

# MU Certified Strip Trial Program

## 2017 ILeVO® Trial Harvest Report

Site number: 14

County: Audrain

Extension Contact – Wyatt Miller, Agronomist

### Results Summary

- Whole strip yields indicate ILeVO increased yield 3.6 bushels/acre and 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 over 80% of the trial.
- Scouting did not find Sudden Death Syndrome at this location.
- Soil sampling in the spring indicated high levels of Soybean Cyst Nematode (SCN). SCN numbers after harvest were 1.8 times higher than prior to planting. There was no evidence that ILeVO had an effect on SCN numbers.

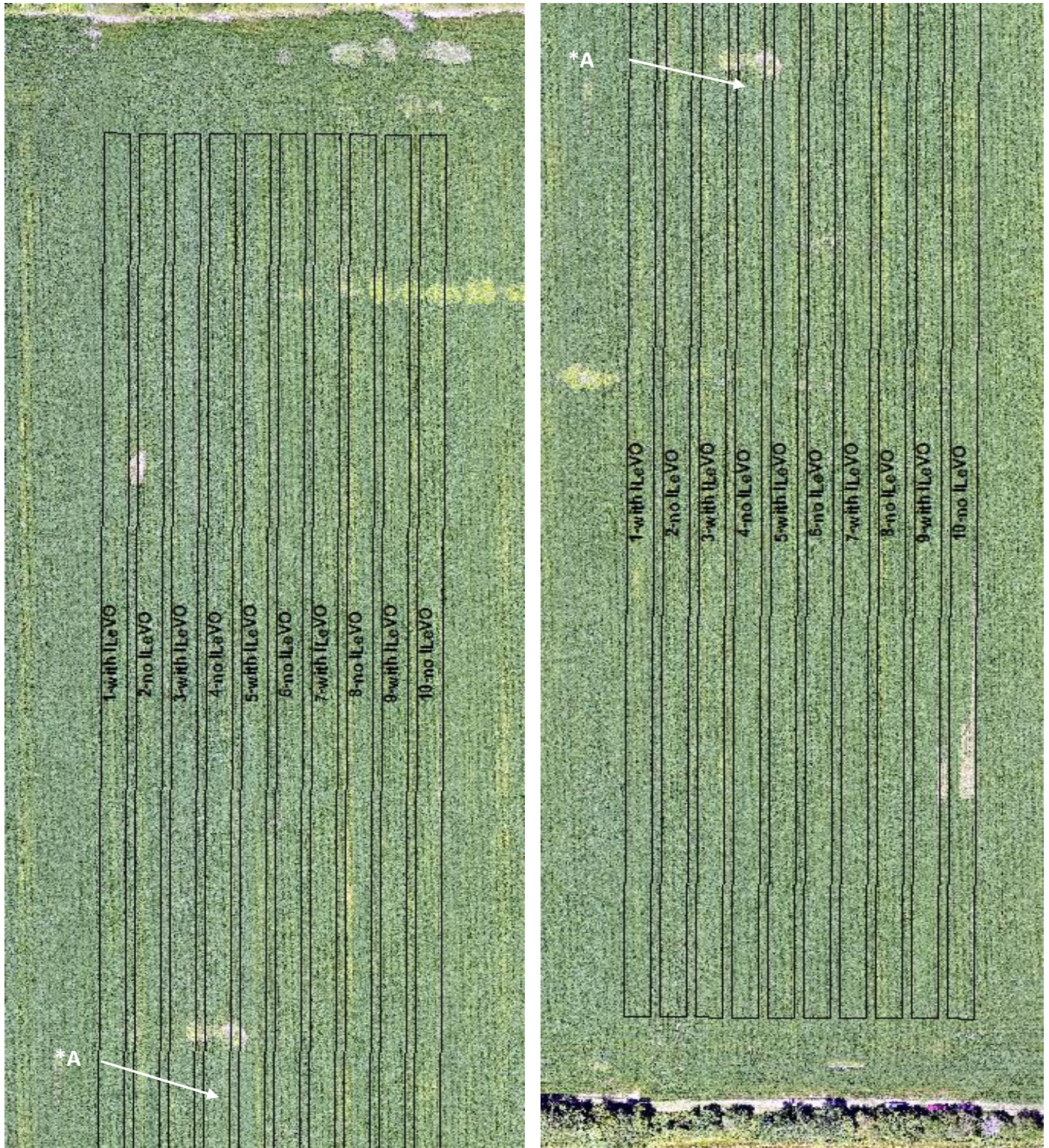
*The mission of the MU Certified Strip Trial Program is to help farmers validate management decisions on their farm and document efficiency and environmental stewardship.*

