



University of California, Division of Agriculture and Natural Resources  
 UC Pierce's Disease Research Grants Program

## **– Request for Proposals on Invasive Species in Plant Agriculture –**

– Issued December 1, 2009 –

**(Issued as part of the 2010 UC Pierce's Disease Research Grants Program)**

An additional component has been incorporated into the 2010 UC Pierce's Disease Research Grants Program: Invasive Species in Plant Agriculture. Proposals are being requested for projects that are aimed (i) at improving the prospects for early identification of newly invading species of insects, nematodes and microbes with potential to damage vineyard, orchard and crop agriculture or pastures in California, or (ii) at excluding such species. The separate request for proposals (RFP) for the main component of the UC Pierce's Disease Research Grants Program is available online at:

<http://www.cdfa.ca.gov/pdcp/Research.html>.

Proposals are due via electronic submission on Friday, January 15, 2010. Research contracts will be awarded for one to three years, beginning with fiscal year 2010-11 (July 1, 2010 to June 30, 2011). For projects awarded two or three years of funding, receipt of a subsequent year of funding will be contingent upon satisfactory progress being made during the prior year.

### **Timeline**

- Request for Proposals Released..... December 1, 2009
- Proposals due..... January 15, 2010
- Award Notification from CDFA and UC ..... May 14, 2010
- Start Date for Projects ..... July 1, 2010

### **Funding**

This program, as part of the UC Pierce's Disease Research Grants Program, is funded by a special grant to the University of California from the USDA National Institute of Food and Agriculture (NIFA; formerly CSREES).

### **Priorities**

In a typical year, surveillance systems reveal three or more insects, nematodes or microbes that are new to California and that present a serious threat to crops or pastures. Application of new traps and analytical methods based on nucleic acid or antigen detection, and the use of these in combination, already has proved to be worthwhile in improving detection. Further improvements in methods for discovering, or better yet, excluding, these threatening organisms could prevent many millions of dollars in losses. For example, if detection is accomplished earlier, it is likely that more eradication efforts would be successful.

The statements below are meant to be indicative of the types of projects that may be consistent with the intent of the Invasive Species in Plant Agriculture program; **they are given for illustration only and do not represent any priority order**:

- Many current methods for detection of specific organisms are laboratory based, time consuming and expensive. If such methods could be adapted for quick and inexpensive field tests without significant loss of specificity or sensitivity, pest detection would be improved.
- DNA chip hybridization, multiplex PCR and even rapid sequencing approaches to invading-organism-detection offer the possibility of identifying known pests and other organisms and of signaling the presence of as yet unknown new organisms.
- More effective methods of inspection at ports and points of entry are needed to more effectively exclude the entry of new pests and pathogens.

## General Information

- Funding preference will be given to projects deemed likely to yield new approaches to the practical detection of invading microbes, insects or nematodes that are potential or actual threats to crop agriculture or pastures
- Researchers are responsible for obtaining all required governmental permits for working with live plant pests. For more information, please visit the following websites:
  - California permits: <http://www.cdffa.ca.gov/phpps/permitsandregs.html>
  - Federal permits: <http://www.aphis.usda.gov/ppq/permits/plantpest/index.html>.
- Submitted proposals and progress reports will not be returned. Confidential information and materials should not be submitted.
- Periodic progress reports and a final report will be required for each funded project. The research sponsors are committed to providing public access to data in a timely fashion in order to maximize progress and hasten the discovery of solutions. Therefore, as is the practice for some federal grant programs, funded researchers may be required to post project information, including progress reports and certain types of data (e.g., gene sequences, expression data, etc.) on designated websites (see the section on intellectual property at the end of this request for proposals).

Although this RFP is concerned with invasive species only, for your reference information on past and current research supported by the broader UC Pierce's Disease Research Grants Program is available at <http://www.piercesdisease.org>

## Eligibility

Any individual or group affiliated with a university or governmental agency that has appropriate research capabilities is eligible and is encouraged to submit proposals, providing that the organization is able to meet NIFA certification requirements.

