

# New Technologies to Detect and Monitor *Phytophthora ramorum* in Plant, Soil, and Water Samples<sup>1</sup>

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## Abstract

The focus of our research efforts has been to develop methods to quickly identify plants, soil, and water samples infested with *Phytophthora* spp., and to rapidly confirm the findings using novel isothermal DNA technologies suitable for field use. These efforts have led to the development of a rapid ImmunoStrip<sup>®</sup> that reliably detects virtually all strains of *Phytophthora* spp. in plant, soil, and water samples within minutes. Two formats of a rapid molecular method were developed to accurately confirm the results. These methods are able to specifically identify *P. ramorum* in crude extracts prepared from distilled water, rain water, pond water, sandy soil and loamy soil at concentrations as low as 125pg/ul of sample. This detection paradigm allows for accurate monitoring of the location and spread of *P. ramorum*, giving field personnel the necessary tools required for mitigation actions with confidence.

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