

Development of Detection Methods for *Phytophthora ramorum* in Georgia¹

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Abstract

Since 1995, large numbers of tanoaks and oaks have been dying in the coastal counties of California. The death of these trees has been attributed to *Phytophthora ramorum*, the pathogen responsible for the syndrome commonly called Sudden Oak Death. In April 2004, *P. ramorum* infected nursery stock was shipped from California to many eastern states, including Georgia. At present, 16 nurseries in Georgia have confirmed the presence of infections of *P. ramorum* on nursery stock. In addition, some plants were sold to the general public before the nursery stock could be quarantined. *P. ramorum* has a wide host range that includes eastern oaks and ericaceous plants species. Many genera of east coast plants could support *P. ramorum* sporulation, particularly the ecologically and economically important eastern red oaks. This study will evaluate various methods of detection and baiting for *Phytophthora* propagules in water and on vegetation from different ecotypes throughout Georgia. Temperature and humidity will be monitored throughout the year to characterize the range of these parameters in Georgia forests, where potential *P. ramorum*-susceptible hosts occur. This information will help determine if southeastern forests contain microhabitats suitable for *P. ramorum* development. Our preliminary surveys of bleeding cankers on oaks indicated a broad assortment of organisms living in these cankers. The organism most often found associated with these cankers has been the fungal species *Mortierella* and potential antagonists, such as *Trichoderma*. Results from baiting techniques for waterways, streams and rivers will be compared to native water mold populations found associated with southern oaks and other indigenous plant species.

Key words: *Phytophthora ramorum*, baiting, waterways, microclimate, eastern oak species

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