**The MU Certified Strip Trial Program is funded by:**

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



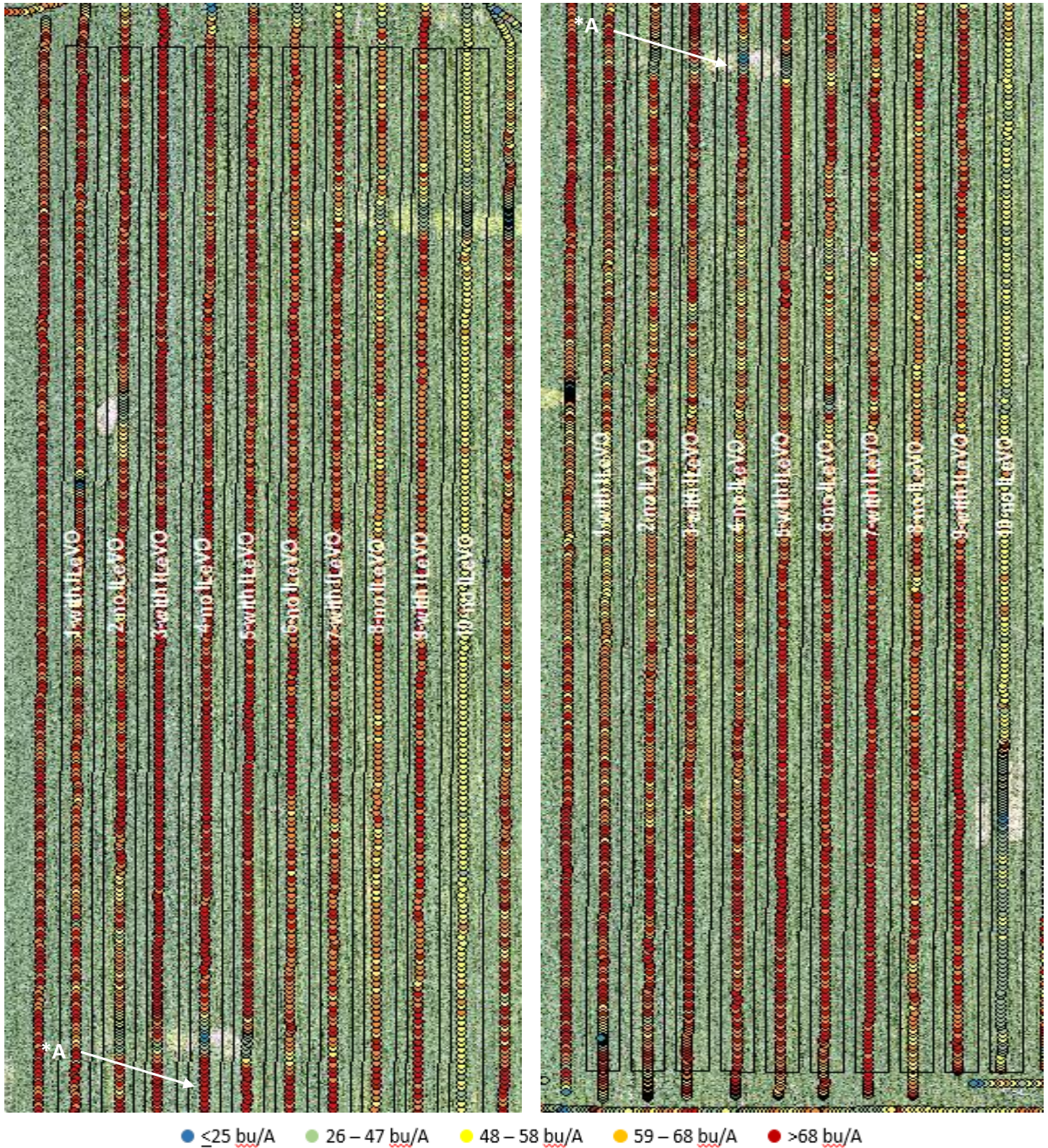
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**Figure 1.** Aerial photography August 23, 2017, showing strip trial in the north (left) and south (right) parts of the field.



