



**Soil Sampling, Rotating SCN Sources of Resistance Help Long-Term SCN Control**

*Pioneer experts recommend sampling soil, rotating crops and sources of SCN resistance*



# NEWS RELEASE

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**Soil Sampling, Rotating SCN Sources of Resistance Help Long-Term SCN Control**

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**DES MOINES, Iowa**, March 16, 2009 - Soybean growers have a better chance of controlling soybean cyst nematode (SCN) populations by rotating SCN resistance sources and planting non-host crops, say agronomy experts at Pioneer Hi-Bred, a DuPont business. Using only one source of resistance may mean some SCN races aren't controlled. Combining soil testing to determine egg numbers and race along with the right Pioneer® brand variety could go a long way in managing this serious soybean pest.

SCN, the single most damaging pest of soybeans, continues to spread in northern areas of the Corn Belt. Managing this pest requires scouting, sampling, and rotating crops and sources of SCN resistance.

"Soil sampling and rotating sources of SCN resistance act as a check and balance for growers," says Jim Boersma, Pioneer area agronomist based in Minnesota. "Growers can monitor SCN management by sending soil samples to their University nematode laboratory every few years. Rotating sources of resistance is vital to ensure one race or population of SCN doesn't become dominant."

To further understand the impact of SCN and its life cycle, Pioneer agronomists and field staff conducted multiple on-farm SCN trials in 2008. The goal was to compare the increase in SCN egg density

for one growing season that occurs when three types of varieties are planted: nonresistant, PI88788 source resistant and Peking source resistant. Four varieties were planted in 25 different Minnesota sites: a Pioneer variety with the PI88788 source, a Pioneer variety with the Peking source, a Pioneer variety with no SCN resistance and a competitor's variety with the PI88788 source. The Peking and PI88788 are two sources of SCN resistance used by Pioneer soybean breeders to decrease the egg count of SCN.

"We found there is significant value using SCN-resistant varieties," Boersma says. "In non-SCN-resistant varieties tested, there was an average increase of nearly 10,000 eggs per 100 cubic centimeters of soil." Soil was collected at each site within each variety plot in both the spring and the fall to measure the seasonal increase in egg density.

At the 25 locations, one of two Peking varieties was planted - Pioneer varieties 90M80 and 92Y20. 90M80 was planted in central Minnesota sites and 92Y20 was planted in southern Minnesota locations. Both varieties were effective in keeping egg counts significantly lower than the non-SCN variety. The PI88788 varieties planted were 91M80 or 92Y30. In the study, the Pioneer PI88788 varieties had a 1 bushel yield advantage on average compared to Pioneer varieties with the Peking source and the competitor PI88788 varieties. Many of the Pioneer varieties with the PI88788 source have brown stem rot protection, which could explain why that source performed well.

"These results show that yield levels were fairly consistent for either source of SCN resistance," Boersma says.

Boersma encourages growers to rotate SCN sources and varieties each year soybeans are planted to keep SCN in check since each source of resistance controls different races of SCN.

"The Peking source controls races 1, 3 and 5 and PI88788 is effective against races 3 and 14," he says. "Make sure you know which source of resistance you are planting."

Pioneer agronomists and extension specialists are confirming that SCN in some fields is no longer controlled by the most common sources of SCN resistance, the PI88788 source, almost certainly due to overuse of this single source of resistance. For this reason, Pioneer breeders use diverse sources of SCN resistance. Pioneer soybean breeders also work with breeding tools such as marker-assisted selection (MAS) and Accelerated Yield Technology (AYT™) methods to develop higher-yielding, genetically diverse and proprietary Pioneer soybean varieties.

"To properly minimize losses from SCN, the bottom line is to use all management tools," says

Boersma. "Growers need to rotate sources of resistance, use crop rotation and soil sample fields to monitor SCN pressure."

For more information on SCN symptoms, development and management considerations, [click here](#).

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