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Be Careful with Susceptible Soybean Variety in Rotation to Manage SCN

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Abstract

The soybean cyst nematode (SCN) can be managed effectively by growing SCN-resistant soybean varieties. There currently are more than 700 SCN-resistant soybean varieties available in maturity groups 1, 2 and 3 for Iowa growers. Information on the varieties is available in ISU Extension publication *Soybean Cyst Nematode-Resistant Soybean Varieties for Iowa* (PM 1649, pdf).

Keywords

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Disciplines

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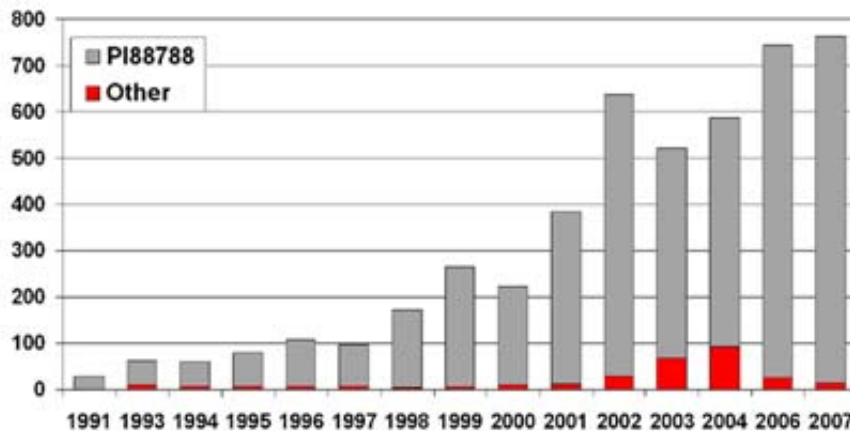
By Greg Tylka, Department of Plant Pathology

The soybean cyst nematode (SCN) can be managed effectively by growing SCN-resistant soybean varieties. There currently are more than 700 SCN-resistant soybean varieties available in maturity groups 1, 2 and 3 for Iowa growers. Information on the varieties is available in ISU Extension publication *Soybean Cyst Nematode-Resistant Soybean Varieties for Iowa* (PM 1649, pdf).

Although not 100 percent effective at preventing reproduction of the nematode, SCN-resistant soybean varieties usually prevent increases in SCN population densities and can even decrease the nematode's numbers throughout a growing season. But since some nematode reproduction occurs on resistant varieties, there is the potential for an SCN

population to become “resistant to the resistance” as resistant varieties are repeatedly grown.

Soybean varieties that are resistant to SCN possess resistance genes from one of four sources of resistance (which are breeding lines). To reduce the chance of a SCN population being selected for that can readily reproduce on resistant varieties, Iowa State University recommends growers use varieties with different sources of resistance in different years. However, almost all SCN-resistant varieties available for Iowa growers have the PI 88788 source of resistance (“PI” stands for plant introduction). So rotating varieties with different sources of SCN resistance is difficult, if not impossible.



Number of maturity group O, I, II, and III SCN-resistant soybean varieties available to Iowa soybean growers, 1991 – 2007. Data were not compiled in 1992 or 2005. The red portion of each bar represents the number of SCN-resistant soybean varieties with resistance from a specific source other than PI88788.

Another tactic that Iowa State University recommends to consider using to slow the development of an SCN population that reproduces well on resistant varieties is growing a susceptible (non-resistant) variety periodically after resistant varieties have been grown a few times. Iowa State University cautions that SCN population densities must be low (2,000 eggs per 100 cc soil or less) before a susceptible variety should be grown in an SCN-infested field. And a good, representative soil sample should be taken from a field prior to determine the SCN population density before **considering growing a susceptible variety**.

SCN causes much greater damage and seems to reproduce at a greater rate in hot, dry growing seasons than in years with adequate to excess rainfall. So if a **severe drought** is anticipated, growers might opt not to grow a SCN-susceptible variety in an SCN-infested field, even if SCN population densities are low.

The **Iowa State University management recommendations for SCN** (IPM 63, pdf) are available online.

Resources

[Check Fields for Soybean Cyst Nematode](#)

www.soybeancyst.info

www.planthealth.info/scn_scout.htm

www.isuscntrials.info

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

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