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**Figure 2.** Yield monitor data reported as bushels per acre. Field was harvested September 25, 2017.

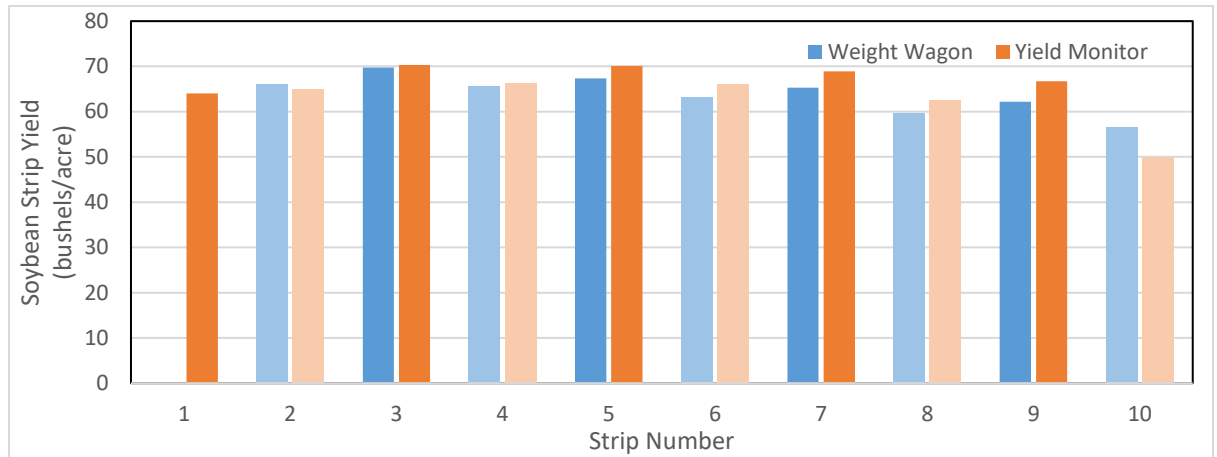


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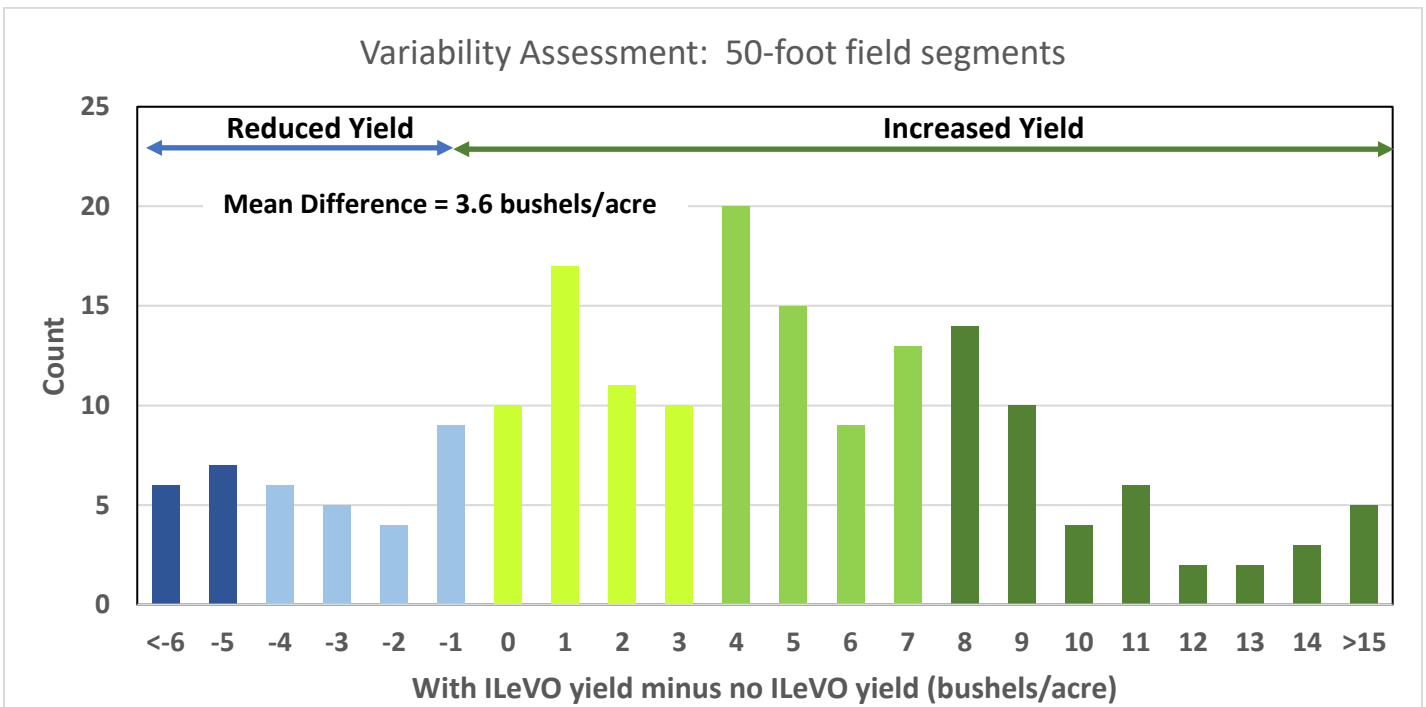
**Table/Graph 1. Whole Strip Yields:**

