

SCIENCE BULLETIN:

EARLY WARNING RESEARCH VERIFIES THE OAK WILT THREAT IS REAL



Insect samples collected in 2019 from traps placed along the Ontario border tested positive for DNA of the oak wilt pathogen (*Bretziella fagacearum*). The research project for which the samples were collected is a collaboration between the Canadian Food Inspection Agency, Natural Resources Canada and the Ontario Ministry of Natural Resources and Forestry. The samples tested using modern genomic

techniques were comprised of insects collected in traps. Confirmatory tests are ongoing for all samples collected in this study.

These beetle samples do not confirm a detection of oak wilt infected trees in Canada. A detection requires a find on an oak tree. Nor does the DNA confirm the fungus was alive at the time of insect collection.

This research result indicates that the use of traps as an early warning system is working and reinforces the need to be vigilant for this pest, given that it is present in the State of Michigan, including sites only a few kilometers from the Canadian border. Further research is being planned to improve this early warning detection method.

There are many hypotheses to explain this detection. It is unknown if the sap beetles found in traps originated inside Ontario or travelled by wind from oak wilt infested locations near Ontario's border.

Surveys will be needed to determine if infected trees are present in the vicinity of the trap location or adjacent areas. This situation offers a great opportunity to work with our partners and to increase public awareness about this pest.

The Oak Wilt Technical Advisory Committee discussed this research result and members agreed to collaborate on communication efforts to enhance public surveillance for this pest in the area.

A response framework has been developed for this pest and is publicly available at:

<https://www.inspection.gc.ca/plant-health/plant-pests-invasive-species/plant-diseases/oak-wilt/response-framework/eng/1563898431188/1563898479048#a8>