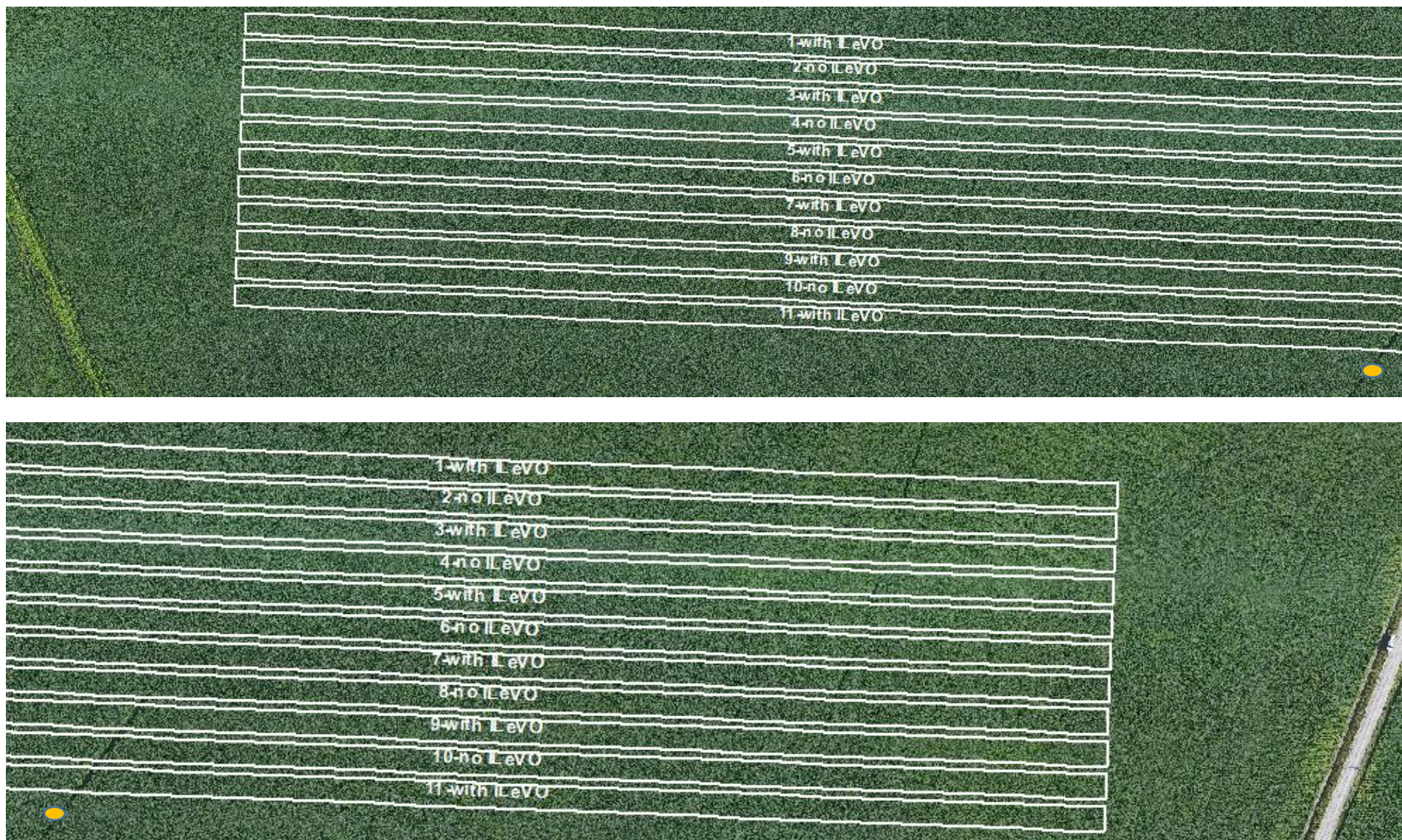


Figure 1b. Close-up of aerial photography taken August 24, 2017, showing strip trial layout in the field.

