United States Department of Agriculture



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Economic Research Service

Program of Research on the Economics of Invasive Species Management

Fiscal 2008

Competitive Award Program: Description and Application Process





Checklist

All proposals submitted under the Program of Research on the Economics of Invasive Species Management (PREISM) must contain the applicable elements described in this brochure. The following checklist has been prepared to assist in ensuring that the proposal is complete and in the proper order prior to mailing:

 Application for Federal Domestic Assistance – Standard Core Form (SF-424) [available at: http://www07.grants.gov/agencies/approved_standard_forms.jsp or www.ers.usda.gov/Briefing/InvasiveSpecies/preism.htm]

- Is all required information accurate and complete?
- Has the Principal Investigator and the authorized organizational representative signed the SF-424?
- Does one copy contain pen-and-ink signatures (paper submission only)?
- Have you included a telephone number, fax number, and/or e-mail address where a message may be left for you?
- ✓ Table of Contents
 - Are page numbers included for each item?
- ✓ Project Summary
 - Has the Project Summary been included?
 - Do the name and institution of the Principal Investigator and co-investigators appear on the page or on the following page?
 - Does it include research objectives?
 - Is it no more than 250 words?
- ✓ Project Description
 - Is the project fully described?
 - Does this section adhere to the format and page limitations, as specified?
 - Does this section begin as page 1, as specified?
 - Does it contain a tentative schedule or workplan of major steps of study?
- ✓ Citations to Project Description
 - Are all references cited?
 - Are all citations referenced?
 - Do all citations contain a title and are they in accepted journal format?
- ✓ Documentation from Collaborator(s), or Host Institution (where appropriate)
- ✓ Vitae and Publications List(s)
 - Are vitae included for the Principal Investigator and co-investigators, senior associates, and other key project personnel (including subcontractors—see instructions)?
 - Are the vitae current and pertinent?
 - Are the publications lists complete and limited to the last 5 years?
- ✓ Budget (form SF-424A standard form family [available at:

http://www07.grants.gov/agencies/approved_standard_forms.jsp or www.ers.usda.gov/Briefing/InvasiveSpecies/preism.htm]

- Are budget items complete?
- Is the summary budget included?
- Is the funding level total within the stated limit of \$250,000 for the 3-year duration of the project proposal?
- Is the budget duration within the stated limit of 3 years? (Budget Periods 1-3 should be completed as separate Forms along with a cumulative Budget of all years)
- ✓ Indirect Cost Rate Schedule
 - For reimbursement of indirect costs, is a copy included of the applicant's indirect cost rate schedule that reports the applicant's federally negotiated audited rate?
- ✓ General
 - Does the proposal conform to all format and page limitations and deadline requirements?
 - Are there an original and 12 copies (paper submissions only)?
 - Are all copies complete?

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Overview

Applications are invited for competitive grant and cooperative agreement awards from the United States Department of Agriculture (USDA) for fiscal 2008. This document provides background on the research areas of interest to the Program of Research on the Economics of Invasive Species Management (PREISM), application procedures, deadlines for submission, and guidance for the application process.

As part of the U.S. Department of Agriculture's implementation of E-Government under the President's Management Agenda, the Economic Research Service will accept applications for this program submitted electronically through the Grants.gov website at www.grants.gov. For the 2008 funding cycle, applicants may continue to submit hard copy applications under existing procedures or use electronic submission.

The Grants.gov website is the single access point to electronically find and apply for competitive Federal funding opportunities and manage grants from all Federal grantmaking agencies in one place.

Applicants can apply to this funding opportunity through www.grants.gov. First-time users should go to the "For Applicants" tab on the website and carefully read and follow the steps listed in order to apply. Your organization will need to be registered with the Central Contractor Registry (CCR). In order to register with the CCR, a requirement for registering with Grants.gov, your organization will need a Data Universal Number System (DUNS) number. A DUNS number is a unique nine-character identification number provided by the commercial company, Dun & Bradstreet (D&B). To investigate if your organization already has a DUNS number or to obtain a DUNS number, contact Dun & Bradstreet at 1-866-705-5711. Be sure to complete the Marketing Partner ID (MPIN) and Electronic Business Primary Point of Contact fields during the CCR registration process. These are mandatory fields that are required when submitting grant applications through www.grants.gov.

Please note: The DUNS and CCR requirements described above are applicable to all applicants whether you choose to apply through Grants.gov or submit a paper application package.

USDA's Economic Research Service (ERS) anticipates awarding approximately \$750,000 in fiscal 2008 for competitive grants and cooperative agreements. ERS will accept proposals under this program for funding levels, inclusive of indirect cost when applicable, between \$50,000 and \$250,000 (for the duration of the grant and/or the cooperative agreement, not to exceed 3 years).

Authority

The authority for this program is contained in the Omnibus Budget Appropriations Act, Fiscal 2003 (P.L. 108-7). Proposals may be submitted by any State agricultural experiment station, college, university, other research institution or organization, Federal, State, or county agencies, private organization, corporation, or individual.

Applicable Federal Statutes, Regulations, and Guidelines

Applicable Federal statutes, regulations, and guidelines include the following: (a) guidelines to be followed when submitting grant proposals and cooperative agreements and rules governing the evaluation of proposals; (b) the USDA Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, 7 CFR 3019; (c) the USDA Uniform Federal Assistance Regulations, 7 CFR Part 3015; (d) the USDA Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, 7 CFR Part 3016; and (e) Cooperative Research Agreement 7 USC 3318b.

Catalog of Federal Domestic Assistance Number 10.254.

Priority Research Areas

Economic Research Service (ERS) is accepting economic research proposals for fiscal year 2008 in two broad research areas of importance to the U.S. Department of Agriculture's (USDA) invasive species policies and programs. ERS focuses on national decisionmaking related to invasive species of agricultural significance or ones that affect or are affected by USDA programs. The term "invasive species" is applied broadly to include any vertebrate, invertebrate, weed, fungus, plant disease, animal or livestock disease, or other organism that:

- Is nonnative, alien, or exotic to the ecosystem where it exists or potentially could be introduced—including agricultural, range, and forest ecosystems; and
- When introduced causes, or is likely to cause, economic or environmental harm.

