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Cooperative State Research, Education, and Extension Service

Request for Proposals (RFP): Initiative for Future Agriculture and Food Systems, FY 2001; Notice

DEPARTMENT OF AGRICULTURE

Cooperative State Research, Education, and Extension Service

Request for Proposals (RFP): Initiative for Future Agriculture and Food Systems, FY 2001

AGENCY: Cooperative State Research, Education and Extension Service, Agriculture.

ACTION: Notice of Request for Proposals and Request for Input.

SUMMARY: The Cooperative State Research, Education, and Extension Service (CSREES) announces the availability of grant funds and requests proposals for the Initiative for Future Agriculture and Food Systems Program (IFAFS) for fiscal year (FY) 2001 to support competitively awarded research, extension and education grants addressing key issues of national and regional importance to agriculture, forestry, and related topics. The amount available for support of this program in FY 2001 is approximately $113,400,000.

This notice sets out the objectives for these projects, the eligibility criteria for projects and applicants, the application procedures, and the set of instructions needed to apply for an IFAFS grant under this authority.

By this notice, CSREES additionally solicits stakeholder input from any interested party regarding the FY 2001 IFAFS for use in development of any future requests for proposals for this program.

DATES: For the FY 2001 competition, a Letter of Intent is requested and is due by March 23, 2001. Project proposals and proposals for Multidisciplinary Graduate Education Traineeship Grants (MGET) must be received by COB April 23, 2001. Proposals received after this date will not be considered for funding. Critical or Emerging Issues proposals must be received by COB on June 1, 2001. Comments regarding this Request for Proposals are invited for six months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

ADDRESSES: Applicants may e-mail the Letter of Intent to Dr. Rodney Foil at rfoil@reeusda.gov or send the letter by mail to IFAFS; Mail Stop 2213; Cooperative State Research, Education and Extension Service; U.S. Department of Agriculture; 1400 Independence Avenue, S.W.; Washington, D.C. 20250–2213; or fax the Letter to IFAFS at (202) 690–3858. The address for hand-delivered proposals or proposals submitted using an express mail or overnight courier service is: Initiative for Future Agriculture and Food Systems; c/o Proposal Services Unit; Cooperative State Research, Education, and Extension Service; U.S. Department of Agriculture; Room 1307, Waterfront Centre; 800 9th Street, S.W.; Washington, D.C. 20024.

Proposals sent via the U.S. Postal Service must be sent to the following address: Initiative for Future Agriculture and Food Systems; c/o Proposal Services Unit; Cooperative State Research, Education, and Extension Service; U.S. Department of Agriculture; STOP 2245; 1400 Independence Avenue, S.W.; Washington, D.C. 20250–2245.

Written user comments should be submitted by mail to: Policy and Program Liaison Staff; Office of Extramural Programs; Cooperative State Research, Education and Extension Service; U.S. Department of Agriculture; STOP 2299; 1400 Independence Avenue, S.W.; Washington, D.C. 20250–2299; or via e-mail to: RFP–OEP@reeusda.gov. In your comments, please include the name of the program and the fiscal year of the request for proposals (RFP) to which you are responding.

FOR FURTHER INFORMATION CONTACT: Applicants and other interested parties are encouraged to contact the Program Director listed in the program areas found in the Program Area Description section below, or Dr. Rodney Foil, Director IFAFS, Cooperative State Research, Education, and Extension Service; U.S. Department of Agriculture; STOP 2242; 1400 Independence Avenue, S.W. Washington, D.C. 20250–2242; telephone: (202) 720–4423; e-mail: rfoil@reeusda.gov; or Dr. Sally Rockey, Deputy Administrator, CRGAM, Cooperative State Research, Education and Extension Service; U.S. Department of Agriculture; STOP 2240; 1400 Independence Avenue, S.W.; Washington D.C. 20250–2240; telephone: (202) 401–1761 e-mail: srockey@reeusda.gov.

SUPPLEMENTARY INFORMATION:

Table of Contents

Stakeholder Input
Catalog of Federal Domestic Assistance
Part I—General Information
A. Legislative Authority and Background
B. Purpose, Priorities and Fund Availability
C. Definitions
D. Eligibility
E. Matching Requirements
F. Types of Proposals
G. Restrictions on Use of Funds
Part II—Program Description
A. Types of Projects to be Supported
1. Project Grants
2. Bridge Grants
3. Critical or Emerging Issues Grants
4. Multidisciplinary Graduate Education Traineeship (MGET) Grants
B. Program Description
1. Agricultural Genomics
2. Agricultural Biotechnology
3. Food Safety and Human Nutrition
4. New Uses for Agricultural Products
5. Natural Resource Management
6. Farm Efficiency and Profitability
7. Critical or Emerging Issues Grants
8. Multidisciplinary Graduate Education Traineeship (MGET)
Part III—Preparation of a Proposal
A. Program Application Materials
B. Content of Proposals and Letter of Intent
1. Letter of Intent
2. Project Proposals
3. Critical or Emerging Issues Proposals
4. MGET Proposals
C. Submission of Proposals
1. When to Submit
2. What to Submit
3. Where to Submit
D. Acknowledgment of Proposals
Part IV—Review Process
A. General
B. Evaluation Factors
1. Project Grants
2. Bridge Grants
3. Critical or Emerging Issues Grants
4. MGET Grants
C. Conflicts-of-Interest and Confidentiality
Part V—Additional Information
A. Access To Review Information
B. Grant Awards
C. Funding Mechanisms
D. Use of Funds; Changes
E. Applicable Federal Statutes and Regulations

Stakeholder Input

CSREES is requesting comments regarding this RFP from any interested party. These comments will be considered in the development of any future RFP for the program. Such comments will be forwarded to the Secretary or his designee for use in meeting the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2). This section requires the Secretary to solicit and consider input on a current RFP from persons who conduct or use agricultural research, education and extension for use in formulating future RFPs for competitive programs. Comments should be submitted as provided for in the ''Addresses'' and ''Dates'' portions of this Notice.

Catalog of Federal Domestic Assistance

This program is listed in the Catalog of Federal Domestic Assistance under 10.302, Initiative for Future Agriculture and Food Systems.

Part I—General Information

A. Legislative Authority and Background

Section 401 of the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) (7 U.S.C. 7621) established in the Treasury of the United States an IFAFS account and authorized the Secretary of Agriculture to establish a research, extension, and education competitive grants program to address critical emerging U.S. agricultural issues related to (1) future food production, (2) environmental quality and natural resource management, or (3) farm income. Grants are to be awarded that shall address priority mission areas related to (a) Agricultural genome, (b) Food safety, food technology and human nutrition, (c) New and alternative uses and production of agricultural commodities and products, (d) Agricultural biotechnology, (e) Natural resource management, including precision agriculture, and (f) Farm efficiency and profitability, including the viability and competitiveness of small- and medium-sized dairy, livestock, crop, and other commodity operations. Priority is to be given to projects that are multistate, multi-institutional, or multidisciplinary or projects that integrate agricultural research, extension and education.

Subject to the availability of funds to carry out this program, the Secretary may award grants to a college or university or a research foundation maintained by a college or university. This represents a change from the FY 2000 solicitation. Section 724 of Public Law No. 106–389, as amended by section 101(3) of H.R. 566 which was enacted by section 1(a)(4) of Public Law No. 106–554, removed Federal research agencies, national laboratories, and private research organizations from eligibility for IFAFS awards.

Grants also may be awarded to ensure that faculty of small and mid-sized academic institutions that have not previously been successful in obtaining competitive grants under subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) (i.e. the CSREES National Research Initiative Competitive Grants Program) receive a portion of the IFAFS grants. Grants are to be awarded to address priorities in United States agriculture that involve research, extension, and education activities as determined by the Secretary in consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board; and stakeholders through a public meeting held in July of 1998.

B. Purpose, Priorities and Fund Availability

The purpose of the IFAFS is to support research, education and extension grants that address critical emerging U.S. agricultural issues related to (1) future food production, (2) environmental quality and natural resource management, or (3) farm income.

In awarding IFAFS grants, priority will be given to projects that are multistate, multi-institutional, or multidisciplinary or projects that integrate agricultural research, extension and education. Integrated projects hold the greatest potential to produce and transfer knowledge directly to end users, while providing for educational opportunities to assure agricultural expertise in future generations. The IFAFS also holds great opportunity to bring the agricultural knowledge system to bear on issues impacting small and mid-sized producers and land managers, thus enabling improvements in quality of life and community. In support of the agency's goal to enhance the competitiveness of U.S. agriculture, consideration will also be given to projects (with U.S. institutions as the lead) that incorporate an international dimension with demonstrable domestic benefits.

IFAFS is distinct from other CSREES programs because of its priority on integration of research, extension, and education; its consideration of the concerns of small and mid-sized operations; its emphasis of agricultural production issues; and its goal to support relatively large projects that provide more intensive support to the research, extension, and education system.

There is no commitment by USDA to fund any particular proposal or to make a specific number of awards. Approximately $113,400,000 is available in FY 2001 for programs within the IFAFS for the following priority areas: Agriculture Genome and Agricultural Biotechnology ($32,800,000); Food Safety, Food Technology, and Human Nutrition ($21,900,000); New and Alternative Uses and Production of Agricultural Commodities and Products ($10,000,000); Natural Resource Management, including Precision Agriculture ($29,000,000); and Farm Efficiency and Profitability, Including the Viability and Competitiveness of Small and Medium-sized Dairy, Livestock, Crop, and Other Commodity Operations ($19,000,000). Funds available for each priority area are targets. The number and quality of applications, as well as the need to reach programmatic goals, may necessitate the movement of funds between priority areas. CSREES is not committed to funding any specific amount or make any specific number of MGET awards, however, funds in the amount of $2.2 million will be made available from the aforementioned priority areas to support MGET proposals should they be meritorious.

Funds will be made available to small or mid-sized academic institutions that have not been previously successful in obtaining competitive grants under the National Research Initiative Competitive Grants Research Program.

Two additional requests for proposals will be available in FY 2001. These are new collaborative programs between CSREES/IFAFS and other Federal Agencies. These include the USDA/NSF Microbial Genome Sequencing Project (total joint funding of approximately $9 million) and the USDA/NASA Application of Geospatial and Precision Technology Project (total joint funding of $9.5 million).

The program areas described herein were developed within the context of the authorized purposes of both USDA research, extension, and education (7 U.S.C. 3101) and IFAFS (7 U.S.C. 401), within the framework of the CSREES Strategic Plan (Available at www.usda.gov/ocfo/strat/ree.pdf), and based on stakeholder input.

C. Definitions

For the purpose of awarding grants under this program, the following definitions are applicable:

(1) *Administrator* means the Administrator of the Cooperative State Research, Education, and Extension Service (CSREES) and any other officer or employee of the Department to whom the authority involved may be delegated.

(2) *Assistantship* means institutional support of graduate students for their providing or carrying out teaching or research services.

(3) *Authorized departmental officer* means the Secretary or any employee of the Department who has the authority to issue or modify grant instruments on behalf of the Secretary.

(4) *Authorized organizational representative* means the president or chief executive officer of the applicant organization or the official, designated by the president or chief executive officer of the applicant organization, who has the authority to commit the resources of the organization.

(5) *Budget period* means the interval of time (usually 12 months) into which

the project period is divided for budgetary and reporting purposes.

(6) *Cash contributions* means the applicant's cash outlay, including the outlay of money contributed to the applicant by non-Federal third parties.

(7) *Department* or *USDA* means the United States Department of Agriculture.

(8) *Education activity* means an act or process that imparts knowledge or skills through formal or informal schooling.

(9) *Extension activity* means an act or process that delivers research-based knowledge and educational programs to people, enabling them to make practical decisions.

(10) *Graduate education* means recruitment, enrollment, instruction, mentoring, retention, and graduation of students seeking master's or doctoral degrees; providing resources for thesis research in fields related to the research problems in the project; and support of graduate students through assistantships, fellowships or traineeships.

(11) *Grant* means the award by the Secretary of funds to an eligible organization or individual to assist in meeting the costs of conducting, for the benefit of the public, an identified project which is intended and designed to accomplish the purpose of the program as identified in these guidelines.

(12) *Grantee* means the organization designated in the grant award document as the responsible legal entity to which a grant is awarded.

(13) *Integrated* means to bring together the three components of the agricultural knowledge system (research, education and extension) together around a problem area or activity.

(14) *Internship* means student participation in an experiential learning activity.

(15) *Matching* means that portion of allowable project costs not borne by the Federal Government, including the value of in-kind contributions.

(16) *Peer review* is an evaluation of a proposed project for scientific or technical quality and relevance performed by experts with the scientific knowledge and technical skills to conduct the proposed work or to give expert advice on the merits of a proposal.

(17) *Principal Investigator/Project director* (PI/PD) means the single individual designated by the grantee in the grant application and approved by the Secretary who is responsible for the direction and management of the project.

(18) *Prior approval* means written approval evidencing prior consent by an authorized departmental officer as defined in (2) above.

(19) *Project* means the particular activity within the scope of the program supported by a grant award.

(20) *Project period* means the period, as stated in the award document and modifications thereto, if any, during which Federal sponsorship begins and ends.

(21) *Research activity* means a scientific investigation or inquiry that results in the generation of knowledge.

(22) *Secretary* means the Secretary of Agriculture and any other officer or employee of the Department to whom the authority involved may be delegated.

(23) *Small- and Mid-Sized Institutions* means academic institutions having an enrollment of 15,000 or fewer (including part-time students), and that are no higher than the 50th percentile of academic institutions funded by the National Research Initiative Competitive Grants Program in the past three years and are not within the top 100 Federally funded institutions (see Appendix A.)