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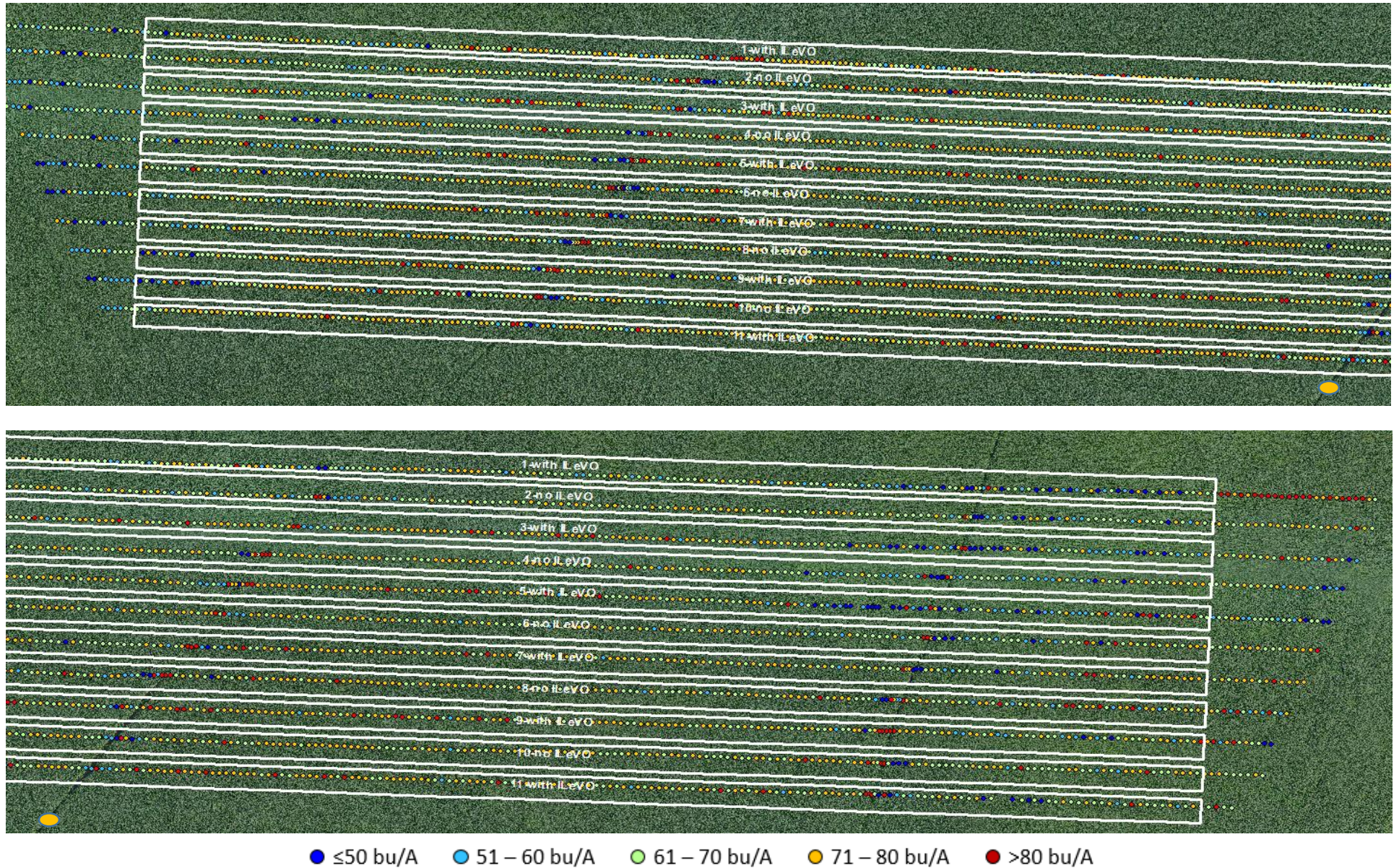


Figure 2. Yield monitor data reported as bushels per acre. Soybeans were harvested November 3, 2017.

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Table/Graph 1. Whole Strip Yields.

Yield is reported for 11 strips. However, there was evidence that the combine was not fully in the treatment area for strips 1 and 3 (see location notes for more details). Consequently, reported means are for strips 4 to 11.