Proposals should focus on applied economic research that has direct implications for USDA policies and programs for protection from, control/management of, regulation concerning, or trade policy relating to invasive species. Fiscal 2008 competitive funding is anticipated to be approximately \$750,000.

The two Priority Research Areas highlight economic research priorities identified by ERS in consultation with USDA's Animal and Plant Health Inspection Service (APHIS), USDA's Forest Service, and other USDA agencies and offices with programs related to invasive species. ERS is especially interested in proposals for applied or empirical research with expected outcomes that provide immediately useful, analytically based principles or guide-lines for invasive species policy/program decisionmaking or develop economic information, databases, or modeling systems that support the use of such principles or guidelines. Applicants may address multiple issues, but must specify one of the two Priority Research Areas below:

Area I. Efficient Prevention and Management of Invasive Species

A. Allocation of Government Resources for Efficient Invasive Species Prevention and Management

B. Program, Policy, or Institutional Design to Encourage Private Sector Invasive Species Prevention and Management

Area II. International Dimensions of Invasive Species Management

A. Government and Firm Responses to Trade-Related Invasive Species Risks and PoliciesB. Economic Analysis of International Public Goods Related to Invasive Species Management

Important Guidance for All Proposals

All proposals should demonstrate strong economic components and/or expertise and address invasive species problems or decisions. Proposals should also address the economic aspects of space, dynamics, risk, uncertainty, irreversible effects, or institutional frameworks that pertain to the decision or problem of concern. A simple summation of pest losses from one or more species or a comparison of net returns for alternative treatments in scientific experiments or field trials will not satisfy the requirement for a strong economic component.

ERS strongly encourages program agency collaboration (e.g., Animal and Plant Health Inspection Service, Forest Service, Department of Homeland Security, or a State agency) to identify important issues, decisions, and/or agency data sources. The proposal should discuss how the researchers would communicate useful results and findings to USDA, State, program, agency, or other decisionmakers. ERS also strongly encourages involvement of scientific or technical experts on the research team, if they help characterize relevant problems and decisions and/or provide important knowledge, data, and information. Proposal writers should identify data sources, potential problems in obtaining data, and incorporate any potential problems when developing project timelines.

USDA decisionmaking and issues concerning invasive species of agricultural significance, such as exotic crop pests and foreign livestock, poultry, and zoonotic diseases are the highest priority problems. Exotic pests or foreign diseases that affect public lands, ecosystems, aquaculture, or urban systems that relate to USDA programs are also high priority. Invasive species decisionmaking relates to prevention and management of such species, including inspection, detection, surveillance, control, eradication and/or restoration or rehabilitation, and the domestic and international components of such programs. **Please note that many aquatic nuisance species do not affect agricultural values or are not addressed or affected by USDA programs**.

Factors such as global climate change and increasing trade and tourism have the potential to increase the vulnerability of American agriculture, forests, and natural resources to invasive species damage and the number of species that threaten them. Optimal levels of prevention and management activities may need to respond to the evolving threats. Researchers might consider how the evolution of threats and vulnerabilities will affect USDA or other Government agency decisionmaking, trade-related policies, international cooperation in preventing and managing the spread of invasive species, and/or private sector responses and incentives for those responses.

There should be a clear statement of how the proposed work addresses the priorities of the Program of Research on the Economics of Invasive Species Management (PREISM). The more a proposal addresses this guidance and specific topics under the Priority Research Areas, the higher the likelihood of success.

PREISM leaders can determine that a proposal should be disqualified if it does not meet the goals of the program or submission criteria. Examples of why a submission may be disqualified follow:

1. The proposal does not demonstrate that it addresses a priority problem or issue, as discussed previously and on page 11;

2. The proposal does not have a strong economic component, as discussed previously;

3. The proposal is submitted from a non-U.S. organization, as discussed on page 10; or

4. The budget request exceeds \$250,000, including indirect costs, as discussed on page 17.

The submitter will be notified if a proposal is removed from the peer review process.

I. Efficient Prevention and Management of Invasive Species

ERS encourages economic research to help Government agencies more efficiently allocate resources for invasive species prevention and management, to develop economic methods that enhance resource allocation decisionmaking and invasive species program effectiveness, and to examine the design of programs and policies to encourage individual and collective private sector actions that more efficiently prevent and manage invasive species.

A. Allocation of Government Resources for Efficient Invasive Species Prevention and Management

Major policy concerns for USDA and other Federal agencies include:

1. The allocation of scarce resources for research, prevention, surveillance, and management programs across numerous exotic pests and foreign animal diseases that are threatening entry, recently detected, spreading, or endemic; and 2. The selection of actions for specific organisms.

For each invasive species problem, decisionmakers consider a range of alternative actions. Each action has an associated cost and set of economic implications for multiple stakeholders. In addition, some decisions must be made rapidly, for example when a contagious animal or zoonotic disease, or damaging plant pest spreads rapidly. Sometimes decisions must be made with limited information on the likelihood of entry, spread, and establishment, as when responding to a new detection or information on a species or its pathways.

Environmental conditions, human activity, and biological characteristics interact to provide a variety of pathways by which invasive species can disperse over space and time, influencing potential damage. Concepts, methods, and models that address the economic aspects of space, time, risk, uncertainty, and/or irreversible effects that pertain to the entry, spread, and damage of invasive species (such as the epidemiology of animal disease pathogens) may contribute to informed resource allocation and management decisions. In some cases, decisionmakers must consider the market and nonmarket effects of invasive species or options to prevent or manage them. Market effects include changes in production, trade, consumption, and prices of natural resources and/or agricultural products. Nonmarket effects include the impacts on recreation, aesthetics, and/or other ecosystem services. Concepts, methods, and models that recognize the differences between risk and uncertainty and the time and costs of detection and research (learning) may be useful in analyzing responses to invasive species.

To address these needs, ERS seeks to fund studies that develop and/or apply economic concepts, methods, and/or models to:

- 1. Government resource allocation decisions; or
- 2. Existing, well-defined Government invasive species decision problems, such as those faced by USDA or USDA/State programs.

The approach or model should be developed so that either decisionmakers or their staff can use or understand the results.

Examples of important resource allocation decisions and research questions include:

1. *Resource allocation among pests and programs.* How much funding is justified for a pest or disease strategy or program? How should resources be allocated among strategies or programs for threats, new introductions, spreading pests, and endemic pests? What decision rules could be used to initiate (or not initiate), alter, or terminate a strategy or program?

