



CALIFORNIA OAK MORTALITY TASK FORCE REPORT JUNE 2003

MONITORING

Oregon Nursery - *Phytophthora ramorum* was detected May 7, 2003 on containerized *Viburnum bodnantense*, *Pieris japonica*, and *Pieris japonica x formosa* plants at a nursery in Clackamas County, Oregon. The symptomatic plant material was collected by an Oregon Department of Agriculture (ODA) inspector as part of the USDA Sudden Oak Death National Nursery Survey. Pathogen identification was confirmed based on cultural morphology and real time polymerase chain reaction (PCR) analysis. All host plant material on-site was immediately placed on hold. Trace-backs and trace-forwards on this host material were initiated immediately and are continuing. The infected *Viburnum bodnantense*, *Pieris japonica*, and *Pieris japonica x formosa* plants as well as all other host plants within the same blocks were piled and burned on May 12.

On May 8, two inspectors and two plant pathologists surveyed 100% of all host material (approximately 25 blocks) at the nursery. Other blocks of non-host plants exhibiting foliar symptoms, dieback, or other symptoms were also sampled and tested. On May 15, *Phytophthora ramorum* infections were confirmed on *Viburnum plicatum tomentosum* and *Rhododendron* 'Unique'. All plants within the affected blocks were piled and incinerated on May 21. Trace-backs and trace-forwards of this plant material are underway.

On May 12, inspectors began a delimitation survey on all 90 properties within 1/4 mile of the affected nursery. Host samples such as *Rhododendron*, *Lonicera*, and *Vaccinium* were collected from 34 properties. *Phytophthora ramorum* was not recovered from the samples submitted and no symptoms of concern were noted. ODA has also initiated surveys of the water sources at the nursery, including irrigation ponds, as well as surveys of the soil and gravel beds from beneath the infested blocks. Results of these surveys are pending.

Everett Hansen, Oregon State University, determined that the *Phytophthora ramorum* strain in the nursery is the European isolate (A1) not the California strain (A2). Regulatory officials and scientists are still investigating how the pathogen was introduced into the nursery.

***Phytophthora ramorum* has been detected in four California nurseries in Stanislaus, Alameda, Santa Cruz, and Marin Counties.**

Stanislaus County - On May 8, 2003, two composite samples of *Camellia sasanqua* "Bonanza" from a wholesale nursery located in Stanislaus County tested positive for *Phytophthora ramorum*. The samples were confirmed by the California Department of Food and Agriculture (CDFA) through PCR and culturing. The nursery is approximately 10 miles east of Modesto and 100 miles from the coast.



The detection of *Phytophthora ramorum* on 1-gallon and 5-gallon varieties of *Camellia sasanqua* was the result of a trace-back survey precipitated by the detection of *Phytophthora ramorum* at a Santa Cruz County nursery in April. All of the Stanislaus nursery's host material, including azaleas, *Camellia* sp., and *Viburnum* sp., has been placed on hold pending delimitation and eradication. The nursery also grows a wide variety of non-host material at their 25-acre facility.

The Stanislaus County Agricultural Commissioner's Office and CDFA conducted a delimitation survey at the nursery on May 12. All lots of host material at the nursery were inspected. Nine samples of symptomatic material, including azalea, *Camellia japonica*, and *Camellia sasanqua* were submitted to the CDFA Plant Pest Diagnostic Laboratory. *Phytophthora ramorum* was not detected. All *Viburnum* spp. were also inspected, but no symptoms were detected. In addition, the ¼ mile area surrounding the nursery (comprised of pastures and dairies and devoid of naturally occurring host plants) was surveyed and *Phytophthora ramorum* symptoms were not detected.

The origin of the pathogen at the Stanislaus nursery has not been determined. Trace-back survey information revealed that the *Camellia sasanqua* "Bonanza" variety was purchased from another California nursery at least 10 years ago and has been propagated on-site by the nursery since. All affected counties were notified and asked to investigate further. Trace-forward information will be sent to affected agricultural officials. The nursery uses Canadian peat and fir bark in their growing media and irrigates from a local well. A sample of the growing media in addition to the well water will be tested for *Phytophthora ramorum*.

Approximately 75% of the nursery's shipments are to nurseries within the regulated area. Arrangements are being made to destroy the two infected lots of *Camellia sasanqua* (approximately 1,500 1-gallon and 200 5-gallon plants) as well as all other host plants within three meters of the infected lots. The plants will be incinerated and the growing media will be disposed of on-site via deep burial. All host plants within a 10-meter buffer area of the infected lots will remain on hold for 90 days and be subject to at least two additional inspections. All host plants beyond the 10-meter buffer will be subject to 100% visual inspection and released only after confirmation that *Phytophthora ramorum* is not present.