Mean yield for the first eight strips was 66.6 bu/A (68.3 bu/A with ILeVO; 64.9 bu/A without ILeVO).

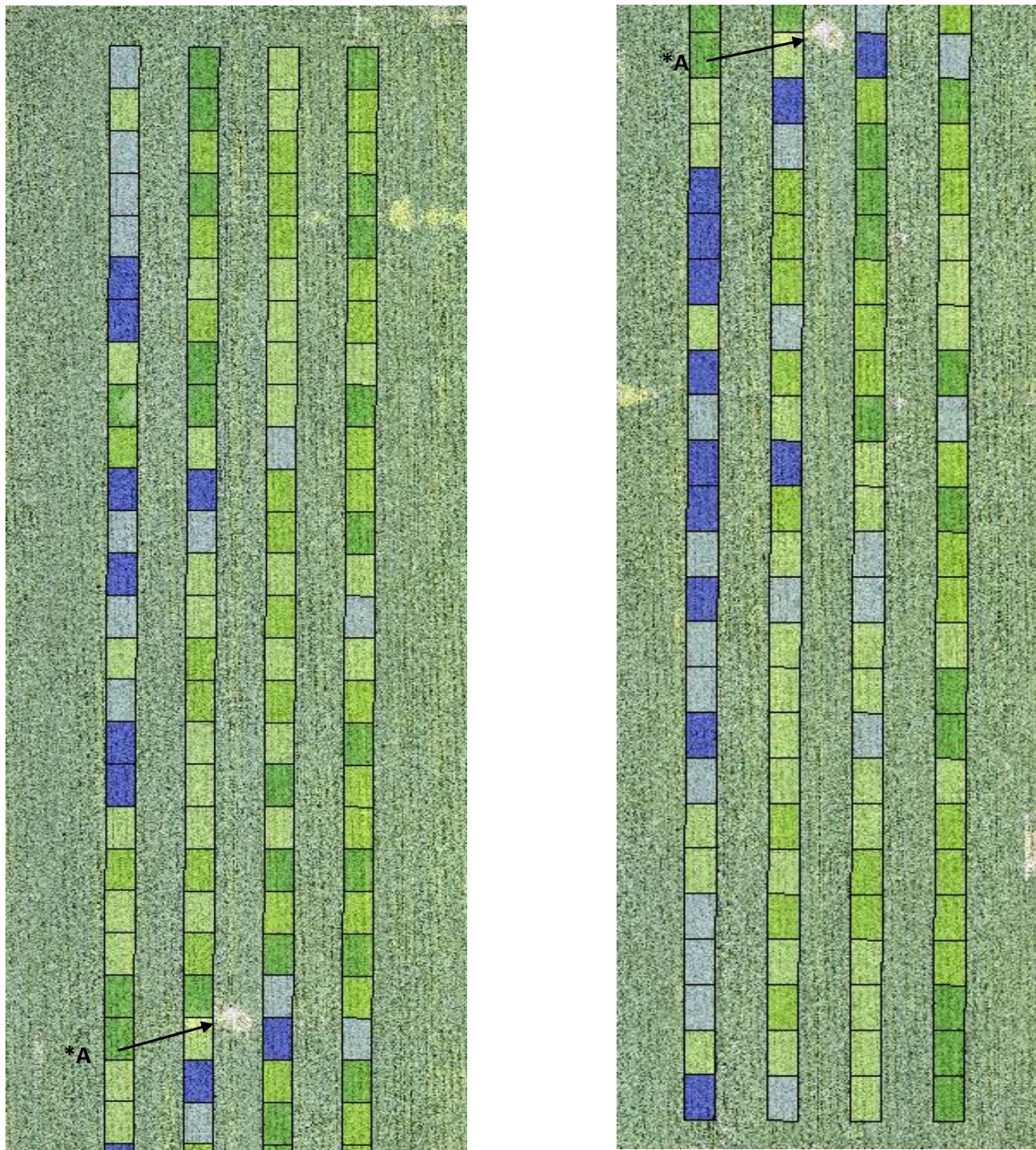
Strip	1	2	3	4	5	6	7	8	9	10
ILeVO?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Weigh Wagon (bu/A)	-	66.0	69.8	65.6	67.3	63.2	65.3	59.5	62.2	56.6
Yield Monitor (bu/A)	64.0	64.9	70.3	66.2	70.1	66.0	68.9	62.4	66.7	50.0



