

Texas Pierce's Disease Research and Education Program

Request for Proposals

April 1, 2007 – March 31, 2008

The Texas Pierce's Disease (PD) Research and Education Program is soliciting proposals for the funding cycle covering April 1, 2007 – March 31, 2008 that target research and extension education addressing Pierce's disease affecting the grape industry of Texas. This program is funded by a special grant from the USDA-APHIS to the Texas Agricultural Experiment Station (TAES). Proposals are requested from faculty with the College of Agriculture and Life Sciences (COALS) at Texas A&M University, TAES, Texas Cooperative Extension (TCE) as well as from collaborating faculty at other Universities, agencies and institutions with appropriate research or extension expertise. Allocation of funds to selected research projects is contingent upon final approval by APHIS. Proposals are due by **October 2, 2006**, and all project proposals should be submitted to Dr. Mark Hussey, Associate Director, Texas Agricultural Experiment Station, 113 Jack K. Williams Building, College Station, TX 77843-2142; E-mail: mhussey@tamu.edu; Phone: 979-845-7984).

All proposals submitted will be evaluated independently by the PD Research Executive Committee, TAES/TCE Administration, APHIS, and the Pierce's Disease Grower's Advisory Board. Criteria for evaluation of proposals will include justification of proposed research, consideration of established research priorities, appropriateness of the proposed research objectives and budget to meet the project priorities, and evaluation of the scientific merit of the proposal, experimental design, and adequacy of the personnel and facilities to insure the successful completion of the objectives of the proposal. Funding decisions will be made by a joint meeting of representatives from the Pierce's Disease Grower's Advisory Board, APHIS, and TAES/TCE Administration. Notices of acceptance or refusal will be sent by January, 2007.

Priority Areas for Investigation Include:

- Area-Wide Management Practices
 - Implementation of real-time, vineyard monitoring *Xylella fastidiosa* (*Xf*) and its vectors
 - Vineyard site selection
 - Development of predictive mathematical models to predict the occurrence, distribution and intensity/density of *Xf* and its vectors.
 - Development of geographic information system (GIS) for spatial analysis of distribution of Pierce's disease and sharpshooters in relation to environmental factors
- Biological Control
 - Biological control of *Xf*
 - Biological control of *Xf* vectors
- Biology and Interactions of Host, Pathogen, and Vector
 - Determine the genetic, biochemical, and physiologic basis of (*Xf*) virulence, pathogenicity, transmission, survival, and expression
 - Determine genetic, biochemical, and physiologic basis of vector herbivory and disease vectoring

- Determine the genetic, biochemical, physiologic, and behavioral basis for host plant factors that influence attractions, repulsion, survival, or inhibition of vectors or *Xf*
- Improved methods for pathogen and disease detection
- Sources of pathogen, vectors, and beneficials occurring in commercially-grown grapes
- Cultural and Chemical Control
 - Evaluation of novel chemistries for *Xf* and vector control
 - Application strategies to improve chemical control efficacy
 - Movement of *Xf* via root grafting or other non-vector sources
- Economic Feasibility
 - Economic assessment of proposed/potential management strategies
- Educational Program
 - Publication of scientific bibliography of Pierce's Disease research (including pioneering work of T.V. Munson)
 - Periodic reporting of research results
 - Pierce's Disease Management Guide for Texas
- Host Plant Resistance to Pathogen and Vector
 - Mechanisms of tolerance or resistance to *Xf*
 - Characterization and selection of resistant root stocks
 - Effects of plant stress on pathogen/vector resistance
- Vegetation Management
 - Investigate cropping system practices on impact of vector populations
 - Investigate use of trap crops in a pest management program
 - Effects of vineyard management practices (ex. groundcovers and other agronomic practices) on *Xf* and its vectors

It is essential that the following format be carefully followed to insure fair evaluation of each proposal. Proposals not meeting these specifications and not containing all required components may be returned to the principle investigator without review.

Project Proposal
Texas Pierce's Disease Research and Education Program

Project Title:

Principal Investigator: (Include institutional affiliation and address)

Cooperators:

Executive Non-technical Summary (200-300 words):

Objectives of Proposed Research and Education Activity:

Experimental Procedure to Accomplish Objectives:

Expected Research Outcomes Impacting Project Objectives:

Research Timetable:

Budget Request:

Budget Justification:

Check List:

- Proposal format is to be 1 inch margins, 12-point Times Roman font.
- 8-page limit including budget request and justification
- Required forms of the investigator's institution.
- Deadline for receipt of proposals is October 2, 2006.
- Electronic copy to mhussey@tamu.edu.

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