Alameda County - On April 18, 2003, a rhododendron shipped from a Santa Cruz County nursery tested positive for *Phytophthora ramorum*. The rhododendron was one of five rhododendrons and three camellias shipped to a nursery in Berkeley, Alameda County. Alameda County inspectors detected the symptomatic leaves the day the shipment arrived. The shipment was appropriately safeguarded and subsequently destroyed. The nursery in Santa Cruz is located in a generally infested portion of Santa Cruz County and is operating under a CDFA permit* restricting their sales to the regulated area. The infestation will be delimited and eradicated according to CDFA protocol**.



Marin County - First report of *Phytophthora ramorum* on *Camellia japonica* and *Viburnum tinus* in the U.S.

Phytophthora ramorum was confirmed on *Camellia japonica* at a nursery in Fairfax, Marin County, on April 23, 2003. It is a retail nursery in a generally infested area of Marin County. The *Phytophthora ramorum*-positive camellia was detected at the nursery's holding area, approximately five miles from the retail site. All host material (approximately 150 plants) at the retail site and staging area is on hold. Delimitation sampling at the nursery's holding area resulted in a positive detection on *Viburnum tinus* and additional varieties of *Camellia japonica*. The portion of the holding area where the symptomatic material was detected is adjacent to a stand of *Phytophthora ramorum*-infected California bay laurel trees. The nursery will be placed under CDFA permit restricting their sales to the regulated area. The infestation will be delimited and eradicated according to CDFA protocol.

Santa Cruz County - On April 14, 2003, a 5-gallon camellia (*Camellia sasanqua* "Bonanza") at a nursery in Soquel, Santa Cruz County, tested positive for *Phytophthora ramorum*. The symptomatic plant material was detected by county inspectors during the nursery's annual inspection. A subsequent investigation revealed that the infected camellia was shipped from a nursery in Stanislaus County, three days prior to their annual inspection. All host material at the Santa Cruz nursery has been placed on hold and the nursery placed under CDFA permit.

The Santa Cruz nursery is a wholesale nursery with sales inside the regulated area. The infestation will be delimited and eradicated according to CDFA protocol. Host material at the nursery had been inspected extensively in 2002 with no detections of *Phytophthora ramorum*.

According to a recent report, the United Kingdom has recorded 264 *Phytophthora ramorum* outbreaks on rhododendron (7 species), viburnum (11 species), *Camellia japonica*, *Kalmia latifolia*, *Pieris japonica*, *Pieris formosa forestii*, *Arbutus*, and *Syringa*. Some of the findings have been in large gardens open to the public and associated with plant nurseries or garden centers. An intensive survey is ongoing. Information on the European Union infestations can be found at: www.eppo.org/QUARANTINE/Alert_List/Fungi/oak_death.html. In addition, the United Kingdom Pest Risk Analysis is available at: www.defra.gov.uk/planth/prasudd.pdf.

MANAGEMENT

The California Department of Pesticide Regulation (DPR) has received a Section 24 (c) registration request for *Phytophthora ramorum*. Section 24 (c) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides for registration of a pesticide product as a Special Local Need (SLN). These registrations are available when the State Department of Agriculture determines that an appropriate federally registered pesticide product is insufficiently available for an existing or imminent pest problem



within the state. SLN registrations allow for the supplemental labeling of a USEPA registered product to meet defined criteria.

The proposed label was sent to DPR along with efficacy data from UC Berkeley. The usual request review time is 2 to 3 months, including the 30-day public comment period. For more information, contact John Inouye, DPR, at: jinouye.REGPO.PESTREGPO@cdpr.ca.gov.

The California Department of Forestry and Fire Protection (CDF) approved the Santa Cruz County Hazard Tree Removal Program, granting the county \$225,000 to complete the proposed work. Following the bidding process, the 650 hazardous trees identified will be removed this summer. The majority of the trees found were in the San Lorenzo Valley, Scotts Valley, Route 17 vicinity, and in the Soquel Creek drainage.

Representatives from Oregon met with Del Norte, Humboldt, and Mendocino Counties; USDA Forest Service; and other land managers on June 5 in Eureka to coordinate and plan a response to a potential future new infestation of *Phytophthora ramorum*. Yana Valachovic, UC Cooperative Extension Forest Advisor, Humboldt and Del Norte Counties, and the COMTF sponsored the meeting. Sudden Oak Death-related monitoring and education needs for Northern California were also discussed. Del Norte County is not known to be infested, while Humboldt and Mendocino each have less than 20-acre infestations.