## Format and Content of Research Proposals

Please see the section on Research Proposal Format and Guidelines, below.

## Definitions of Participant Responsibilities

- **Principal Investigator (PI)**: The Principal Investigator is the person with overall responsibility for the scientific conduct of the project and for expenditures of funds. Each project has only one PI.
- **Co-Principal Investigator (Co-PI)**: A Co-Principal Investigator is a person who receives research support or material of significant value from the project. A project may have more than one Co-PI.

- **Cooperator:** A Cooperator is a person who provides advice, materials, or data to the project, makes arrangements for advancement of project activities, uses results developed in the project, and/or carries out research in parallel to the project research and which is mutually beneficial to the project and to the Cooperator's research. A Cooperator does not receive research support or material of significant value from the project. A project may have more than one Cooperator.

## Review Process and Criteria

Proposals will be reviewed by *ad hoc* external reviewers and a review panel. In addition, the University of California's Pierce's Disease Research Grants Program Guiding Committee will review and make recommendations for funding of proposals. Proposal budgets are further reviewed and approved by NIFA before funds can be awarded.

Proposals will be reviewed and evaluated in the following areas (100 points possible):

- **Objectives of Proposed Research/Relevance** - Are the objectives clearly stated, justified, worthwhile, and reasonable? Is the proposed research likely to contribute significantly to advancing the priorities in the areas described beginning on page 1 of this RFP? Is the proposed project non-redundant with other research? (25 points)
- **Experimental Procedures to Accomplish Objectives** – Is the work plan reasonable, feasible and capable of meeting the stated goals and objectives? Is the work plan of good scientific merit? (35 points)
- **PI, Co-PI(s) & Cooperators** – Do they have appropriate backgrounds, expertise, experience and capabilities for the proposed tasks? Is the team missing any critical capabilities? (10 points)
- **Research Capacity & Likelihood of Accomplishing Objectives** – Assuming that requested PD program funds are awarded, will the investigators have the resources, including facilities, to achieve the objectives? (10 points)
- **Research Timetable for Project** – Are the milestones appropriate? Are they achievable? (10 points)
- **Budget** – Is the budget reasonable and appropriate, including support for Co-PI activities? (10 points)

## Due Dates for Submissions

Proposals should be submitted electronically via the internet **no later than Friday, January 15, 2010**. Submit proposals online at <http://www.pdgrants.ucdavis.edu>.

Please submit one paper copy of the proposal. The paper copy should include all necessary institutional approvals and should be signed by all PIs, Co-PIs, and Cooperators. The paper copy must be postmarked no later than **Wednesday, January 20, 2010**.

Mail the paper copy to

UC Statewide IPM Program, Robbins Annex  
 Attention: Ms. Melanie Caruso  
 University of California  
 One Shields Ave.  
 Davis, CA 95616-8621.

Proposals that are incomplete, late, or exceed the maximum page length (10 pages + title page, budget, current, planned, pending and recent research support, biographies, and citations; 11-point Arial font; one-inch margins) may be eliminated from consideration.

## Questions

If you have questions about this research grant program or about the online submission process, please contact

Melanie Caruso  
UC Statewide IPM Program  
Ph: 530-752-5336  
[mmcaruso@ucdavis.edu](mailto:mmcaruso@ucdavis.edu)

## RESEARCH PROPOSAL FORMAT AND GUIDELINES

Proposals must not exceed the maximum page length (10 pages + title page, budget, current, planned, and pending research support, biographies, and references). Please use 11-point Arial font, and one-inch margins. Submit online at <http://www.pdgrants.ucdavis.edu>, where much of the information requested below can be entered in the corresponding blanks or as checked boxes. Electronic submissions are due **no later than Friday, January 15, 2010. By Wednesday, January 20, 2010, submit one signed hard copy to**

UC Statewide IPM Program, Robbins Annex  
Attention Ms. Melanie Caruso  
University of California  
One Shields Ave.  
Davis, CA 95616-8621

### **Project Type**

Please indicate that this is a proposal on Invasive Species in Plant Agriculture.