2. *Preparations for pest or disease threats.* How should invasive species threats and/or pathways of entry or spread be evaluated and prioritized to prevent or prepare responses for potential entry? How should new vulnerabilities to agriculture, forests, and natural resources be considered? When should strategies focus on preventing or responding to an introduction? How should resources be allocated to monitoring or surveillance, offshore programs, developing rapid response programs, or other preparations, such as research on surveillance or control methods? What resources should be allocated to preparations for rapidly spreading outbreaks, such as strategies for national-level surveillance? Which pests or diseases should be the focus of such preparations?

3. *Responses to new introductions or outbreaks of pests or diseases.* How should new invasive species introductions or outbreaks be evaluated and prioritized and resources allocated for responses, such as monitoring, surveillance, rapid response, or other strategies? What analytical methods or models are needed for rapid analyses of problems and responses?

4. Development or selection of cost-effective pest strategies. What practices or options could be included in efficient strategies for specific pests or groups of pests? How should prevention, detection, surveillance or early warning, or other management options, such as eradication, control, or restoration (rehabilitation or revegetation) be selected and integrated into strategies for pests, pathways of entry or spread, and/or locations? How do the benefits and costs of alternative strategies compare in terms of preventing or managing invasive species? How do the benefits and costs of strategies compare for different kinds of pest problems? For example, under what circumstance would eradication be more effective than control or vice-versa? What is the value of preventing introduction of invasive species compared to managing introduced or endemic species? How can these values influence efficient strategies?

5. *Regulatory decisions for intentional introductions of exotic species.* Do the benefits of intentional introductions of, and commerce in, exotic species justify the potential costs of invasiveness? What analytical framework could be used to compare the risks, benefits, and costs of potential introductions of exotic species, such as exotic plants for agriculture, ornamental use, or other purposes? What kinds of incentives or penalties could prevent or discourage release of intentionally introduced species into the ecosystem (see, "Area I. B.")? What lessons can be learned from the evidence of previous intentional introductions? What are the implications for future decisions, such as developing import or interstate commerce regulations?

6. *Risk assessment and economic analysis in resource allocation decisions.* How should risks to market and nonmarket values from various pests or pathways be assessed and influence decisions about specific options, strategies, or the allocation of resources among pests and programs? How might economic analysis and risk assessment be integrated to improve efficiency of resource allocation, prevention, and/or management decisions? What are the economic effects of policy decisions, such as preparations for new pest threats or permitting intentional introductions of exotic species, based on limited risk assessments compared to more detailed or in-depth assessments?

B. Program, Policy, and Institutional Design to Encourage Private Sector Invasive Species Prevention and Management

Private sector actions can affect the entry, spread, and damage of invasive species and enhance or deter the efficiency of public invasive species programs. Public sector actions to prevent or manage invasive species affect and/or rely upon the cooperation of the private sector, including commodity industries, traders, natural resource and conservation interest groups, and individual landowners. Institutional arrangements—the framework of public and private organizations and rules for decisionmaking, such as treaties, laws, Government programs, property rights, private or Government-assisted organizations, or international cooperation/coordination—create economic incentives and influence the entry, spread, and damage of invasive species, as well as their exclusion and management. Incentives for private actions and private responses to Government actions can influence the efficiency of Federal and State prevention and management programs, as well as budget outlays for those programs.

ERS seeks research on how markets, programs, and policies encourage or discourage individual and collective actions to prevent and manage invasive species, and how changes in policies, programs, and market institutions might encourage individual and collective decisions that more efficiently prevent and manage invasive species. Important issues include economic efficiency, distributional effects (who receives what benefits and who bears what costs), role of Federal and State Government agencies, and Government budgetary burden under current and alternative invasive species policies and programs. These studies could examine the effects of interactions between Government programs or between Government programs and the marketplace. Examples of alternative arrangements include, but are not limited to, changes in prevention, management, or other Government programs; changes in Federal, State, and private roles in prevention or management programs; the use of insurance or bonds; private or Government-assisted pest management organizations; or reliance on property rights and private response.

ERS also seeks research that examines how agencies consider private sector decisions and responses to agency actions in developing effective strategies, programs, and policies. How do private individuals assess invasive species risks, evaluate trade-offs between prevention and/or control, make decisions, and respond to Government invasive species prevention and/or management programs? How can agencies account for and address public and consumer reactions to the effects of control programs?

To provide insights for program, policy, and institutional design to encourage private sector prevention and management of invasive species, including collaboration with public or private programs, ERS requests studies to examine strategic behavior that could:

1. Reduce welfare through mechanisms such as increased pest introduction, spread, or damage; or

2. Improve welfare through cooperation or other incentives to reduce pest spread or damage.

ERS also requests studies to examine the incentives and economic effects of current risk management, indemnification, or compensation mechanisms related to invasive species and compare them to the incentives and economic effects of alternative Government or marketbased arrangements. Current mechanisms, such as crop insurance through the Federal Crop Insurance Corporation or Commodity Credit Corporation-funded emergency program payments to growers, may influence the effectiveness of invasive species exclusion and management, the distribution of costs and benefits, and incentives for biosecurity. Some important questions include:

How effective are USDA or State compensation programs in terms of eradicating or reducing the spread of plant pests or animal pathogens?

Do such programs have unintended consequences?

What are the benefits, costs, and other effects of insurance, cost-sharing, indemnity payments, or other approaches in terms of achieving quarantine or other biosecurity objectives?

How might the programs be modified to more effectively prevent or manage a plant pest or animal pathogen?

Compared with current programs, could alternative public or private arrangements or funding mechanisms more efficiently compensate losses, encourage more efficient prevention and management of invasive species, and/or reduce the Government budgetary burden?

