

MU Certified Strip Trial Program

2017 ILeVO® Trial Harvest Report

Site number: 20

County: Lafayette

Extension Contact – Wyatt Miller, Agronomist

Results Summary

- This analysis was based on 14 strips that were 350 feet long. See location notes for more explanation on data used in the analysis.
- Whole strip yields indicate ILeVO increased yield 1.5 bushels per acre. There was no evidence that this difference was statistically significant.
- Scouting indicated Sudden Death Syndrome at this location.
- Soil sampling in spring indicated primarily moderate levels of Soybean Cyst Nematode (SCN). There was some increase 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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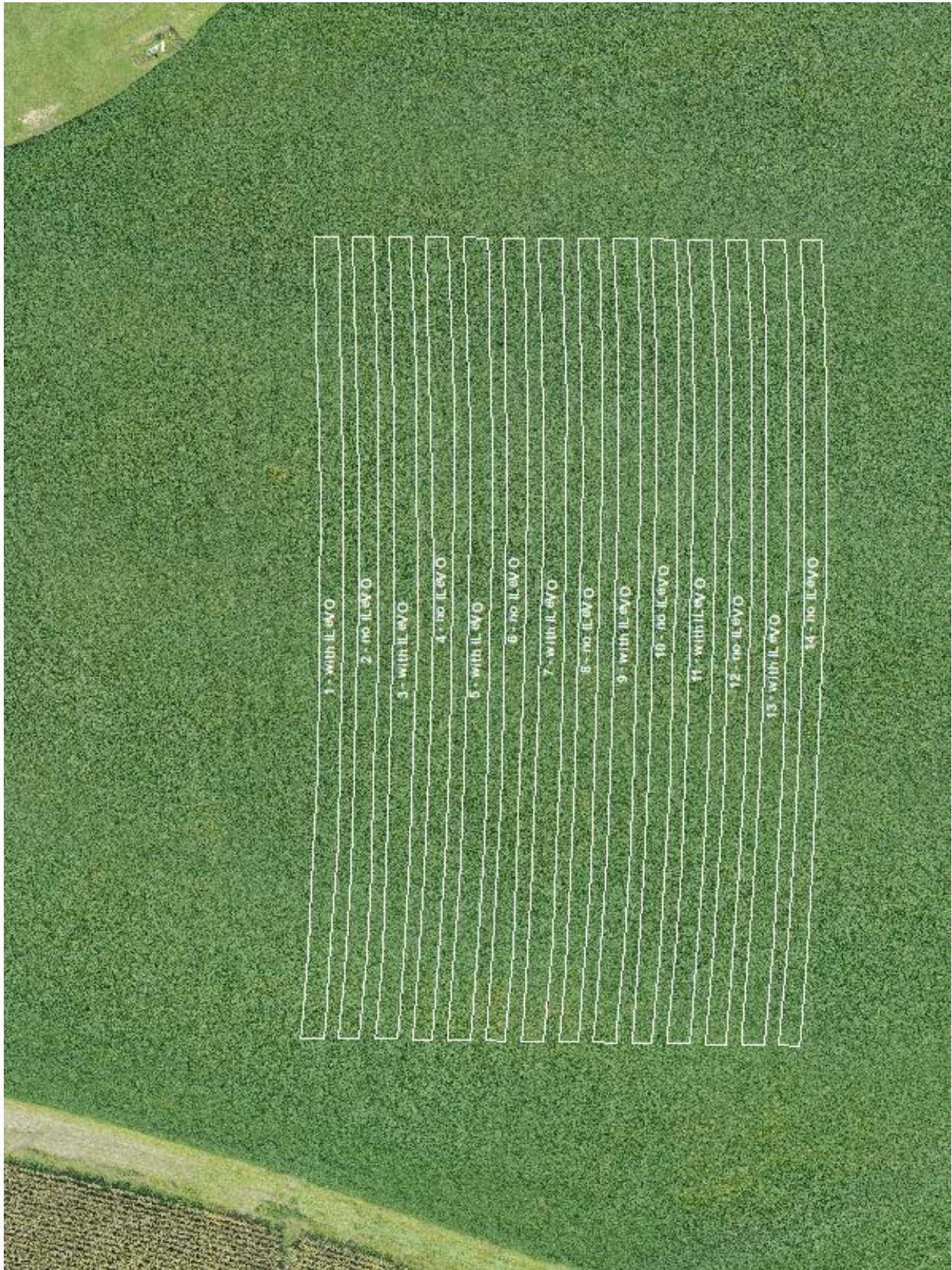


