



REPORT TO THE CALIFORNIA OAK MORTALITY TASK FORCE NOVEMBER 2002

RESEARCH

Scientists at the U.S. Department of Energy's Joint Genome Institute (JGI) in Walnut Creek and the Virginia Bioinformatics Institute (VBI) in Blacksburg have been awarded \$3.8 million in funding from three Federal agencies to decode and study the genomes of two *Phytophthora* species - *P. ramorum* and *P. sojae* (soybean root rot causing serious damage to soybean crops in the Midwest and South). The Department of Energy's Office of Science allocated \$1.5 million to JGI to draft sequence the *P. ramorum* genome while the U.S. Department of Agriculture (USDA) and the National Science Foundation (NSF) jointly awarded \$2.3 million to JGI and VBI to draft sequence *P. sojae*.

Researchers in California and Virginia will sequence and compare the DNA of the two *Phytophthora* genomes, hoping to identify and target their vulnerabilities in order to control these diseases. They also hope to develop better diagnosis techniques to use in the field for quick identification of the *Phytophthora ramorum* microbe in tree samples.

P. ramorum, and *P. sojae* resemble fungi, but are actually Stramenopiles, a group of oomycetes or "water molds." *Phytophthora* microbes resist treatment by conventional pesticides and other fungus control measures. *P. sojae* was chosen for the project because it has a compact genome and because researchers have been studying its genetics for many years. The draft sequence data from both genomes will be made available to researchers around the world through a web-based bioinformatics annotation system. They will be the first publicly available Stramenopile pathogen genomes.

MONITORING

A survey of co-generation plants potentially receiving *Phytophthora ramorum* infested materials has been completed to determine the level of risk associated with *P. ramorum* spreading to areas surrounding facilities. The survey was conducted by plant pathologists from the California Department of Food and Agriculture's (CDFA) Pest Detection Branch at seven locations that receive material from counties under SOD regulation. The inspection included all known host species within a quarter mile of the fuel pile as well as examining other oak species for decline symptoms or bleeding cankers. Host species located just outside the quarter mile buffer area were included in the survey.

Four of the survey locations had climate conditions believed to be conducive to disease viability, yet no evidence of Sudden Oak Death was found. Samples were collected from host plants at all locations that exhibited disease symptoms, such as leaf spots and dieback of branches. The samples were submitted to the California Department of Food and Agriculture Plant Pest Diagnostic Laboratory for analysis and tested for *Phytophthora ramorum*. All test results were negative.



A statewide nursery survey for *Phytophthora ramorum* has been completed by CDFA Nursery Program biologists in cooperation with staff members from 23 County Departments of Agriculture. The survey ran from February 25 to March 28, 2002 and included 99 nurseries (approximately 8,500 acres) and a quarter-mile buffer area around each of them with host plants being inspected for symptoms. Fifty-seven samples were collected during the risk-assessment survey and submitted to CDFA's Plant Pest Diagnostics Center for analysis. All samples were tested and found to be negative for the presence of *Phytophthora ramorum*.

Nurseries surveyed were chosen based on two criteria: those that ship or were planning to ship nursery stock to Canada and those producing any of the plants listed by Canada as hosts of SOD. Once meeting the top two criteria, the list was further narrowed to nurseries geographically located in areas of naturally occurring SOD host plants. For more information contact Kathy Kosta, CDFA at kkosta@cdfa.ca.gov.

REGULATIONS

Phytophthoras have had a dramatic and devastating impact on native plant communities in Australia. Consequently, reports of the impact of *Phytophthora ramorum* on oak forests in North America and nurseries in Europe as well as its wide host range are causing considerable concern in Australia. In September 2002, the Australian Quarantine Inspection Service (AQIS) introduced regulations preventing the import of host species from countries known to have *P. ramorum*. Tissue cultures of host plant species can, however, still be imported, but must remain in government post entry quarantine facilities for a minimum period of six months. Details on Australia's regulations can be found at: http://www.aqis.gov.au/icon/asp/ex_alertscontent.asp

MANAGEMENT

The California Oak Foundation has formally requested that the California Board of Forestry 2003 priority list include updating the Joint Policy on Hardwoods as it pertains to hardwood rangeland issues. Their request is based on the belief that enough new scientific information has been developed since the adoption of the policy in 1994 that updates are needed, particularly a conservation strategy to address oak ecosystem impacts from Sudden Oak Death.

EDUCATION

The Art of Saving Oaks, a collaboration between Marin artists and education organizations to celebrate California's oak woodlands and inform the public about Sudden Oak Death (SOD), is on-going through November 16 at the Bay Model in Sausalito. The event offers an art exhibit with art provided by well known landscape botanical artists whose work captures the beauty of the landscape and highlights plants affected by SOD.

