

**A REQUEST FOR PROPOSALS**  
**TO CONDUCT RESEARCH ON**  
**SUDDEN OAK DEATH/*PHYTOPHTHORA RAMORUM***  
**JANUARY 2008**

**(Deadline for submission March 14, 2008)**

Sudden Oak Death (SOD), caused by the exotic, invasive pathogen *Phytophthora ramorum*, continues to spread in the coastal forests of California and Oregon. The pathogen has killed well over a million trees, many in residential landscapes, conservation easements, parks, and open space areas, as well as commercial forests. All ornamental nurseries in California, Oregon, and Washington are under quarantine regulation to prevent pathogen spread. The pathogen is also present on a few sites in European woodlands, gardens, and nurseries where it is under eradication and quarantine.

From 2001 through 2007, the USDA Forest Service, Pacific Southwest Research Station, has funded over \$10 million in research projects on Sudden Oak Death/*Phytophthora ramorum*. Results from this research have provided much of our fundamental understanding for this pathogen, helping to develop science-based guidelines for detection, management, and regulatory practices. However, additional information is critically needed on the biology, epidemiology, and behavior of *P. ramorum*; development of new treatment strategies; pathogenicity and resistance; and short- and long-range spread if we are to effectively minimize the pathogen's ecological, social, and economic impacts as well as landscape and nursery spread.

The Pacific Southwest Research Station, USDA Forest Service, is requesting that interested researchers submit proposals for funding within one of the following topics of interest; however, relevant proposals outside of the listed subject areas will also be considered. The order of topics presented does not reflect priority.

**BIOLOGY, EPIDEMIOLOGY, AND BEHAVIOR**

- Determine inoculum thresholds necessary for infection
- Determine conditions needed for infested nursery stock shipments or other infested materials to initiate new landscape infection centers
- Analysis or models to determine pathogen origin
- Determine extent and significance of root infection in various hosts
- Determine level of risk posed by soil movement. What role do various spore stages play in pathogen survival and infection?
- Determine the differences between *P. ramorum* populations (EU1, NA1, NA2) and better understand the potential consequences should EU1 or NA2 populations become established in North America
- Determine the extent of colonization in wood and the implications of the pathogen's presence in wood for spread and survival
- Quantify the risk for pathogen establishment in the Rocky Mountains, Midwest, East, and Southern US

- Evaluate implications of, and response strategies for, pathogen detection in water courses

### **DISEASE DETECTION AND SPREAD**

- Identify actual or potential means of long-distance dispersal
- Develop methods for early detection

### **DISEASE MANAGEMENT**

- Develop and evaluate the effectiveness of wildland treatment or eradication strategies
- Determine the effects of prescribed burning on disease dynamics
- Determine the effect of *P. ramorum* on fuel loads
- Determine restoration strategies for heavily impacted forests
- Determine the effect of stand density and structure on disease development
- Determine if pre-emptive treatments can be used to prevent pathogen establishment
- Determine the level of resistance to *P. ramorum* for coast live oak and tanoak
- Determine how resistant material could be deployed as part of a restoration effort
- Investigate and improve recommendations for arborists

### **DISEASE IMPACTS ON ECOSYSTEM COMPONENTS**

- Evaluate and quantify landscape-level impacts

### **ECONOMIC AND SOCIAL IMPACTS**

- Evaluate economic/social impacts of control alternatives
- Document the economic and social impacts of *P. ramorum*

### **OUTLINE OF PROGRAM**

Approximately \$750,000 will be available in summer 2008 to fund new projects from the submitted proposals. Multi-year, collaborative projects are encouraged.

All proposals meeting the program guidelines will be submitted for scientific peer-review. A selection panel comprised of representatives from the USDA Forest Service, will evaluate the reviewed proposals for relevance to research needs, scientific approach and quality, and probability of timely success. Principal investigators will be notified about funding status in May 2008. Anonymous reviewer comments will be furnished on request.

### **PROPOSAL PROCESS**

Proposals are limited to no more than 3,500 words (which is approximately 6 single-spaced pages). This page limit does not include budget pages and brief curriculum vitae (CV) of investigators. All proposals must follow the format outlined below:

- I.
  - a. Principal Investigator(s)
  - b. Institution
  - c. Address
  - d. Phone, fax number, and email address

- e. Name, phone and fax number, and email address of grants contact person
- f. Identify which topic the proposal addresses
- II. Justification Statement
- III. Background/Problem Statement
- IV. Objective(s)
- V. Methodology and Geographic Location of Research
- VI. Schedule of Events/Reporting
- VII. Budget
  - Salaries
    - PI(s)
    - Post-doctoral
    - Technicians
  - Benefits
  - Supplies (list all items when total costs exceed \$5,000)
  - Equipment (list all items when total costs exceed \$5,000; purchase of non-expendable equipment above \$5,000 is strongly discouraged; leasing will be considered for equipment over \$5,000)
  - Travel (domestic and international travel must be listed separately including estimated cost, dates, meeting or purpose, etc.)
- VIII. Abbreviated CV(s) for investigator(s)

### **Additional Budget Notes**

For multi-year projects, include a budget with cost breakdown for each year of the project so all project costs are displayed.

As defined in Title 7 USC 3319 indirect costs from USDA to land grant institutions are usually zero for most award instruments.

**Cost Share.** Cooperator cost share is required and should be included in the budget. The minimum requirement is 20% of the total project cost (the amount provided by the Forest Service and the Cooperator contribution), however more is encouraged. Cost share may be met by non-federal contribution of direct cost, indirect cost, or a combination of both.

**Proposal Submission.** University researchers are advised to submit their proposals through their university's sponsored projects office.

**Permits.** Applicants should provide documentation to demonstrate that they have or will be obtaining state and federal regulatory permits, and private-landowner written approval to meet the needs of the proposal.

Projects involving the foreign or interstate movement of samples or cultures require a federal permit and applications should be submitted directly to the USDA Animal and Plant Health Inspection Service (see <http://www.aphis.usda.gov/ppq/permits/plantpest/index.html>).

USDA Forest Service, Pacific Southwest Research Station, Albany, CA

Permits involving only intrastate movement should be submitted directly to the state's agricultural regulatory agency. For more information on California's permits, obtained through the California Department of Food and Agriculture, go to:

<http://www.cdfa.ca.gov/phpps/permitsandregs.htm>.

**PROPOSALS MUST ARRIVE AT PSW RESEARCH STATION IN ALBANY ON OR BEFORE 4:00 PM, FRIDAY, MARCH 14, 2008.**

PROPOSALS THAT DO NOT FOLLOW THESE GUIDELINES WILL NOT BE CONSIDERED FOR FUNDING.

All proposals must be submitted as Microsoft Word documents. Submit 1 copy via email and 3 hard copies to:

Susan J. Frankel

USDA Forest Service

Pacific Southwest Research Station

800 Buchanan St.

West Annex Building

Albany, CA 94710

E-mail address: [sfrankel@fs.fed.us](mailto:sfrankel@fs.fed.us)

A confirmation of submission will be sent to the primary investigator within one week of receipt.

Questions should be addressed to Susan Frankel, USDA Forest Service, Pacific Southwest Research Station, Sudden Oak Death/*Phytophthora ramorum* Research Program Manager at 510-559-6472 or via email at: [sfrankel@fs.fed.us](mailto:sfrankel@fs.fed.us).