(24) *Third party in-kind contributions* means non-cash contributions of property or services provided by non-Federal third parties, including real property, equipment, supplies and other expendable property, directly benefitting and specifically identifiable to a funded project or program.

(25) *Traineeship* means a student centered educational program that addresses knowledge needs, personal and professional skills development, career experiences and global awareness; student is supported like a scholarship or fellowship.

D. Eligibility

Proposals may be submitted by a college or university or a research foundation maintained by a college or university.

Eligible applicants may subcontract to organizations not eligible under these requirements. For Multidisciplinary Graduate Education Traineeship (MGET) proposals, eligible colleges or universities are those with accredited graduate degree programs in the food and agricultural sciences.

E. Matching Requirements

If a grant provides for applied research that is commodity specific and not of national scope, the grant recipient is required to provide funds or in-kind support to match the amount of Federal grant funds provided.

F. Types of Proposals

In FY 2001, it is anticipated that projects will be submitted as New or Resubmitted Proposals as described below:

1. *New proposal.* This is a project proposal that has not been previously submitted to the IFAFS Program. All new proposals will be reviewed competitively using the selection process and evaluation criteria described in Part IV—Selection Process and Evaluation Criteria.

2. *Resubmitted proposal.* This is a proposal that had been previously submitted to the IFAFS but not funded. The resubmitted proposal should clearly indicate the changes that have been made in the project proposal. Further, a clear statement acknowledging comments from the previous reviewers, indicating revisions, rebuttals, etc., can positively influence the review of the proposal. Therefore, for resubmitted proposals, the investigator(s) must respond to the previous panel summary on no more than one page, titled Response to Previous Review, which is to be placed directly after the Project Summary as described in Part III—Preparation of a Proposal. Resubmitted proposals will be reviewed competitively using the selection process and evaluation criteria described in Part IV—Selection Process and Evaluation Criteria.

G. Restrictions on Use of Funds

1. Funds for Buildings and Facilities

IFAFS funds may not be used for the renovation or refurbishment of research spaces; the purchase or installation of fixed equipment in such spaces; or the planning, repair, rehabilitation, acquisition, or construction of buildings or facilities.

2. Funds for Human Cloning

In accordance with the President's Memorandum of March 4, 1997, regarding the use of Federal funds for the cloning of human beings (33 Weekly Comp. Pres. Doc. 278), IFAFS funds shall not be used to support, fund, or undertake any cloning activity that could lead to the creation of a new human being with genetic material identical to that of another human being, including research related directly thereto. The prohibition on use of grant funds to ''support'' human cloning activity includes using, or making available for use, grant-funded equipment for use in connection with human cloning. This ban does not restrict research into the cloning of plants, animals, or individual human

cells that cannot develop into a new human being.

Part II—Program Description

A. Types of Projects To Be Supported

1. *Project grants.* Project grants can be proposed that range in size to a total grant size of up to five million dollars over four years. The amount requested must be commensurate with the activities proposed; support for very large requests of funds will be highly competitive.

Project grants may involve any combinations of institutions and states but may: involve multiple states and/or institutions that conduct research; synthesize previous, ongoing and future research; develop curricula and build educational and research capacity; and transfer information to producers, end users, and the public. The type and number of participating institutions should be appropriate to the project proposed, and should include all participants necessary for successful completion of the project. All IFAFS project grants will be expected to address research, extension and education in a focused project area or through larger endeavors that coalesce around project areas that cannot be addressed through the funding of individual efforts. It is the intent of CSREES to promote collaboration, open communication, exchange of information and resources, and integration of activities among individuals, institutions, states or regions. Larger projects that include many institutions, states or efforts, should minimize isolation and over-competitiveness, reduce duplication of efforts, and provide an accessible source of expert information, technology, and education upon which the public can draw. More focused projects are expected to generate new knowledge and/or apply existing knowledge quickly through outreach and dissemination to specific issues in agriculture where immediate results may be visible.

Dependent on the merits of proposals received, CSREES will ensure that a portion of project grants will be awarded to proposals in which the lead institution (recipient of the Federal funds) is a small- or mid-sized institution (as defined in Part I., C. Definitions). Other institutions or organizations involved in small- and mid-sized institution eligible projects need not meet the criteria described in the definition of a small- and mid-sized institution.

A designated lead institution of each project will administer funds and be responsible for overall management of activities. Larger grant proposals of more than $1 million, or those that are comprised of multifaceted participation by a number of institutions must include how the administration of the grant will be achieved and monitored since proper management of a complex project will influence overall success of the project. Plans for how each project will be maintained and monitored for progress during and beyond the duration of the grant should also be included in the proposal.

2. *Bridge Grants.* Applicants may not directly apply for Bridge grants. Bridge grants only are awarded to small- and mid-sized academic institutions after a review of a submitted Project Grant proposal places the application below the funding cutoff.

Small- and Mid-Sized Institution means academic institutions having an enrollment of 15,000 or fewer (including part-time students), ranked no higher than the 50th percentile of academic institutions funded by the National Research Initiative Competitive Grants Program in the past three years, and are not within the top 100 Federally funded institutions (see Appendix A). Bridge grants are designed to assist small- and mid-sized academic institutions to sustain and enhance important collaborations and activities that might lead to future program success or success in obtaining IFAFS and/or other grants. Institutions eligible for Bridge grants will be considered for a one-time infusion of up to $100,000 if a submitted Project Grant proposal is considered meritorious but ranks below the funding cutoff during the peer review process. Proposals that meet these criteria will be forwarded from each program area review panel to the IFAFS administration to be considered for funding from a limited pool of funds set aside for Bridge Grants.

3. *Critical or Emerging Issues Grants.* IFAFS is offering the opportunity to consider applications based upon critical issues that transcend the specific elements of the individual IFAFS program areas as well as those issues that are of emerging significance. Critical or Emerging Issues grants can be proposed that range in size to a total of $5 million over four years. The amount requested must be commensurate with the activities proposed. Support for very large requests of funds will be highly competitive. See Program Area 16.0 under the ''Program Description'' for more information regarding the Critical or Emerging Issues Program Area.

4. *Multidisciplinary Graduate Education Traineeship (MGET) Grants.* MGET grants will support innovative, research-based, graduate education and training activities in critical, emerging areas of agricultural sciences. They must be organized upon a cohesive multidisciplinary theme and involve a diverse group of faculty members and other investigators with appropriate expertise in research, education and extension. Depending upon the availability of funds, each grant may receive up to $2,200,000 for a four-year project period which is divided into student support in the amount up to $500,000 per year and into start-up costs up to an additional $200,000 in the first year for appropriate equipment and special purpose materials. Graduate student stipend allowance is $18,000 per year accompanied by a cost-of-education allowance (tuition and normal fees) of $10,500 per year per student. All graduate and other stipend recipients must be citizens or permanent residents of the U.S. See Program Area 17.0 for more information.

B. Program Description

Agricultural Genomics

The IFAFS seeks to sponsor integrated research, education and extension programs in plant, animal and microbe genomics and the development of bioinformatic tools and educational resources with specific applications to agricultural challenges.

A more complete understanding of the entire complement of genes in agriculturally relevant plants, animals and microbes is imperative. More knowledge in this area will have a major impact on the ability of the United States to produce nutritious and safe food, while preserving the environment and sustaining the economic stability of the agricultural enterprise. Greater efforts aimed at identifying, mapping and understanding the function and control of genes responsible for traits in agriculturally important species of plants, animals and microbes are needed. These efforts will lead to the development of new genetic technologies for improvements in yield, pest and pathogen resistance, and the composition, quality, and safety of U.S. agricultural products in the global context.

New bioinformatic and computational biology tools are needed to analyze, interpret and utilize the vast amounts of data that will be generated by genomic research in agriculturally important species. CSREES expects that bioinformatics will be an integral component of any project funded under this Agricultural Genomics program. CSREES is also interested in funding integrated projects primarily dedicated

to the research and development of bioinformatics tools and education programs, hence a separate sub-area in bioinformatics. Prospective applicants who are primarily interested in working on a particular plant, animal or microbial system should address their projects to the relevant section. Those primarily interested in developing bioinformatics tools, software, and training programs should address their proposal to the sub-area on Bioinformatics.

• All agricultural genomics grant recipients are expected to present their project plan at the International Plant, Animal, and Microbial Genome meetings in January in San Diego, CA. Additional information will be made available if an award is made.

• Investigators are expected to explain clearly how the ownership of information and research materials and their public release will be handled. Rapid and unrestricted sharing of genomic sequence data is essential for advancing research on agriculturally important species. Early release of unfinished sequence has already proven useful in accelerating the pace of experimental discovery in non-agricultural fields, such as human health, energy production and bioremediation. At the same time, CSREES recognizes that it also is necessary to allow investigators time to verify the accuracy of their data and to accomplish the goals proposed in their application, which often includes the assembly and annotation of the sequence data.

• In addition to the general data release procedures above, applications for support of genome sequencing projects must include a detailed description of the data release plan. Timely release is strongly encouraged in recognition of the benefits to the broader research community. Release should be accompanied by appropriate information on the reliability of the data (e.g., level of coverage and extent of assembly, extent of contamination with vector and other sequences, statistical measures of accuracy). At a minimum, it is anticipated that sequence data will be released within one month after 3X coverage of the genome (or chromosome for eukaryotic organisms) is achieved. The released data should be provided as assemblies of equal to, or greater than, one kilobase contigs. Subsequent releases of assembled sequences should be provided at least on a monthly basis.

• In the view of some, raw genomic sequences, in the absence of additional demonstrated biological information, lack demonstrated utility and therefore are inappropriate for patent filing. Patent applications on large blocks of primary genomic sequence could stifle future research and the development of future inventions of useful products. However, according to the Bayh-Dole Act, the grantees have the right to elect to retain title to subject inventions and are free to choose to apply for patents should additional biological experiments reveal convincing evidence of utility. CSREES grantees are reminded that the grantee institution is required to disclose each subject invention to CSREES within two months after the inventor discloses it in writing to grantee institution personnel responsible for patent matters. Where appropriate, a plan for apportionment of rights to intellectual property with international partners should be provided.

10.1 Plant Genome. (For clarification on this sub-area, contact the Program Directors, Ed Kaleikau and Liang-Shiou Lin, at (202) 401–5042, e-mail: llin@reeusda.gov.)

Research in plant genomics has advanced rapidly in the past few years. The entire genome of Arabidopsis has been sequenced and is being annotated, and the rice genome will be sequenced and annotated in the near future. Knowledge of these sequences will provide basic information on the genes in a flowering plant species. While genomic tools and resources are currently available for plant research, they will need to be improved and expanded. Additionally, genomic resources will need to be developed for other agriculturally important plant species. Furthermore, if genomic information is to be applied to plant improvement, more research is needed to determine the function of gene sequences.

The IFAFS Plant Genome Program sub-area will support integrated projects of research, education and extension that advance our knowledge of the structure, organization and function of agriculturally important plant genomes. Some examples of education and extension components pertinent to this sub-area include training of graduate and undergraduate students, postdoctoral associates, and/or colleagues (through classes, seminars, workshops, sabbaticals) in the use of genomic resources or outreach to the community through informational seminars and classes on the benefits and methods of genomic research. Wherever appropriate, investigators are encouraged to develop national and international collaborations with research groups already working on the species of interest to maximize the use of structural and functional genomic resources. Collaborations with private industry that have made a significant investment in the species are also encouraged to avoid unnecessary duplication of effort.

Proposals must address at least one of the two specific topic areas below:

(1) *Development or improvement of genomic tools and resources for plant species important to agriculture or forestry.* (a) High throughput genomic approaches to understand genome structure and organization of horticultural (including fruit and vegetable crop species and ornamental plants relevant to U.S. agriculture) and forest plants will be given high priority, particularly those plants that have not been the focus of major study. Proposals that apply marker assisted selection/breeding of horticultural and forest plants are also encouraged. (b) Proposals that extend or complement ongoing research on complex cereal crop genomes already under study will also be considered; potential research areas include innovative approaches to sequence gene-rich regions, synteny of cereal genomes with rice application of marker assisted selection in public breeding programs, and the development of publicly accessible transformation technology.

(2) *Functional analysis of the rice genome.* The U.S. is a participant in the international project to sequence the genome of rice. To build on the sequencing effort now underway, this program area will support (a) functional genomic studies in rice that seek to uncover the function of cereal crop genes by relating a mutant phenotype with sequence information. Examples of approaches include gene tagging, proteomics, microarrays, and development of knockout lines and ESTs. (b) projects for production of strains and sequences of rice that will be made available to the international research community, and for development of a public database to consolidate information on mutagenized populations and phenotypic information about mutants characterized.

10.2 Animal Genome. (For clarification on this sub-area, contact the Program Directors, Ed Kaleikau at (202) 401–6030, e-mail: ekaleikau@reeusda.gov; and Richard Frahm, at (202) 401–4895, e-mail: rfrahm@reeusda.gov.)

Proposals are solicited that address one or more of the following areas in animal genomics: (a) Develop high density comparative gene maps, which include human and mouse, across agricultural animal species (Cattle, sheep, swine, horse, poultry species and

aquaculture species); (b) generate ordered and arrayed BAC libraries for those species where such reagents are not presently available (Arrangements must be included in the proposal to distribute these to other U.S. investigators on a cost-recovery basis); (c) develop novel marker (single nucleotide polymorphysims/ microarrays) for high through-put genotyping systems using agricultural animal populations to identify quantitative trait loci (QTL) or to apply marker assisted selection; (d) develop computational applications to facilitate comparative gene mapping; and (e) develop education programs on new developments in agricultural animal genome research for outreach to producers.