**Graph 2. Field variability in 50-foot segments: Yield difference calculated as with ILeVO yield minus without ILeVO yield.**



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**Figure 3.** Field variability in the yield effect of ILeVO: Colors match previous figure. Green segments are where delta yield (ILeVO minus no ILeVO) effect was  $\geq 0$ ; blue colors are where yield effect was negative. North part of field is left and south part of field is right. Rain caused harvest problems on strip 10 so data was not included in the analysis.

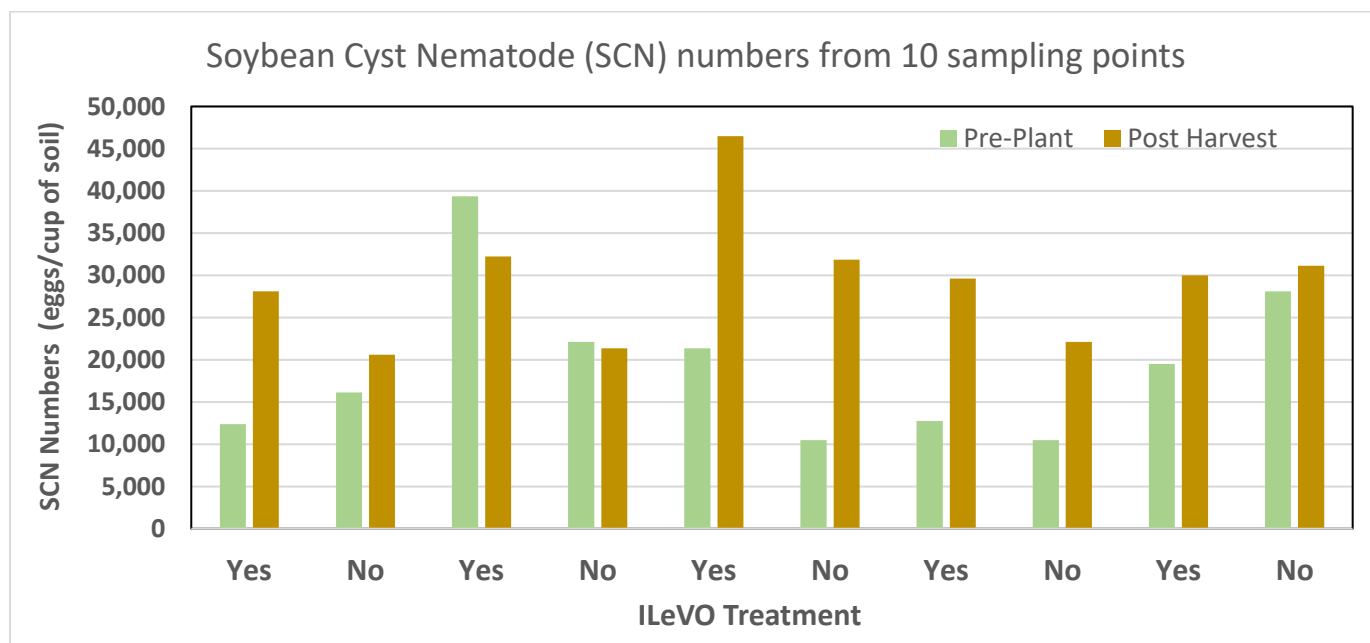


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**Table 2.** Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup or soil).

