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Recent soybean yellowing may be symptom of SCN

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Recent soybean yellowing may be symptom of SCN

Abstract

There have been many yellow spots in soybean fields throughout Iowa so far this season. In most cases, the yellowing is iron deficiency chlorosis. But since mid-July, additional yellowing of soybean fields has appeared, and it is likely that at least some of the newly appearing chlorosis is being caused by feeding of the soybean cyst nematode (SCN). SCN usually is present in fields for many years before population densities increase to a level that causes obvious stunting or yellowing.

Keywords

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Plant Diseases

Recent soybean yellowing may be symptom of SCN

by Greg Tylka, Department of Plant Pathology

There have been many yellow spots in soybean fields throughout Iowa so far this season. In most cases, the yellowing is iron deficiency chlorosis. But since mid-July, additional yellowing of soybean fields has appeared, and it is likely that at least some of the newly appearing chlorosis is being caused by feeding of the soybean cyst nematode (SCN).

SCN usually is present in fields for many years before population densities increase to a level that causes obvious stunting or yellowing. So many healthy-looking fields are actually infested with SCN. When yellowing occurs, it generally appears in late July or early August. The yellowing often fades after rainfall but will recur once the soil dries again.

Diagnosing SCN infestations during the growing season can be done by digging roots and looking for the small, white or yellow SCN females on the roots. These females appear as round objects about the size of a period at the end of a printed sentence. Roots can be checked for SCN females from late June throughout August.

But as the season progresses, the new, white, adult SCN females form on new roots that are



Adult soybean cyst nematode females (top pointer) and a single nitrogen-fixing nodule (bottom pointer) on soybean root. (Greg Tylka)

located deeper in the soil as well as farther laterally from the stem of the plant. So when checking for SCN females in August, be sure to dig deep and farther away from the stem to be sure to obtain some of these newer roots. If SCN females are not seen on roots when fields are checked, it is best to check again in a week or so because large numbers of SCN females can appear on roots several days after no or very few SCN females were observed.

Another way to test for the presence of SCN is to collect soil samples from suspect areas of the field. Send these samples to a qualified laboratory for testing for SCN cysts or eggs. Soil samples can be collected anytime between now and the end of the growing season, or even



Stunting and yellowing of soybeans due to soybean cyst nematode. (Greg Tylka)

after harvest. The Iowa State University Plant Disease Clinic offers testing of soil samples for the presence of SCN, as do several private soil-testing laboratories throughout Iowa. Soil samples should consist of 15 or more 6- to 8-inch-deep soil cores collected from no more than 20 acres.

There is nothing that can be done to manage an SCN infestation if it is discovered during the growing season. But nonetheless, it is important that fields be diagnosed properly this year so that if SCN is discovered, management strategies can be implemented the next time soybeans are grown in the field. The specific management recommendations for infested fields will depend on the SCN population density in the field but may include some combination of growing a nonhost crop, such as corn, and planting SCN-resistant soybean varieties.

More information about SCN and how to diagnose infestations is available at county extension offices or from the Extension Distribution Center (515-294-5247). Additional information about SCN also can be found on the Web at www.soybeancyst.info.

Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes.