

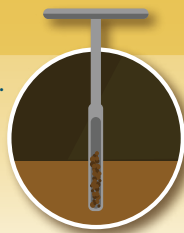
NEW RECOMMENDATIONS

to manage SCN and reset your yield potential.

With SCN populations becoming resistant to PI 88788, managing SCN is more complicated than just planting a resistant variety and assuming you solved the problem.



The SCN Coalition recommends that farmers work with your advisors and develop a plan to actively manage SCN:



- Test your fields to know your numbers.
- Rotate resistant varieties.*
- Rotate to non-host crops.
- Consider using a nematode-protectant seed treatment.

**SCN populations can adapt to individual resistant varieties as well as to sources of resistance such as PI 88788 and Peking. So, rotating to a different resistant variety — even if it's still PI 88788 — may help slow the buildup of SCN populations.*



Ron Heck, corn and soybean farmer from Perry, Iowa, who discovered SCN in his fields in 1996.

“There isn’t anything you can do to get rid of SCN right away. You plant a PI 88788 resistance variety, and then go to corn. Then come back with a different PI 88788 resistance variety, and go back to corn. Then, come back with a Peking resistance, and go back to corn. Then, on the fourth cycle, your yields will be better than you thought possible on those soybeans.”

WHY THE SCN COALITION IS BACK,

two decades later.



The first SCN Coalition formed in 1997, after a survey of 1,325 soybean farmers showed that 65 percent had never tested fields for the No. 1 yield-robbing pest in soybeans.



The first coalition encouraged farmers to test your fields for SCN, and if you had it, manage it by planting a resistant variety: “Take the test. Beat the pest.”



Today 59 percent of farmers are growing SCN-resistant soybean varieties, but most don’t know the resistance source. Because it’s likely PI 88788 resistance, you could be losing yield and not know it. That’s why it pays to know your number.

Visit www.TheSCNcoalition.com for:

- State/provincial-specific SCN management recommendations from your local soybean specialist.
- Contact information for public and private SCN testing labs.
- Links to new SCN management tools and technologies available from SCN Coalition partners.

What’s your number?

Take the test.  Beat the pest.

The SCN Coalition™

Funded by the soybean checkoff

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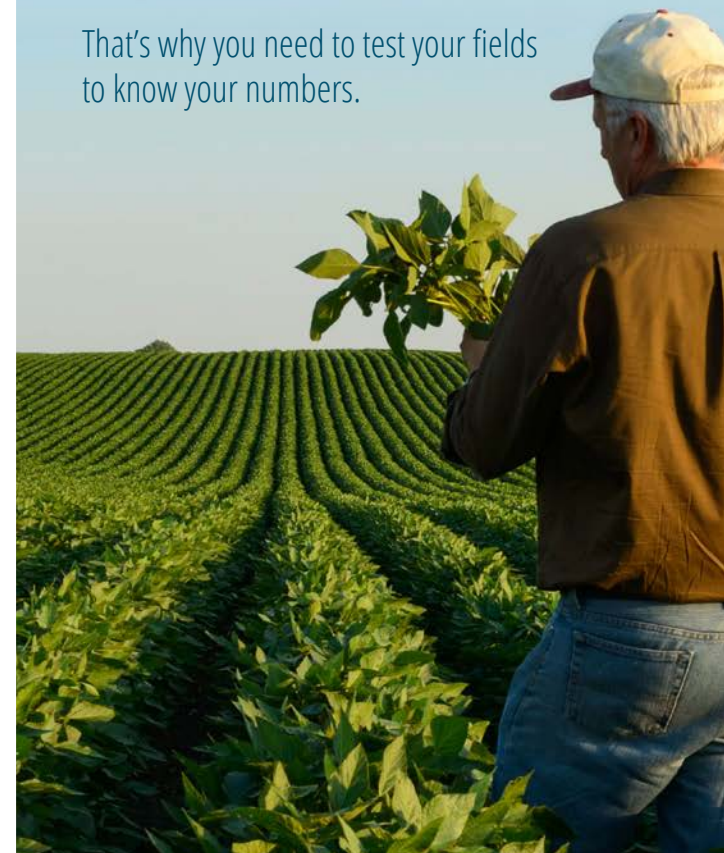
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SOYBEAN CYST NEMATODE

is quietly overcoming farmers’ favorite tool for controlling it: SCN-resistant varieties.

That’s why you need to test your fields to know your numbers.



ALMOST ALL SCN-RESISTANT VARIETIES

have the same source of resistance: PI 88788.

For more than 20 years, greater than 95 percent of all SCN-resistant soybean varieties have contained resistance from the PI 88788 breeding line.

The good news:

PI 88788 resistance is free and it worked great for many years.