Mean yields:

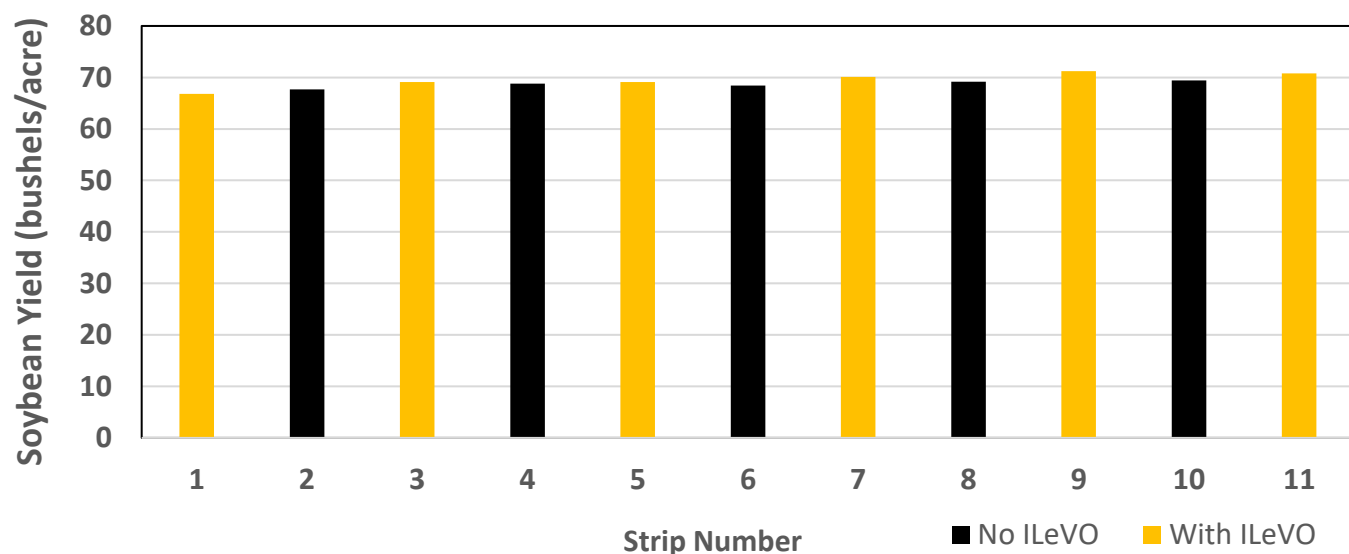
All eight strips (4-11): 69.6 bushels/acre

With ILeVO: 70.3 bushels/acre

No ILeVO: 69.0 bushels/acre

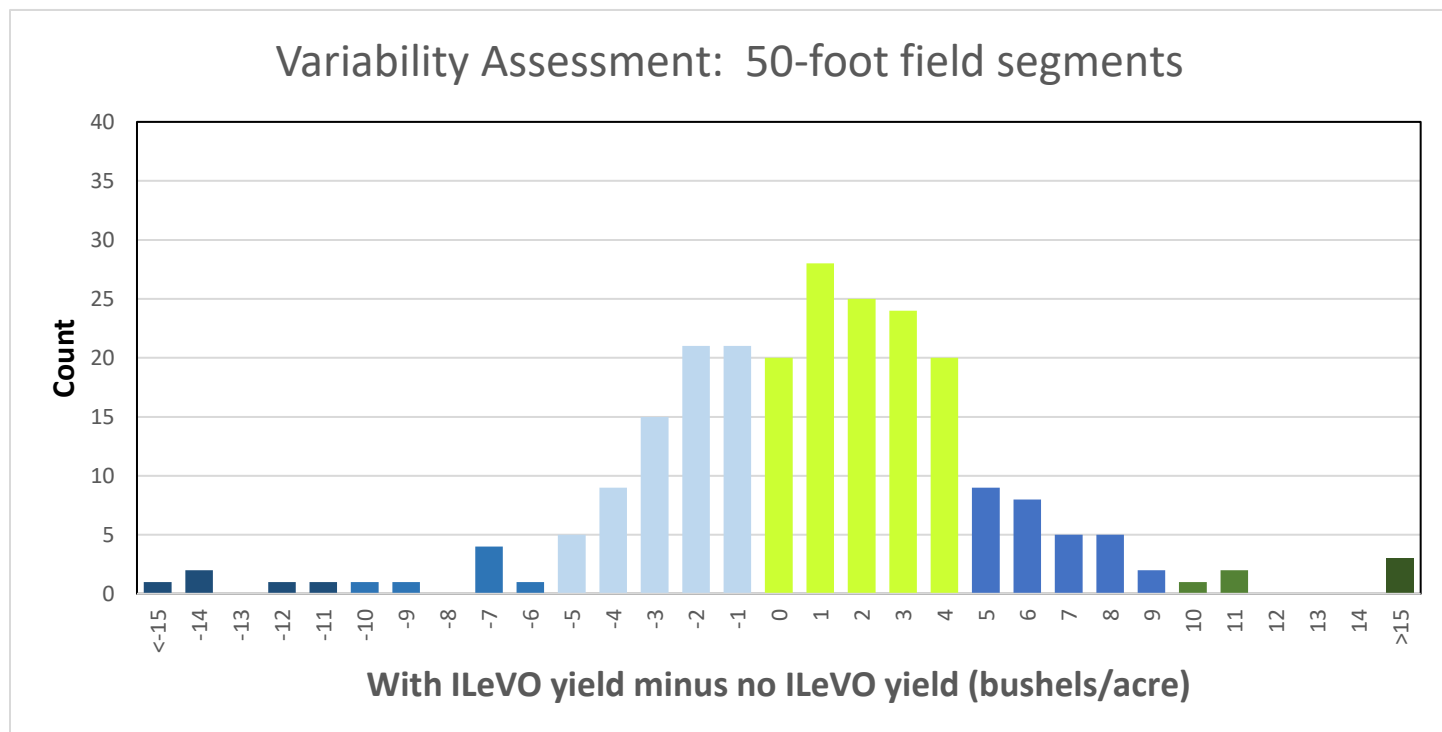
There was evidence that this difference was statistically significant.

