



SCN Management: It All Starts with a Good Sample

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Although soybean roots can be examined for SCN females during the growing season, the best estimate of SCN densities is achieved through a good soil sample. After the crop is off and prior to field work is an ideal time to sample fields slated for soybeans in the upcoming growing season.

A few key points about soil sampling:

- A soil probe is the ideal sampling tool although a trowel can be used
- Limit area sampled to approximately 20 acres
- Samples should consist of about 20 cores taken in a zig zag pattern throughout the field, to a depth of 6 to 8 inches
- Combine and mix samples thoroughly, placing 1 pt of soil into a soil sample or plastic bag
- Properly label sample bag
- If sample cannot be sent immediately, store in refrigerator
- Do not expose samples to direct sunlight for an extended time

Sampling Demonstration:

The importance of a representative sample cannot be overemphasized when detecting and tracking SCN field levels. Table 1 illustrates the potential variability that exists due to sampling technique as well as within a sample at 4 locations in MN in 2006.

In this sampling demonstration, a composite sample of 20 cores to a depth of 6 to 8 inches was taken with a soil probe at each location. The composite sample was mixed well and then split and sent into lab for analysis (the composite sample was not split at the Sibley Co. site). The other samples were a shallow grab sample taken at one location in each respective field.

The widest variability between sampling methods was found at the Slayton site. Here the composite sample indicated an average population of 14,150 eggs/100 cc of soil, while grab samples taken from separate spots in the field resulted in populations of 1,125 and 34,450 eggs/100 cc of soil, depending on sampling location. University of Minnesota recommendations state that non-host crops should be grown when SCN levels are greater than 10,000 eggs/100 cc of soil: Management recommendations would have differed greatly depending on which sample was used, illustrating the importance a good, representative soil sample.

This sampling demonstration also illustrates that variability exists within a composite soil sample. Differences ranged from 250 to 1,550 eggs/100 cc of soil between composite sub-samples at a location.

The Kasson site had the most variability between composite sub-samples, with results ranging from 725 to 2,275 eggs/100 cc of soil. These results, however, would not have generated different management recommendations. Overall, variability between composite sub-samples was not as great as variability between single point samples in two of the three comparisons.

Table 1. Field Sampling Demonstration at 4 Locations in Southern MN in 2006. Lizabeth Stahl, Ryan Miller, and David Nicolai, University of Minnesota Extension Service*.

<u>Location</u>	<u>Sample ID</u>	<u>Eggs/100 CC Soil</u>	<u>Comments</u>
Windom	Composite - Split A	1,800	Average of Composite samples = 1,675
	Composite – Split B	1,550	
	On Hill	8,600	Soybeans shorter
	Field Entrance	4,950	Soybeans shorter
Slayton	Composite - Split A	14,650	Average of Composite samples = 14,150
	Composite – Split B	13,650	
	Field Entrance on Hill	1,125	No visual symptoms
	Field Entrance	34,450	Soybeans short & yellow
Kasson	Composite - Split A	2,275	Average of Composite samples = 1,500
	Composite – Split B	725	
	Field Entrance on Hill	650	
	Field Entrance	550	
Sibley Co.	Composite	4,325	
	Field Entrance	11,750	

**Composite samples were taken with a soil probe, consisted of 20 cores to a depth of 6 to 8 inches. Cores were mixed well and then (except for the Sibley Co. Site) the sample was split and sent into lab for analysis. Other samples were a shallow grab sample taken at one location in each respective field.*

For Further Information:

For further information on sampling for SCN, refer to the “Soybean Cyst Nematode Sample Submission Form” found at the Southern Research and Outreach Center’s website: <http://sroc.coafes.umn.edu/> (look under “Nematology”, and “Sample Submission Form”).

Soil samples for SCN can be sent the University of Minnesota’s Nematology lab for analysis. Send samples and check for the appropriate fee (\$20/sample payable to the University of Minnesota) to:

Nematology Laboratory
 University of Minnesota
 Southern Research & Outreach Center
 35838 120th Street
 Waseca, MN 56093
 Phone: 507-837-5649

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