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Get to the Root of the Problem: An Easy Way to Check for SCN

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Abstract
The soybean cyst nematode (SCN) was first discovered in Iowa more than 35 years ago, in Winnebago County in 1978 to be specific. The nematode is widely considered to be the most damaging pathogen of soybeans in Iowa. Results of random surveys of the state funded by the soybean checkoff and conducted in the mid 1990s and again in the mid 2000s indicate that SCN is likely present in 75 percent or more of Iowa fields. SCN has the potential to increase in numbers very quickly, it can cause 50 percent or greater yield loss, and it can survive dormant in the soil for a decade or more in the absence of a host soybean crop.

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The soybean cyst nematode (SCN) was first discovered in Iowa more than 35 years ago, in Winnebago County in 1978 to be specific. The nematode is widely considered to be the most damaging pathogen of soybeans in Iowa. Results of random surveys of the state funded by the soybean checkoff and conducted in the mid 1990s and again in the mid 2000s indicate that SCN is likely present in 75 percent or more of Iowa fields. SCN has the potential to increase in numbers very quickly, it can cause 50 percent or greater yield loss, and it can survive dormant in the soil for a decade or more in the absence of a host soybean crop.

If SCN infestations are discovered in fields when nematode population densities are low or moderate, SCN populations can be kept in check by growing SCN-resistant soybean varieties in rotation with nonhost corn. Also, there are now nematode-protectant seed treatments that can be used when resistant soybeans are grown. Because SCN is widely distributed across Iowa, any field in which soybeans are grown should be checked for the presence of SCN.

Check below ground to be sure

Soybean plants often do not show obvious aboveground symptoms of damage when SCN numbers are low or moderate. It is important to look below ground to check for SCN during the growing season.

To scout for SCN, dig roots and look for the presence of SCN females. The SCN females will appear as small, white objects that are about the size of a period at the end of a printed sentence (Fig. 1).

Fig. 1. White, adult SCN females (at yellow arrows) on soybean root.

SCN females first appear on soybean roots about 30 to 35 days after planting, and then can be found on roots throughout the remainder of June, July, and

into early to mid August. Later in August and September, SCN females can be difficult to find on the roots because they will be appearing on new roots that are growing deep in the soil, and these roots are difficult to dig from the field. SCN females die after they have fully developed and produced all of their eggs; they turn brown and form hardened, protective, egg-filled cysts, which are very difficult to see on roots.

SCN can be found in soil samples, too

Another effective way to check fields for SCN is to collect soil samples. Multiple 1-inch-diameter, 8-inch-deep soil cores should be collected from a sampling area in the field. Many private soil-testing laboratories can process soil samples for SCN. Samples also can be sent to the Iowa State University Plant and Insect Diagnostic Clinic to be tested for SCN. More information about soil sampling for SCN is available in this ICM News article.

Additional information on SCN

For more information about the biology and management of SCN, visit http://www.soybeancyst.info/ and www.soybeanresearchinfo.com/diseases/scn.html. Iowa State University's management recommendations for SCN are available online in a downloadable format, Soybean Cyst Nematode (SCN) Management Recommendations, IPM 63.

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