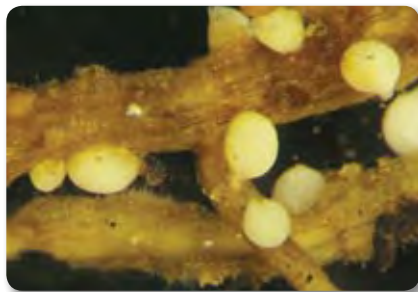


Albert Tenuta

Plant Pathologist, OMAFRA

Soybean cyst nematode (SCN), *Heterodera glycines*, is the most important yield-reducing pathogen throughout Ontario and the U.S. In order to minimize the impact of SCN and educate Ontario soybean producers and the soybean industry/advisors about this very destructive soybean disease, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and Agriculture and Agri-Food Canada (AAFC) are participating in a North Central Soybean Research Program Project in partnership with the Grain Farmers of Ontario (GFO). The aim of the project is to improve SCN management in the northern soybean production areas. This proposal aims to investigate new objectives targeting further reductions in losses and improved SCN management through the evaluations of new nematicidal seed treatments and how these products affect SCN



▲ Soybean Cyst Nematode

populations and soybean yields. Another direct result of this project will be the production of SCN educational materials in conjunction with collaborating north central U.S. states

The 2011 growing season was the first year of this new GFO/MPGA supported three year project. Replicated on-farm trials were established in two or more grower fields in Ontario (Highgate and Harrow) as well as cooperating U.S. States (Iowa, Nebraska, Michigan, Ohio, Indiana, Illinois, Minnesota, Missouri, North Dakota, Wisconsin, Kansas and South

Dakota). Seed treatment nematicides used in this study included Votivo (Bayer CropScience), Avicta (Syngenta) and N-Hibit (Plant Health Care). Varieties used in this study included SCN resistant varieties commonly used for managing SCN and a popular susceptible variety. Data collected included stand counts, disease ratings, yield, seed quality, SCN levels, etc.

The seven treatments included were:

1. Avicta Complete® Beans
2. Apron Maxx
3. Poncho® (500)/VOTIVO® + Trilex 2000
4. Trilex 2000
5. N-Hibit® + Maxx®
6. CruiserMaxx®
7. Untreated

Twenty soil cores were collected at planting and at harvest from each plot in order to best represent the SCN population density (SCN egg density) at each location. A modified HG type (race) test was conducted on the

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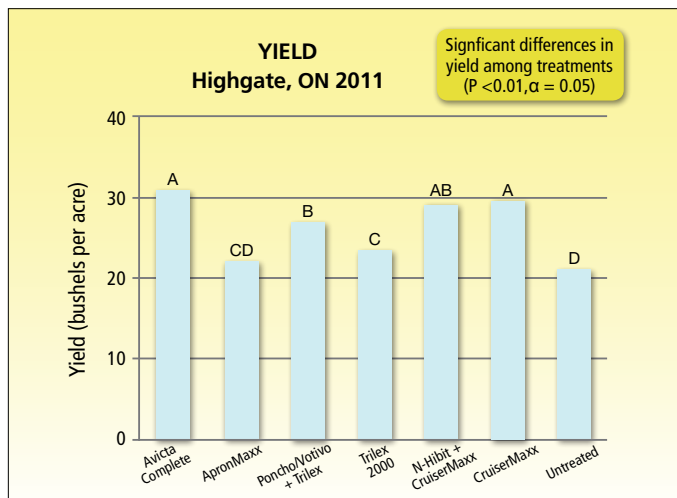
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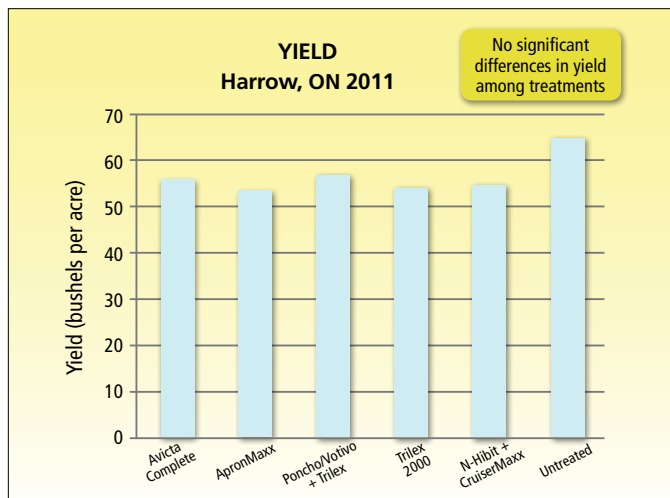


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▼ Figure 1. Yield – Highgate, ON



▼ Figure 2. Yield – Harrow, ON



overall SCN population in each study location. The HG type test included only HG type differential soybean lines (SCN resistance sources) that are used in SCN-resistant soybean varieties available in the north central United States and Ontario (namely PI 88788,

PI 548402, PI 437654, PI 209332). All HG typing was conducted through Dr. Terry Niblack's lab (Extension Nematologist at Ohio State University). In addition, all soybean varieties used for these projects were evaluated for SCN reproduction in the greenhouse.

Significant differences between treatments were observed in Highgate (Figure 1) but not the Harrow trial (Figure 2) location in 2011. In Highgate all treatments yielded significantly better than the untreated controls. However, the products containing a combination of active ingredients (nematicide, fungicide and insecticides) were significantly better than fungicide alone. Although the SCN population level data was not available at time of printing this report, other Ontario field evaluation trials have shown a decrease in SCN levels associated with seed treatment nematicides (Votivo).

This multi-year international project will continue in 2012 and 2013 through funding by GFO and MPGA as part of an international partnership with the North Central Soybean Research Program which is funded through the U.S. soybean check-off. The information generated from this project is being merged with the U.S. data to help generate a consistent management strategy for SCN and provide new technologies for effective SCN management.

For further information on this project please contact:

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U.S. Investigators/Institutions Involved in this Project

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