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Fewer But More Diverse Choices of SCN-resistant Soybean Varieties for Iowa in 2019

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Fewer But More Diverse Choices of SCN-resistant Soybean Varieties for Iowa in 2019

Abstract
Soybean varieties that are resistant to the soybean cyst nematode (SCN) have been a critically important tool for managing this pest. These SCN-resistant soybean varieties have allowed farmers to keep SCN numbers in check while producing profitable soybean yields.

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Soybean varieties that are resistant to the soybean cyst nematode (SCN) have been a critically important tool for managing this pest. These SCN-resistant soybean varieties have allowed farmers to keep SCN numbers in check while producing profitable soybean yields.

The number of SCN-resistant soybean varieties that are available for Iowa soybean farmers has increased from less than 30 in 1991 to more than 1,000 in 2017 (see figure below). Iowa State University compiles a list of the SCN-resistant varieties in maturity groups (MG) 0, I, II, and III for Iowa farmers every year in a publication titled “Soybean cyst nematode-resistant soybean varieties for Iowa”. The updated 2018 list has just been released and is available to download for free here.

**Fewer Choices**

There are 820 soybean varieties in the 2018 edition of the publication. That is 182 fewer than there were in 2017 (see figure below). And there are nine fewer brands offering SCN-resistant soybean varieties in the list than last year (28 in 2018 versus 37 in 2017). This is the fewest brands of SCN-resistant soybean varieties represented in the list since the 1990s.

**More Choices**

Since 2006, about 97% of all SCN-resistant soybean varieties available for Iowa have had resistance genes from a breeding line called PI 88788. Prolonged, widespread use of varieties with PI 88788 SCN resistance has resulted in Iowa SCN populations developing elevated reproduction on varieties with PI 88788 resistance. There is great need for SCN-
resistant soybean varieties with resistance from other breeding lines to slow the buildup of SCN populations that can reproduce on varieties with PI 88788 SCN resistance. The second-most common breeding line used to develop SCN-resistant soybean varieties is Peking.

Despite having fewer varieties and brands in 2018 than the past several years, the number of SCN-resistant soybean varieties with a source of resistance other than PI 88788 has increased in this year’s list. There are 35 varieties in this year’s list with SCN resistance from Peking, which is 4.3% of the total number of varieties and 7 more varieties with Peking resistance than were available in 2017.

Nine varieties in the 2018 list with Peking resistance are in MG 0-I, 23 in MG II, and 3 in MG III. This is the first year since 2000 that there has been more than one variety with Peking SCN resistance in MG III.

Managing SCN
Successful, long-term management of SCN requires an active, integrated approach that includes growing nonhost crops such as corn in rotation with SCN-resistant soybean varieties. Also, farmers should seek out and grow soybean varieties with different sources of resistance to grow in different years. And nematode-protectant seed treatments now are available to bolster the performance of SCN-resistant soybean varieties. Fields should be sampled in the fall prior to every second or third soybean crop to monitor SCN population densities. For more information about the biology and management of SCN, visit www.soybeancyst.info and www.thescncoalition.com.

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