Figure 1. Aerial photography taken September 1, 2017, showing strip trial layout in the field.

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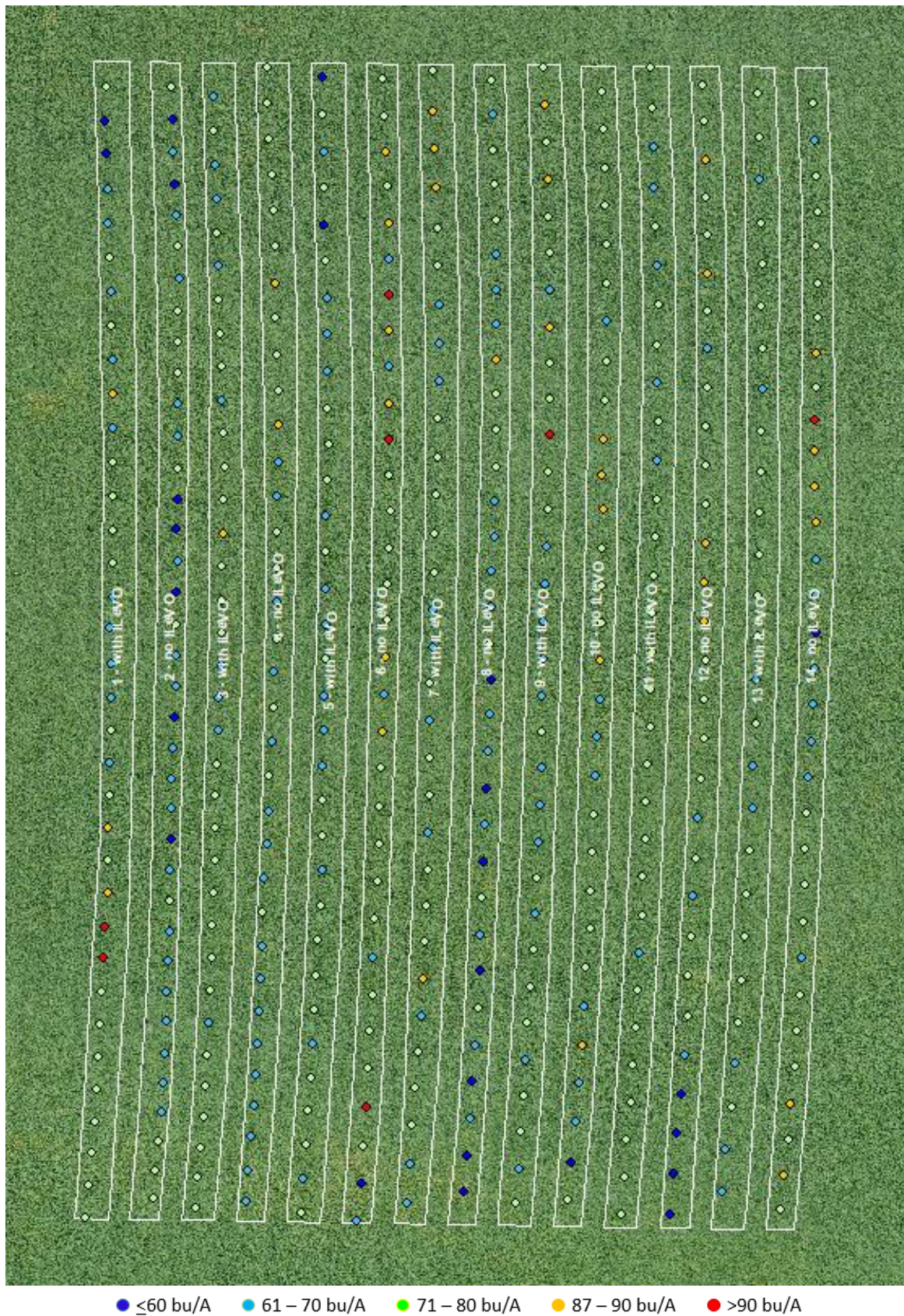