Treatment	Pre-Plant		Post-Harvest	
	SCN (eggs/cup)	SCN Rating	SCN (eggs/cup)	SCN Rating
With ILeVO	12,375	High	28,125	High
No ILeVO	16,125	High	20,625	High
With ILeVO	39,375	High	32,250	High
No ILeVO	22,125	High	21,375	High
With ILeVO	21,375	High	46,500	High
No ILeVO	10,500	High	31,875	High
With ILeVO	12,750	High	29,625	High
No ILeVO	10,500	High	22,125	High
With ILeVO	19,500	High	30,000	High
No ILeVO	28,125	High	31,125	High
Mean	19,275		29,363	

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



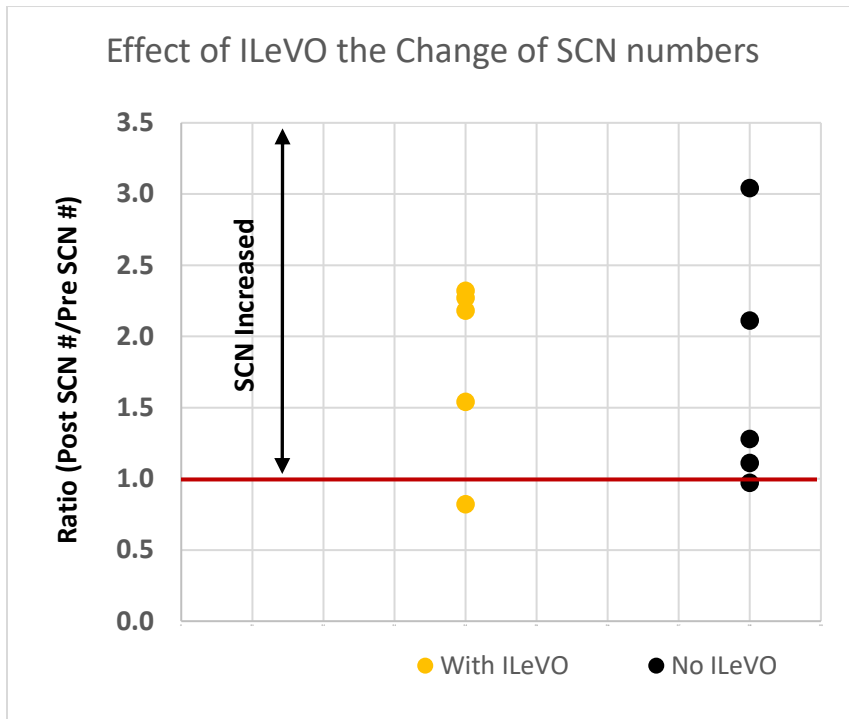
Samples were taken 4/20/2017 (pre-plant) and 10/11/2017 (post-harvest) in the same 10 locations in the field. Sampling points were 12 feet circles along transect across the plots about 500 feet from the southern edge of the strips.

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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 1.8 times higher (nearly doubled) in fall compared to spring. There was no evidence that ILeVO affected this change.

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## Management Information

Location characteristics:	Trial size: 23 acres	Dominant soil type: Silt Loam	
Crop rotation:	Previous crop: Soybean	Current crop: Soybean	
Soybean variety:	Beck's 394L4	SCN resistant: Yes	SDS resistant: Yes
Agronomic information:	Planted: 4/24/2017	Harvested: 9/25/2017	
Other seed treatments:	Escalate		
SDS history:	History of SDS: No	Confirmed SDS in 2017: No	

## Location Notes:

- This field was an ILeVO treated field that had five strips of no-ILeVO seed.
- Weigh wagon weights were also available for strips 2 through 10. Yields from strips 3 through 9 were used to assess the yield monitor calibration. Wet weight yields were 2.3% underestimated by the yield monitor and dry matter yield was over estimated by 3.9%. These are well within expected accuracy for a farmer yield monitor.
- Rain fell while strip 10 was harvested. The resulting yield monitor yields underestimated wet grain harvested by 10% and grain dry matter yield by 15% compared to the weigh wagon yield. Consequently yields from strips 9 and 10 were not used in this analysis.
- Scouting did not indicate any evidence of sudden death syndrome in this field.
- There were strips visible in the August 23rd aerial imagery that were not associated with the ILeVO treatment. They clearly extended outside of the strip trial area.