10.3 Microbial Genome. (For FY 2001, Microbial Genomics will be offered through a separate solicitation for a joint USDA/NSF Microbial Genomics Sequencing Project. See the CSREES website, www.reeusda.gov, under ''funding opportunities'' for additional information concerning this program.)

10.4 Bioinformatics. (For clarification of this topic area, contact the Program Directors, Ed Kaleikau and Gail Mclean, at (202) 401–6060, e-mail: gmclean@reeusda.gov.)

The vast amounts of data being generated by genomic research only will be of use to plant, animal and microbial improvement and protection if technologies are developed to utilize genomic sequence, gene maps and gene function information. In addition, new cadres of scientists must be trained in the use of these technologies. Because of the interdisciplinary nature of genomic science, bioinformatic research provides an ideal opportunity for a range of scientists, including engineers, computer scientists, chemists, and biologists, to work together in a collaborative environment. Bioinformatic tools and personnel will play a vital role in applying genomic data to the improvement of animal, plant and microbial species of agricultural importance. This program sub-area seeks to support proposals to develop or improve bioinformatic tools and to develop training programs in bioinformatics. Projects may involve experts in computer science, software engineering, genomics, genetics, plant, animal, or microbial improvement, or related sciences as well as individuals with an interest in the development of education and training programs in bioinformatics and computational biology.

Proposals must address at least one of two specific topic areas:

(1) *Development or improvement of bioinformatic tools and resources.* There is an acute need to manage and interpret genomic data efficiently and effectively. The current absence of standardization for data management and storage has led to an increasing number of databases that do not communicate well among themselves. If this trend continues, the progress promised by genomics will be slowed not only for agriculture, but for all fields involved in genomics. As agricultural databases are developed, it is imperative that they exhibit good interconnectivity with new and existing sources of data. To meet this challenge, software programs for bioinformatics must be developed and/or refined; further, other broadly-defined tools are needed to provide the support to handle and interpret the massive amounts of genomic data being generated. Research projects in this area should develop bioinformatics tools with application to agricultural systems. Examples of research areas include: (a) Development or improvement of database management techniques and software; (b) development or improvement of computational tools for analysis of genomic sequence data; and (c) generation of resource web pages for specific classes of proteins, genes or metabolic pathways.

(2) *Development of bioinformatic education programs or courses.* Training programs should address the current gap in the availability of professionals trained in plant, animal, and microbe bioinformatics. The interaction of biologists and computational scientists must be evident in the proposal. Approaches to training may include, but are not limited to: (a) Development of courses at the undergraduate and graduate level in bioinformatics/ computational biology; (b) creation of programs which include summer institutes, short courses, sabbaticals or training centers designed to educate and train faculty and or graduate students in bioinformatics; (c) development of secondary education science teaching modules to introduce young students to the bioinformatic/computational biological sciences.

Agricultural Biotechnology

This program area will support research, education, and extension that addresses risks and benefits associated with the use of biotechnology in agriculture. Biotechnology is believed to have great potential for supplying the world's food and fiber needs in a sustainable manner. However, the development of agricultural biotechnology products has resulted in expressions of concern by producers, consumers, media, interest groups, and other stakeholders about possible health, environmental, social, and economic effects. This program area seeks to address those concerns and assist citizens in making informed decisions about the use of this technology in agriculture. Higher priority will be given to proposals that integrate research, education, and extension activities.

The application of biotechnology to agriculture has the potential to provide a number of public benefits. It is expected to increase productivity while reducing the negative environmental effects of traditional production methods by reducing the need for antibiotics, fertilizers, herbicides, hormones, and pesticides. The technology also has the potential to facilitate the development of new food products with improved nutritional benefits, flavor, and shelf-stability, as well as new non-food products, including lubricants, oils and plastics.

Successful application of this technology to food and agriculture is possible only with the approval and acceptance of consumers, environmentalists and other stakeholders. Research, education, and extension focused on identifying and assessing present and predicted benefits and identifying, assessing, and reducing present and predicted risks associated with agricultural biotechnology will aid in addressing the needs and concerns of various stakeholder groups.

Proposals should be submitted to one of the following three areas: Section 11.1 focusing on the impact of agricultural biotechnology on human and animal health; Section 11.2 focusing on social and economic aspects associated with the development and use of biotechnology; or Section 11.3 focusing on the management of potential environmental effects associated with agricultural biotechnology. Proposals that seek to integrate both the biological aspects (Sections 11.1 and 11.3) and social aspects (Section 11.2), should be submitted to the section that best describes the majority emphasis of the proposed project.

Where practicable, graduate training opportunities are encouraged in proposals submitted to this program area. Also, international partnerships are permitted so long as the partnership clearly benefits the understanding of U.S. agricultural biotechnology questions and concerns.

11.1 Effects of Agricultural Biotechnology on Human and Animal Health. (For clarification of this program area, contact the Program Directors,

Daniel Jones at (202) 401–6854; email: ddjones@reeusda.gov; or Deborah Sheely at (202) 401–1924, e-mail: dsheely@reeusda.gov.)

Research, extension, and education activities regarding the effects of genetically modified (GM) organisms and GM food on human and animal health, include but are not limited to: (a) Approaches for anticipating, detecting, and managing allergenicity in food products derived through biotechnology; (b) the role of GM products in the development of antibiotic resistance; (c) secondary metabolite formation and how this may affect food and feed; (d) changes in bioavailability of essential nutrients; (e) development of new and enhanced testing and evaluation methods of biologically modified products that ensure human and animal safety; (f) development of experiential learning opportunities for students, academics, and agricultural professionals to study the effects of GM food and feed on humans and animals; (g) development of outreach programs to explain the risks and benefits of GM food and feed on human and animal health. Where practicable, graduate training opportunities are encouraged in proposals submitted to this program area.

This program area is seeking projects to evaluate or assess the effects of transgenic organisms or food on human and animal health. It will not consider proposals to develop transgenic products of any kind, including those designed to improve human or animal health.

Proposals involving genetically modified functional foods should be directed to section 12.2 (Nutritional Impact of Functional Foods).

11.2 Social and Economic Aspects of Biotechnology. (For clarification of this program area, contact Program Directors, John Michael at (202) 720–8744, jmichael@reeusda.gov; or David Holder at (202) 720–3605, dholder@reeusda.gov.)

This section solicits proposals for research, education and extension activities that deal with the human dimensions associated with agricultural biotechnology. It is concerned with positive and negative economic and social impacts on stakeholders—producers, processors, input manufacturers, consumers, environmentalists, governmental agencies and others; impacts on economic and social institutions, communities, and society; reactions to biotechnology; and people's beliefs and attitudes about biotechnology and the responses of stakeholders, institutions, and communities. ''Social and economic'' is broadly defined to also include psychological, cultural, ethical, and political aspects of biotechnology. Comparative approaches are invited, including comparisons across geography, culture, history, and technologies. Other approaches are also invited.

The expected outcomes of the program include: (a) objective and complete assessments of perceived and actual benefits and risks associated with agricultural biotechnology; (b) greater stakeholder involvement (civic engagement) in decisions regarding agricultural biotechnology; (c) more informed decisions by public and private decision makers about the development and use of biotechnology; and (d) greater clarity regarding the role of research and educational institutions in helping stakeholders weigh the risks and benefits of alternative approaches and technologies in agriculture.

The following topic areas and their contents are provided as examples and are not intended to be all inclusive:

(a) Business issues—Economic and other impacts of biotechnology on individual firms or groups of firms; firm-level decisions about selling or buying biotechnology products and processes, such as a farmer/farm family decision to plant herbicide-tolerant soybeans; changes in business practices and alliances.

(b) Agriculture and Food System Issues—Impact of biotechnology on the organization, structure and behavior of participants in the agricultural industry from input manufacturers to retailers; changes in economic institutions and government policies; capacity of the food system to segregate genetically modified commodities/products for specific markets; competitiveness of U.S. agriculture in world markets; and impacts of establishing various standards, oversight arrangements and alternative regulations and policies.

(c) Market/Consumer Issues—Needs, desires, and concerns of consumers in domestic and international markets; understanding consumer decisions about the use of biotechnology products, including the influence of culture, product labeling, advertising, scientific information, and recent news events; methods most effective for increasing understanding and improving public and private decision making ability.

(d) Societal Issues—Needs of various publics to gain meaningful information and be involved in decision making processes surrounding the development and use of biotechnology; the role of civic engagement; perceived and actual risks and benefits to consumers and other stakeholder groups or society in general; policy alternatives and analysis; property rights; environmental protection; conflict emergence and resolution; role of ethics.

(e) Institutional Issues—(Economic and social institutions include such things as markets, universities, and the policy-making bodies). Impact of biotechnology on markets; role of public research, education and extension; mechanisms for funding research and disseminating results; role of local, state, federal and international governments.

11.3 Ecological Risk Management of Agricultural Biotechnology. (For clarification of this program area, contact the Program Directors, Deborah Sheely at (202) 401–1924, e-mail: dsheely@reeusda.gov; or Daniel Jones at (202) 401–6854; email: ddjones@reeusda.gov.)

Research, extension, and education activities regarding the management of risks associated with the release of transgenic organisms into the environment. These include, but are not limited to: (a) Techniques to minimize or eliminate potential negative impacts of transgenic products on non-target species, agricultural systems and the environment; (b) management systems to slow the evolution of resistance to transgenic protection against pests and diseases; (c) techniques or methods to prevent the movement of transgenes from transgenic organisms to others; or to prevent their expression in new or unintended organisms; (d) management systems to control the impact of transgenic plants, especially insect resistant or herbicide tolerant plants, on biodiversity of agro-ecosystems; (e) experiential learning opportunities for students, academics, and agricultural professionals to manage environmental risks associated with agricultural biotechnology; and (f) outreach programs to develop and share techniques or methods to manage ecological risks.

Where practicable, graduate training opportunities are encouraged in proposals submitted to this program area.

This program solicits projects designed to manage or reduce ecological risks associated with the release of transgenic organisms into the environment. Projects to assess risks of transgenic organisms (i.e. identification of an ecological hazard, and determining its probability and impact) will not be considered for funding by this program. Research addressing risk assessment should be directed to USDA's Biotechnology Risk Assessment Research Grants Program (http://

www.reeusda.gov/crgam/biotechrisk/biotech.htm).

Food Safety and Human Nutrition

This program area concentrates resources on two critical areas in food technology and nutrition: Factors affecting food and nutrition behavior of consumers and the nutritional impact of functional and designer foods. Future food production will be impacted by consumer food choices, and the health and happiness of Americans is dependent upon diets appropriate to individual lifestyles and physical condition. Understanding consumer behavior and how to increase the beneficial components in food will help inform future food production. A key anticipated benefit of this initiative will be to strengthen the existing links among research, teaching, and extension/outreach activities related to nutrition and food technology. Descriptions of the two program subareas are below.

12.1 Consumer Food Choices. (For clarification of this sub-area, contact the Program Directors, Susan Welsh at (202) 720–5544; email: swelsh@reeusda.gov; or Etta Saltos, at (202) 401–5178; e-mail: esaltos@reeusda.gov.)

The most fundamental knowledge gap in nutrition research is in understanding why people choose what they choose to eat and how to effectively intervene to improve diets. Although USDA, together with the Department of Health and Human Services, has formulated Federal nutrition policy in the form of the Dietary Guidelines for Americans for 20 years, we know that many consumers are not following this guidance. According to the Department's 1996 Healthy Eating Index, a measure of how Americans' diets fare in meeting the recommendations of the Dietary Guidelines, only 12 percent of Americans have diets that can be classified as ''good;'' 71 percent have diets that are considered to ''need improvement'' and 17 percent are classified as having ''poor'' diets. Additionally, the prevalence of obesity in the United States increased from 12 percent in 1991 to 18 percent in 1998. In the past decade, the number of U.S. children who are overweight has more than doubled and the incidence of type 2 diabetes in adolescents, once rare, is increasing.

USDA researchers have found that in children the risk of becoming obese increases as family income decreases. The consistent and visible interest of Americans in weight loss diets indicate both an interest in and the difficulties in maintaining desirable weight. Community-based research on food systems has demonstrated limited food choices in low-income communities as insufficient resources limit grocery retail establishments in economically deprived areas. Food intake of low-income individuals is dramatically affected by the availability of food, especially fruits and vegetables. Food stamp recipients sometimes have difficulty stretching food dollars through the month, creating an atmosphere of food insecurity late in the month, affecting food choices.

Food choice behavior is influenced by a variety of factors ranging from available income to physiologic need to societal standards and community resources. Knowledge of how these factors interact to affect food choices is limited. Nutrition experts agree that for nutrition interventions to be successful, they should be behaviorally-based, but the gaps in knowledge of consumer dietary behavior limits development of such interventions. When behaviorally-based nutrition interventions have been implemented, evaluation of the outcomes of such interventions has been limited, primarily due to lack of funds. Research on the strengths and weaknesses of an intervention in relation to its objectives is essential to improving the intervention and in facilitating its application to other situations.

The goal of this program is to fund projects that improve our understanding of factors that affect food and nutrition behavior in consumers, and apply this understanding in the development and evaluation of model nutrition intervention programs that are behaviorally-based. This program invites innovative projects on consumer food and nutrition behavior, including: (a) Research on factors influencing dietary behaviors of at-risk populations, including children and adolescents (at home, in school, and in child care settings), ethnic minorities, low-income individuals, overweight individuals, and older adults; (b) research on behavioral factors that may contribute to the development of obesity; (c) exploration and analysis of the impact of community resources on food choices, including the effect of insecure food systems in low-income communities and prevalence of obesity, unhealthy food choices, and related food behaviors; (d) innovative studies, including longitudinal and non-self-report methods of assessing dietary behavior; (e) multidisciplinary studies to examine current theory-based models of behavior change; (f) development and evaluation of diet regimens and intervention(s) at either the individual or community level; (g) development and evaluation of social marketing approaches to target nutrition and health messages to lead to behavior changes; and (h) development of innovative cross-training programs in nutrition and the social sciences.