### **Project Title**

Please provide the title of the proposal, in 150 or fewer characters.

### **Signature and Authorization Page**

Furnish proof of authorization and agreement to conduct the proposed research by providing required institutional approvals and signatures of the PI, Co-PIs, and Cooperators. (Note: This applies to the mailed paper copy only, not electronic submissions.)

### **Principal Investigator (PI)**

Please see the definitions for PI, Co-PI and Cooperator on page 3. Indicate the PI, i.e., the person responsible for overall project management, coordination, and execution. Include institutional affiliation, address, phone number, and e-mail address.

### **Co-Principal Investigators (Co-PIs)**

Include institutional affiliations, addresses, phone numbers, and e-mail addresses of each Co-PI. Indicate the roles of each Co-PI and obtain the agreement of each Co-PI for his or her participation in the proposed research.

### **Cooperators**

Indicate the roles of each cooperator and obtain agreement from each for his or her proposed participation.

### **Research Area**

The research area for a proposal of this type is "Invasive Species in Plant Agriculture."

### **Expected Duration of Project**

Indicate the number of years for which funding is requested (three years maximum).

### **Budget Summary**

Supply the budget total for each year requested. (Note: more information on the proposed budget, including detail and justification, is provided below)

### **Keywords**

Supply important keywords that characterize this project.

### **Project History**

Indicate how this project relates to other past, current, and anticipated future research projects. Summarize previous work in this area (1600 characters maximum).

### **Summary**

Provide a layperson's summary of this project (approximately 100 words).

### **Objectives of Proposed Research and Path to Application**

State the aim or broad goal of the proposal, followed by a **numbered list** of specific objectives. After the specific objectives provide a summary of the potential impact and relevance of the proposed research, covering the points indicated below (3200 characters). Describe, for the project as a whole and for each objective, how the project's findings will improve detection and exclusion of invading species of microbes, insects, or nematodes having the potential to damage vineyard, orchard and crop agriculture or pastures. Describe the steps that would be taken to achieve field or port-of-entry application of the new detection methods. Provide an estimate of the timeframe involved. For those proposals that present approaches nearing the application stage, include a research component intended to estimate the anticipated costs and economic benefits of implementation. Cite relevant publications.

### **Methodology to Accomplish Objectives**

Discuss the experimental procedures for each objective. Discuss laboratory experiments, instrument design, plot design, methods, and potential pitfalls and limitations. Cite relevant publications.

### **Research Timetable**

Outline the timeline, indicating start dates, periods of activity, and completion dates for each activity and objective, and for the entire project.

### **Research Capacity and Likelihood of Accomplishing Objectives**

Summarize how the PI, Co-PIs and cooperators' research capacities (e.g., laboratory space, fabrication facilities, computer facilities, laboratory and field resources, and human resources) and previous work make the proposed work feasible and increase the likelihood for accomplishing the stated objectives.

### **Intellectual Property**

Describe any intellectual property, other than copyrighted publications, that this project is likely to produce, and provide information or a URL describing your institution's policies for managing intellectual property. In addition, researchers should make reasonable efforts to describe any proprietary technologies, including methodologies, that your research will necessarily use or incorporate and the steps, if any, that may be required in order to use these proprietary technologies for practical applications of the project's research results.

### **Current, Planned, Pending, and Recent Research Support**

Use the following format to identify support for your current, planned, pending, and recent projects that have any component related to the research proposed in your submission.

- Provide information on all current, planned, pending, and recent projects, whether or not there is a specific time commitment by a PI or Co-PI. Where there is a time commitment (with or without a salary provision) indicate the percentage of time on an annual basis.
- Explain any connections and/or overlaps between existing and/or pending support and this submitted proposal. How will the total support package tie together?
- If there are no other related current, planned, or pending projects, state "NONE."

