SCN Resistance and ISU SCN Variety Trials Funded by the Soybean Checkoff
Each Valued in Millions of Dollars for Farmers from 2011 to 2016

Since 1996, the Iowa State University (ISU) SCN-resistant Soybean Variety Trial Program has assessed the agronomic performance and nematode control of thousands of resistant soybean varieties in experiments conducted in SCN-infested fields across Iowa. The program is supported by soybean checkoff funds from the Iowa Soybean Association (ISA). Annual reports of the results are published (see example below) and made available online at isuscntrials.info. Also, copies of the publications are printed and directly sent to 70,000 to 90,000 households in Iowa and northern Illinois each year.

Cover of the 2019 annual report of the ISU SCN-resistant Soybean Variety Trial Program (left) and two pages of results from an experiment conducted in southeast Iowa. The 2019 report can be downloaded from the ISU Extension Store here.

Economic analyses

Dr. GianCarlo Moschini, Pioneer Chair in Science and Technology Policy in the ISU Department of Economics, and his doctoral student Seungki Lee conducted research to estimate the value of SCN-resistant soybean varieties and the ISU SCN-resistant Soybean Variety Trial Program.

Professor Moschini obtained a proprietary data set that contained soybean seed purchase information for farmers in Iowa and Illinois from 1995 to 2016. The data included the quantity and price paid for seed of specific soybean varieties. Using a discrete-choice seed demand model, Lee and Moschini determined willingness-to-pay values for all SCN-resistant soybean varieties relative to SCN-susceptible varieties. Willingness-to-pay values reflect the usefulness that farmers place on SCN resistance and on the information generated by the ISU SCN-resistant Soybean Variety Trial Program. Lee and Moschini then compared willingness-to-pay values for varieties that were evaluated in the ISU SCN-resistant Soybean Variety Trial Program from 2011 to 2016 to willingness-to-pay values for resistant varieties that were not studied in the trials.

Next, Lee and Moschini also calculated willingness-to-pay values for soybean varieties that performed above the median in terms of yield in the ISU SCN-resistant Soybean Variety Trial experiments and
compared those to willingness-to-pay values for all soybean varieties that were included in the experiments.

Finally, Lee and Moschini estimated the economic surplus or profit provided to farmers by SCN resistance and by the information from the ISU SCN-resistant Soybean Variety Trial Program from 2011 to 2016 using two different methods. And they calculated separate economic surplus values for the benefits of SCN resistance and the benefits of the information provided by the ISU SCN-resistant Soybean Variety Trial Program.

Lee and Moschini did not calculate return on investment figures as part of their analyses.

A synopsis of Lee and Moschini’s analyses and a link to the full report are available on the ISU Center for Agricultural and Rural Development web page here.

**Results of the economic analyses**

- From 2011 to 2016, farmers paid $0.81 per acre more for seed of SCN-resistant soybean varieties than susceptible varieties overall.

- Farmers willingly paid $0.75 more per acre for seed of varieties that were in the ISU SCN-resistant Soybean Variety Trial Program.

- And farmers also paid an additional $1.36 per acre for seed of varieties that yielded in the top half of all varieties in the ISU experiments.

- The economic surplus or profit provided to farmers overall by SCN-resistant soybean varieties in Iowa and northern Illinois was $61.3 million to $62.5 million for 2011 to 2016.

- The profit provided to farmers by the information generated by the ISU SCN-resistant Soybean Variety Trial Program was $66.0 million to $78.8 million for 2011 to 2016.

**Return on investment of soybean checkoff funding**

Dividing the estimated economic value of the information generated by the ISU research to farmers by the $725,000 of soybean checkoff funding provided to the ISU research program by the Iowa Soybean Association from 2011 to 2016, there was a 91:1 to 109:1 return on investment for the soybean checkoff funds supporting the ISU SCN-resistant Soybean Variety Trial Program.

**NOTE:** The economic analyses conducted by Lee and Moschini were not funded by the soybean checkoff. Also, ISU SCN-resistant Soybean Variety Trial Program personnel were not involved in the economic analyses.