12.2 Nutritional Impact of Functional Foods. (For clarification of this sub-area, please contact the Program Directors, Ram Rao at (202) 401–6010; e-mail: rrao@reeusda.gov or Melvin Mathias at (202) 720–4124; e-mail: mmathias@reeusda.gov.)

Functional foods are fresh or processed foods containing significant levels of biologically active components that might provide health benefits or desirable physiological effects beyond basic nutrition. The national and international market for functional foods is growing rapidly as consumers are increasingly interested in including functional foods in their diets. Considerable scientific information demonstrates that some food components have the potential health benefits. Additional research is necessary to substantiate the claims of health benefits of the food components and functional foods. Advances in food technology through both traditional processing methodologies, and genetic engineering of foods, have provided the consumer with ever increasing food choices that claim to offer increased health benefits due to selection in favor of certain components.

The goal of this program is to foster integrated research, education and outreach activities to design and improve functional foods from agriculturally important materials. Collaborative international activities, which may lead to the discovery, development, and use of new functional foods with clear prospects as U.S. agricultural products will be considered. Activities that fully integrate and encompass the design of commercially feasible functional foods, characterization of bioactive components, measurement of health benefits, and consumer outreach programs will be given priority. Integration should include a holistic approach to developing functional foods, including an analysis of impact on the food system and on health. Applicants are strongly encouraged to seek industry collaboration.

Examples of potential integrated research, extension and education activities include, but are not limited to: (a) Creation of foods that have increased amounts of the beneficial components found in fruits, vegetables, grains and animal products; (b) interactive (synergistic or antagonistic) effects of the bioactive components as consumed

in the food; (c) improved processes to enhance stability and bioavailability of bioactive components; (d) the design of functional foods with acceptable sensory attributes; (e) the development of methods to monitor the effectiveness of functional foods on improving health and preventing diseases; (f) analysis to support the issuance of regulatory guidelines to ensure the safety and efficacy of functional food products; and (g) provide information usable by and readily available to health professionals and consumers.

Proposals dealing with genetically modified foods that do not fit under the definition of functional foods described in this section or which deal with risk management of biotechnology derived foods should be directed to Program Area 11.1 (Effects of Agricultural Biotechnology on Human and Animal Health) or 11.2 (Social and Economic Aspects of Agricultural Biotechnology); proposals dealing with consumer choices of functional foods for health should be directed to Program Area 12.1 (Consumer Food Behavior).

New Uses For Agricultural Products (Program Area 13.0)

(For clarification of this program area, contact the Program Director, Carmela Bailey, at (202) 401–6443; e-mail: cbailey@reeusda.gov.)

The goal of this program area is to provide for research, education and extension activities that enhance the competitive value, find new uses for, or establish entirely new non-food agricultural and forestry products, primarily biomass fuel sources and biobased industrial products that can replace petroleum-based fuels and products. This program area addresses the Biomass Research and Development Act of 2000, which calls for expanded public investment in research and development of economically competitive, environmentally sound bioenergy and biobased products, and to advance their availability and widespread use. Further, these efforts address the issues of resource depletion and environmental degradation, while building new markets for agriculture.

A comprehensive, system-based approach is required to accomplish the goals of this program area, which encompasses: (a) The development of crop varieties or agricultural wastes for biomass fuel uses and for biobased industrial products; (b) processing biomass; (c) product development; (d) test, evaluation and certification for commercial use; (e) demonstration of final product(s); (f) consideration of environmental impacts of material selection in early stages of product development; (g) life cycle cost evaluation of final product(s); and (h) establishing marketing networks. Accordingly, integration of these activities to the maximum extent practicable, are strongly encouraged. A system-based approach is expected to accelerate research and development and to result in measurable outcomes, i.e. increased production and use of biofuels and biobased products. This initiative strongly encourages research, education, and extension activities that explicitly recognize, account for, and enhance the interaction among growers, processors, manufacturers, markets and the community. To increase profitability to the farm and rural business sectors, applicants are encouraged to develop proposals which include post-harvest processing and manufacturing activities that add value at the local level. In considering environmental impacts of material choices, applicants should refer to EPA's Guidance on Environmentally Preferable Purchasing (www.epa.gov/oppt/epp/guidancepage.htm).

In addition, to facilitate technology transfer and marketing of biobased products, the product demonstration phase should be of sufficient size to generate data for a life cycle cost evaluation. The evaluation should clearly articulate the scope or boundary and the product alternative(s) for which the comparison is being made. A full life cycle assessment, though desirable, is beyond the scope of this RFP, both in terms of time and available funds. However, applicants are encouraged to demonstrate how they have integrated a life cycle perspective in their proposed product development.

The education component is expected to be an integral part of the proposal and should include graduate training at either the Master's degree level or the doctoral degree level. The number of research assistants should match the size and scope of the proposal. Graduate training programs that include curriculum development and/or internships at relevant private companies or national laboratories, or other innovative educational models are strongly encouraged.

Proposers are also encouraged to incorporate collaborative international activities which may lead to the discovery of new or alternative uses, or which improve the prospects for those uses through enhanced production or commercialization, thus improving the prospects for U.S. farmers in the global market.

Natural Resource Management (Including Precision Agriculture)

Successful management of natural resources in an agricultural landscape should address environmental integrity, quality of life, and economic viability. The purpose of this program area is to address how best to integrate the needs of production agriculture, the environment, and society, such that an acceptable sustainable system results.

This area will focus on key environmental problems that are best addressed using a holistic systems approach in the below stated program areas. Priority will be given to proposals that explicitly address the interaction among production, the environment, and the well-being of producers and the general public. Preference will also be given to multi-state, multi-institutional, and multi-disciplinary projects. The emerging agricultural and natural resource issues to be addressed include: System-wide management of natural resources, particulary involving small and mid-sized tracts of privately owned land within a defined geographic area (watershed or eco-region); encroachment and subsequent environmental impact of invasive native and non-native species (all taxa); conservation of biodiversity; animal waste management; and development and evaluation of precision technologies for efficient and sustainable production and harvesting of agricultural and natural resources.

14.1 Alternative Natural Resource Management Practices for Private Lands. (For further information concerning this program sub-area, contact the Program Director, Larry Biles, at (202) 401–4926; e-mail: lbiles@reeusda.gov.)

As the world's population increases, the demands for delivery of natural resource goods and services will also increase. In addition, there is an increasing demand for diversity in the commodities being produced and an increased recognition that such production changes must be accomplished without adversely impacting our capacity to ensure the delivery of goods, services, and a healthy environment to future generations.

This program will support integrated projects which address methods to maintain environmental integrity, quality of life, and economic viability. The focus of this program is on alternative natural resource management for private lands with emphasis on the development and understanding of integrated natural resources management systems for

forest, range, wildlife and aquatic resources that improve our capacity to support natural resources. Proposals should present a scientific framework that qualitatively and quantitatively links production practices, societal preferences, demographics, and economic needs to the impacts on natural resources. Preference will be given to proposals that demonstrate the active participation of the user community that is expected to benefit. Proposals should include a plan for coordination among scientists, state and federal agencies, commodity organizations, environmental groups, and producers to deal with the integrated ecological, technological, economic, social and environmental issues in a specified geographic region.

This sub-area of the initiative is intended to provide the research, extension and education information needed to support the management needs of the small and mid-sized aquatic, range, wildlife, and forest systems owners and managers. Projects should address management practices and technologies that will increase the opportunities for the small to mid-sized manager to operate profitable enterprises that respond to the demands for: (a) Alternative natural resources production, (b) sustainable forestry certification, (c) agroforestry, (d) invasive species management across multiple ownerships, (e) wildlife control and management, (f) nutrient management, (g) maintaining or enhancing biodiversity and ecosystem integrity, including restoration of species and ecosystems, (h) coping with the demands imposed by environmental and regulatory requirements within the increasingly mixed distribution of urban, rural, and wildlands management systems, and (i) training programs to enhance success and adoption of regionally-appropriate practices.

Proposals submitted to this sub-area will enhance our capacity to integrate regionally appropriate data and information to increase long-term, site-specific, and whole system efficiencies and profitability while both minimizing unintended impacts on natural resources and enhancing environmental integrity. Proposals are encouraged that use a whole systems approach (economic, environmental, social and community development) to evaluate the practices most conducive to sustaining small and mid-sized land management systems in the U.S. Partnerships with existing regional and/or long-term projects (including those associated with public lands) also are strongly encouraged.

Proposals should contain a clear plan for technology transfer and adoption. Proposals should clearly describe the type (size and distribution) of the system being evaluated and should include provisions that demonstrate an interdisciplinary problem-solving approach to maintain natural resources sustainability and profitability.

Proposals focusing on the financial security and quality of life of small to mid-sized family-owned pastures should be submitted to Program Area 15.0 (Farm Efficiency and Profitability).

14.2 Non-native Invasive Species. (For clarification of this program area, contact the Program Director, Tom Bewick, at (202) 401–3356; e-mail: tbewick@reeusda.gov.)

The spread of non-native invasive species is one of the greatest threats to the long-term health of agricultural environments. The invasion of plant, animal and microbial pests is a global issue and it is of critical importance to the nation's land and water resources. United States agriculture is both losing income and incurring expenses to address this issue.

This program will focus on newly emerging non-native invasive species that threaten, or are already impacting agricultural, forest and rangeland resources and their associated waterways. In this program, non-native invasive species are defined as species (animal, plant and microbial) that are not indigenous to a particular eco-system and that have not become naturalized there. Priority will be given to proposals that: (1) Strongly justify their proposed work in terms of impact on U.S. agriculture, and (2) contain a substantial extension and/or public education component in addition to research.

Proposals will be considered that address five key areas: (1) Prevention of introductions (including pathway analysis), (2) prevention of spread of newly established invasive species (3) early detection of and rapid response to invasion, (4) monitoring of control efforts, and (5) quantification of impact of the invasive species (e.g. economic and/or ecological). The emphasis of this program will be to fund proposals that contain objectives that create a measurable outcome that can be realized within a relatively short period of time. Proposals should clearly indicate the nature of the impact expected to result should the proposal be funded. In addition, proposals should present a rationale for how the results of the work will be integrated into an overall management plan.

14.3 Animal Manure Management. (For clarification of this program area, contact the Program Director, Richard Hegg, at (202) 401–6550; e-mail: rhegg@reeusda.gov.)

There is a great need to prevent the degradation of air, soil, and water resources by food animal production systems and to protect the ecological integrity of forest, rangeland, crop, aquatic, estuarine, and marine systems. Proper management of manure resulting from various production systems is one of the most critical issues facing the food animal industry. Animal feeding operations vary by region, species, size, and management requirements, so that each operation is site-specific and must be managed accordingly. Physical, chemical and/or biological treatment techniques may be used to reduce the pollution potential of animal manure. Regulation of animal feeding operations at the local, state and federal level is undergoing rapid change. An overall goal of this program is to improve American agriculture, environmentally and economically.

Proposals for this section will support integrated research, education and extension on regional or multi-state systems that will ultimately reduce adverse environmental and human health impacts of animal manure. Proposals will be considered that develop and evaluate manure management practices, and treatment systems for the protection of natural resources. Proposals which employ a watershed, landscape-scale approach are encouraged and could include the transport and fate of nutrients and/or pathogens from animal manure through air, water and soil. The incorporation of comprehensive nutrient management planning in educational programs is encouraged, as is the development of partnerships with already established waste management centers.

This sub-program will accept proposals which address the following topical areas: (a) Determination of the effects of animal manure nutrient content and quality, and extension of this knowledge to producers or companies who may in turn modify their feed; (b) resolving community and regulatory concerns about siting, land application, health and economic issues; (c) determination and prediction of odor, gas and particulate matter impacts on the atmosphere and society, and development of management strategies to alleviate such impacts; (d) understanding and predicting source, delivery and fate of pathogens, antibiotics and/or endocrine disruptors (hormones) in the environment and their potential effects of the environment; and (e) development and implementation of alternative waste

treatment technologies and alternative animal production systems.

Proposals should indicate which of the following animal groups will be addressed: swine, dairy, beef, poultry or aquaculture. If appropriate, the proposal should address the economic aspects of the described process, methodology, practice, etc. as it affects agriculture and the environment.

Proposals focusing on producing and marketing value-added products from manure should be submitted to IFAFS Program Area 13.0 New Uses for Agricultural Products. Proposals that are predominantly water quality or food safety should be submitted to The Integrated Research, Education and Extension Grant Program. This program description can be found at www.reeusda.gov/1700/funding/11__99–406.htm.

14.4 Application of Geospatial and Precision Technologies. (For FY 2001, the Application of Geospatial and Precision Technologies will be offered through a separate solicitation for a joint USDA/NASA Application of Geospatial and Precision Technologies Program. See the CSREES website, www.reeusda.gov, under ''funding opportunities'' for additional information concerning this program.)

Farm Efficiency and Profitability (Program Area 15.0)

(For clarification of this program area, contact the Program Director, Don West, at (202) 720–5633; e-mail: dwest@reeusda.gov; Mark Bailey, at (202) 401–1898; e-mail: mbailey@reeusda.gov; or Denis Ebodaghe, at (202) 401–4385; e-mail: debodaghe@reeusda.gov.)

