CALIFORNIA OAK MORTALITY TASK FORCE REPORT
APRIL 2008

RESEARCH

Failure rates for trees with Sudden Oak Death are found to be up to 20 percent greater than in trees without Sudden Oak Death, according to the 2006/07 Annual Report on "*Phytophthora ramorum* canker (Sudden Oak Death) in coast live oak and tanoak, 2000-2006: factors affecting disease risk, disease progression, and failure potential" by Swiecki, T.J. and Bernhardt, E.A., Phytosphere Research. The following highlights are based on seven years of observations at 12 locations in Marin, Sonoma, and Napa Counties:

- The overall percentage of coast live oaks with *P. ramorum* canker symptoms increased from 23% in 2000 to 30% in 2006.
- Between 2000 and 2006, tanoaks disease incidence increased from 31% to 46%.
- Among live trees that had *P. ramorum* canker symptoms in 2000, 63% of tanoaks and 32% of coast live oaks had died by 2006.
- Among plots with *P. ramorum*-related coast live oak mortality, 41% showed reductions in plot canopy cover between 2001 and 2006, compared to 14% of plots without *P. ramorum*-related mortality.
- Between 2000 and 2006, the failure rate of trees that had SOD symptoms in 2006 (34%) was about 10 times that of trees that remained free of *P. ramorum* canker symptoms (3.5%). The failure rate among tanoaks that developed *P. ramorum* canker symptoms by 2006 was 26%, compared with a 3% failure rate in tanoaks that were asymptomatic in 2006.
- In 2006, all tanoak plots that had *P. ramorum*-related mortality had tanoak seedlings present. Among plots with *P. ramorum*-related coast live oak mortality, only 6% lacked coast live oak seedlings.

For a copy of the complete report, go to:
http://phytosphere.com/publications/Phytophthora_case-control2006-2007.htm.

Ufer, T.; Werres, S.K.; Posner, M.; and Wessels, H.P. 2008. Filtration to eliminate *Phytophthora* spp. from recirculating water systems in commercial nurseries. Online. Plant Health Progress DOI: 10.1094/PHP-2008-0314-01-RS.

Abstract: Three filtration systems using slow sand filtration (SSF) and one using lava grain filtration (LGF) were tested for their ability to eliminate *Phytophthora* spp. from recycled water in commercial ornamental nurseries over four years. Samples were taken in May, August, and October of each year. *Phytophthora* spp. could not be detected in any of the filter effluents when filters were operating normally. Water stored in clean water reservoirs that were filled only with filtered water and were well protected from contamination via soil and air remained free of *Phytophthora*. All four filtration systems produced sufficient quantities of water for nursery production. The maximum annual quantity of water demanded by the nurseries ranged from 30,000 to 163,000 m^3. The cost

for 1 m³ filtered water was lowest for slow sand filtration compared with lava grain filtration. Recommendations for designing systems suitable for large ornamental nurseries with open air recycling systems are discussed.

REGULATIONS

Effective April 1, 2008, the below five species of Magnolia will be regulated by USDA APHIS for *P. ramorum*:
Magnolia denudata x salicifolia (Magnolia) *Magnolia kobus* (Kobus magnolia) *Magnolia salicifolia* (Anise magnolia) *Magnolia x thompsoniana* (Magnolia) *Magnolia liliiflora* (Purple magnolia) All species but Purple magnolia were found in the UK infected with the pathogen. Purple magnolia was found positive for *P. ramorum* in Canada.
For more information, contact Jonathan Jones at (301) 734-5038 or Jonathan.M.Jones@aphis.usda.gov.

FUNDING

The USDA Forest Service Pacific Southwest Research Station received 40 proposals, seeking approximately $5 million in research funds from six countries (US, Canada, Australia, UK, Italy, and Germany) and 12 US states. Selections will be announced in mid-May. Approximately $750,000 is available for allocation. For more information, contact Susan Frankel at sfrankel@fs.fed.us or (510) 559-6472.

A new State Centre of Excellence on Climate Change and Woodland and Forest Health is planned to be up and running by July 2008 under the direction of Giles Hardy at Murdoch University, Western Australia. The Centre will be funded over five years with $2.3 million from the Western Australian Government, $2.49 million from Australian industry, and $7.77 million in-kind support. The Centre will be working with collaborators in China, Canada, South Africa, and Italy. For more information, contact Giles Hardy at G.Hardy@murdoch.edu.au.