II. International Dimensions of Invasive Species Management

Major increases in international trade, travel, transport, and tourism over the past decades have created the potential for increased transmission of invasive species. Environmental factors, such as global climate change, may encourage the spread of invasive species to more countries and regions and, at the same time, increase the vulnerability of agriculture, forestry, and natural resources to invasive species damage on a multi-national scale. Countries use different approaches to mitigate transboundary invasive species risks. Strategies include extraterritorial efforts to control pests and diseases, regulation of commercial imports by source and product, and border inspections. A network of international organizations, including the United Nations' Food and Agriculture Organization (FAO) and international standards organizations, provide, coordinate, and/or finance regional or multilateral efforts to control invasive species and complement or supplement national efforts. The World Trade Organization (WTO), the North American Free Trade Agreement (NAFTA), and other trade agreements identify options for regulating trade-related invasive species risks, with different sizes and distributions of costs and benefits across importing and exporting countries. These invasive species policy choices made by national and international authorities affect, and are affected by, production and investment decisions related to the international movement of food and agriculture products. As a result, ERS requests research on the following international issues concerning invasive species.

A. Government and Firm Responses to Trade-Related Invasive Species Risks and Policies

ERS is interested in the effects of trade-related invasive species risks and policies on Government and firm-level decisionmaking, economic analyses to improve enforcement of trade-related invasive species policies and regulations, and the implications of the economics of contraband and smuggling for invasive species risks and policies.

1. *Effects on Government or Firm-Level Decisions*. ERS is interested in how trade-related invasive species risk and policies developed in the United States or other countries affect Government and firm-level decisionmaking.

ERS requests research addressing how trade-related invasive species policies, such as import or export regulations, in one or more countries affect the imports, exports, or invasive species policies of another country. For example, how do U.S. policies affect other countries or vice-versa? How is the effectiveness of one country's policies affected by the responses of governments and/or private sectors in other countries? How might a government account for public and private responses in other countries to improve the effectiveness of its trade-related invasive species policies and strategies?

ERS is also interested in how international trade standards influence invasive species prevention and management. These standards can encourage, discourage, or limit the use of alternative prevention or management strategies. How do international standards influence the selection of prevention or management strategies? What are the economic efficiency, distributional, and unintended effects? For example, animal disease standards could encourage eradication when a vaccination program might be a less costly way to prevent disease spread or vice versa. Another important issue is how trade, domestic economic, and scientific concerns enter into the development of import rules and their harmonization with standards developed by international organizations.

Rules and procedures governing the importation of plant and animal products can differ considerably depending not only on what is being imported but also by whom—personal versus commercial shipments, owner versus transporter shipments, or broker versus nonbroker shipments. Rules may also vary by the port of entry and whether the shipment is regarded as a routine or first-time entry. ERS seeks research that would improve understanding of how alternative rules and procedures for importing similar or identical products by different types of importers affects the costs and benefits of different strategies to reduce invasive species risks related to trade.

In recent years, some invasive species interceptions or outbreaks have substantially reduced the revenues of farms and businesses associated with these problems. ERS requests research that links invasive species risks and changes in invasive species regulation (such as domestic quarantines, programs to open export markets, or another country's import requirements) to firm-level production and investment decisions. In particular, ERS requests research that evaluates the effects of uncertainty created by those risks or by potential regulatory changes on business decisions. What are the determinants of firms' reactions to events of different size, scope, and severity at different points along the supply chain? We are also soliciting research that identifies the determinants of firms' reactions to the timing, extent, or duration of invasive species measures to aid in the design of emergency and routine responses.

2. *Public Enforcement of Trade-Related Invasive Species Regulation*. Public animal and plant health officials establish sanitary and phytosanitary (SPS) regulations for commercial import of agricultural products to mitigate invasive species risks. Compliance with these requirements is enforced by public officials by different means, including preclearance programs, border inspections, fines, and other sanctions.

ERS seeks applied research that draws on the theory and methods of the economics of deterrence, as well as available data on trade flow and interceptions by port of entry, country of origin, and pest species, to answer questions that will help USDA's program agencies efficiently allocate enforcement resources to mitigate invasive species risk. This work should have conceptual, theoretical, and applied components, addressing questions related to the effect of the type and structure of sanctions on enforcement costs; the most efficient point in the supply chain to enforce compliance; and the efficient mix of product and process standards to mitigate invasive species risks, taking public enforcement costs into account. How should sanctions be structured to discourage an exporter from choosing a more harmful deviation from the required protocol? Does the nature of the risk from invasive species, which can grow and reproduce, as well as actively or passively disperse, have implications for the optimal time and place for public enforcement of import protocols?

3. *The Economics of Contraband and Smuggling*. The distribution and impact of invasive pests are increasingly affected by the actions of individuals outside commercial sectors. For example, a recent outbreak of Exotic Newcastle Disease (contagious and fatal viral avian disease) was traced to surreptitious importation of birds into the United States from Mexico for the purpose of cockfighting.

ERS encourages studies to examine the economic incentives for smuggling illegal, exotic species (such as plants or animals) that are invasive or live animals, animal products, live plants, commodities, or materials that harbor invasive species, and provide practical guidance to reduce this invasive species threat. What attributes make some invasive species, commodities, or materials that harbor them desirable? Can insights from the economics of

criminal behavior and penalties improve our understanding of invasive species threats arising from commerce in contraband or smuggling and provide practical guidance for enforcement efforts or incentives to reduce such invasive species threats?

B. Economic Analysis of International Public Goods Related to Invasive Species Management

The WTO, NAFTA, and other trade agreements and organizations set rules that govern trade and regulation, as well as establish the framework for international coordination of policies affecting trade. These trade agreements envision the use of several different types of international public goods to foster welfare-enhancing trade.

1. Analysis of Cost, Benefits, and Unintended Effects of Exclusion Policies and International Approaches to Reducing Trade-Related Invasive Species Risks. ERS seeks economic analyses that measure the costs of international public goods, such as pest and disease eradication or joint invasive species surveillance efforts, as well as their benefits, which could include increased trade and more cost-efficient domestic production. For example, transborder animal disease control could increase social welfare more than autonomous national policies where natural barriers to diseases and pests are low; when animals (including wildlife) move freely across borders; or when regional trade agreements have created the potential for the deep integration of markets between trading partners with contiguous borders. Are there products and hazards for which supra-national invasive species measures are more economically rational than national-level controls?

