

# Progress Toward the Development of a Model to Quantify the Efficacy of Detection Strategies for *Phytophthora ramorum*<sup>1</sup>

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## Abstract

The emergence of sudden oak death and the continuing appearance of new incidences have prompted a coordinated federal, state and local effort to manage the risk of spreading the causal agent, *Phytophthora ramorum*, through nursery stock within the USA. The wide host range, the commonality of symptoms with other pathogens, and environmental influences complicate detection of this pathogen. A mathematical model is under development to evaluate the effectiveness of different strategies to detect *P. ramorum*. The model uses event sequence diagram analysis to compare selected strategies. An event sequence diagram sequentially illustrates individual events that can occur in a system along with their subsequent probabilities. Aggregated expert judgment data are used to supplement empirical data. The advantages and disadvantages of the novel use of this model are highlighted.

*Key words:* *Phytophthora ramorum*, sudden oak death

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