

**Minnesota SCN Sampling and Education Program:
Awareness is the first step towards effective management**

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Objectives

- 1) Develop a MN SCN sampling program to determine incidence and severity of SCN populations (*PI: A. Peltier, P. Glogoza and J. Goplen, in cooperation with S. Naeve and S. Markell*).
 - a. Gain a better understanding of the incidence and severity of SCN infestations in the Northwest region and throughout the state and identify population ‘hot spots’ for further study.
 - b. Share the results of the sampling program through extension- and MSR&PC-sponsored meetings and co-branded publications.
 - c. Deliver a geo-referenced map summarizing incidence and severity based on submitted samples (see uploaded file: 2012-2013 MN-ND SCN survey map).

- 2) Develop a MN SCN education program to stress how sampling to monitor populations is essential for effective management (*PI: A. Peltier, P. Glogoza and J. Goplen, in cooperation with S. Naeve and S. Markell*).
 - a. Increase awareness regarding the threat that SCN infestations pose to soybean yields through the production of regionally relevant educational programs and/or materials for farmers and other agricultural professionals, with the potential for production of short educational videos highlighting SCN-related topics.
 - b. Encourage SCN sample collection by partnering with the Minnesota Soybean Research & Promotion Council to provide check-off sponsored and co-branded educational materials and sampling kits and complimentary analysis of up to 1330 soil samples.

Distribution of sampling materials. While the focus of this program was reaching farmers in the most newly infested NW region of the state, sampling kits were mailed to farmers and landowners by request and strategically placed with cooperators throughout the southern two-thirds of the state to maximize coverage: Phil Glogoza – Moorhead, Jared Goplen – Morris, Randy Pepin – Morrison & Stearns Cos., Dorian Gatchell – Lac Qui Parle, Chippewa, Yellow Medicine, Lyon, Redwood, Renville Cos., Liz Stahl – Worthington, Shane Bugeja – Le Sueur and Blue Earth Cos., Ryan Miller – Rochester, Dave Nicolai – Farmington, Seth Naeve – St. Paul. Soil and Water Conservation District Offices were also engaged in NW counties to position materials where farmers congregate.

Media programming: print. Information about SCN, the sampling program and program results were shared through both the UMN Extension NW MN Cropping Issues Blog and MN Crop News Blog (3,816 page views) and, through press release, was also distributed to the

following print outlets: Bagley Farmers Independent – Stephen Messenger – Middle River Honker – Warren Sheaf – Thief River Falls Times – Crookston Daily Times – Erskine Echo – Fertile Journal – Fosston Thirteen Towns – McIntosh Times – The Exponent – Oklee Herald – Red Lake Falls Gazette – Norman County Index – Halstead Valley Journal – Twin Valley Times – Mahnomen Pioneer. Information was also provided to both a free-lance author for an article in the Minnesota Soybean Business Magazine and author and editor Paula Mohr who wrote a widely-disseminated article for Farm Progress (“The Farmer”).

Media programming: radio. Radio interviews that focused on SCN and the sampling program were as follows: KTRF – May 17, Sep 20, KRJB/KRJM/KKCQ – June 6, Aug 28, KROX - May 17, Sep 20, KKCQ – June 6, KQLX – Oct 23, KRJM – June 6, KOLV – Sep 27, and Red River Farm Network – July 17.

In-person programming. Information regarding soybean cyst nematode (including what it is, how it moves, feeds and limits soybean yield and how best to manage it) was presented to attendees at MSRPC-, industry- and Extension-sponsored field day and plot tour events and meetings. Sampling kits were distributed to interested people at each event. The number of attendees are listed in parentheses.

- 2018 Southern Small Grains Field Day - June 28 - Le Center, MN - (25)
- UMN Extension Small Grains Plot Tours
 - July 16 – Fergus Falls, MN – (37)
 - July 17 - Oklee, MN - (31)
 - July 19 – Humboldt, MN – (23)
 - July 19 – Strathcona, MN – (53)
- UMN Northwest Research & Outreach Center Plot Tour – July 18 - Crookston, MN – (118)
- CHS Plot Tour and Employee Appreciation Day – July 18 – Euclid, MN – (85)
- Agrimax Plot Tour – July 24 – Fisher, MN – (119)
- Apex Agronomy Plot Tour – July 25 – Fertile, MN – (5, although video of in-field presentation was shared via social media)
- UMN Extension SCN-IDC Plot Tour - Aug 14 - Montevideo, MN - (60)
- UMN Extension Soybean Plot Tours
 - Aug 28 - Shelly, MN - (14)
 - Aug 28 - Mahnomen, MN - (12)
 - Aug 29 - Warren, MN - (24)