In addition, ERS seeks research that examines the cost, benefit, and unintended effect of invasive species prevention or management approaches identified in international standards, trade agreements, import and export regulations, and/or compares the effect of alternative approaches. For example, what are the effects of different U.S. import and international trade standards for fruits and vegetables and plants for planting? Alternatively, what are the feasibility, benefits, and costs of strategies such as compartmentalization, which would isolate an industry sector, for example, backyard poultry markets from commercial production and markets, to reopen export markets after a disease outbreak?

ERS also seeks to fund research that could provide guidance for the creation of standards by inter-governmental organizations, such as the International Plant Protection Convention or the Organization of International Epizootics, that benefit U.S. producers and consumers as well as the global trading system. What are the trade and economic effects of aligning policies with international standards relating to trade and invasive species?

2. Integrating Economic Analysis and Risk Assessment for Pest and Disease Exclusion Decisions. ERS seeks research to develop new or modify existing analytical frameworks that integrate economic analysis and assessment of trade-related invasive species risks in the evaluation, development, and selection of exclusion policies and programs, import regulations, and international standards. In particular, we seek research that enables the full economic evaluation of the direct and indirect effects, including the costs of reduced trade and the benefits of invasive species prevention or mitigation in national and global markets. What are the economic effects of exclusion decisions to accept or reject certain commodities based on limited risk assessments compared to more detailed or in-depth assessments? How might provisions in the WTO SPS Agreement influence the economic evaluation of risks and consequences of invasive species and of measures to reduce risks and consequences? How do trade, domestic economic, and scientific concerns enter into the development of import rules and their harmonization with standards developed by international organizations?

Eligibility Requirements, Award Types, and Indirect and Other Costs

The Program of Research on the Economics of Invasive Species Management (PREISM) may award competitive grants or cooperative agreements under this announcement. **Applicants need not specify the type of award in their proposal. PREISM reserves the right to determine the type of award.** The type of award made for a selected proposal will be governed by the nature and degree of involvement desired by PREISM in the project and the type of institution requesting funding (see "Authority," page 1). In accordance with Federal statutes, the amount of indirect cost ERS will pay is governed by the type of award and the type of institution receiving the award.

Proposals may be submitted by any State agricultural experiment station, college, university, other research institution or organization, Federal, State, or county agencies, private organization, corporation, or individual. Proposals submitted by non-United States organizations will not be considered.

The research proposed must be specifically designed for the two Priority Research Areas described previously. Proposals may include requests for conferences that bring together members of the interested research community to identify research needs, update information, or advance an area of research recognized as an integral part of the research effort.

Types of Awards

- Competitive Grants: Competitive grants will be supported when the research topic does not require substantial involvement between ERS staff and the recipient during the performance of the award.
- Cooperative Agreements: Cooperative agreements will be supported when the research topic requires more substantial involvement between ERS and the investigator(s). There are two types of cooperative agreements: cooperative research agreements and assistance-type cooperative agreements. In a cooperative research agreement, ERS staff and extramural researchers are close collaborators and contributors to support the research; in an assistance-type cooperative agreement, the extramural researchers are responsible for conducting the greater part of the work on the project. Cooperative research agreements require both parties to contribute to the funding of the project; assistance-type cooperative agreements do not have this joint funding requirement.

Indirect and Other Costs

Federal statutes dictate the amount of indirect costs that ERS pays by type of award and institution. In cooperative research agreements, ERS pays no indirect costs to State cooperative institutions (i.e., land-grant universities and their constituent schools and departments); the negotiated indirect cost rate not to exceed 10 percent of total direct costs to nonprofit institutions other than State cooperative institutions; and the negotiated indirect cost rate not to exceed the audited rate of any federally recognized audit agency to other institutions. In competitive grants and assistance-type cooperative agreements, ERS pays the negotiated indirect cost rate not to exceed the audited rate of any federally recognized audit agency to State cooperative institutions other than State cooperative institutions and nonprofit institutions; and the negotiated indirect cost rate (no statutory limitation) to nonprofit institutions other than State cooperative institutions. For reimbursement of indirect costs, the applicant must include a copy of its indirect cost rate schedule with the application. Tuition shall be treated as an allowable cost, subject to negotiation, where reimbursement of such costs are not prohibited by law.

Peer Review of Applications

All proposals received will be acknowledged. If you do not receive an acknowledgment within 30 days of the submission deadline, please contact the PREISM office at (202) 694-5547 or e-mail: PREISM@ers.usda.gov. Applications submitted through www.grants.gov may be monitored online at that website and will also receive a written notice from the program office.

Prior to technical examination, a preliminary review will be made for responsiveness to the two Priority Research Areas (for example, relationship of the proposal to one of the two research areas and proposed requirements). Proposals that do not fall within the guidelines as stated in this document will be eliminated from program competition, and the applicant will be notified in writing.

Peer review panels will be convened to review proposals in each research area. All applicants will be notified in writing by October 31, 2008, as to whether their proposal has been accepted for an award by PREISM.

Peer review panel members will be selected based upon their training and experience in relevant research or technical fields, taking into account the following factors:

- The level of formal social science or technical education and other relevant experience of the individual as well as the extent to which an individual is engaged in relevant research and other relevant activities;
- The need to include as peer reviewers experts from various areas of specialization within relevant social science or technical fields;
- The need to include as peer reviewers experts from a variety of organizational types (for example, universities, industry, private consultant(s), and geographic locations); and
- The need to include as peer reviewers individuals with relevant program knowledge and experience.

During the peer evaluation process, extreme care will be taken to prevent any actual or potential conflicts of interest that may have an impact on review or evaluation. Names of submitting institutions and individuals, as well as proposal content and peer evaluations, will be kept confidential.

Evaluation Factors and Criteria

The proposal evaluation process includes both internal staff review and evaluation by peer review panels with members drawn from universities, industry, private consultants, and government officials. Peer review panels will be selected and structured to provide expertise and objective judgment in the evaluation of the proposals.

The peer review panel will use the following criteria and weights to evaluate proposals (100 points total):

Research Merit of the Proposal (weight: 35 points)

This criterion is used to assess the conceptual adequacy of the hypothesis or research question or information needed, the clarity and delineation of objectives, the adequacy of the description of the undertaking, and how the anticipated results will advance policy knowledge and the development and implementation of programs. Background information should be brief for proposals that address one of the topics described on pages 2-8; a more extensive justification is needed for a proposal with a nonlisted topic.

