

Soybean Rust Monitoring In Ontario, Canada

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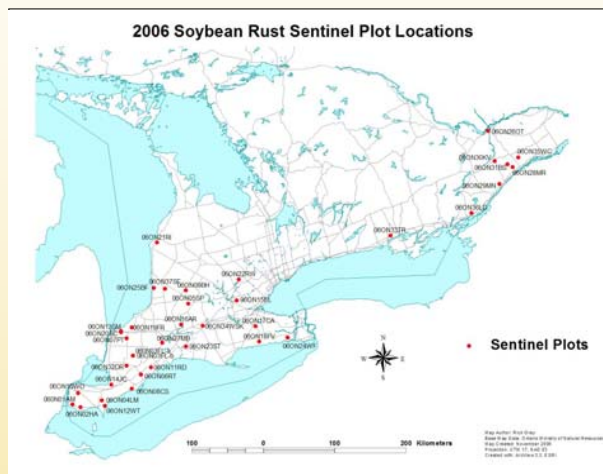
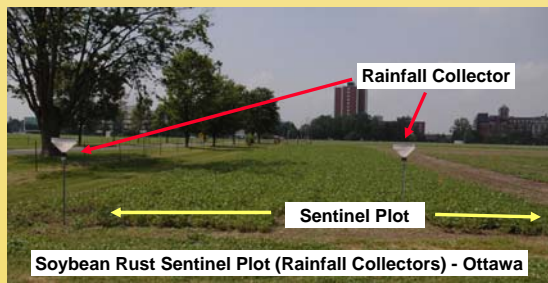
A collaboration between the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), Agriculture and Agri-Food Canada (AAFC) and the Ontario Soybean Growers (OSG).

Introduction

Asian soybean rust (*Phakopsora pachyrhizi*) is a new and invasive fungal disease of soybean in North America. Establishment of the disease in the southern United States and Mexico poses a significant risk to Ontario and Canadian soybean production. The true extent to which soybean rust threatens Canadian soybean production however will not be known for a few more years. Early detection is critical to managing soybean rust and thus efforts were made to monitor movement of soybean rust into Ontario through sentinel plots and spore trapping (passive/active). The Ontario sentinel plot program was set up in conjunction with the comprehensive monitoring program put in place for the 2005 and 2006 growing season by the United States Department of Agriculture (USDA), United Soybean Board (USB) and the North Central Soybean Research Program (NCSRP).

Scouting The Key !

The sentinel plot program involves intensive scouting for symptoms and field evaluations by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in conjunction with Agriculture and Agri-Food Canada and industry partners. Questionable leaf samples and rainfall filtrate samples were screened for the pathogen by Sarah Hambleton with Agriculture and Agri-Food Canada in Ottawa using a rapid PCR-based detection tool developed by the USDA. Scouting results were posted on the USDA website (www.sbrusa.net) and the Ontario Soybean Growers website (www.soybean.on.ca).



Conclusions

Although soybean rust was not detected in Ontario or Canada during the 2005 and 2006 growing seasons, the sentinel plots and spore trapping networks provide an effective “early warning system” and a decision support tool for producers and advisors considering fungicide applications. A “preventative” fungicide for instance, must be applied prior to the disease establishing and this network provides sufficient lead time. In addition, tracking the disease within the province can assist in the switch from “protective” to “curative” fungicides. The sentinel plot system proved to be a very effective and successful tool for producers, extension, consultants and the soybean industry.

Acknowledgements

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Ontario SBR Spore Trap System

In 2006 a preliminary network of JB Rainfall Collectors and passive Syngenta (2) spore traps were established to assist in the possible detection of Asian soybean rust into Ontario, Canada. In 2007 active precipitation collectors (Loda Electronics) will be added.



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