

2017 Research Report

Enhancing late blight management in tomatoes

Prepared for the Ontario Tomato Research Committee (OTRI)

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Research Team:

- Current project lead: Cheryl Trueman (M.Sc.), College Professor, University of Guelph – Ridgetown Campus
- Former project lead: Janice LeBoeuf, formerly with OMAFRA (*Cheryl Trueman assumed the lead for this project after Janice departed OMAFRA)
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Highlights/Summary:

- The objectives of this research were to a) test a spore trapping technology to detect the presence of *Phytophthora infestans*, the causal agent of late blight of tomato and potato, in the processing tomato growing area of Ontario on a pilot basis (two sites), b) alert the industry to the presence of *P. infestans* spores in the growing area, and c) to determine if use of spore trapping can assist growers in the timing of late blight fungicides. These spore traps were tested in Ontario potatoes in 2016 with promising results.
- Late blights symptoms were confirmed in Kent Co., Ontario on June 27, which was prior to the first positive detection of *P. infestans* spores in spore traps in the Wallaceburg and Ridgetown areas on July 3. We did not pursue intensive efforts to notify industry of these detections, since intensive communications regarding the presence of late blight symptoms in Ontario had already begun.
- The spore traps failed to identify the presence of *P. infestans* spores before the first detection of late blight symptoms in Ontario. However, the late blight symptoms were detected in an intensively scouted commercial tomato field. Had the late blight first developed in tomatoes that were not included in a regular scouting program, the positive detections in both traps on July 3 may have been very useful information given the favourable conditions for disease development in 2017. In addition, a higher density of traps may be required to increase the probability of a positive detections.
- Our experience with the spore traps was somewhat negative as they appeared to be quite expensive (>\$700/trap) for the quality of construction. The traps required repairs within two to three weeks of placement. The company (Sporometrics) was receptive to our concerns regarding the traps and indicated that the traps are still in the prototype stage. They also indicated the cost of the traps should decrease in future years, although it is unclear when the final price may be and when the trap cost will be reduced.

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