Overall Approach (weight: 30 points)

This criterion relates to the probability of success of project; time allocated for systematic attainment of objectives; analytic approach; and innovative and original research design, appropriateness of data, and suitability and feasibility of methodology.

Workplan, Budget, and Cost-Effectiveness (weight: 20 points)

This criterion relates to the extent to which the total budget adequately supports the project and is cost-effective. Reviewers will evaluate if the workplan is reasonable and sufficient to ensure timely implementation and completion of the study. The workplan should also provide evidence of the adequacy of available or attainable support personnel, facilities, and instrumentation. When achievement of the workplan requires collaboration, evidence is needed of the adequacy of support from and commitment to cooperation from any collaborative organization. The budget must be consistent with the scope of the work. Realistic budget projections will be rewarded.

Key Personnel (weight: 15 points)

This criterion relates to the adequacy of the number and qualifications of the key persons who will carry out the project.

How To Obtain Application Materials

PREISM is using the Internet for primary distribution of information and application materials for its Competitive Grants and Cooperative Agreements Program. The Economic Research Service will accept applications for this program submitted electronically through www.grants.gov. For the 2008 funding cycle, applicants may submit hard copy applications under existing procedures or use electronic submission. Please note that this document, and downloadable Application for Federal Domestic Assistance Organizational (SF-424) and budget forms (SF-424A) are available on the PREISM website at http://www.ers.usda.gov/Briefing/InvasiveSpecies/preism.htm and www.grants.gov. Photocopies of materials and the application (SF-424) and budget form (SF-424A) are acceptable. Paper copies may also be requested from:

Economic Research Service, USDA PREISM Business Office 1800 M Street, NW, Room S4024 Washington, DC 20036-5831 Telephone: (202) 694-5547 Fax: (202) 694-5775 E-mail: PREISM@ers.usda.gov

Application Process

Overview

These guidelines are provided to assist you in preparing a proposal to the Competitive Grants and Cooperative Agreements Program of the Program of Research on the Economics of Invasive Species Management. Please read these guidelines carefully before preparing your submission.

A checklist is provided at the beginning of this document to help you provide the necessary information for completing a proposal. An application form (SF-424) and budget form (SF-424A) are required for the proposal, and it may be obtained using the Internet or by requesting a paper copy; contact information is provided on page 13.

Submission Requirements

The purpose of a grant or cooperative agreement proposal is to persuade PREISM and members of the invasive species research community who provide advice to PREISM that the proposed project is important, methodologically sound, and worthy of support under the criteria listed on page 12. Therefore, the proposal must be submitted in response to one of the two Priority Research Areas (page 2). The application should be self-contained, should clearly present the merits of the proposed project, and should be written with care and thoroughness. It is important that all essential information for comprehensive evaluation be included. Omissions often result in processing delays and may jeopardize funding opportunities.

In preparing the proposal, applicants are urged to ensure that the name of the Principal Investigator and, where applicable, the name of the submitting institution are included on the Application for submitting institution are included on the Application for Federal Domestic Assistance (SF-424) form and **at the top of each page**. This will permit easy identification in the event that the application becomes disassembled during the review process.

Format and Contents of Proposals

Application for Funding Cover Page

Each copy of the proposal must contain an Application for Federal Domestic Assistance (SF-424) form and be the first page of the application. For paper submissions, at least one copy of the form must contain pen-and-ink signatures; electronic submissions must contain an electronic signature.

Instructions for completing the SF-424 are found at:

http://www07.grants.gov/agencies/approved_standard_forms.jsp and http://www.ers.usda.gov/Briefing/InvasiveSpecies/preism.htm

Complete all items in SF-424 marked with an asterisk (1, 2, 8 a-f, 9, 10, 11, 12, 15, 16, 17, 18 a, 19, 20, and 21); it is not necessary to fill in other items. In completing form SF-424, please include the following information:

- 1. Type of submission: check "Application"
- 2. Type of application: check "New"
- 10. Name of Federal Agency: "Economic Research Service, USDA"
- 11. Catalogue of Federal Domestic Assistance Number: "10.254"; CFDA Title: "Program of Research or the Economics of Invasive Species Management"

- 12. Funding Opportunity Number: PREISM-2008-001; Title; use the title for the Priority Research Area, "Efficient Prevention or Management of Invasive Species" <u>OR</u> "International Dimensions of Invasive Species Management."
- 18. Estimated Funding: complete only line a. "Federal"
- 19. Is Application Subject to Review by State Under Executive Order 12372 Process? : check "c. Program is not covered by E.O. 12372"
- 21. The authorized representative needs to complete this box and sign the cover sheet.

Table of Contents

A Table of Contents, itself unpaginated, should be placed immediately after the Application for Federal Domestic Assistance (SF-424). This table should direct the reader to the pages for all sections of the proposal, beginning with the Project Description on page 1.

Project Summary

The proposal must contain a Project Summary, and must be assembled as the third page of the proposal (immediately after the Table of Contents) and should not be numbered. The names and institutions of the Principal Investigator and all co-investigators should be listed on the summary page (if space is insufficient, please use a separate sheet immediately following the Project Summary in the proposal). The Project Summary is limited to 250 words. The summary is not intended for the general reader; consequently, it may contain technical language comprehensible by persons in disciplines relating to the food and agricultural sciences. The project summary should be a self-contained, specific description of the activity to be undertaken and should focus on:

- Overall project goal(s) and supporting objectives; and
- Plans to accomplish project goal(s).

The importance of a concise, informative project summary cannot be overemphasized.

Project Description

The written text may not exceed 15 pages (whether single- or double-spaced) of written text and may not exceed a total of 20 pages including figures and tables. The proposal should be assembled so that the Project Description immediately follows the Project Summary. To clarify page limitation requirements, page numbering for the Project Description should start with 1, and should be placed on the bottom of the page. The 15-page limitation does not include figures, tables, or attachments such as a survey instrument (if relevant). All proposals are to be submitted on a standard 8½" x 11" page. In addition, margins must be at least 1 inch, type size must be 12 point (equivalent to this size for some printers is 10 pitch or 10 characters per inch, which is also acceptable), there should be no more than six (6) lines per inch, and there should be no page reductions. The project description must contain the following components:

- *Introduction.* A clear statement of the long-term goal(s) and supporting objectives or research questions of the proposed project should be included. The most significant published work in the field under consideration, including the work of key project personnel on the current application, should be reviewed. The current status of research in this field should also be described.
- *Rationale and Significance.* Concisely present the rationale behind the proposed research. The objectives' specific relationship to the potential long-term improvement in the efficiency of the USDA's invasive species programs should be shown clearly. These

purposes are described under Priority Research Areas on page 2. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.

