Making a difference
NDSU EXTENSION SERVICE
NORTH DAKOTA STATE UNIVERSITY

Identifying Soybean Cyst Nematode

The Situation

Soybean Cyst Nematode (SCN) is an invasive soybean pathogen that was first identified in North Dakota in 2003. Since then, SCN has been slowly moved across the state in soil on equipment, in flood water and by dust storms. When SCN is found on a farm, it can be managed with genetic resistance and crop rotation; however, 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). Early detection of SCN is critical, and 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 growers with SCN sample bags and covering the cost of the SCN test. In 2013, sample bags were distributed primarily at SCN field days and in 2014, sample bags were distributed by County Extension Offices throughout the state. Each grower 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

In 2013 and 2014, 193 and 579 SCN-samples, respectively, were submitted by North Dakota growers using the program established by the NDSU Extension Service and the North Dakota Soybean Council.

Economics

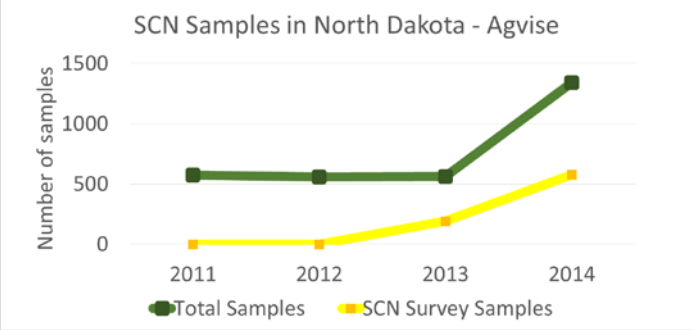
Every grower that first identified SCN as a result of this program will be able to proactively manage a pest that would have caused potentially-devastating levels of yield loss every year soybeans are planted.

Every grower that tested but did not find SCN may be able to select a better variety for their farm by not eliminating SCN-susceptible varieties.

Increase in sampling

As a result of the program, the total number of SCN samples submitted by North Dakota growers (to Agvise) increased dramatically in 2014 (Figure 1).

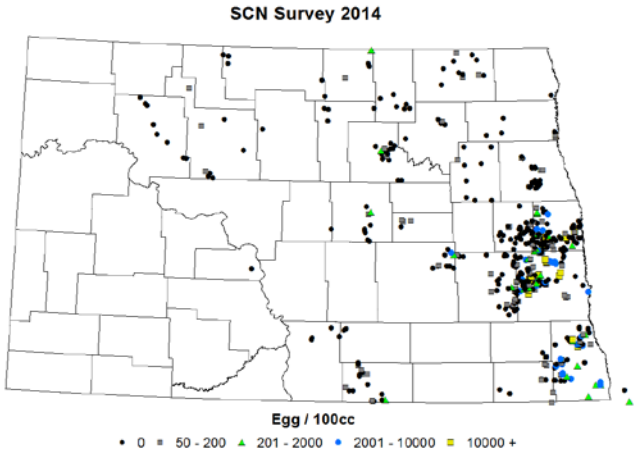
Figure 1. SCN samples received at Agvise



Understanding the spread of SCN

SCN samples showing positive test results were found in several new counties in North Dakota (Figure 2). These points will increase awareness among growers in their counties and will likely lead to additional sampling in 2015.

Figure 2. SCN (egg level) distribution in 2014. (Note: gray squares could be false positives)



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