Dramatic changes in the global agricultural environment and in domestic farm programs have created new challenges for U.S. farmers as they strive to maintain the efficiency and profitability of their operations and the financial viability of their families and communities. This program emphasizes the use of existing data and emerging information to synthesize and deliver knowledge that improves profitability for families operating small and medium-sized farms. Proposals that address the concerns of family-owned farms with limited financial resources will be given priority. Proposals should indicate how target audiences will benefit from the proposed programs/projects. Proposals ideally will address issues using a system-wide approach. For instance, a new crop diversification management scheme should consider potential markets, impact on total farm income and availability of inputs, and risk management tools for the new production plan.

All proposals submitted to this program area will undergo a peer review in which the efficiency and profitability of small and medium-sized farms is the most important criterion. New partnerships and new administrative mechanisms that involve universities, industry, profit/non-profit organizations and/or community colleges are also important criteria. Consideration will be given to system approaches useful in meeting the production, marketing, capital and human resource needs associated with dairy, livestock, crop and other commodity operations. This priority area recognizes linkages with natural resources and environmental issues, and the importance of strengthening the financial viability of farm operations, families, and communities. Such proposals should provide information on the connections between the sustainability of small and medium-sized farms and the viability of their communities.

Projects that utilize a systems approach and are national or regional in scope are encouraged as are those that incorporate research, extension, and educational functions. Proposals that incorporate farmer input in problem identification and have high scientific merit in project design, methodology and analytical procedures will be given priority. Appropriate innovative methodologies are encouraged, including those that make use of electronic technology in delivery of extension and formal education programs. Applicants with a strong track record of working with owners and managers of small and medium-sized farms are encouraged to apply.

Applicants are encouraged to submit research, extension, or education proposals that address one or more of the following areas:

(a) Development of management (e.g., pest, crop, animal, nutrient, economic) systems that improve efficiency and profitability, including the reduction of capital and input costs or the diversification of crop and livestock enterprises;

(b) development of effective marketing programs, including the use of farmers' markets, community-supported agriculture, marketing to restaurants and schools, cooperative approaches to use of inputs and marketing, organic production and marketing, Internet marketing, global markets, and agrotourism;

(c) development of farm-based value-added processing and new high-return production and marketing niches;; and

(d) development of programs/projects that improve access to knowledge and decision-making tools (e.g. production decision tools, formal and informal education in entrepreneurship, business planning and marketing for new or modified enterprises, and farm and family financial planning and management) that allow producers to increase options for farm efficiency and profitability in regional and local economies, including planning and building community support; and (e) development of programs/projects that improve access to and management of financial resources, including physical and production capital, financial services, innovative investment capital strategies, human capital (including availability and effective management of labor), and infrastructure and social capital (community resources and institutions). Projects addressing management of risks faced by farmers and ranchers should be directed to the Risk Management Education Program of CSREES.

Critical or Emerging Issues Grants (Program Area 16.0)

(For clarification of this program area, contact the Program Director, Rodney Foil, at (202) 720–7441; e-mail: rfoil@reeusda.gov.) Proposals submitted to this program area (16.0) may not be submitted to any other program area.

IFAFS is offering the opportunity to consider applications based upon critical issues that transcend the specific elements of the individual IFAFS program areas as well as those issues that are of emerging significance.

A number of critical issue areas do not fit clearly within the specified IFAFS program areas announced in this solicitation. Other urgent or unforeseen agricultural problems and opportunities may present themselves after the IFAFS deadline. To permit these two issues areas to be addressed, CSREES is allowing the submission of Critical or Emerging Issues proposals up to six weeks after the IFAFS deadline date. Proposals should relate generally to an area of interest in the IFAFS program but be a critical need that clearly falls outside the boundaries of the existing program areas or be an emerging issue that has recently arisen.

Proposals designated as Critical or Emerging Issues will be judged by a much higher standard of relevance to critical and/or immediate issues than will those projects that address the elements of the program directly. Critical or Emerging Issues grants should make the case for their merit with strong evidence of the uniqueness or urgency of the issue and of the work

proposed, and explain why the proposal could not have fit and been submitted to an existing IFAFS program area at the original deadline. The Critical or Emerging Issues grants will be subject to panel review in the subject area concerned, and in addition will undergo a second evaluation in which meritorious Critical or Emerging Issues proposals from all subject panels are considered. It is unlikely that many of these proposals will be funded, and those who submit under this category bear the burden of proof as to the uniqueness and urgency of the need.

Applicants are cautioned to not use the Critical or Emerging proposal category as a way to circumvent the IFAFS deadline date.

Multidisciplinary Graduate Education Traineeship (MGET) Program for Food and Agricultural Sciences (Program Area 17.0)

(For clarification on this sub-area, please contact the Program Director, Howard Sandberg, at (202) 720–2193, e-mail: hsandberg@reeusda.gov.)

The purpose of the MGET program is to meet the challenges of educating scientists, engineers, and educators with graduate level multidisciplinary backgrounds and the technical, professional, and personal skills needed for the career demands of future agriculture. The program is intended to catalyze a cultural change in graduate education, for students, faculty, and universities, by establishing new, innovative models for graduate education and training in a fertile environment for collaborative research, education, and extension that transcends traditional disciplinary boundaries in agriculture. It is also intended to facilitate greater diversity in student participation and preparation and to contribute to the development of a diverse, globally-aware, agricultural research, education, and extension workforce.

Proposals submitted to the MGET program must be innovative, research-based, graduate education and training activities in priority mission areas of agriculture. At least two academic departments must be represented in each grant application. Submissions from multiple institutions are also encouraged. Proposals must be organized upon a multidisciplinary theme and involve a diverse group of faculty members and other investigators with appropriate expertise in research, education and extension. The multidisciplinary theme provides a framework for integrative, collaborative efforts across departments and institutions. Students should gain various strengths while maintaining competence in a major field by focusing on problem-oriented rather than discipline-oriented education and research. The MGET project should offer experience relevant to both academic and nonacademic careers by linking graduate education and research, through internships and mentoring, with research and extension in industry, national laboratory, or other settings. The globalization of graduate education and career opportunities places importance on an international perspective in graduate education, such as through internships abroad or other experiences appropriate to the agricultural education and research areas. The graduate experience should also equip students to understand and integrate scientific, technical, business, social, and ethical issues to confront the challenging agricultural problems of the future. The coherent multidisciplinary theme may draw upon investigators from two or more academic departments within a single institution or from more than one institution. Because the primary emphasis of the MGET program is on innovative approaches to education and training of graduate students, proposals must make clear what is different from existing programs at the institution. Participation of individuals at the undergraduate, graduate and postdoctoral levels may be included if such participation clearly strengthens the graduate traineeship program. Please bear in mind that all stipend recipients must be citizens or permanent residents of the U.S.

MGET projects are expected to incorporate the following features:

- A comprehensive multidisciplinary theme, appropriate for graduate-level education, to serve as the foundation for traineeship activities;
- Integration of the coherent multidisciplinary theme with innovative graduate education and training mechanisms, curricula, and other educational opportunities that foster strong interactions among participating students and faculty;
- An environment that exposes students to a broad base of state-of-the-art technologies and methodologies in agriculture;
- Provision for developing professional and personal elements such as communication, teamwork, and leadership;
- Integrated instruction in ethics and the responsible development of science policy and the conduct of research, education, and extension;
- Opportunities for career development, such as may be provided by internships in international, industrial, national laboratory, or other settings;
- Fostering of a global perspective for students;
- Formal administrative plan and organizational structure that ensures effective management of the requested resources to achieve the goals of the MGET project;
- Institutional strategy and operational plan for student recruitment, mentoring, and retention efforts aimed at members of groups under-represented in science and engineering (i.e., women, racial and ethnic minorities, and persons with disabilities) to ensure preparation of a diverse science and engineering workforce; and
- Well-defined strategy and methodology for internal, external, and independent assessment of project performance.

The Principal Investigator/Project Director (PI/PD) shall be the director of the MGET project, and is expected to be an essential participant in its education, research, and extension activities. The PI will have overall responsibility for administration of the award, management of the project, and for interactions with CSREES. The PI and the home institution are expected to develop an administrative structure for the MGET project that enables faculty members, students, and others involved to interact effectively in furthering the project's goals.

Part III—Preparation of a Proposal

A. Program Application Materials

Program application materials are available at the CSREES website (www.reeusda.gov/IFAFS). If you do not have access to the CSREES web page or have trouble downloading material, you may contact the Proposal Services Unit, Office of Extramural Programs, USDA/CSREES at (202) 401–5048. When calling the Proposal Services Unit, please indicate that you are requesting forms for IFAFS. These materials may also be requested via Internet by sending a message with your name, mailing address (not e-mail) and phone number to psb@reeusda.gov. State that you want a copy of the Program Description and application materials (orange book) for the Fiscal Year 2001 Initiative on Future Agriculture and Food Systems (IFAFS).

B. Content of Proposals and Letter of Intent

1. Letter of Intent

Applicants are strongly encouraged to submit a Letter of Intent before submitting a full proposal. Indicate the

IFAFS program area to which you plan to apply. In addition, this letter should contain these three parts: (1) a descriptive title of the proposed project; (2) names and roles of principle investigator(s)/project director(s) and other key personnel along with their institutions; and (3) a brief statement of approaches and objectives (500 words or less). This information will be used by CSREES staff in planning the review process. Because Letters of Intent will not be distributed for peer review, there will be no feedback from CSREES staff regarding the content of these letters. See Deadline Dates section of this RFP for specific mailing instructions. Failing to submit a Letter of Intent will not preclude applicants from submitting full proposals, however a Letter of Intent is nonetheless encouraged.

2. Project Proposals

a. General. The proposal should follow these guidelines, enabling reviewers to more easily evaluate the merits of each proposal in a systematic, consistent fashion:

(1) The proposal should be prepared on only one side of the page using standard size (8½'' x 11'') white paper, one inch margins, typed or word processed using no type smaller than 12 point font, and single or double spaced. Use an easily readable font face (e.g., Geneva, Helvetica, Times Roman).

(2) Each page of the proposal, including the Project Summary, budget pages, required forms, and any appendices, should be numbered sequentially.

(3) The proposal should be stapled in the upper left-hand corner. Do not bind. An original and 14 copies (15 total) must be submitted in one package, along with 10 copies of the ''Project Summary'' as a separate attachment.

(4) If applicable, proposals should include original illustrations (photographs, color prints, etc.) in all copies of the proposal to prevent loss of meaning through poor quality reproduction.

Small or *mid-sized institutions:* An academic institution is eligible as small- or mid-sized if the institution is under 15,000 in total enrollment (including part-time students) and is not listed in Appendix A(Most Successful Universities and Colleges for Receiving Federal and/or National Research Initiative Funds).

b. Cover Page.

Each copy of each grant proposal must contain an ''Application for Funding'', Form CSREES–661. One copy of the application, preferably the original, must contain the pen-and-ink signature(s) of the proposing principal investigator(s)/project director(s)(PI/PD) and the authorized organizational representative who possesses the necessary authority to commit the organization's time and other relevant resources to the project. Any proposed PI/PD or co-PI/PD whose signature does not appear on Form CSREES–661 will not be listed on any resulting grant award. Complete both signature blocks located at the bottom of the ''Application for Funding'' form.

Form CSREES–661 serves as a source document for the CSREES grant database; it is therefore important that it be completed accurately. The following items are highlighted as having a high potential for errors or misinterpretations:

(1) Title of Project (Block 6). The title of the project must be brief (80-character maximum), yet represent the major thrust of the effort being proposed. Project titles are read by a variety of nonscientific people; therefore, highly technical words or phraseology should be avoided where possible. In addition, introductory phrases such as ''investigation of,'' ''research on,'' ''education for,'' or ''outreach that'' should not be used.

(2) Program to Which You Are Applying (Block 7). ''IFAFS''.

(3) Program Area and Number (Block 8). The name of the program component, e.g. Plant Genome, 10.1 or Behavior of Food Choice, 12.1. should be inserted in this block.

(4) Type of Award Request (Block 13). Check the block for ''new'', ''resubmission'' or ''renewal.''

(5) Principal Investigator(s)/Project Director(s) (PI/PD) (Block 15). The designation of excessive numbers of co-PI/PDs creates problems during final review and award processing. Listing multiple co-PI/PDs, beyond those required for genuine collaboration, is therefore discouraged. Note that providing a Social Security Number is voluntary, but is an integral part of the CSREES information system and will assist in the processing of the proposal.

(6) Type of Performing Organization (Block 18). A check should be placed in the box beside the type of organization which actually will carry out the effort. For example, if the proposal is being submitted by an 1862 Land-Grant institution but the work will be performed in a department, laboratory, or other organizational unit of an agricultural experiment station, box ''03'' should be checked. If portions of the effort are to be performed in several departments, check the box that applies to the individual listed as PI/PD #1 in Block 15.a.

(7) Other Possible Sponsors (Block 22). List the names or acronyms of all other public or private sponsors including other agencies within USDA and other programs funded by CSREES to whom your application has been or might be sent. In the event you decide to send your application to another organization or agency at a later date, you must inform the identified CSREES Program Director as soon as practicable. Submitting your proposal to other potential sponsors will not prejudice its review by CSREES; however, duplicate support for the same project will not be provided. Complete the ''Application for Funding,'' Form CSREES–661, in its entirety.