Strip	1	2	3	4	5	6	7	8	9	10	11
ILeVO?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Yield (bu/A)	67	68	69	69	69	68	70	69	71	69	71



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Graph 2. Field variability: Estimated yield “benefit” of ILeVO.



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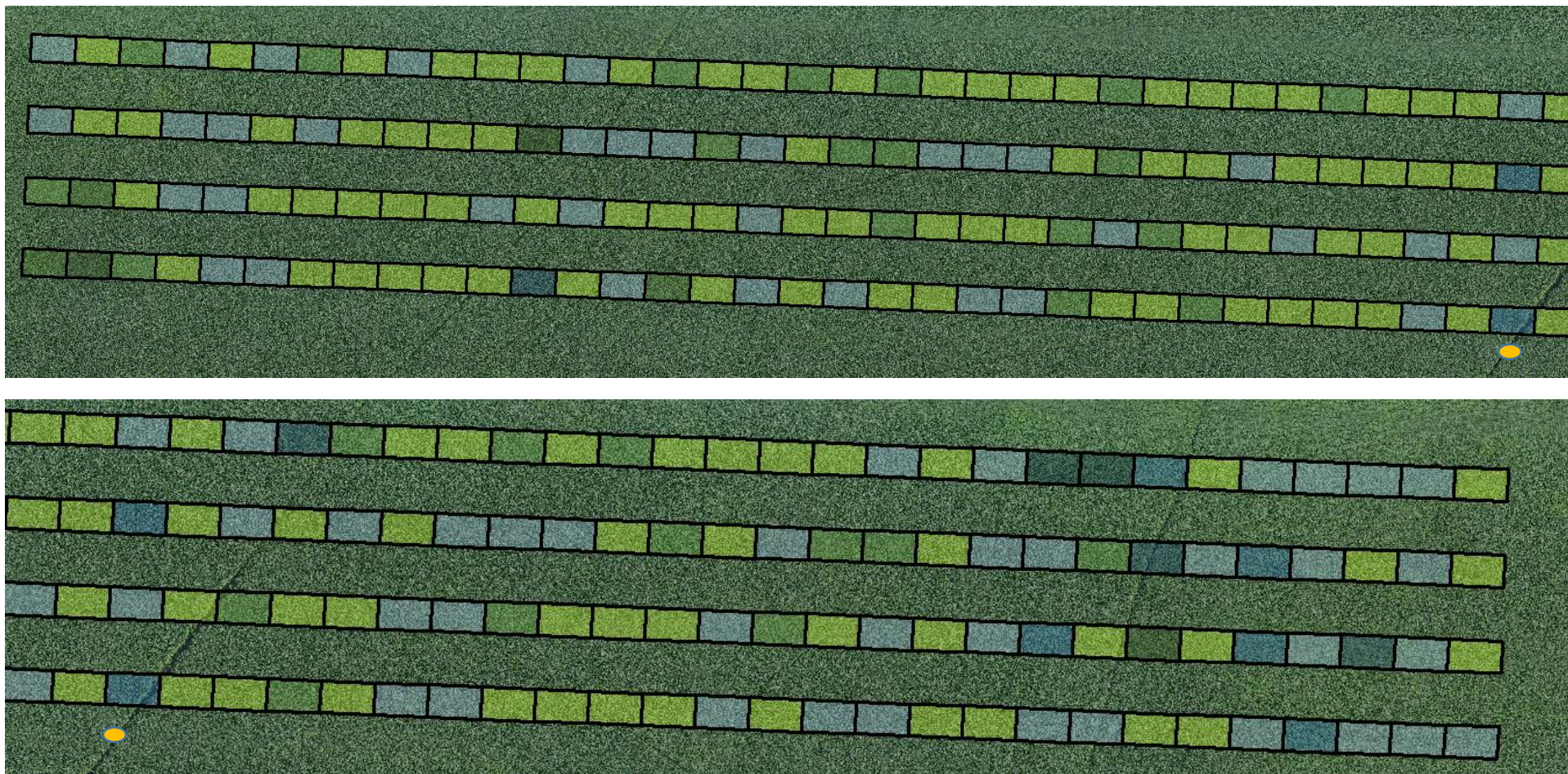