MEETINGS AND TRAINING SESSIONS

In April, the 2008 "Sudden Oak Death: A Decade of Management Challenges" COMTF-wide meeting (4/15 – 17) will be held in San Rafael. Details on the meeting as well as registration information can be found on the Task Force website at www.suddenoakdeath.org. The deadline for registration is 4/11.

The COMTF is offering two, one-day Sudden Oak Death wildland training sessions, one on 4/22 at the Sonoma Development Center in Eldridge (near Glen Ellen) and the other on 5/8 at Thomas Fogarty Winery in Woodside. New this year is an afternoon field station specifically addressing bay pruning and other horticultural activities to keep oak trees healthy. Both sessions are free of charge and open to all interested parties. Continuing education units will be available at each of the sessions. For additional details, see the Calendar of Events below.

Free Sudden Oak Death preventative treatment training sessions are being held on the UC-Berkeley campus 4/9, 5/14, 6/11 and 7/9. For additional details, see the Calendar of Events below.

RELATED RESEARCH

Cline, E.T.; Farr, D.F.; and Rossman, A.Y. 2008. A synopsis of *Phytophthora* with accurate scientific names, host range, and geographic distribution. Online. Plant Health Progress DOI: 10.1094/PHP-2008-0318-01-RS.

Abstract: The genus *Phytophthora* includes species causing diseases such as late blight of potatoes, *Phytophthora infestans*, and sudden oak death and ramorum blight, *P. ramorum*. Because of the importance of diseases caused by *Phytophthora*, there is a need to have rapid access to the literature using their scientific names. The literature has been reviewed for all names in *Phytophthora* in order to provide the scientific name of each accepted species with authors and synonyms as well as the plant host range and worldwide geographic distribution. Within the genus *Phytophthora*, there are 87 accepted species and six infraspecific taxa. After compiling all available reports of *Phytophthora*, it was determined that 39 species and six infraspecific taxa, or about one-half of the accepted species, are not known to occur in the United States. The accurate scientific names of accepted species of *Phytophthora* are listed in two tables based on their presence or absence in the United States. Each species name is hyperlinked to databases that provide full synonymy and references documenting the host range and geographic distribution information. These data are continuously updated as new literature is published. Having rapid access to information about species of *Phytophthora* is critical for protecting the United States from the introduction of these potentially devastating pathogens.

Schwingle, B.W. and Blanchette, R.A. 2008. Host range investigations of new, undescribed, and common *Phytophthora* spp. isolated from ornamental nurseries in Minnesota. Plant Dis. 92:642-647.

Abstract: Eleven woody landscape plants commonly grown in the upper Midwestern United States were inoculated with up to three unnamed *Phytophthora* taxa (*Phytophthora* taxon Pgchlamydo, a *Phytophthora alni*-like isolate [*Phytophthora* MN14d], and *Phytophthora* sp. MN1) to explore their host ranges. In addition, *P. cactorum*, *P. citricola*, *P. citrophthora*, *P. hedraiandra*, and *P. nicotianae* were used to inoculate plants to further investigate the susceptibilities of plant genera previously found associated with these pathogens, to explore the susceptibility of important landscape plants (i.e., oak) to common ornamental *Phytophthora* spp., and to prove Koch's postulates. Koch's postulates were completed on fragrant sumac with *P. citricola* and *P. nicotianae* and on common lilac with *P. citrophthora*. A nonwound or wound inoculation technique were used to determine host susceptibility. *Phytophthora* sp. MN1 caused symptoms on American cranberrybush, bur and red oak, common lilac, fragrant sumac, Norway maple, and 'P.J.M.' rhododendron. The newly described organism *P. hedraiandra* caused disease on American cranberrybush, common lilac, red oak, and

'Snowdrift' crabapple. Fragrant sumac and common lilac generally were the most susceptible hosts to all *Phytophthora* spp. This study demonstrated that many ornamental *Phytophthora* pathogens have larger potential host ranges than previously known. The biology and ecology of *P. hedraiandra* and *Phytophthora* sp. MN1 must be further investigated, and methods for rapid identification should be developed.

RESOURCES

The California Oak Mortality Task Force *Phytophthora ramorum* Nursery Training has been posted to the Task Force website at http://nature.berkeley.edu/comtf/html/p__ramorum_trainings.html#CA. The training includes a sample agenda, pertinent handouts, and a PowerPoint presentation. The presentation covers key nursery issues, including regulations, best management practices, symptoms, and research findings. Funding for the training CD was provided by USDA APHIS.

