

Widmer, T.L. and Dodge, S.C. 2009. Susceptibility of sprouted oak acorns to *Phytophthora ramorum* zoospores. *Phytopathology* 99:S205.

Phytophthora ramorum is a recently emerged pathogen having established in Europe and several western U.S. states, including California and Oregon. It has a wide host range and is a threat to forest ecology and the nursery industry. In California, coast live oak (*Quercus agrifolia*) is a major host in natural settings. Although *P. ramorum* has not established in the eastern U.S., artificial stem and foliar inoculations have demonstrated that native eastern *Quercus* spp. are susceptible when inoculated with sporangia. The purpose of this study was to determine if the primary roots of different *Quercus* spp. native to the eastern U.S. could be infected by *P. ramorum* zoospores, which could be released from sporangia into natural water run-off. Sprouted acorns of *Q. rubra*, *Q. palustris*, *Q. coccinia*, *Q. alba*, *Q. michauxii* and *Q. prinus* were exposed to motile zoospores (3000/ml) of *P. ramorum* for 1, 6, or 24 h, rinsed in water to remove any nonattached cysts, and transplanted to potting soil. After 4 weeks, the roots were weighed, surface sterilized, plated on PARPH+V8 selective medium and incubated for 5 to 7 days at 20°C. Developing *P. ramorum* was identified visually based upon colony morphology and characteristic chlamydospores and sporangia. Results showed that the primary roots of all oak species tested were susceptible to *P. ramorum* zoospores, and that infection could occur when exposed for only 1 h to the inoculum. Root weights were not negatively impacted by exposure to *P. ramorum* after 4 weeks, regardless of the oak species ($P = 0.746$).