Figure 2. Yield monitor data reported as bushels per acre. Soybeans were harvested October 17, 2017.

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Table/Graph 1. Whole Strip Yields (14 strips, 350 feet long).

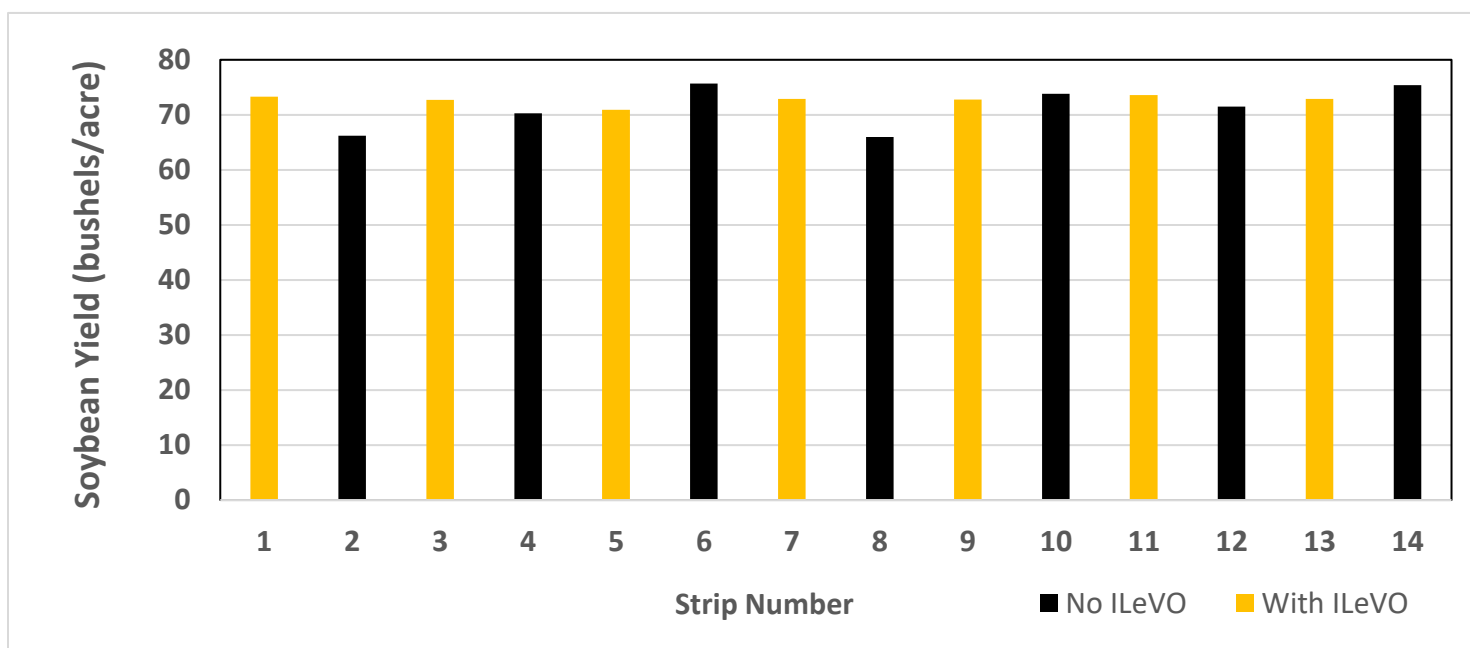
Mean yield: 72.0 bushels/acre

With ILeVO: 72.7 bushels/acre

No ILeVO: 71.3 bushels/acre

There was no evidence that this difference was statistically significant.