EDUCATION

Recently posted at

http://nature.berkeley.edu/comtf/html/photo_gallery.html is a time series (20 hours to 9 days) showing sporulation of *Phytophthora ramorum* on bay leaves that were artificially inoculated in Jennifer Parke's laboratory at Oregon State University. Several spore types of *Phytophthora ramorum* may be viewed, including swimming zoospores.

The APS online symposium "Sudden Oak Death--How Concerned Should You Be?" has been archived at www.apsnet.org under online resources. The symposium ran from April 20 to May 12, 2003 and had over 3,000 site visits from 46 countries. A free CD of the Symposium can be ordered at the archived site.

REGULATIONS

Regulators from the USDA Animal Plant Health Inspection Service (APHIS) and CDFA met with tribal members May 30 in Arcata to share their needs, concerns, expectations, and regulatory plans for *Phytophthora ramorum*. Plans for formal consultation between Tribal leaders and regulators were made. Continued education and outreach for Tribal members is planned.



The North American Plant Protection Organization (NAPPO) posted a pest alert on their website regarding the Oregon nursery *Phytophthora ramorum* confirmation.

To view or subscribe to this pest alert service, go to www.pestalert.org. The Phytosanitary Alert System is intended to disseminate information to plant protection services in Mexico, Canada, and the United States on emerging plant pests of significance.

****Phytophthora ramorum*-positive nurseries within the regulated area are placed under CDFA permit.** These permit provisions include the following stipulations:

- All sales of host material are restricted to the regulated area.
- Host plants are inspected every 15 days.
- Specific lots of host plants are released for sale only after being inspected and found free from symptoms of *Phytophthora ramorum*.
- Plant material must be grown on a surface which prevents contact between the containers and soil or “run-off water”.
- Irrigation water shall be chlorinated or from a well.
- Overhead irrigation is prohibited.
- California bay laurel and other foliar host trees shall be removed from around the nursery production area, providing as wide a buffer area as feasible.
- The county agricultural commissioner in the county of destination must be given prior notification of shipments, if so requested.
- If plants with symptoms of *Phytophthora ramorum* are detected in the nursery production area or by the destination county agricultural inspectors, all shipments shall be suspended until the problem has been investigated and corrected to the satisfaction of CDFA.

****The following CDFA protocol is used to delimit and eradicate infestations of *Phytophthora ramorum* at nurseries within the regulated area:**

- Destruction of all host plants within 2 meters of the infected plant.
- Host plants within a 5-meter radius of the infected plant are placed on hold and inspected every 15 days for a minimum of 45 days (four sequential negative inspections). Plants on hold may only be released after the 45 days of inspection without detection of *Phytophthora ramorum*. All symptomatic host material will be submitted to the Plant Pest Diagnostic Center.
- All other host plants at the place of production will be subject to 100 % inspection prior to shipment.

All other provisions of the nursery’s departmental permit remain in effect.

**CALENDAR OF EVENTS**

- 6/10 – 12 – Southwide Forest Disease Workshop, features a panel on Sudden Oak Death; Renaissance Asheville Hotel; Asheville, North Carolina; go to www.forestry.auburn.edu/enebak/swfdw/swfdw.html or contact Steve Oak at (828) 257-4322
- 6/18 – 7/5 – “The Art of Saving Oaks” fundraiser, focusing on hikes, lectures, and art dealing with Sudden Oak Death; Filoli; Woodside, CA; for more information, contact (650) 364-8300 x233
- 6/19 – “Scientific Management of Fire Hazard in our Local Forests – Fuel Reduction and Complications Posed by Sudden Oak Death”; Joint meeting of the Golden Gate Biosphere Reserve Association (GGBRA) and the Santa Cruz Mountains Bioregional Council (SCMBC); Arguello Room, Officers’ Club, Presidio, Golden Gate National Recreation Area, San Francisco; for more information, contact Steve Singer (831) 427-3297
- 6/28 – 29 – Jepson Herbarium weekend workshop; Sudden Oak Death weekend workshop with Dr. Matteo Garbelotto and Dr. Ellen Simms at the UC Botanical Gardens, Berkeley and five regions in the greater Bay Area; limited to 20 participants; contact Anneke Swinehart, Jepson Herbarium, (510) 643-7008
- 8/9 – 13 – 2003 Annual American Phytopathological Society meeting, includes a panel on Oak Disease Threats Worldwide and a paper on legal issues encountered in formulating the *Phytophthora ramorum* quarantine; Charlotte, North Carolina; for more information, go to <http://www.apsnet.org/meetings/2003/>

KUDOS

Marin County Supervisor Cynthia Murray was honored by Marin ReLeaf as this year's Marin County Tree Hero for her leadership in responding to Sudden Oak Death. Supervisor Murray created the Sudden Oak Death Coastal Council for County Supervisors and continues to champion the need for assistance to communities impacted by Sudden Oak Death.