



SOYBEAN FACTS



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Selecting Soybean Cyst Nematode Resistant Varieties

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Planting soybean cyst nematode (SCN)-resistant varieties is one of the most effective tactics available to growers for controlling this pest. But not all resistant varieties are created equal, so soybean producers should take care when selecting SCN-resistant soybean varieties.

The most important characteristic to look for in any soybean variety is yield. When selecting SCN-resistant varieties, look for yield data taken from SCN infested fields or plots. Select several varieties and evaluate their performance on your farm.

Next, look at the ability of the resistant varieties to inhibit SCN reproduction in infested fields. Varieties vary widely in their ability to reduce SCN reproduction and population densities. Since SCN population density directly affects long-term soybean yields, population reduction should be a primary goal in any SCN management strategy. When evaluating SCN-resistant varieties, farmers are advised to collect soil samples at planting and at harvest or as close to those times as possible. In effective SCN-resistant varieties, the numbers of nematodes recovered from the harvest sample should be lower than the one collected in the spring. After growing resistant varieties for a few years, SCN populations could be low enough to return to a SCN susceptible variety for one year.

There are three main genetic sources for SCN resistance: PI88788, Peking and PI437654. All three allow a low level of SCN reproduction to occur. In a single growing season, this is not a problem. However, if varieties with the same resistance source are continually planted in a

field, the SCN population capable of feeding and reproducing on the resistant variety can reach damaging levels. Growers can prevent this situation by planting SCN resistant varieties with different sources of resistance and adding non-host crops to their rotations.

The final attribute to consider when selecting SCN-resistant varieties is disease tolerance or resistance. The severity of sudden death syndrome and brown stem rot is increased by SCN infestations. Selecting varieties that are tolerant to these diseases usually improves performance in fields with a history of infestations.

Seed dealers are an excellent source of information on disease tolerance and sources of SCN resistance. Additionally, printed materials are available from several universities.

Iowa State University conducts the most extensive and comprehensive SCN-resistant variety trials in the U.S. The annual report, ISU Extension publication IPM 52, provides data on yields and the effect each variety has on SCN reproduction and population reduction. The 2006 report is available online at www.isuscnavarietytrials.info or by request by calling 515-294-1741.

The University of Minnesota and Michigan State University also conduct SCN-resistant variety trials including yields and SCN population reduction effects. The 2006 Minnesota data are available online at www.extension.umn.edu/cropnews/2006/06MNCN61.htm and the 2006



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MSU data from Michigan will be available by February 2007 at <http://web1.msue.msu.edu/soybean2010/>.

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