Recognizing SCN damage in the field is not simple and requires a professional diagnosis. Symptoms can range from no visible evidence of plant injury to plant death in certain areas of the field. The symptoms commonly associated with SCN damage are similar to other crop production problems such as potassium deficiencies. The white (or yellow) female is the only visible sign of SCN infection, but they may not be present at the time of sampling. Cysts (brown females) are not visible in soil.
Soybean Cyst Nematode (SCN) Fundamentals

The first reports of SCN in the United States came from North Carolina in 1954. Most likely, SCN came from Japan, where it was first reported more than 75 years ago. SCN is now found in 27 states, primarily in the Southeast and Midwest.

- Most nematodes are too small to see. Adult SCN females are about the size of a period at the end of a sentence, and are much smaller and lighter colored than nitrogen-fixing nodules on soybeans.
- SCN populations take several years to reach significant numbers. Significant yield losses can occur without any apparent above ground symptoms. Yield loss seen in soybeans are the result of infestations that have taken years to build.

Three major stages exist:

- Egg
- Juvenile
- Adult

Under optimum conditions, the life cycle can be completed within 24 - 30 days. Eggs survive within the cyst until conditions are right for hatching and a new generation is unleashed.

What Does SCN Damage Look Like?

The symptoms you can’t see:

- Plant damage and yield loss occur before symptoms are visible.
- Root stunting without associated yellowing.
- Decrease in the number of nitrogen fixing nodules.
- The presence of adult female nematodes and cysts on the soybean roots is the only truly unique sign of SCN infection.

The symptoms you may or may not see:

- By the time symptoms are visible, SCN populations may be very high, thus reducing management options.
- Appearance in the field of circular or oval-shaped areas of stunted, yellowed, less vigorous plants.
- These areas vary in size, and may exhibit a sharp dividing line between stunted and healthy plants.
- Plants growing in heavily infested soils may remain stunted throughout the season.
- Soybean rows in SCN-infested fields are slow to close or fill in with foliage.
- Yellowing of leaves usually occurs in July or August.
- Injury usually is more severe in light, sandy soils, but also may occur in heavier soils.

How Does SCN Cause Disease?

Plants infected with high numbers of SCN have poorly developed root systems that cannot efficiently utilize nutrients and water available in the soil. This results in stunted plants and, often, chlorotic (yellow) foliage. Seed yields are low because fewer pods develop on infected plants. SCN infections by themselves do not reduce seed size, number of seed per pod, or seed quality.
Can Above Ground Symptoms of SCN Be Mistaken with Other Diseases or Maladies?

The symptoms commonly associated with SCN damage are similar to other crop production problems such as iron chlorosis, other nutrient deficiencies, herbicide injury, soil compaction, drought stress, and other soybean diseases.

How Does SCN Spread?

SCN can move through the soil very slowly on its own, but can spread rapidly in a variety of ways, including:

- Wind
- Water
- Farm machinery
- Vehicles and tools
- Animals
- Farm workers
- Seed
  - SCN can spread via seed harvested from infested fields, then planted in uninfested fields.

Soil Sampling for SCN

Sampling to find the level of infestation is critical to managing the damage this pest does to soybean crops. The best time to pull soil cores for SCN testing is as close to harvest as possible. Nematodes grow on the roots of soybean plants and numbers tend to increase throughout the season. Key areas of the field you should test for SCN are field entryways, lower lying flood prone areas, high pH soils, weed infested areas, low yielding areas, and field borders where wind erosion has occurred.

1. Limit the number of acres represented in a single sample. Samples should be limited to a 10 acre area in order to get a good representation of your field.

2. Collect 10-20 soil cores using a probe, hand trowel, or shovel, from 10-20 locations. Samples should be taken to a depth of 6-8" from the plant root zone.
   - Avoid sampling wet or frozen soils
   - Combine the soil in a bucket and mix well.
   - Place 1 pint of soil in a plastic bag or MVTL designated red nematode sample bags.
   - Keep samples out of the sun, at room temperature or cooler, and ship them as soon as possible to the soil lab.

3. Provide the following information when submitting soil samples:
   - Contact information
     - name, address, telephone number, e-mail of person submitting sample
   - Field identification
   - Sample identification - Sample submission form can be found at: http://mvtl.com/CustomerCare/Forms
   - Use MVTL Laboratories designated red sample bags to identify nematode samples.
For more information go to North Central Soybean Research Program-Plant Health Initiative soybean cyst nematode management guide