Figure 3. Field variability in the yield effect of ILeVO: Colors match previous figure. Green segments are where the calculated yield difference was ≥ 0 ; blue segments are where ILeVO effect was negative.

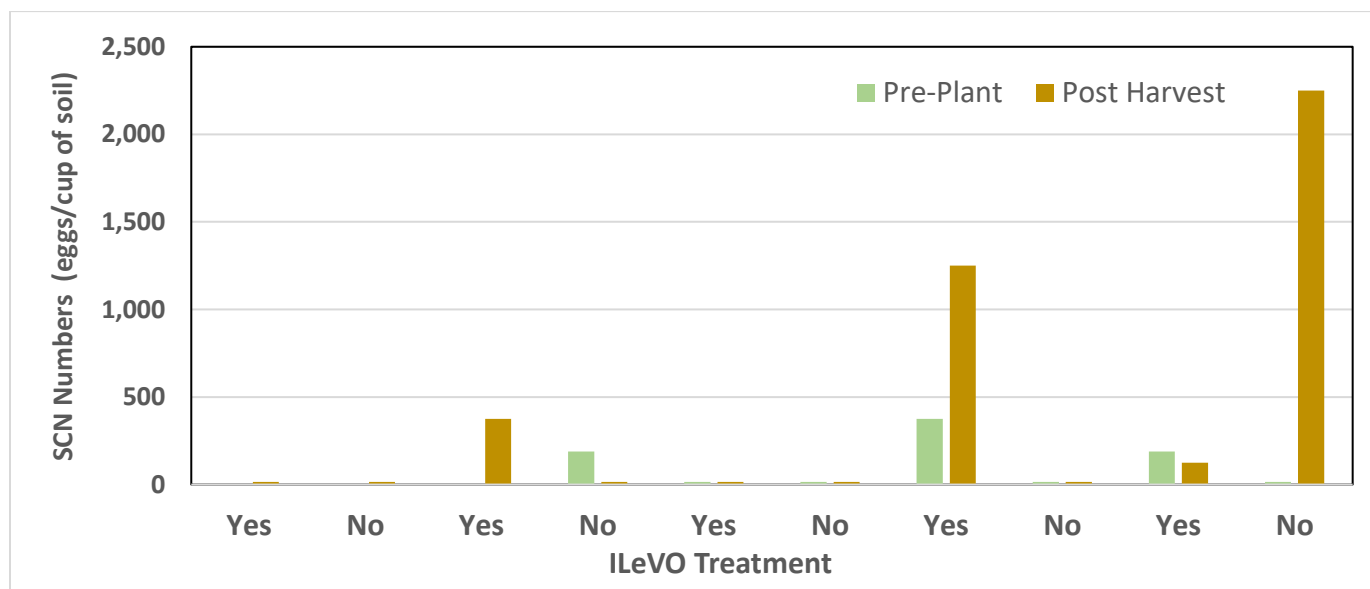
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Table 2. Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup of soil).