An updated "Data Sheet for *Phytophthora ramorum*" has been issued by the UK Department for Environment, Food, and Rural Affairs (DEFRA) Central Science Laboratory (CSL). Pathogen symptoms, biology, and socioeconomic and environmental impacts to the UK are summarized in this document, which will be used, along with findings of the European Union Risk Analysis for *P. ramorum* project, to develop the new *P. ramorum* Pest Risk Analysis for the EU. To access the report, go to: http://www.defra.gov.uk/planth/pra/pram.pdf.

A Revised Summary Pest Risk Analysis for *Phytophthora kernoviae* has been issued by the UK's CSL. Information provided includes taxonomy, current status of the disease, pathogen history, known susceptible hosts, potential impacts, pathogen distribution, risks, management options, and research findings. To access the report, go to: http://www.defra.gov.uk/planth/pra/pker.pdf

CALENDAR OF EVENTS

4/9 - Sudden Oak Death (SOD) Treatment Workshop; Tolman Hall "Portico," UC Berkeley Campus; 1 – 3 p.m.; Pre-registration is required. This class is free. To register, email SODtreatment@nature.berkeley.edu, and provide your name, phone number, affiliation (if applicable), and the date for which you are registering. For more information, contact Katie Palmieri at (510) 847-5482 or palmieri@nature.berkeley.edu.

4/11 – Online Registration Deadline for "Sudden Oak Death: A Decade of Management Challenges" COMTF 2008 general meeting; To register, go to the COMTF website at: http://nature.berkeley.edu/comtf/html/comtf_2008_meeting.html.; For more information, contact Janice Alexander at JAlexander@ucdavis.edu.

4/15 – 17 - "Sudden Oak Death: A Decade of Management Challenges" COMTF 2008 Meeting; Marin Center Showcase Theatre; 10 Avenue of the Flags, San

Rafael, CA 94903; 4/15 - half-day field trip and evening reception; 4/16 – general session; 4/17 - Nursery Committee Meeting (Friends Room, 10 Ave. of the Flags, San Rafael); Registration is required for ALL activities. To register, go to: www.suddenoakdeath.org. For questions, contact Janice Alexander at JAlexander@ucdavis.edu.

4/22 – Free one-day COMTF Sudden Oak Death/*P. ramorum* Wildland Training Session; Sonoma Development Center, McDougal Chapel; 1500 Arnold Drive, Eldridge, CA 95431; 8 a.m. – 3 p.m.; The session includes indoor morning lectures and afternoon outdoor interactive stations. Bring your own lunch. For more information, contact Janice Alexander at JAlexander@ucdavis.edu. or (415) 499-3041. To register, go to the COMTF website Calendar of Events at http://nature.berkeley.edu/comtf/html/wildland_trainings_spring_2008.html.

5/4 – Bringing Back the Natives Free Garden Tour; 3 Sudden Oak Death talks will be provided throughout the day.; Registration is required in order to receive a guidebook, which contains garden addresses, maps, and directions. The Tour is expected to fill up, so register early at: www.bringingbackthenatives.net.

5/8 – Free one-day COMTF Sudden Oak Death/*P. ramorum* Wildland Training Session; Thomas Fogarty Winery; 19501 Skyline Blvd.; Woodside, CA 94062; 8. a.m. – 3 p.m.; The session includes indoor morning lectures and afternoon outdoor interactive stations. Bring your own lunch. For more information, contact Katie Palmieri at: Palmieri@nature.berkeley.edu or (916) 435-3230. To register, go to the COMTF website Calendar of Events at http://nature.berkeley.edu/comtf/html/wildland_trainings_spring_2008.html.

5/14 - Sudden Oak Death (SOD) Treatment Workshop; Tolman Hall "Portico," UC Berkeley Campus; 1 – 3 p.m.; Pre-registration is required. This class is free. For more information, see the 4/9 listing above.

6/11 - Sudden Oak Death (SOD) Treatment Workshop; Tolman Hall "Portico," UC Berkeley Campus; 1 – 3 p.m.; Pre-registration is required. This class is free. For more information, see the 4/9 listing above.

7/9 - Sudden Oak Death (SOD) Treatment Workshop; Tolman Hall "Portico," UC Berkeley Campus; 1 – 3 p.m.; Pre-registration is required. This class is free. For more information, see the 4/9 listing above.