National Pest Alert

Sudden Oak Death

Phytophthora ramorum

The causal agent of sudden oak death (SOD, also know as Phytophthora canker disease), Phytophthora ramorum, was first identified in 1993 in Germany and The Netherlands on ornamental rhododendrons. P. ramorum was isolated in June 2000 from dying trees in California. Since its discovery in North America, P. ramorum has been confirmed in forests in California and Oregon and in nurseries in California, Oregon, Washington, and British Columbia.

Origin of *P. ramorum*

The geographic origin of P. ramorum is unknown. Before the mid-1990s, there were no reports of this species in the United States or Europe. P. ramorum's limited known geographical distribution in relation to its hosts' distribution suggests it was recently introduced into the United States. The European and North American populations are thought to be distinct populations transported independently from another location, perhaps the site of origin.

Foliar lesions on Rhododendron vaseyi infected by P. ramorum.

Host Range

P. ramorum causes two types of diseases, bark cankers that may kill the host and foliar blights that may serve as a reservoir for the pathogen. In response to the identification of P. ramorum, the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA–APHIS) has developed a list of regulated hosts. Visit http://www.ncpmc.org/sod for the most current and complete lists of regulated and associated hosts.

Regulated bark canker hosts include tanoak (Lithocarpus densiflora), coast live oak (Quercus agrifolia), California black oak (Q. kelloggii), Shreve's oak (Q. parvula var. shrevei), canyon live oak (Q. chrysolepis), coast redwood (Sequoia sempervirens), Douglas fir (Pseudotsuga menziesii), and others. Tanoak is the most susceptible bark canker host. The list of regulated foliar hosts is extensive and expanding. Included are: Vaccinium spp., manzanita (Arctostaphylos manzanita), Rhododendron spp., bay laurel or Oregon myrtle (Umbellularia californica), bigleaf maple (Acer macrophyllum), toyon (Heteromeles arbutifolia), California buckeye (Aesculus californica), coffeeberry (Rhamnus californica), honeysuckle (Lonicera hispidula), arrowwood (Viburnum spp.), western starflower (Trientalis latifolia), Camellia spp., madrone (Arbutus menziesii), and Pieris spp.

Additional associated hosts include cascara (Rhamnus purshiana), California hazelnut (Corylus cornuta), grand fir (Abies grandis), lilac (Syringa sp.), mountain laurel (Kalmia latifolia), poison oak (Toxicodendron diversiloba), and Victorian box (Pittosporum undulatum). Species from the white oak group, including blue oak (Q. douglasii), valley oak (Q. lobata) and Oregon white oak (Q. garryana), have not been confirmed as hosts and do not exhibit symptoms in the field. Northern red oak (Q. rubra), and pin oak (Q. palustris), from the red oak group, were susceptible in