The bad news:

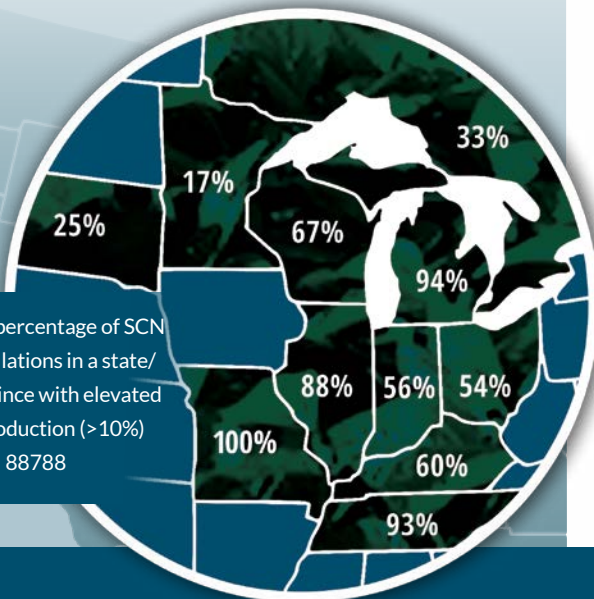
Nematodes are becoming "resistant to the resistance."



The scientific definition of resistance:

A resistant soybean variety should allow less than 10 percent reproduction vs. a susceptible variety. In other words, a resistant variety should stop 90 percent of the SCN in a field from reproducing. Across the region, varieties with PI 88788 resistance aren't hitting the mark. On some farms, one out of every two nematodes can reproduce on a resistant variety.

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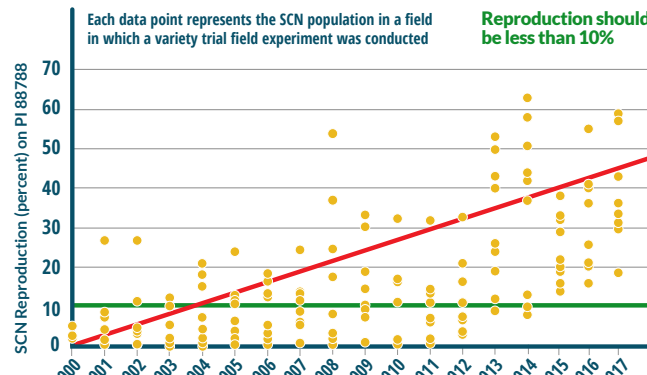
The percentage of SCN populations in a state/province with elevated reproduction (>10%) on PI 88788

NEMATODES ARE FEEDING

and reproducing on PI 88788 resistance.

After 20+ years of using the same source of resistance, we're seeing natural selection in action. **The nematodes are adapting.** SCN populations are increasingly able to reproduce on varieties with the PI 88788 resistance source. **There's no way to reverse this trend.**

Reproduction of SCN populations in fields has increased on PI 88788



McCarville, M.C. et al. 2017. PHP dx.doi.org/10.1094/PHP-RS-16-0062. Additional 2016 and 2017 data provided by G. Tylka, ISU.

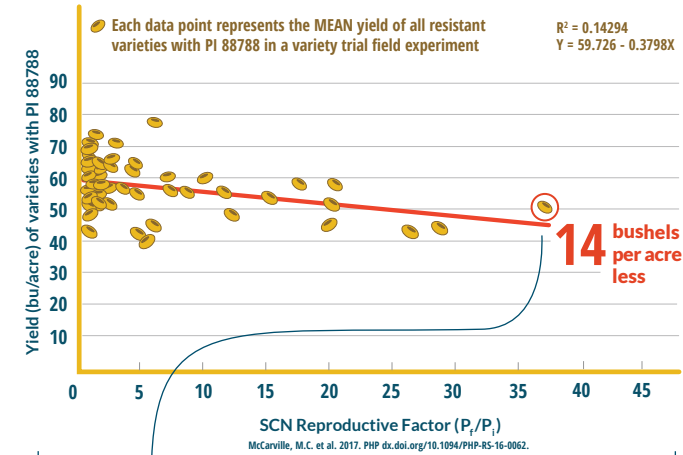
Iowa State University (ISU) researchers have been evaluating resistant soybean varieties for 25 years in variety trial experiments in farmers' fields. Every year researchers take a large soil sample from each farmer's field and test the nematodes on pure PI 88788 and on PI 548402 (Peking) resistance sources. From 1991 to 1999, almost all SCN populations in Iowa farmers' fields were well controlled by PI 88788, and reproduction was below 10 percent. But it topped 10 percent beginning in 2001, and spiked above 60 percent in 2014. This is likely happening in almost all Midwestern states.

AS SCN REPRODUCTION INCREASES,

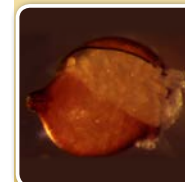
yields decrease.

Yield data from Iowa State University variety trial experiments show that **yields decrease on PI 88788 – by as much as 14 bushels per acre – as SCN reproduction increases.**

Yield vs. SCN reproduction on varieties with PI 88788 resistance



The Reproductive Factor (RF) is the end-of-season number of SCN eggs divided by the beginning-season number of eggs. An RF of 2 means SCN egg numbers doubled from spring to fall. An RF of 4 means egg numbers quadrupled. The last data point on the far right has an RF of almost 40 (a fortyfold increase).



Reduction in yield isn't surprising. More nematodes mean more harm to the soybean plants.