The October 26th Saturday reception in the Exhibition Hall of the Bay Model was very well attended with standing room only available. Presentations were given by Matteo Garbelotto, UC Berkeley cooperative extension forest pathology specialist and adjunct



professor of plant pathology, Claudia Chapline, Chapline Art Gallery owner in Stinson Beach, and Janet Cobb, oak activist and president of the California Oak Foundation.

On October 28, 2002 in Mendocino County, a Sudden Oak Death town hall meeting was held for all interested parties at the fairgrounds in Boonville. Jack Marshall, CDF, provided the general overview and biology of SOD, while Tony Linegar, Mendocino Co. Assistant Agricultural Commissioner, provided information on state and federal regulations. The event was well attended with foresters from Jackson Demonstration State Forest, State Parks, and local citizens.

TASK FORCE BUSINESS

The next general Task Force meeting will be held Monday, December 16, 2002 at the Monterey Marriott Hotel. This **free** one-day event will include committee meetings and a discussion of Task Force 2003 priorities with several short presentations of ongoing research on *Phytophthora ramorum* in the afternoon. The meeting is open to Task Force members, individuals wanting to join the Task Force, and anyone interested in the issues surrounding Sudden Oak Death. The deadline to pre-register is November 29, 2002. For registration information, go to <http://www.suddenoakdeath.org>. A field trip to Big Sur to view Sudden Oak Death symptoms and impacts will be held on Sunday, December 15 from 1 to 5 p.m. For more information on the field trip, go to <http://www.suddenoakdeath.org>. In addition, the SOD Science Symposium will be held at the Marriott in Monterey on Dec 17 and 18. Each event does require separate registration. Information on the SOD Science Symposium can be found at <http://danr.ucop.edu/ihrmp/sodsymposium.html>.

The Task Force has formed a Nursery Focus Group that functions as a subcommittee to the Regulations Committee. Nursery committee members include representatives from regulated and unregulated counties; growers of SOD hosts, growers of SOD non-hosts; and wholesale, interstate, and intrastate shippers, as well as the California Department of Food and Agriculture (CDFA), USDA-Forest Service, Agricultural Commissioners, the California Department of Forestry and Fire Protection (CDF), and UC Cooperative Extension. Karen Suslow, production manager, Hines Horticulture Inc., and Susan Frankel, a USDA-FS pathologist, will co-chair the group. The mission of this new subcommittee is to provide input to state and federal SOD regulations, identify nursery-related SOD issues, research, education needs, and serve as a network for nurserymen concerning SOD. For more information contact ksuslow@hineshort.com.

As proponents of collaborative, consensus multi-agency efforts, Lucas Film Ltd. hosted a Task Force Executive Committee meeting at Skywalker Ranch for a 2003 strategic planning session on October 30, 2002. The meeting provided a wonderful forum for assessing last year's goals and prioritizing work for the coming year. The outcome of the meeting is being summarized and will be discussed at the December 16 COMTF meeting in Monterey.

**PRESS COVERAGE**

The New York Times ran an editorial October 5, 2002 titled “The Dying Oaks of California.” It stressed the difficulty of understanding a forest problem when so little is known about how the ecosystem it operates in functions. It highlighted Sudden Oak Death as an example of an invasive species and the challenges it poses. It pointed out that the long-term effects of Sudden Oak Death are unpredictable but disconcerting and the short-term economic impacts from the quarantine and disease are significant.

The Sacramento Bee, 10/27/02 edition, featured Sudden Oak Death in an article entitled “Race is on to unravel mystery of tree disease – Sudden Oak Death is little understood, but clearly it is potentially devastating.” by Edie Lau. The article provides a layman’s scientific look at *Phytophthora ramorum* and includes descriptive drawings. The article can be viewed at <http://www.sacbee.com/content/news/story/4963786p-5974621c.html>.

DATES TO REMEMBER

- 10/26 - 11/16/02 – “The Art of Saving Oaks” art auction and exhibit in Bay Model, Sausalito; contact Carol Haggerty at chaggert@pacbell.net
- 12/15/02 – Field trip to Pfeiffer Big Sur State Park to see coast redwood sprout dieback, oak tree cankers, and dead and dying understory tanoak. For information on registering for the field trip, go to <http://suddenoakdeath.org>.
- 12/16/02 – COMTF General Meeting in Monterey at the Monterey Marriott Hotel; go to <http://suddenoakdeath.org> for more information
- 12/16–18/02 - SOD Research Symposium in Monterey at the Monterey Marriott Hotel; to <http://danr.ucop.edu/ihrmp/sodsymposium.html> for more information