- *Research Methods*. The hypotheses or questions being asked and the methodology being applied to the proposed project should be stated explicitly. Specifically, this section must include:
 - A description of the research proposed in the sequence in which it is to be performed;
 - Techniques to be used in carrying out the proposed project, including the feasibility of the techniques;
 - Explanation of data collection methods, including interviewer training, sample design and selection, and measures for obtaining adequate response rates (for proposed projects that plan to collect survey data);
 - Results expected;
 - Means by which data will be analyzed or interpreted;
 - Discussion of relevant variables and of model specification issues (for proposed projects that plan to use multivariate analysis);
 - Possible application of results;
 - Pitfalls that may be encountered;
 - Limitations to proposed procedures; and
 - A tentative schedule or workplan for conducting major steps of study.

In describing the research plan, the applicant must explain fully any materials, procedures, situations, or activities that may be hazardous to personnel (whether or not they are directly related to a particular phase of the proposed project), along with an outline of precautions to be taken to avoid or mitigate the effects of such hazards.

Note: The sections detailed below are not included in the page limitations for the Project Description section.

Citations to Project Description

All references cited should be complete, including titles and all co-authors, and should conform to an accepted journal format.

Collaborative Arrangements

If the nature of the proposed project requires collaboration or subcontractual arrangements with other research scientists, corporations, organizations, agencies, or entities, the applicant must identify the collaborator(s) and provide a full explanation of the nature of the collaboration. Evidence (that is, letters of intent) should be provided to assure peer reviewers that the collaborators involved have agreed to render this service.

When a project requests funds for multiple institutions, a lead institution must be designated. Only one proposal may be submitted for the project and only from the lead institution. Other institutions may be designated as subcontractors. Proposals with Application for Funding Cover Pages from more than one institution are not permitted and will be returned without review. Identical proposals submitted by different investigators from different institutions are also not permitted and will be returned without review.

Vitae and Publications List(s)

To assist peer reviewers in assessing the competence and experience of the proposed project staff, all personnel who will be involved in the proposed project must be identified clearly.

For the Principal Investigator and each co-investigator listed on the Application for Funding Cover Page, for all collaborators and other senior personnel who expect to work on the project in a significant fashion (for instance, expectation of co-authorships on ensuing publications) whether or not funds are sought for their support, and for all subcontractors, the following should be included:

- *Curriculum Vitae (CV).* The curriculum vitae should be limited to a presentation of academic and research credentials, such as educational, employment, and professional history, honors, and awards. The vitae shall be no more than two pages each in length, excluding publications listings; and
- *Publications List(s).* A chronological list of all publications in refereed journals during the past 5 years, including those in press, must be provided for each professional project member for whom a curriculum vitae is provided. Also list only those non-refereed technical publications relevant to the proposed project. All authors should be listed in the same order as they appear on each paper cited, along with the title and complete references as these usually appear in journals.

Budget (SF-424A)

A summary budget is required detailing requested support for the overall project period, which is not to exceed 3 years. Funding levels accepted are between \$50,000 and \$250,000, inclusive of indirect cost where applicable, for the duration of the project.

Funds may be requested under any of the budget categories listed, provided that the item or service requested is identified as necessary for successful conduct of the proposed project, allowable under applicable Federal cost principles, and not prohibited under any applicable Federal statute or regulation.

Budget items include:

- Salaries and wages
- Nonexpendable equipment
- Materials and supplies
- Travel
- Publication costs/page charges
- Computer costs
- Other direct costs
- Indirect costs
- Cost sharing (ignore this category, may be requested later for cooperative agreements)

Salaries of faculty members and other personnel who will be working on the project may be requested in proportion to the effort they will devote to the project.

See page 13 to obtain a paper copy or an electronic copy.

When completing SF-424A, please follow these instructions:

- Under SECTION A-BUDGET SUMMARY, complete only line 1 and only columns (a), (b), (e), and (g) in line 1.
- In column (a), Grant Program Function or Activity, enter: "PREISM".
- In column (b), Catalogue of Federal Domestic Assistance Number, enter: "10.254"
- Under SECTION B-BUDGET CATEGORIES, complete lines 6 a-k (appropriate budget class categories only) for columns (1) and (5) only. Do not complete line 7 (Program Income).

- Do not complete SECTION C NON-FEDERAL RESOURCES, SECTION D FOR-CASTED CASH NEEDS, and SECTION E – BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF PROJECT.
- Complete SECTION F OTHER BUDGET INFORMATION, lines 21 (Direct Charges) and 22 (Indirect Charges). Line 23 (Remarks) is optional.

In addition, applicants can provide budget sheets and descriptions of budget items in their proposals.

Indirect Cost Rate Schedule

For reimbursement of indirect costs, the applicant must include with the application a copy of its indirect cost rate schedule that reports the applicant's federally negotiated audited rate.

Current and Pending Support

The information in this section of the proposal provides reviewers with an opportunity to evaluate the contribution the proposed work will make to the investigators' overall research program.

The proposal must list any other current public or private research support (including inhouse support) to the Principal Investigator or co-investigators listed on the Application for Federal Domestic Assistance Form (SF-424), whether or not salary support for the person(s) involved is included in the budget. PREISM must be informed of changes in pending grant support that arise after the proposal has been submitted. Nonflexible funds-including Principal Investigator and support staff salaries, office space, and other indirect costs-may be excluded when these funds are received through a noncompetitive process. Analogous information must be provided for any pending proposals, including this proposal, that are now being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA programs or agencies. Note that this proposal must be listed as Pending. In addition to completing the information, Investigators also should include a brief statement of research objectives or project summaries for all projects listed in Current and Pending Support. Concurrent submission of identical or similar proposals to other possible sponsors will not prejudice proposal review or evaluation by PREISM or experts engaged by PREISM for this purpose. However, a proposal that duplicates or overlaps substantially with a proposal already reviewed and funded (or that will be funded) by PREISM will not be funded under this program.