Strip	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ILeVO?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Yield (bu/A)	73	66	73	70	71	76	73	66	73	74	74	72	73	75

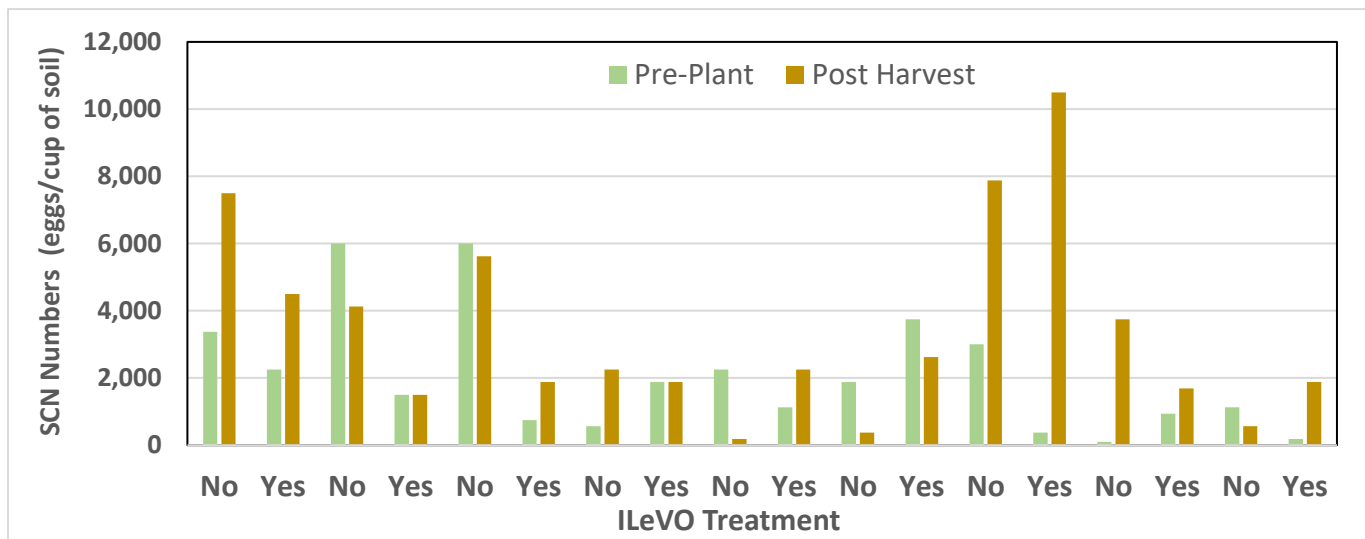


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Table 2. Soybean Cyst Nematode (SCN) soil sampling results (eggs/cup of soil).

	Pre-Plant		Post-Harvest	
Treatment	SCN (eggs/cup)	SCN Rating	SCN (eggs/cup)	SCN Rating
No ILeVO	3,375	Moderate	7,500	Moderate
With ILeVO	2,250	Moderate	4,500	Moderate
No ILeVO	6,000	Moderate	4,125	Moderate
With ILeVO	1,500	Moderate	1,500	Moderate
No ILeVO	6,000	Moderate	5,625	Moderate
With ILeVO	750	Moderate	1,875	Moderate
No ILeVO	563	Moderate	2,250	Moderate
With ILeVO	1,875	Moderate	1,875	Moderate
No ILeVO	2,250	Moderate	188	Low
With ILeVO	1,125	Moderate	2,250	Moderate
No ILeVO	1,875	Moderate	375	Low
With ILeVO	3,750	Moderate	2,625	Moderate
No ILeVO	3,000	Moderate	7,875	Moderate
With ILeVO	375	Low	10,500	High
No ILeVO	0	Low	3,750	Moderate
With ILeVO	938	Moderate	1,688	Moderate
No ILeVO	1,125	Moderate	563	Moderate
With ILeVO	188	Low	1,875	Moderate
Means	2,052		3,386	

Graph 2. Graphical representation of Soybean Cyst Nematode (SCN) numbers pre-plant and post-harvest from 10 sampling points in the field.



