

5. What does SCN damage look like?

The answer to this frequently asked question is not simple. Visible damage and SCN infestations do not always go together, and SCN cannot always be seen on roots. Professional diagnosis is the way to go, for these reasons:

- Symptoms of SCN infections are highly variable. They can range from none (no visible evidence of plant injury) to plant death in certain areas of the field. In aerial photographs of fields heavily infested with SCN, “hot spots” may be visible [upper right].
- The symptoms commonly associated with SCN damage are similar to other crop production problems such as potassium and nitrogen deficiencies, iron deficiency chlorosis, herbicide injury, soil compaction, drought stress and other soybean diseases [right].
- The young female SCN is white or yellow and is the only visible sign of SCN infection on roots [right]. Young females may not be present at the time of fall soil sampling. Older females, which are brown cysts, are not visible in soil.

In high-yield production fields (greater than 40 bushels/acre) or during years when soil moisture from rainfall or irrigation is plentiful, visible symptoms of SCN damage are rarely seen. Soybean farmers in these situations often notice poor or no-longer-increasing soybean yields over several years, uneven plant height in the field, a delay in canopy closure or early senescence.



SCN Symptoms

Aerial photograph of soybean injury in a heavily infested field in Minnesota. (S. Chen, University of Minnesota)



Early Season Symptoms

Severe SCN symptoms in an infested field in Canada. (A. Tenuta, OMAFRA Canada)



White female SCN are visible on soybean roots. (A. Tenuta, OMAFRA Canada)



No SCN Symptoms

Visible symptoms of plant damage such as yellowing and stunting are not always seen, particularly in high-yield environments. Though not outwardly apparent, this field is infested and experiencing yield loss.

SCN infestations can be confirmed through observation of white females on soybean roots. White females are most readily seen in the field at about the time soybean plants are beginning to flower. In order to see them, the root system must be dug up very carefully with a shovel. Gently remove the soil, because the females are easily dislodged. Although observation of white females will confirm an SCN infestation, it cannot tell you much about the level of infestation. Also, if you dig up roots and don't find white females, that does not mean that SCN is absent. The only way to get a reliable diagnosis is through analysis of a properly collected soil sample by a professional diagnostic laboratory (see Section 6).

Soybean damage due to SCN is frequently misdiagnosed. You can reduce your risk of yield loss by getting a professional diagnosis and knowing your SCN numbers.

The most commonly observed symptom associated with SCN is reduced yield. It's important to remember that visible symptoms of plant damage such as yellowing and stunting are not always seen, particularly in high-yield environments. SCN can cause yield reductions of 15 to 30 percent or more on susceptible varieties that show no visible symptoms of nematode damage. For this reason, we strongly encourage soil testing to identify fields where SCN may be impacting yield, and to monitor fields where SCN is a known problem.