(8) One copy of the ''Application for Funding'' form must contain the signatures (in ink) of the PI/PDs and authorized organizational representative for the applicant organization.

c. Table of Contents. For consistency and ease in locating information, each proposal must contain a detailed Table of Contents just after the cover page. The Table of Contents should contain page numbers for each component of the proposal. Page numbers should begin with the first page of the Project Description.

d. Project Summary. The proposal must contain a Project Summary of 250 words or less on a separate page which should be placed immediately after the Table of Contents and should not be numbered. The names and institutions of all PI/PDs and co-PI/PDs should be listed on this form, in addition to the title of the project. The 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; plans to accomplish the project goal(s); and relevance of the project to IFAFS goals and to U.S. agriculture. The importance of a concise, informative Project Summary cannot be overemphasized. If the lead institution is eligible as a small and mid-size institution (Project Grant or Bridge Grant) as defined in Part I., Section C.(23), of this document include a separate sentence on the Project Summary page indicating that the institution is ''eligible for small-and mid-sized and Bridge Grant consideration.'' For special provisions for MGET proposals, see Part III.,B.4.a.

e. Response to Previous Review. This requirement only applies to Resubmitted Proposals as described under Part I.F.3, Types of Proposals. Resubmitted proposals are proposals that had previously been submitted to IFAFS but not funded. For these proposals, the principle investigator(s)/ project director(s) must respond to the previous panel summary on no more than one page, titled Response to

Previous Review, which is to be placed directly after the Project Summary. If desired, additional comments and responses to the previous panel summary may be included in the text of the Project Description, subject to the page limitation.

f. Project Description. The written text may not exceed 20 single-or double spaced pages of written text including figures and tables, but excluding citations.

Each proposal's Project Description should contain the following:

(1) Introduction—A clear statement of the long-term goal(s) and supporting objectives of the proposed activities should be included. Summarize the body of knowledge or other past activities which substantiates the need for the proposed project. Describe ongoing or recently completed significant activities related to the proposed project including the work of key project personnel. Preliminary data/information pertinent to the proposed project should be included;

(2) Relevance and significance—The objectives' specific relationship to the goals of the IFAFS and to the particular program area should be stated. Include a description of the significance of the activity and its value in improving agriculture through research, education and extension. Clearly describe the potential impact of the project. (For Critical or Emerging Issues proposals, see Part III.,B.3.)

(3) Approach—The activities proposed or problems being addressed must be clearly stated and the approaches being applied clearly described. The following should be included: (a) A description of the activities proposed; (b) methods to be used in carrying out the project, including the feasibility of the methods; (c) expected outcomes; (d) means by which results will be analyzed, assessed, or interpreted; and (e) how results or products will be used.

(4) Time Table—Provide an expected time line for completing the project in the requested duration.

(5) Collaborative Arrangements—Identify collaborations and provide a full explanation of the nature of the collaborations.

(6) Management Plan—It is expected that larger more complex projects (usually greater than $1 million) will require more extensive and complicated coordination and collaboration than is typically proposed for more focused projects. Therefore, explain how the project will be managed to ensure efficient administration of the grant and how activities will be integrated most effectively. Place this description after the Project Description.

(7) Evaluation and Monitoring of Project—Provide a plan for assessing and evaluating the accomplishments of the stated proposal objectives during the project and describe ways to determine the effectiveness of the end results during and upon termination of the project. In addition to the evaluation and monitoring of accomplishments associated with the project, evaluation and monitoring of the administration of the project must also be included if the project is complex and requires administrative oversight and extensive management. This description should include how funds and resources will be allocated so that collaborative participation of all parties throughout the duration of the project is ensured. (For special provisions regarding MGET proposals, see Part III., B.4.6.)

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

h. Appendices to Project Description. Appendices to the Project Description are allowed if they are directly germane to the proposed project and are limited to a total of two of the following: reprints (papers that have been published in peer reviewed journals) and preprints (manuscripts in press for a peer reviewed journal; these must be accompanied by a letter of acceptance from the publishing journal).

i. Key Personnel. All senior personnel who are expected to be involved in the effort should be clearly identified. For each person the following should be included:

(1) The roles and responsibilities of each PI/PD should be described;

(2) An estimate of time commitment for each PI/PD; and

(3) Vitae of each PI/PD, senior associate and other professional personnel. This section should include vitae of all key persons who are expected to work on the project, whether or not CSREES funds are sought for their support. The vitae should be limited to two (2) pages in length, excluding publication lists. A chronological list of all publications in refereed journals during the past four (4) years, including those in press, must be provided for each project member for which a curriculum vitae is provided. Also list those non-refereed technical publications which have relevance 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 reference as these usually appear in journals.

j. Conflict-of-Interest List. A Conflict-of-Interest List must be provided for all individuals involved in the project (identified as key personnel). Each list should be on a separate page and include alphabetically the full names of the individuals in the following categories: (a) All collaborators on projects within the past four years, including current and planned collaborations; (b) all co-authors on publications within the past four years, including pending publications and submissions; (c) all persons in your field with whom you have had a consulting or financial arrangement within the past four years who stand to gain by seeing the project funded; and (d) all thesis or postdoctoral advisees/advisors within the past four years (some may wish to call these life-time conflicts). This form is necessary to assist program staff in excluding from proposal review those individuals who have conflicts-of-interest with the personnel in the grant proposal. The Program Director, under the specific area or sub-area, must be informed of any additional conflicts-of-interest that arise after the proposal is submitted.

k. Collaborative and/or Subcontractual Arrangements. If it will be necessary to enter into formal consulting or collaborative arrangements with others, such arrangements should be fully explained and justified. If the need for consultant services is anticipated, the proposal budget narrative should provide a justification for the use of such services, a statement of work to be performed, a resume or curriculum vitae for each consultant, and rate of pay for each consultant. For purposes of proposal development, informal day-to-day contacts between key project personnel and outside experts are not considered to be collaborative arrangements and thus do not need to be detailed.

All anticipated subcontractual arrangements also should be explained and justified in this section. A proposed statement of work and a budget for each arrangement involving the transfer of substantive programmatic work or the providing of financial assistance to a third party must be provided. Agreements between departments or other units of your own institution and minor arrangements with entities outside of your institution (e.g., requests for outside laboratory analyses) are excluded from this requirement.

If you expect to enter into subcontractual arrangements, please note that the provisions contained in 7 CFR Part 3019, USDA Uniform Administrative Requirements for Grant and Other Agreements with Institutions

of Higher Education, Hospitals, and Other Non-Profit Organizations, and the general provisions contained in 7 CFR 3015.205, USDA Uniform Federal Assistance Regulations, flow down to subrecipients. In addition, required clauses from Sections 40–48 (''Procurement Standards'') and Appendix A (''Contract Provisions'') of 7 CFR 3019 should be included in final contractual documents, and it is necessary for the subawardee to make a certification relating to debarment/suspension.

1. Budget. (1) Budget Form—Prepare the budget, Form CSREES–55, in accordance with instructions provided. Budgets of up to $5 million may be requested. Budgets should be commensurate with activities proposed. A budget form is required for each year of requested support. In addition, a cumulative budget is required detailing the requested total support for the overall project period. The budget form may be reproduced as needed by applicants. Funds may be requested under any of the categories listed on the form, provided that the item or service for which support is requested is allowable under the authorizing legislation, the applicable Federal cost principles, and these program guidelines, and can be justified as necessary for the successful conduct of the proposed project. Applicants must also include a Budget Narrative to justify their budgets (see paragraph (2) below.) For special provisions for MGET proposals, see Part III.B.4.c.

The following guidelines should be used in developing your proposal budget(s):

(A) Salaries and Wages. Salaries and wages are allowable charges and may be requested for personnel who will be working on the project in proportion to the time such personnel will devote to the project. If salary funds are requested, the number of Senior and Other Personnel and the number of CSREES-Funded Work Months must be shown in the spaces provided. Grant funds may not be used to augment the total salary or rate of salary of project personnel or to reimburse them for time in addition to a regular full-time salary covering the same general period of employment. Salary funds requested must be consistent with the normal policies of the institution.

(B) Fringe Benefits. Funds may be requested for fringe benefit costs if the usual accounting practices of your organization provide that organizational contributions to employee benefits (social security, retirement, etc.) be treated as direct costs. Fringe benefit costs may be included only for those personnel whose salaries are charged as a direct cost to the project.

(C) Nonexpendable Equipment. Nonexpendable equipment means tangible nonexpendable personal property including exempt property charged directly to the award having a useful life of more than one year and an acquisition cost of $5,000 (or lower, depending on institutional policy) or more per unit. As such, items of necessary instrumentation or other nonexpendable equipment should be listed individually by description and estimated cost in the Budget Narrative. This applies to revised budgets as well, as the equipment item(s) and amount(s) may change.

(D) Materials and Supplies. The types of expendable materials and supplies which are required to carry out the project should be indicated in general terms with estimated costs in the Budget Narrative.

(E) Travel. The type and extent of travel and its relationship to project objectives should be described briefly and justified. If foreign travel is proposed, the country to be visited, the specific purpose of the travel, a brief itinerary, inclusive dates of travel, and estimated cost must be provided for each trip. Airfare allowances normally will not exceed round-trip jet economy air accommodations. U.S. flag carriers must be used when available. See 7 CFR Part 3015.205(b)(4) for further guidance.

(F) Publication Costs/Page Charges. Include anticipated costs associated with publications in a journal (preparing and publishing results including page charges, necessary illustrations, and the cost of a reasonable number of coverless reprints) and audio-visual materials that will be produced. Photocopying and printing brochure, etc., should be shown in Section I., ''All Other Direct Costs'' of Form CSREES–55.

(G) Computer (ADPE) Costs. Reimbursement for the costs of using specialized facilities (such as a university-or department-controlled computer mainframe or data processing center) may be requested if such services are required for completion of the work.

(H) All Other Direct Costs. Anticipated direct project charges not included in other budget categories must be itemized with estimated costs and justified in the Budget Narrative. This also applies to revised budgets, as the item(s) and dollar amount(s) may change. Examples may include space rental at remote locations, subcontractual costs, and charges for consulting services, telephone, facsimile, shipping costs, and fees necessary for laboratory analyses. You are encouraged to consult the ''Instructions for Completing Form CSREES–55, Budget,'' of the Application Kit for detailed guidance relating to this budget category. Form AD–1048 must be completed by each subcontractor or consultant and retained by the grantee.

(I) Indirect Costs—Section 1462 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310) limits indirect costs for this program to 19 percent of total Federal funds provided under each award. Therefore, the recovery of indirect costs under this program may not exceed the lesser of the institution's official negotiated indirect cost rate or the equivalent of 19 percent of total Federal funds awarded. If no rate has been negotiated, a reasonable dollar amount (equivalent to less than 19 percent of total Federal funds requested) in lieu of indirect costs may be requested, subject to approval by USDA.

m. *Budget Narrative.* All budget categories, with the exception of Indirect Costs for which support is requested, must be individually listed (with costs) and justified on a separate sheet of paper and placed immediately behind the Budget Form. Explanations of matching funds or lack thereof on commodity-specific projects also are to be included in this section.

n. *Matching Funds.* If an applicant concludes that matching funds are not required as specified in Part I. E, a justification should be included in the Budget Narrative. CSREES will consider this justification when ascertaining final matching requirements. CSREES retains the right to make final determinations regarding matching requirements.

For those grants requiring matching funds as specified in Part I. E., proposals should include written verification of commitments of matching support (including both cash and in-kind contributions) from third parties. Written verification means:

(1) For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized organizational representatives of the donor organization and the applicant organization, which must include: (a) the name, address, and telephone number of the donor; (b) the name of the applicant organization; (c) the title of the project for which the donation is made; (d) the dollar amount of the cash donation; and (e) a statement that the donor will pay the cash contribution during the grant period; and

(2) For any third party in-kind contributions, a separate pledge

agreement for each contribution, signed by the authorized organizational representatives of the donor organization and the applicant organization, which must include: (a) the name, address, and telephone number of the donor; (b) the name of the applicant organization; (c) the title of the project for which the donation is made; (d) a good faith estimate of the current fair market value of the third party in-kind contribution; and (e) a statement that the donor will make the contribution during the grant period.

The sources and amount of all matching support from outside the applicant institution should be summarized on a separate page and placed in the proposal immediately following the Budget Narrative. All pledge agreements must be placed in the proposal immediately following the summary of matching support.

The value of applicant contributions to the project shall be established in accordance with applicable cost principles. Applicants should refer to OMB Circulars A–21, Cost Principles for Educational Institutions, A–87, Cost Principles for State, Local, and Tribal Governments, A–122, Cost Principles for Non-Profit Organizations, and for-profit organizations, the cost principles in the Federal Acquisition Regulation at 48 CFR 31.2 (see 7 CFR 3015.194).

o. *Current and Pending Support.* All proposals must contain Form CSREES–663 listing other current public or private support (including in-house support) to which key personnel identified in the proposal have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Analogous information must be provided for any pending proposals that are being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA Programs or agencies. Concurrent submission of identical or similar proposals to the possible sponsors will not prejudice proposal review or evaluation by the CSREES for this purpose. However, a proposal that duplicates or overlaps substantially with a proposal already reviewed and funded (or to be funded) by another organization or agency will not be funded under this program. Note that the project being proposed should be included in the pending section of the form.

p. Assurance Statement(s), (Form CSREES–662). A number of situations encountered in the conduct of projects require special assurances, supporting documentation, etc., before funding can be approved for the project. In addition to any other situation that may exist with regard to a particular project, it is expected that some applications submitted in response to these guidelines will involve the following:

(1). Recombinant DNA or RNA Research.

As stated in 7 CFR 3015.205 (b)(3), all key personnel identified in the proposal and all endorsing officials of the proposing organization are required to comply with the guidelines established by the National Institutes of Health entitled, ''Guidelines for Research Involving Recombinant DNA Molecules,'' as revised. If your project proposes to use recombinant DNA or RNA techniques, you must so indicate by checking the 'yes' box in Block 19 of Form CSREES–661 (the Cover Page) and by completing Section A of Form CSREES–662. For applicable proposals recommended for funding, Institutional Biosafety Committee approval is required before CSREES funds will be released.