- Aug 29 - St. Hillaire, MN - (18)
- Aug 29 - Fosston, MN - (26)
- 2018 Olson Seed Farms Channel Plot Tour – Aug 30 – Fertile, MN – (29)
- Premier Ag Plot Tour - Sep 6 - Greenbush, MN - (45)
- Swift County Corn & Soybean Association Summer Meeting - Sep 6 - Clontarf, MN - (30)
- Red Lake County Co-op Plot Tour - Sep 27 - Red Lake Falls, MN - (31)
- Minnesota Bureau of Water and Soil Resources (BWSR) Academy - Oct 29 - Breezy Point, MN - (85)
- Prairie Grains Conference – Dec 13 – Grand Forks, ND – (65)
- Conservation Tillage Conference – Dec 18 – Fargo, ND – (11)
- Norman County Crops Show – Jan 16 – Ada, MN – (85)
- Institute for Ag Professionals Research Update – Jan 17 – Crookston, MN – (71)
- Commercial Pesticide Applicator Training Program – Jan 23 – Thief River Falls, MN – (63)
- Commercial Pesticide Applicator Training Program – Jan 24 – Detroit Lakes, MN – (150)
- Private Pesticide Applicator Training – Jan 29 – Ada, MN – (34)
- Best of the Best Conference – Feb 14 – Grand Forks, ND – (140)
- Best of the Best Conference – Feb 15 – Moorhead, MN – (113)
- International Crop Expo – Feb 18 – Grand Forks, ND – (65)
- Strategic Farming: Maximizing Return on Investment – Feb 26 – McIntosh, MN (36)
- Commercial Pesticide Applicator Training: Seed Treatment Endorsement – Mar 8 – Willmar, MN (104)

Total number of people reached through in-person programs: 1807

Sample results. Samples submitted through this MSR&PC-sponsored program originated from 28 Minnesota counties, with the majority of the 363 samples coming from the most newly infested northwest region (Figure). A sample submitted through this survey included the first infestation documented in Beltrami County. Fewer than half of the samples, concentrated in the northwest counties, had SCN population densities lower than the limit of detection of 50 eggs per 100 cubic centimeters of soil. Among samples testing positive 43% had population densities high enough to cause some yield loss on SCN susceptible varieties, 38% had densities high enough to

cause yield loss on SCN resistant varieties, and 7% had densities so high that yields would be impacted enough that soybeans would not be recommended (Chen, 2011).

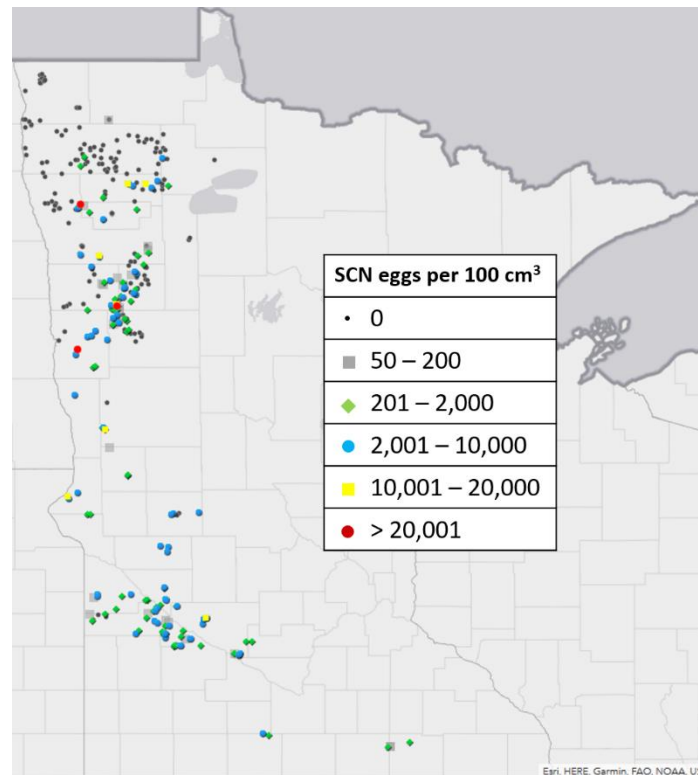


Figure. SCN population densities at locations sampled as part of the 2018 MSR&PC-sponsored SCN sampling program.

What program participants are saying. In a follow-up survey of those who submitted soil samples, only 8% of respondents had previously routinely submitted soil samples for SCN analysis and 44% had never. Twenty-six percent of respondents were not previously aware that their field(s) were infested with SCN and for 21% the SCN population density was much higher than anticipated. As a result of this SCN sampling program, 91% indicated that they were likely or extremely likely to continue to periodically collect SCN soil samples. As a result of learning their sample's SCN egg counts respondents plan to actively manage SCN, with 47% planning to plant an SCN resistant soybean variety and 29% planning to plant a crop that is not a host of SCN.

Reference

Chen, S. (ed.) 2011. Soybean Cyst Nematode Management Guide. UMN Extension. St. Paul, MN.