Please include the following information under the heading "Current and Pending Support."

- Record information for active and pending projects in separate sections by name, supporting agency, total funding amount, effective and expiration dates, percentage of time committed, and title of project.
- All current research to which the Principal Investigator, co-investigators, and other senior personnel have committed a portion of their time must be listed, whether or not salary for the person involved is included in the budgets of the various projects.

Additions to Project Description

Each project description is expected to be complete without the need to refer to additional materials. However, additions to the Project Description (appendices) are allowed if they are directly germane to the proposed research. These may include reprints (papers that have been published in peer-reviewed journals) or preprints (manuscripts in press for a peer-reviewed journal must be accompanied by letter of acceptance from the publishing journal).

Manuscripts sent in support of the proposal should be single-spaced and printed on both sides of the page. Each manuscript must be identified with the name of the submitting organization, the name of the Principal Investigator, and the title of the proposal, and be securely

attached to each copy of the proposal. Staff of PREISM will not collate applicant proposals or proposal addenda.

Information may not be appended to a proposal to circumvent page limitations prescribed for the project description. Extraneous materials will not be used during the review process.

What/When/Where To Submit

To submit an application electronically, log on to Grants.gov (www.grants.gov) and follow the instructions. You will need the Pure Edge Viewer and Adobe Acrobat Reader version 8.1.1 or 8.1.2, available on grants.gov, to submit a proposal electronically. If you intend to submit an electronic application and you or your institution are not registered on grants.gov, do not wait until the last day since the registration process takes 3-5 days.

For paper submissions, an original and 12 copies of the application are required. Due to the volume of proposals that are expected and the difficulty in identifying proposals submitted in several packages, all copies of each proposal must be mailed in a single package. In addition, please ensure that each copy of the proposal is stapled securely in the upper left-hand corner.

Every effort should be made to ensure that the proposal contains all pertinent information when originally submitted. Prior to mailing, it is urged that the proposal be compared with the checklist on the inside front cover of this announcement.

To ensure prompt receipt of submitted hard copy proposals, use First Class or Express mail, or a courier service. To be considered for funding this fiscal year, proposals (an original and 12 copies for paper submissions) must be transmitted by **April 25, 2008** (as indicated by postmark or date on courier bill of lading). Late proposals will not be considered. Fax submissions will not be accepted.

Address for Submitting Proposals:

Economic Research Service, USDA PREISM Business Office 1800 M Street, NW, Room S4024 Washington, DC 20036-5831

Proposal Disposition

PREISM will select those proposals that will be offered an award based upon peer review, research priorities, and the availability of funding.

PREISM reserves the right to negotiate with the Principal Investigator or project director and/or with the submitting organization or institution regarding project revisions (for example, reductions in the scope of work), funding level, or period or method of support prior to recommending any project for funding.

A proposal may be withdrawn by the Principal Investigator at any time before a final funding decision is made regarding the proposal; however, withdrawn proposals normally will not be returned. One copy of each proposal that is not selected for funding (including those that are withdrawn) will be retained by PREISM for a period of one (1) year. The remaining copies will be destroyed.

Duration of Awards

The total period for which a grant or cooperative agreement is awarded may not exceed 3 years.

Management Information

Once a grant or cooperative agreement has been reviewed and recommended for funding, specific management and organizational information relating to the applicant shall be requested on a one-time basis prior to the award. Copies of forms needed in fulfilling the requirements will be provided by the PREISM office.

Notice of Award

A competitive grant or cooperative agreement award document, containing the budget, terms and conditions of the award, and other necessary information, will be prepared and forwarded to each grantee or cooperator, along with a Notice of Competitive Grant or Cooperative Agreement Award, by the Administrative and Financial Management, ARS, USDA.

Financial Obligations

For any competitive grant or cooperative agreement awarded, the maximum financial obligation of ERS shall be the amount of funds authorized for the award. This amount will be stated on the award instrument and on the approved budget. However, in the event an erroneous amount is stated on the grant award instrument, the approved budget, or any supporting document, ERS reserves the unilateral right to make the correction and to make an appropriate adjustment in the amount of the award to align with the authorized amount.

Nothing in these guidelines or any program announcement shall obligate ERS, the Department, or the United States to take favorable action on any application received in response to any announcement, or to support any project at a particular level. Further, neither the approval of any application nor the award of any project grant or cooperative agreement shall commit or obligate the United States in any way to make any renewal, supplemental, continuation, or other award with respect to any approved application or portion of an approved application.

Post-Award Administration

Awardees will be required to ensure that all funds are expended in accordance with the terms and conditions of grant or cooperative agreement award, Departmental regulations, and the applicable Federal cost principles in effect on the date of the award. Responsibility for the use and expenditure of grant or cooperative agreement funds may not be transferred or delegated in whole or in part to another party (even if a grantee or cooperator enters into a contractual relationship with that party), unless the grant or cooperative agreement itself is transferred in whole or in part to another party by ERS.

Authorization to make changes in approved project plans, budget, period of support, etc., will be governed largely by the terms and conditions of the competitive grant award or cooperative agreement. Among other things, these terms and conditions will set forth the kinds of post-award changes that may be made by the awardee and the kinds of changes that are reserved to the PREISM Office. It is urged that all key project personnel and authorized organizational representatives read them carefully.

Release of Information

ERS receives grant and cooperative agreement proposals in confidence and will protect the confidentiality of their contents to the extent permitted by law. When a proposal results in a grant or cooperative agreement, however, it becomes part of the public record and is available to the public upon written request. Copies of proposals (including excerpts from proposals) that are not funded will not be released. Information regarding funded projects will be made available to the extent permitted under the Freedom of Information Act, the Privacy Act, and implementing USDA regulations.

Requests to obtain authorized information (and fee schedule relating to the handling of this information) or to obtain information regarding procedures related to release of grantor cooperative agreement information should be directed to the Freedom of Information Act (FOIA) Officer, USDA-REE-ARS-IS, 5601 Sunnyside Ave., Bldg. 1, Rm. 2248, Beltsville, MD 20705-5128; telephone (301) 504-1655 or (301) 504-1640; email: REEFOIA@ars.usda.gov.