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## **Iowa Soybean Association and Iowa State University cooperative soybean cyst nematode and corn rootworm beetle survey results**

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### **Project overview**

In cooperation with industry partners, Iowa Soybean Association and Iowa State University (ISU) conducted soybean cyst nematode and corn rootworm surveys across the state. With nearly every county in the state included in the surveys, the results have been informative.

### ***Soybean Cyst Nematode survey***

Soybean Cyst Nematode (SCN) is a damaging pest that costs American soybean farmers 1.2 billion dollars annually. Given the economic impact of SCN on soybean producers, agronomists and researchers periodically attempt to quantify the scope of the infestation across Iowa. Results of a 2007 survey of Iowa, funded by the soybean checkoff, revealed the presence of SCN in 71 percent of 205 randomly selected fields in the state. This percentage was very similar to what was found in an identical random survey conducted in 1995-96.

The ISA On-Farm Network team partnered with Iowa State University Extension and Outreach Field Agronomists to expand statewide SCN survey efforts that ISA had initiated in 2014. Among the goals of the survey were to increase grower awareness of SCN populations, initiate a project map of the state that helps identify SCN frequency by infestation category in different regions of Iowa, and to identify fields for targeting future trials related to SCN.

In 2015 and 2016, two sets of samples were taken per field; a GPS referenced point sample (20 cores/25' radius) and a composite sample (20 cores/20 acres). Fields were sampled early in the season and then late season at the same points.

In 2015, 138 sites were sampled, with 90% of fields sampled having SCN either in the composite or point sample. With this percentage significantly higher than the previous surveys, sample results from the over 100 sites tested in spring and fall of 2016 will be helpful in determining if the percentage of fields with SCN is truly trending upwards. Fall samples are currently being taken for the SCN survey and analysis will be finalized in late fall/early winter 2016.

### ***Corn rootworm survey***

The ISA On-Farm Network partnered with Monsanto, AMVAC and ISU to conduct the statewide survey to help farmers better understand what pressures individual farmers are facing as-well-as to determine what region of the state are facing the problems. To quantify the levels of corn rootworm beetle populations in fields, cooperators deployed sticky traps in more than 180 fields across the state and beetle numbers were tracked from July through August.

The traits and rotations used by farmers were analyzed to determine how these practices are effecting beetle populations. Many of the fields sampled were in first year corn to see if there are more variant northern CRW present in some regions of the state.

The data from the first four weeks of the survey showed that the highest numbers of CRW beetles were consistently in the eastern part of the state (districts three and six) with several locations having more than 100 western CRW beetles per trap. The CRW threshold set by ISU is two beetles per day or about 14 beetles per week, meaning some of these fields are more than seven times the threshold.

In the most recent analysis prior to proceedings printing, Northeast Iowa had the highest occurrence of fields with northern CRW above the threshold with 17 percent of the fields having more than 14 beetles at some point during the survey. Central Iowa was the only other part of the state that had fields that were above threshold for northern CRW.

East-central Iowa had the highest occurrence of fields with western CRW above threshold with about 25 percent of the fields having more than the 14 beetle threshold set by ISU. Northern, central and northeastern Iowa also had a number of fields that were above threshold.

The results from this project have shown there are areas of the state that have a higher risk for having corn rootworm problems. The good news is that the majority of the fields in this region are still getting good control of this pest. For the fields with high populations, farmers need to modify their management strategy. Rotating to soybeans, changing the trait package and adult beetle control are all possibilities when it comes to combatting CRW.

Data collection for the CRW study has concluded and analysis will be finalized in late fall 2016.