(2). Animal Care. Responsibility for the humane care and treatment of live vertebrate animals used in any grant project supported with funds provided by CSREES rests with the performing organization. Where a project involves the use of living vertebrate animals for experimental purposes, all key project personnel identified in a proposal and all endorsing officials of the proposing organization are required to comply with the applicable provisions of the Animal Welfare Act of 1966, as amended (7 U.S.C. 2131 *et seq.*) and the regulations promulgated thereunder by the Secretary in 9 CFR Parts 1, 2, 3, and 4 pertaining to the care, handling, and treatment of these animals. If your project will involve these animals, you should check 'yes' on block 20 of CSREES–661 and complete Section B of Form CSREES–662. In the event a project involving the use of live vertebrate animals results in a grant award, funds will be released only after the Institutional Animal Care and Use Committee has approved the project.

(3) Protection of Human Subjects—Responsibility for safeguarding the rights and welfare of human subjects used in any grant project supported with funds provided by CSREES rests with the performing organization. Guidance on this issue is contained in the National Research Act, Pub. L No. 93–348, as amended, and implementing regulations promulgated by the Department under 7 CFR Part 1c. If you propose to use human subjects for experimental purposes in your project, you should check the 'yes' box in Block 21 of Form CSREES–661 and complete Section C of Form CSREES–662. In the event a project involving human subjects results in a grant award, funds will be released only after the appropriate Institutional Review Board has approved the project.

q. Certifications. Note that by signing Form CSREES–661 the applicant is providing certifications required by 7 CFR Part 3017, as amended, regarding Debarment and Suspension and Drug Free Workplace, and 7 CFR Part 3018, regarding Lobbying. The certification forms are included in the application package for informational purposes only. These forms should not be submitted with the proposal since by signing form CSREES–661 your organization is providing the required certifications. If the project will involve a subcontractor or consultant, the subcontractor/consultant should submit a form AD–1048 to the grantee organization for retention in their records. This form should not be submitted to USDA.

r. Compliance with the National Environmental Policy Act (NEPA) Form CSREES–1234. As outlined in 7 CFR Part 3407 (the Cooperative State Research, Education, and Extension Service regulations implementing NEPA), the environmental data for any proposed project is to be provided to CSREES so that CSREES may determine whether any further action is needed. In some cases, however, the preparation of environmental data may not be required. Certain categories of actions are excluded from the requirements of NEPA.

In order for CSREES to determine whether any further action is needed with respect to NEPA, pertinent information regarding the possible environmental impacts of a particular project is necessary; therefore, Form CSREES–1234, ''NEPA Exclusions Form,'' must be included in the proposal indicating whether the applicant is of the opinion that the project falls within a categorical exclusion and the reasons therefore. If it is the applicant's opinion that the proposed project falls within the categorical exclusions, the specific exclusion must be identified. Form CSREES–1234 and supporting documentation should be included as the last page of this proposal.

Even though a project may fall within the categorical exclusions, CSREES may determine that an Environmental Assessment or an Environmental Impact Statement is necessary for an activity, if substantial controversy on environmental grounds exists or if other extraordinary conditions or circumstances are present which may

cause such activity to have a significant environmental effect.

3. Critical or Emerging Issues Proposals

Proposals submitted to the Critical or Emerging Issues Program Area 16.0 should contain all of the components listed above for a Project grant application. In addition the ''Relevance and Significance'' section of the proposal should include a statement explaining, with strong evidence, the uniqueness or urgency of the issue and of the work proposed, and an explanation why the proposal could not have fit and been submitted to an existing IFAFS program area at the original deadline.

4. MGET Proposals

Proposals submitted to the MGET Program Area 17.0 should contain all of the components listed above for a Project Grant application with the following exceptions:

a. Project Summary—On the Project Summary Page provide a brief description of the traineeship program, including the multidisciplinary education features, objectives, and related theme.

b. Project Description—The project description section should contain the following items:

(1) List of Participants—Include departmental and institutional affiliation of all faculty members and senior level personnel expected to mentor students or otherwise play an important role in the project;

(2) Vision, Goals, and Thematic Basis—Discuss the vision, goals, and anticipated impact of the proposed MGET project. Describe the thematic basis and unifying aspects of the multidisciplinary research, education, and extension activities to be offered. Discuss what is currently missing from graduate education and training or what could be done more effectively, and how the proposed project will address these issues. How will this project meet national needs for placement of the graduates in the workforce? Benefits to be realized from opportunities for cross-disciplinary cooperation in education, research, and extension should be emphasized. What is new and innovative?

(3) Education and Training—Describe the multidisciplinary education and training activities central to the proposed MGET project. Novel aspects should be emphasized to help reviewers judge potential impacts of proposed activities. Indicate how the proposed educational, research, and extension experiences will be integrated into an effective graduate traineeship program. Needs for interdisciplinary courses must be justified. If planned student training includes international, industrial or other internships, potential mentors should be identified. Describe provisions for developing professional and personal elements such as communication, teamwork, leadership, international perspective, and instruction in ethics, policy, and responsible conduct of science, education and extension. Elaborate on the role of diversity, and on the expected time for completing the degree. The role of undergraduate, graduate, and postdoctoral components, when proposed, must be described with sufficient detail to clarify the benefit to the graduate traineeship program and to justify support.

(4) Major Research Efforts—Describe the major research efforts that are intended to serve as the foundation of the MGET project. At most, five (5) research areas may be described. This restriction is to limit the size of the proposal, not the number of participating faculty members or the scope of the project. In describing research areas, emphasize the cutting-edge aspects as well as how the research areas integrate to form the coherent thematic basis for the multidisciplinary project. Each research area must specify faculty members and principal participants and be written in sufficient detail to enable assessment of scientific merit and impact. Be clear about what is different from existing programs. Needs for special materials, shared instruments, or travel must be justified in the context of the research areas for which they are required.

(5) Recruitment and Retention—Describe plans for recruitment, mentoring, and retention of trainees, including provisions for members of groups under-represented in the food and agricultural sciences. Identify the graduate program(s) in which the MGET graduate students may enroll.

(6) Organization and Management—Describe plans and procedures for organization and management of the proposed activity. The plan should be specific and clear, and include a formal mechanism that assures fair and effective allocation of group resources. Procedures for selecting students and others who will receive stipends or share in group funds must be described, as should methods for allocating use of shared equipment to be acquired with MGET funds. Relationships to other faculty and equipment at the institution, and elsewhere if relevant, should be described as should the relationship to existing grants that provide funds for related training and educational activities.

(7) Performance Assessment—Describe a performance plan and methodology that relates the goals of the project to indicators and specific measurements for assessing progress toward goal achievement. This should involve evaluators external to the project, who can render an objective evaluation and whose expertise spans the education, research, and extension objectives of the project.

(8) Recruitment and Retention History—Explain your capacity to host an MGET site, and past performance and ability to attract well-qualified students, including those from under-represented groups. Provide the following information regarding recruitment and retention of students in the participating departments/programs: (a) Total applicants, (b) total applicants accepted, (c) total applicants enrolled, (d) total students currently enrolled in the program indicating part-time and full-time status, (e) total number of masters and doctorates awarded, (f) average time to degree, (g) other relevant measures of student success. Provide separate data for women, under-represented minorities, and persons with disabilities for each of the above categories. A tabular format should be used with separate tables for each participating department/program.

(9) Recent Training Experience—Provide information about any recent experience with other traineeship programs, including a discussion of outcomes. If the MGET program builds on a recent traineeship experience, discuss what would be the new value-added aspects of the project.

(10) Collaborators—To identify potential conflicts of interest in the review process, provide a consolidated alphabetical list of current and past collaborators during the last four (4) years, and their current institutional affiliation, for all personnel in List of Participants. This list must also include former graduate students and postdoctoral fellows who have been associated with the faculty participants over the last four years.

(11) Existing Facilities and Equipment—Include a brief description of available facilities, including major instruments required. If requested equipment or materials duplicate existing items, explain the need for the additional equipment.

c. Budget—Provide a budget for each year of support requested, not to exceed $500,000 each year for up to four years, exclusive of first-year equipment funds discussed below. The major portion of awarded funds must be used for

graduate student stipends, training and educational activities, and for related expenditures, such as student travel, publication costs, and recruitment. Travel funds should be budgeted in each year for the PI/PD and for an additional person to attend annual meetings in Washington, D.C. No funds for faculty research or extension or faculty salaries may be requested, with the exception that up to one month per year of salary support for the PI/PD for management purposes may be requested. Support for short-term visitors and funding of a limited amount of administrative support may be requested. The contribution to the graduate stipend is up to $18,000 per year per student, accompanied with a cost-of-education allowance of up to $10,500 per year per student (tuition and normal fees). List funds requested for graduate students' stipends in A.2.c, cost-of-education allowances in I, and travel in F of the budget form. Undergraduate stipends and postdoctoral stipends may be determined by the institution. If applicable, they should be listed separately on lines A.2.d and A.2.a of the budget form, respectively. All stipend recipients must be citizens or permanent residents of the U.S. Funds for the purchase of shared, special-purpose equipment may be requested. Personnel and shop costs may be requested for developing and constructing special instruments, and for purchasing computer software or other special purpose materials. The total funds requested for equipment, software, and special purpose materials may not exceed $200,000; if awarded, these funds will be provided in the first year of the grant. Limited funds intended to partially defray the costs of research and extension by students may also be requested. Funds for facility renovation or for equipment installation or maintenance are not allowed. For multi-institution projects, the lead institution shall submit the proposal, with other participating institutions included under subcontracts.

C. Submission of Proposals

1. When To submit (Deadline Date)

''Letters of Intent'' must be received by March 23, 2001. Proposals must be received by COB (5:00 p.m. EST) on April 23, 2001. Proposals received after this date will not be considered for funding.

2. What To Submit

For full proposals, an original and 14 copies must be submitted. In addition submit 10 copies of the proposal's Project Summary. All copies of the proposals and the Project Summaries must be submitted in one package.

3. Where To Submit

Applicants should e-mail the ''Letter of Intent'' to Dr. Rodney Foil at rfoil@reeusda.gov or send the letter by mail to IFAFS; Mail Stop 2213; Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture; 1400 Independence Avenue, SW.; Washington, D.C. 20250–2213; or fax the letter to IFAFS at (202) 690–3858.

Applicants are strongly encouraged to submit completed proposals via overnight mail or delivery service to ensure timely receipt by the USDA. The address for hand-delivered proposals or proposals submitted using an express mail or overnight courier service is: Initiative for Future Agriculture and Food Systems, c/o Proposal Services Unit, Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture; Room 1307, Waterfront Centre, 800 9th Street, SW., Washington, D.C. 20024, (202) 401–5048.

Proposals sent via the U.S. Postal Service must be sent to the following address: Initiative for Future Agriculture and Food Systems, c/o Proposal Services Unit, Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, STOP 2245, 1400 Independence Avenue, S.W., Washington, D.C. 20250–2245.

D. Acknowledgment of Proposals

The receipt of proposals will be acknowledged by e-mail. Therefore, applicants are encouraged to provide e-mail addresses, where designated, on the Form CSREES–661. If the applicant's e-mail address is not indicated, CSREES will acknowledge receipt of the proposal by letter.

Once the proposal has been assigned an identification number, please cite that number on all future correspondence. If the applicant does not receive an acknowledgment within 60 days of the submission deadline, please contact the Program Director.

Part IV—Review Process

A. General

All proposals will be reviewed together by a panel in the pertinent program area. Prior to technical examination, a preliminary review will be made for responsiveness to the program area. Proposals that do not fall within the guidelines as stated in the Program Area Description will be eliminated from program competition and will be returned to the applicant.

Individual written comments and in-depth discussions will be provided by a peer review panel prior to recommending applications for funding. Peer review panel members will be selected based upon their training and experience in relevant scientific, extension, or education fields taking into account the following factors: (a) The level of formal scientific, technical education, and extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education or extension activities; (b) the need to include as peer reviewers experts from various areas of specialization within relevant scientific, education, and extension fields; (c) the need to include as reviewers other experts (producers, range or forest managers/operators, consumers, etc.) who can assess relevance of the proposals to targeted audiences and to program needs; (d) the need to include as peer reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and Federal agencies, private profit and non-profit organizations), and geographic locations; (e) the need to maintain a balanced composition of peer review groups with regard to minority and female representation and an equitable age distribution; and (f) the need to include members that can judge the effective usefulness to producers and the general public of each proposal.

B. Evaluation Factors

1. Project Grants

Priority will be given to projects that integrate agricultural research, education and extension and projects that have included the appropriate team to achieve the goals of the project, notably teams that are multistate, multi institutional or multidisciplinary.

The following evaluation factors apply to all proposals.

a. Relevance. All proposals will be judged as to their relevance to critical emerging agricultural issues related to future food production; environmental quality, and natural resource management; or farm income. Further factors include:

(1) Documentation that the research, extension and education activities are directed towards current or likely future problems or problems identified in this document;

(2) Evident linkage of research, extension and education functions.

(3) Evidence of involvement of stakeholders and/or communities of interest.

b. Merit. All proposals will be judged on their scientific, extension, or education merit including:

(1) Novelty, innovation, uniqueness, and originality;

(2) Conceptual adequacy of the research, extension and education components;

(3) Clarity and delineation of objectives;

(4) Adequacy of the description of the undertaking and suitability and feasibility of methodology;

(5) Demonstration of feasibility;

(6) Probability of success of the project;

c. Quality. All proposals will be judged on their quality including:

(1) Selection of most appropriate and qualified individuals to address the problem;

(2) Training and demonstrated awareness of previous and alternative approaches to the problem identified in the proposal, and performance record or potential for future accomplishments;

(3) Time allocated for systematic attainment of objectives;

(4) Institutional experience and competence in subject area;

(5) Adequacy of available or obtainable support personnel, facilities, and instrumentation;

(6) Adequacy of plans for reporting, assessing and monitoring of results of the project over its duration.