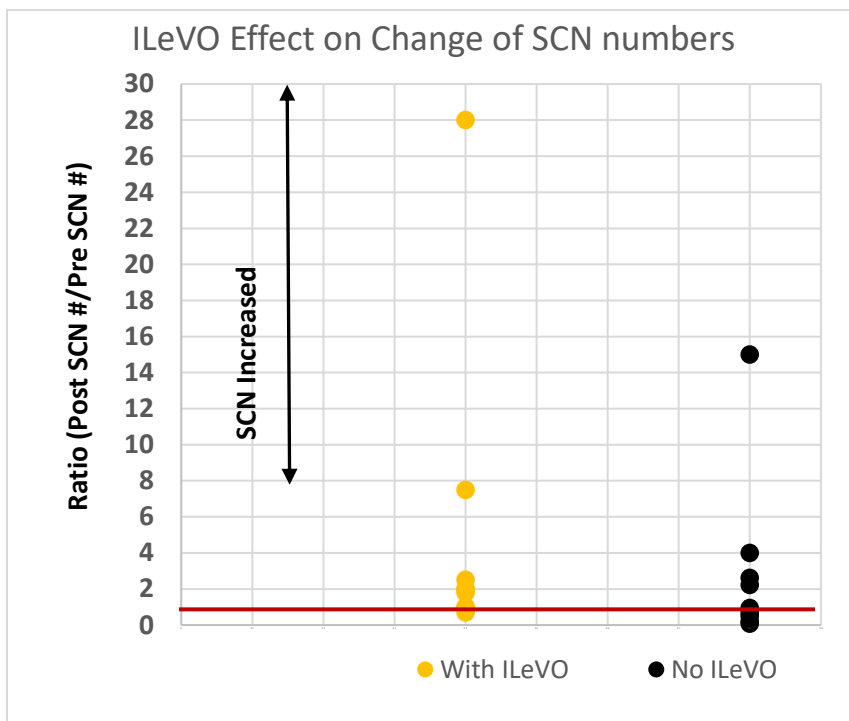
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Soil samples were taken just after planting and after soybean harvest and tested for soybean cyst nematode (SCN). Soil samples were taken 6/22/2017 (early) and 11/9/2017 (post-harvest) from 18 sampling points that were 12 feet circles along transect across the plots about 100 feet from the northern side of the plot area.

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 #/Early SCN #) for each of the 18 sampling points.

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

Graph 3. Increase in SCN numbers between pre-plant and post-harvest samplings.



There was a small increase in between spring and fall. The mean ratio (post-harvest/early) for all strips was 4.0 (5.2 times higher with ILeVO and 2.9 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: 3 acres	Dominant soil type: Silty Clay Loam	
Crop rotation:	Previous crop: Corn	Current crop: Soybean	
Soybean variety:	P41T79L	SCN resistant: Yes	SDS resistant: Yes
Agronomic information:	Planted: 6/1/2017	Harvested: 10/17/2017	
Other seed treatments:	PPST FST (High Rate), IST, 2030 and 120+ Inoculant		
SDS history:	History of SDS: Yes	Confirmed SDS in 2017: Yes	

Location Notes:

- The location was planted with a 13-row planter as a split planter trial with the center box plugged. The result was strips 15 feet wide with a dead row between treatments. The plots were then harvested with a 30-foot wide combine as partial swaths guided by the dead row. To analyze the study, the following decisions were made:
 - The first three strips were significantly shorter and the harvest approach was used for 17 strips. To get strips of uniform length of 350 feet, the remaining 14 strips were used. Strip four in the original layout was strip one.
 - The yields were recalculated using a set swath width of 15 feet. This substantially increased the yields reported in the yield map and were more in line with yields in the rest of that part of the field.
 - Due to the narrow partial swath width and short plot length, within strip variability was not analyzed.
- There was an aerial survey completed September 1, 2017.
- SDS was confirmed at this location.

