**Soybean Rust Monitoring and Activities In Ontario**

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**Introduction**

Asian soybean rust (Phakopsora pachyrhizi) is a new and invasive fungal disease of soybean in North America and most recently in Canada (Ridgetown, Ontario – October 16, 2007). Establishment of the disease in the southern United States and Mexico poses a potential risk to Ontario and Canadian soybean production. The true extent to which soybean rust (SBR) 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 traps. The Ontario sentinel plot program was set up in conjunction with the comprehensive monitoring program put in place 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 weekly rainfall filtrate samples were screened by Agriculture and Agri-Food Canada in Ottawa using the species-specific real-time PCR (qPCR) assay developed by the USDA. Scouting results were posted on the USDA website (www.sbrusa.net) as well as the Ontario Soybean Growers soybean rust website at (www.soybean.on.ca).

**SBR Spore Trap System Enhanced in 2007**

For the 2007 growing season, additional spore trapping equipment was added to our JB Collector network and placed throughout the province. This enabled the screening of additional rainfall filtrates (Automated Rainfall Collectors) and air samples (Burkard) for the presence of Asian soybean rust spores using a real time qPCR molecular assay (USDA).

**Conclusions**

The first Canadian detections of Asian soybean rust spores (June) and plant infection (October) during the 2007 growing season demonstrates the value of the sentinel plot system and spore trapping network. They provide an effective “early warning system” as well as a decision support tool for producers and advisors considering fungicide applications. The network aids in tracking the disease within the province as well as accessing the overall risk to Ontario and has prevented unneeded fungicide applications. Over the past three years the sentinel plot system proved to be a very effective and successful tool for producers, extension, consultants and the soybean industry.

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