	Pre-Plant		Post-Harvest	
Treatment	SCN (eggs/cup)	SCN Rating	SCN (eggs/cup)	SCN Rating
With ILeVO	-----	-----	0	Low
No ILeVO	-----	-----	0	Low
With ILeVO	0	Low	375	Low
No ILeVO	188	Low	0	Low
With ILeVO	0	Low	0	Low
No ILeVO	0	Low	0	Low
With ILeVO	375	Low	1,250	Moderate
No ILeVO	0	Low	0	Low
With ILeVO	188	Low	125	Low
No ILeVO	0	Low	2,250	Moderate
Means	94		400	

Note: Two soil samples were not taken pre-plant due to poor soil conditions on the pre-plant sampling date.

Graph 3. Graphical representation of Soybean Cyst Nematode (SCN) numbers pre-plant and post-harvest from 10 sampling points in the field. Two soil samples were not taken pre-plant due to poor soil conditions on the pre-plant sampling date.



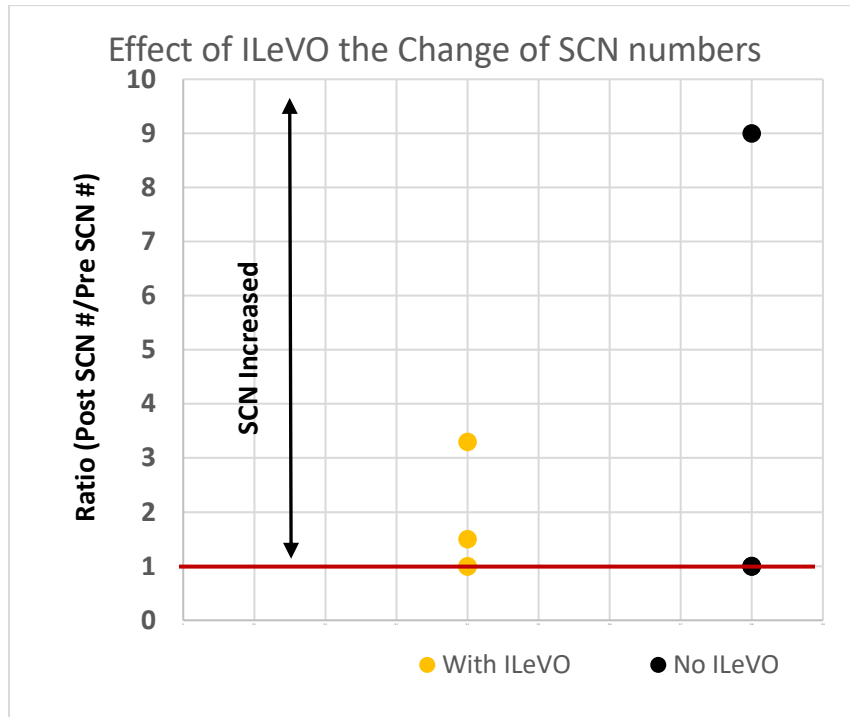
Soil samples were taken prior to planting and after soybean harvest and tested for soybean cyst nematode (SCN). Soil samples were taken 5/8/2017 (pre-plant) and 12/5/2017 (post-harvest) from sampling points that were 12 feet circles along transect across the plots about 150 feet from the eastern side 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 8 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.



There was an increase in SCN numbers over the growing season. The mean increase was 2.4 times higher (1.8 times higher with ILeVO and 3.0 times higher with no ILeVO). There was no statistical evidence that ILeVO affected this change.

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Management Information

Location characteristics:	Trial size: 34 acres	Dominant soil type: Clay	
Crop rotation:	Previous crop: Corn	Current crop: Soybean	
Soybean variety:	Pioneer 38T53R	SCN resistant: Yes	SDS resistant: Yes
Agronomic information:	Planted: 5/16/2017	Harvested: 11/3/2017	
Other seed treatments:	Allegiance/PPST 2030/PPST 120+/Evergol/Gaucho		
SDS history:	History of SDS: Yes	Confirmed SDS in 2017: No	

Location Notes:

- Strips 1-3 were not used in the analysis. The yield map shows that the combine drifted into the other treatment over a significant portion of strips 1 and 3. Also, the cleanup row swath width was smaller (6 feet) on these two passes, also indicative that the combine may have not been on the treatment. By including those three strips in the analysis, the treatment difference would have decreased and the difference would not have been statistically significant.
- An aerial survey completed August 24, 2017.
- There was no evidence of SDS at this location.

