A REQUEST FOR PROPOSALS

TO CONDUCT RESEARCH ON SUDDEN OAK DEATH/*PHYTOPHTHORA RAMORUM* JANUARY 2010

(Deadline for submission Wednesday, March 31, 2010)

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 millions of trees, many in residential landscapes, conservation easements, parks, and open space areas, as well as commercial forests. International, Federal and state quarantines restrict shipments of ornamental nursery plants to prevent pathogen spread. The pathogen is also present in European woodlands, gardens, and nurseries, where despite being subject to eradication and quarantine, recent detections on Japanese larch and western hemlock are raising new questions about the pathogen's ability to deleteriously impact conifers.

From 2001 through 2009, the USDA Forest Service, Pacific Southwest Research Station, has funded over $11 million in research on Sudden Oak Death/*Phytophthora ramorum.* Results from this research have provided much of our fundamental understanding of this pathogen, and served as the basis for monitoring, 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.

The Pacific Southwest Research Station, USDA Forest Service, is requesting that interested researchers submit proposals for funding within one of the topics or questions of interest listed in Appendix 1; however, relevant proposals outside of the listed subject areas will also be considered.

OUTLINE OF PROGRAM

Approximately $500,000 will be available in summer 2010 to fund new projects from the submitted proposals. Multi-year, collaborative projects are encouraged.

In 2009, the National Ornamental Research Site was established at Dominican University of California (For questions about NORS-DUC, contact Sibdas Ghosh at sibdas.ghosh@dominican.edu or go to www.dominican.edu/norsduc). Via this Request for Proposals, we anticipate funding roughly seven projects, including one to be conducted at this facility.

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 2010. Anonymous reviewer comments will be furnished on request.

Proposal format and instructions for submission

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 (briefly list)
   Equipment (list all; purchase of non-expendable equipment above $5,000 is strongly discouraged; rental or lease should be considered for equipment over $5,000)
   Travel (domestic and international travel must be listed separately including estimated cost, dates, 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 and indirect costs.

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).

Permits involving only intrastate movement should be submitted directly to the state's agricultural regulatory agency.

PROPOSALS MUST ARRIVE AT PSW RESEARCH STATION IN ALBANY ON OR BEFORE 4:00 PM, WEDNESDAY, MARCH 31, 2010.

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

All proposals must be submitted as Microsoft Word documents or as PDF files. 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

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.

Appendix 1

Topics and questions of interest for the
2010 USDA Forest Service, Request for Proposals for Sudden Oak Death Research

The order of topics presented does not reflect priority.

Biology, Hosts, & Epidemiology

What does *P. ramorum* in soil mean for pathogen spread and survival? What is the importance of the soil phase and root infections?

How long can chlamydospores actually survive in soil? What induces and breaks chlamydospore dormancy?

What role does pathogen infestation of watercourses play in disease epidemiology in forests?

How can soil or water infestations be remediated?

What is the relative importance of different pathways for pathogen spread? Are there unrecognized vectors or pathways of spread?

Population genetics and biology. How critical is it to keep the mating types apart?

Risk to Eastern forests. What Eastern forest species will prove to be hosts and what is their sporulation potential?

Risks to conifers

Recent findings in the UK on Japanese larch and western hemlock, and discovery of *P. pinifolia* in Chile demonstrate *Phytophthora* species can infect conifers in previously unexpected ways. How common is *Phytophthora* infection of conifer needles? Could conifer needles serve as reservoirs for infection of *P. ramorum* or other *Phytophthora* species?

Disease detection, monitoring

Develop a better understanding and improved methodology for soil and water baiting.

Treatment/Control/Disease Management

New treatment methods and strategies are need for soil, water and plants.

Trials, demonstrations and other experiments to support management recommendations are needed for various ecosystems.

Research to reduce *P. ramorum* spread via contaminated nursery run-off.

Research that will lead to improved guidance for response to a *P. ramorum* wildland detection in the Midwest or Eastern US.

Research to improve the effectiveness of early detection and rapid response programs.

Research to develop strategies to protect uninfected, high risk habitats.

Determine the effects of prescribed burning on disease dynamics.

Improved methods to determine and predict hazards from *P. ramorum* infested trees. What is the likelihood of physical failure and effects on fire risk?

Studies that improve recommendations for arborists.

Impacts on Ecological, Economic and Social Impacts, Science Delivery

Quantification of disease impacts.

Re-measurement of long term evaluation plots to understand disease dynamics, and to understand effects on stand structure and reproduction.

A better understanding of changes in ecological functions following infestations is needed. What ecological functions have been lost, and what can be done to restore them?

Restoration & Rehabilitation

Research to improve strategies for restoration of heavily impacted ecosystems.