

Fighting SCN with Sampling and Awareness

The Situation

Since identified in Richland County in 2003, Soybean Cyst Nematode (SCN) has been moving north and west throughout North Dakota. Management tools are available if SCN is identified on a farm, but it is notoriously difficult to detect. Yield losses of 15-30% will occur before *any* above-ground symptoms appear, and when symptoms do show up, they are not specific to SCN (yellow spots in fields). The most reliable way to detect SCN is through soil-sampling specifically targeting the pathogen.

Extension Response

The Extension Service worked jointly with the North Dakota Soybean Council to increase SCN sampling among growers by distributing to growers SCN sample bags, providing clear and useable instructions and covering the cost of the SCN test. Sample bags were distributed at County Extension Offices throughout the state. Each submitter received test results through the mail, and the NDSU Extension Service received geospatial points to map SCN distribution. All of the testing was done by Agvise Laboratories, a regional company offering soil testing services.

Impacts

Increase in grower sampling

Since the program began in 2013, approximately 3,000 SCN samples have been submitted through the SCN Sampling program.

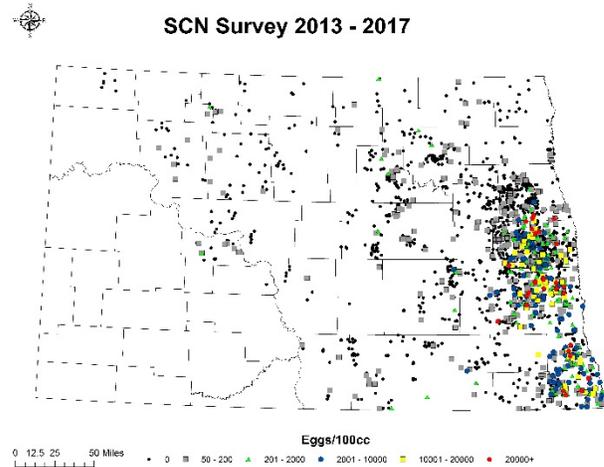
Power of a test

Each year, new and unique locations with SCN are identified. A positive find is the critical first step that will help a grower prevent yield loss on their farm in future. Conversely, a negative sample gives a grower greater comfort selecting the best variety for their farm, even if that variety is SCN susceptible.

Identification of new areas of concern

Since 2013, seven new counties have been identified as having SCN and new 'hot spots' (local areas with very high levels of SCN were identified) were identified in several counties (Figure 1).

Figure 1. SCN (eggs/100cc) distribution between 2013 and 2017 in SE ND.



Economic Impact

The economic impact occurs with every grower who identifies and manages SCN. In North Dakota, the value of planting resistant varieties when SCN is present (and the environment if favorable) is approximately a 40% yield increase. Using a 40 bu/acre average expected yield, a market price of \$10/acre and an average field size of 160 acres, the value of SCN detection and subsequent management could be \$25,600 per field. Given that many hundreds of positive samples have been identified, the value of this program is likely tens of millions of dollars.

Public Value Statement

Protecting North Dakota soybeans from new and emerging diseases helps protect the nation's food supply, keeps more money in North Dakota farmer's hands and strengthens our local economy.

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Cooperator Acknowledgement

North Dakota Soybean Council