(7) The planned administration of the project and its maintenance, partnerships, collaborative efforts, evaluation and monitoring efforts, and the planned dissemination of information over the duration of the project.

2. Bridge Grants

Bridge grants will be judged using the same evaluation factors as Project Grants. In addition the following factor will be applied once a project has been identified for BRIDGE grant consideration:

All proposals under consideration for Bridge grant support will be judged as to the potential that further funding will sustain and enhance important collaborations and activities that might lead to future program success or success in obtaining IFAFS and/or other grants.

3. Critical or Emerging Issues Grants

Critical or Emerging Issues grants will be judged using the same evaluation factors as Project Grants. In addition the following factor will be applied:

All proposals will be evaluated as to the uniqueness or urgency of the issue and of the work proposed and whether support of the project will likely provide results that are applied to an issue that otherwise would not have been funded through typical IFAFS support.

4. Multidisciplinary Graduate Education Traineeship (MGET) Grants

MGET proposals will be judged using the following criteria:

a. How well the proposal addressed recognized needs for highly trained personnel in the research, education and extension programs supporting the food and agricultural system of the U.S.;

b. Whether attention has been given to opportunities for removal of cultural and technical barriers preventing appropriate growth and development of new disciplines with emerging technologies;

c. How well the proposal integrates disciplines across physical, biological and social sciences to meet integrated agricultural and food science needs as well as meeting needs for supplying future extension personnel and practitioners;

d. The intellectual merit, qualifications of the proposed leadership team and the sufficiency of the proposed resources;

e. How well the proposing institution(s) provide abundant opportunities for individuals to concurrently assume responsibilities as researchers, educators, extensionists, and students where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research and extension through the diversity of learning perspectives;

f. How well the proposal integrates diversity into programs, projects, and activities by broadening opportunities and enabling the participation of all citizens—women and men, under-represented minorities, and persons with disabilities—which is essential to the health and vitality of the food and agricultural sciences. CSREES is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports;

g. Successful proposals should include provisions for developing personal and professional competencies in communications, teamwork, leadership, and ethics with opportunities for internships and other career development opportunities should be provided for as appropriate, and an emphasis on the global dimensions of the subject area as an integral part of the program.

C. Conflicts-of-Interest and Confidentiality

During the peer evaluation process, extreme care will be taken to prevent any actual or perceived conflicts-of-interest that may impact review or evaluation. For the purpose of determining conflicts-of-interest, the academic and administrative autonomy of an institution shall be determined by reference to the January 1998 issue of the Codebook for Compatible Statistical Reporting of Federal Support to Universities, Colleges, and Nonprofit Institutions, prepared by Quantum Research Corporation for the National Science Foundation.

Names of submitting institutions and individuals, as well as proposal content and peer evaluations, will be kept confidential, except to those involved in the review process, to the extent permitted by law. In addition, the identities of peer reviewers will remain confidential throughout the entire review process. Therefore, the names of reviewers will not be released to applicants. At the end of the fiscal year, names of panelists will be made available in such a way that the panelists cannot be identified with the review of any particular proposal.

Part V—Additional Information

A. Access To Review Information

Copies of summary reviews, not including the identity of reviewers, will be sent to the applicant PI/PD after the review process has been completed.

B. Grant Awards

1. General

Within the limit of funds available for such purpose, the awarding official of CSREES shall make grants to those responsible, eligible applicants whose proposals are judged most meritorious under the procedures set forth in this RFP. The date specified by the Administrator as the effective date of the grant shall be no later than September 30. It should be noted that the project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period. All funds granted by CSREES under this RFP shall be expended solely for the purpose for which the funds are granted in accordance with the approved application and budget, the regulations, the terms and conditions of the award, the applicable Federal cost principles, and the Department's assistance regulations (parts 3015, 3016, and 3019 of 7 CFR).

2. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one-time basis as part of the responsibility determination prior to the award of a grant identified under this RFP, if such information has not been provided previously under this or another CSREES program. CSREES will provide copies of forms recommended for use in fulfilling these requirements as part of the preaward process.

3. Grant Award Document and Notice of Grant Award

The grant award document shall include at a minimum the following:

(a) Legal name and address of performing organization or institution to whom the Administrator has awarded a grant under the terms of this request for proposals;

(b) Title of project;

(c) Name(s) and address(es) of principal investigator(s) chosen to direct and control approved activities;

(d) Identifying grant number assigned by the Department;

(e) Project period, specifying the amount of time the Department intends to support the project without requiring recompetition for funds;

(f) Total amount of Departmental financial assistance approved by the Administrator during the project period;

(g) Legal authority(ies) under which the grant is awarded;

(h) Approved budget plan for categorizing allocable project funds to accomplish the stated purpose of the grant award; and

(i) Other information or provisions deemed necessary by CSREES to carry out its respective granting activities or to accomplish the purpose of a particular grant.

The notice of grant award, in the form of a letter, will be prepared and will provide pertinent instructions or information to the grantee that is not included in the grant award document.

C. Funding Mechanisms

The two mechanisms by which grants may be awarded are as follows:

1. *Standard grant.* This is a funding mechanism whereby the Department agrees to support a specified level of effort for a predetermined time period without the announced intention of providing additional support at a future date.

2. *Continuation grant.* This is a funding mechanism whereby the Department agrees to support a specified level of effort for a predetermined period of time with a statement of intention to provide additional support at a future date, provided that performance has been satisfactory, appropriations are available for this purpose, and continued support will be in the best interests of the Federal government and the public. This kind of mechanism normally will be awarded for an initial one-year period, and any subsequent continuation project grants will be awarded in one-year increments. The award of a continuation project grant to fund an initial or succeeding budget period does not constitute an obligation to fund any subsequent budget period. Unless prescribed otherwise by CSREES, a grantee must submit a separate application for continued support for each subsequent fiscal year. Requests for such continued support must be submitted in duplicate at least three months prior to the expiration date of the budget period currently being funded. Decisions regarding continued support and the actual funding levels of such support in future years usually will be made administratively after consideration of such factors as the grantee's progress and management practices and the availability of funds. Since initial peer reviews are based upon the full term and scope of the original application, additional evaluations of this type generally are not required prior to successive years' support. However, in unusual cases (e.g., when the nature of the project or key personnel change or when the amount of future support requested substantially exceeds the grant application originally reviewed and approved), additional reviews may be required prior to approving continued funding.

D. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

Unless the terms and conditions of the grant state otherwise, the grantee may not in whole or in part delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of grant funds.

2. Changes in Project Plans

a. The permissible changes by the grantee, PI/PD(s), or other key project personnel in the approved project grant shall be limited to changes in methodology, techniques, or other aspects of the project to expedite achievement of the project's approved goals. If the grantee and/or the PI/PD(s) are uncertain as to whether a change complies with this provision, the question must be referred to the CSREES Authorized Departmental Officer (ADO) for a final determination.

b. Changes in approved goals or objectives shall be requested by the grantee and approved in writing by the CSREES ADO prior to effecting such changes. In no event shall requests for such changes be approved which are outside the scope of the original approved project.

c. Changes in approved project leadership or the replacement or reassignment of other key project personnel shall be requested by the grantee and approved in writing by the awarding official of CSREES prior to effecting such changes.

d. Transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not Federal funds are involved, shall be requested by the grantee and approved in writing by the ADO prior to effecting such transfers, unless prescribed otherwise in the terms and conditions of the grant.

e. Changes in Project Period: The project period may be extended by CSREES without additional financial support, for such additional period(s) as the ADO determines may be necessary to complete or fulfill the purposes of an approved project. Any extension of time shall be conditioned upon prior request by the grantee and approval in writing by the ADO, unless prescribed otherwise in the terms and conditions of a grant, but in no case shall a grant period of performance exceed 5 years.

f. Changes in Approved Budget: Changes in an approved budget must be requested by the grantee and approved in writing by the ADO prior to instituting such changes if the revision will involve transfers or expenditures of amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or in the grant award.

E. Applicable Federal Statutes and Regulations

Several other Federal statutes and regulations apply to grant proposals considered for review and to project grants awarded under this program. These include, but are not limited to:

7 CFR Part 1.1—USDA implementation of the Freedom of Information Act.

7 CFR Part 3—USDA implementation of OMB Circular No. A–129 regarding debt collection.

7 CFR Part 15, subpart A—USDA implementation of Title VI of the Civil Rights Act of 1964, as amended.

7 CFR Part 3015—USDA Uniform Federal Assistance Regulations,

implementing OMB directives (i.e., Circular Nos. A–21 and A–122) and incorporating provisions of 31 U.S.C. 6301–6308 (formerly the Federal Grant and Cooperative Agreement Act of 1977, Public Law No. 95–224), as well as general policy requirements applicable to recipients of Departmental financial assistance.

7 CFR Part 3016—Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

7 CFR Part 3017—USDA implementation of Governmentwide Debarment and Suspension (Nonprocurement) and Governmentwide Requirements for Drug-Free Workplace (Grants).

7 CFR Part 3018—USDA implementation of Restrictions on Lobbying. Imposes prohibitions and requirements for disclosure and certification related to lobbying on recipients of Federal contracts, grants, cooperative agreements, and loans.

7 CFR Part 3019—USDA implementation of OMB Circular A–110, Uniform Administrative Requirements for Grants and Other Agreements With Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations.

7 CFR Part 3052—USDA implementation of OMB Circular No. A–133, Audits of States, Local Governments, and Non-profit Organizations.

7 CFR Part 3407—CSREES procedures to implement the National Environmental Policy Act of 1969, as amended.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15d (USDA implementation of statute)—prohibiting discrimination based upon physical or mental handicap in Federally assisted programs.

35 U.S.C. 200 *et seq.*—Bayh-Dole Act, controlling allocation of rights to inventions made by employees of small business firms and domestic nonprofit organizations, including universities, in Federally assisted programs (implementing regulations are contained in 37 CFR Part 401).

F. Confidential Aspects of Proposals and Awards

When a proposal results in a grant, it becomes a part of the record of CSREES transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the proposal. The original copy of a proposal that does not result in a grant will be retained by the CSREES for a period of one year. Other copies will be destroyed. Such a proposal will be released only with the consent of the applicant or to the extent required by law. A proposal may be withdrawn at any time prior to the final action thereon.

G. Regulatory Information

For the reasons set forth in the final Rule-related Notice to 7 CFR part 3015, subpart V (48 FR 29115, June 24, 1983), this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995, as amended (44 U.S.C. chapter 35), the collection of information requirements contained in this Notice have been approved under OMB Document No. 0524–0022.

Done at Washington, D.C., this 16th day of February 2001.

Colien Hefferan,

Administrator, Cooperative State Research, Education, and Extension Service.

Appendix A—Most Successful Universities and Colleges for Receiving Federal and/or National Research Initiative Funds [1]

Baylor College of Medicine
Boston University
Brown University
California Institute of Technology
Carnegie-Mellon University
Case Western Reserve University
Colorado State University
Columbia University
Cornell University
CUNY Mount Sinai School of Medicine
Dartmouth College
Duke University
Emory University
Florida State University
Georgetown University
Georgia Institute of Technology
Harvard University
Indiana University
Iowa State University of Science and Technology
Johns Hopkins University
*Kansas State University
Massachusetts Institute of Technology
Medical College of Wisconsin
Michigan State University
New York University
North Carolina State University
Northwestern University
Ohio State University
Oregon Health Sciences University
Oregon State University
Pennsylvania State University
Princeton University
Purdue University
Rockefeller University
Rutgers, The State University of New Jersey
Scripps Research Institute
Stanford University
State University of New York at Stony Brook
State University of New York at Buffalo
Texas A&M University, College Park
Thomas Jefferson University
Tufts University
Tulane University
University of Alabama Birmingham
University of Arizona
University of California Berkeley
University of California Davis
University of California Irvine
University of California Los Angeles
*University of California Riverside
University of California San Francisco
University of California Santa Barbara
University of Chicago
University of Cincinnati
University of Colorado
University of Florida
University of Georgia
University of Illinois Urbana-Champaign
University of Illinois Chicago
University of Iowa
University of Kansas
University of Maryland Baltimore Prof Sch
University of Maryland College Park
University of Massachusetts Amherst
University of Massachusetts Medical School Worcester
University of Medicine and Dentistry of New Jersey
University of Miami
University of Michigan Ann Arbor
University of Minnesota Twin Cities
University of Missouri Columbia
*University of Nebraska—Lincoln
University of New Mexico
University of North Carolina Chapel Hill
University of Pennsylvania
University of Pittsburgh
University of Rochester
University of South Carolina
University of Southern California
University of Texas at Austin
University of Texas Health Science Center Houston
University of Texas Health Sci. Center San Antonio
University of Texas MD Anderson Cancer Center
University of Texas Medical Branch Galveston
University of Texas SW Medical Center Dallas
University of Utah
University of Virginia
University of Washington
University of Wisconsin Madison

[1] Based on data from the table Federal obligations for science and engineering research and development to the 100 universities and colleges receiving the largest amounts, ranked by total amount received: in fiscal year 1997 of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation, accessible through the Internet at www.nsf.gov/sbe/srs/nsf99331/).

* Annotated institutions are not in the list for the most successful Federally funded, but were among the top 50th percentile of those funded by the National Research Initiative (Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) over the past three years (1997–1999).

*Utah State University
Vanderbilt University
Virginia Commonwealth University
Wake Forest University
Washington University
*Washington State University
Wayne State University
Woods Hole Oceanographic Institute
Yale University
Yeshiva University, New York

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