#### Related current projects

Name	Supporting agency & project number	Total budget	Effective & expiration dates	Percent of time committed	Project title
(PIs and Co-PIs)					
(PIs and Co-PIs)					

Related projects that are planned (within the next 6 months) or for which funding is pending, and recent (past 5 years) projects for which funding was received

Name	Supporting agency and project number	Total budget	Proposed effective & expiration dates	Percent of time committed	Project title
(PIs and Co-PIs)	This proposed project				
(PIs and Co-PIs)					

### **Biographical Sketches**

Include a brief biographical sketch for each PI and Co-PI. List 15 of his/her most recent publications (not just those relating to the current project). Maximum of two pages per PI or Co-PI, exclusive of the list of publications.

### **Budget Request**

Note: **Indirect costs will not be covered and should not be included in the budget request.**

Prepare a budget page using the form CSREES 2004 (or designated replacement form) and a detailed budget narrative, following the instructions for the form (see <http://www.ipm.ucdavis.edu/FORMS/> for forms and instructions). Although funding is approved and transferred on a yearly basis, describe your needs for the entire requested period of the proposed project (maximum of three years). Follow the budget with a narrative explanation and justification of budget items. Please note that:

- The budget narrative and justification must include all budget categories for which support is requested and must list these budget categories individually (with costs) in the order in which they appear in the budget.
- Each component of the "Nonexpendable Equipment" and "All Other Direct Costs" categories must be itemized and the cost per item must be provided.

### **Publications Cited**

Include a list of publications cited in the research proposal. Provide complete citations (authors, year published, full title, journal or book title, and inclusive page numbers). Within the proposal, cite references by author and year.

### **Additional Forms**

Additional certifications may be required for proposals selected for funding. Awardees will be given instructions regarding any additional forms needed in their award letters.

## **INTELLECTUAL PROPERTY, DATA SHARING, AND PROGRESS REPORTS**

### **Intellectual Property and Data Sharing**

(From: Plant Genome Research Program RFA for FY 2007, Program Solicitation NSF 07-531, National Science Foundation)

Describe the management of intellectual property rights related to the proposed project, including plans for sharing data, information, and materials resulting from the award. This plan must be specific about the nature of the results to be shared, the timing and means of release, and any constraints on release. The proposed plan must take into consideration the following conditions where applicable:

-- Sequences resulting from high-throughput large-scale sequencing projects (low pass whole genome sequencing, BAC end sequencing, ESTs, full-length cDNA sequencing, etc.) must be released according to the currently accepted community standard (e.g. Bermuda/Ft. Lauderdale agreement) to public databases (GenBank if applicable), as soon as they are assembled and the quality checked against a stated, pre-determined quality standard.

-- Proposals that would develop genome-scale expression data through approaches such as microarrays should meet community standards for these data [for example, Minimum Information About a Microarray Experiment (MIAME) standards; see <http://www.mged.org/Workgroups/MIAME/miame.html>]. The community databases (e.g. Gene Expression Omnibus) into which the data would be deposited, in addition to any project database(s) should be indicated.

-- If the proposed project would produce community resources (e.g. epidemiological data, genotyping data, biological materials, software, etc.), these resources should be made available to the research community in a timely fashion. The timing of release should be stated clearly in the proposal, and how the resources will be disseminated should be described. The resources produced must be available to all segments of the scientific community, including industry. A reasonable charge is permissible, but the fee structure must be outlined clearly in the proposal. If accessibility differs between industry and the academic community, the differences must be clearly spelled out.

The Bermuda / Ft. Lauderdale agreements can be found online at [http://www.ornl.gov/sci/techresources/Human\\_Genome/research/bermuda.shtml](http://www.ornl.gov/sci/techresources/Human_Genome/research/bermuda.shtml) and <http://www.genome.gov/Pages/Research/WellcomeReport0303.pdf>.

### **Progress Reports**

Funded researchers will be required to submit project information, including progress reports, publications, and links to project-related sequence data annually.