Scouting for SCN – Time to Get Digging

Gregory L. Tylka
Iowa State University, gltylka@iastate.edu

Follow this and additional works at: https://lib.dr.iastate.edu/cropnews

Part of the Agricultural Science Commons, and the Agriculture Commons

Recommended Citation
https://lib.dr.iastate.edu/cropnews/2637

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit https://crops.extension.iastate.edu/.
Scouting for SCN – Time to Get Digging

Abstract
Iowa's early planting season means that pests like the soybean cyst nematode (SCN) also are off to a quick start this year, which could result in a greater risk of severe damage from SCN throughout the growing season. This nematode is a major yield-reducing pathogen of soybean and is widespread across Iowa and other Midwestern states. Research conducted in recent years indicates that many fields have not been checked for SCN.

Disciplines
Agricultural Science | Agriculture

This article is available at Iowa State University Digital Repository: https://lib.dr.iastate.edu/cropnews/2637
Iowa State University
Extension and Outreach

Integrated Crop Management

Scouting for SCN – Time to Get Digging

June 2, 2020

Iowa’s early planting season means that pests like the soybean cyst nematode (SCN) also are off to a quick start this year, which could result in a greater risk of severe damage from SCN throughout the growing season. This nematode is a major yield-reducing pathogen of soybean and is widespread across Iowa and other Midwestern states. Research conducted in recent years indicates that many fields have not been checked for SCN.

Quick and cheap check for SCN

One of the easiest and cheapest ways to check a field for the presence of SCN is to dig soybean roots with a spade, shake the soil from the roots, and look for small, white, round objects on the roots. These objects are SCN females and each one contains 200 or more eggs. As shown in the figure below, SCN females are much smaller and lighter in color than the nitrogen-fixing nodules that form on healthy soybean roots.
Checking soybean roots in this manner also is a quick and easy way to gauge whether a resistant variety is effectively controlling SCN. Only a few SCN females should be seen on the roots if resistance is working effectively. But if the SCN population present in a field has built up virulence on the resistance genes in the soybean variety, there will be many SCN females present (as shown in the image immediately below).
White SCN females on roots of a resistant soybean variety.

SCN visible on roots dug through mid August

The SCN females fade from white to yellow, then become tan and eventually brown within a few days to a week as the female dies and the body wall hardens to form a cyst around the eggs within. It is almost impossible to see brown SCN cysts on soybean roots dug from a field with the unaided eye. Some white adult females should be apparent on roots of soybeans growing in SCN-infested soil no matter when the roots are dug.

Fields can be checked for SCN by carefully digging and observing roots through June, July, and into mid August. In warm summer soils, SCN can complete a generation in four weeks, ending with formation of new females on roots. The newly formed SCN females occur on younger roots and as the season progresses, those new roots are forming deeper in the soil and farther from the stem of the plant. Therefore, it is advised to dig deeper for roots in July and August to look for SCN females.

Learn more about SCN biology, management, and testing

There is a large amount of information available online about the biology and management of SCN and guidelines on how to scout fields for SCN and how to collect and submit soil

Category: Plant Diseases

Links to this article are strongly encouraged, and this article may be republished without further permission if published as written and if credit is given to the author, Integrated Crop Management News, and Iowa State University Extension and Outreach. If this article is to be used in any other manner, permission from the author is required. This article was originally published on June 2, 2020. The information contained within may not be the most current and accurate depending on when it is accessed.

Crop: Soybean

Tags: SCN soybean cyst nematode scouting resistance

Author: Greg Tylka Professor
Dr. Greg Tylka is a professor in the Department of Plant Pathology and Microbiology at Iowa State University with extension and research responsibilities for management of plant-parasitic nematodes. The focus of Dr. Tylka’s research program at Iowa State University is primarily the soybean cyst n...