Agriculture and Food Research Initiative Competitive Grants Program

References to Letter of Intent being <u>required</u> has been deleted

Modifications are in red on pages 2, 6, 7, 8, 12, 13, 15, 16, 17, 21, 22, 24, 37, 38 and 51

Food Security Program

2015 Request for Applications (RFA)

LETTER OF INTENT DEADLINE: April 02, 2015

APPLICATION DEADLINE: June 04, 2015

ELIGIBILITY: See Part III, A of RFA

USDA — United States Department of Agriculture — National Institute of Food and Agriculture

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE; U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURE AND FOOD RESEARCH INITIATIVE
COMPETITIVE GRANTS PROGRAM
FOOD SECURITY CHALLENGE AREA

INITIAL ANNOUNCEMENT

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: This program is listed in the Catalog of Federal Domestic Assistance under 10.310.

DATES: Letters of Intent must be received by **5:00 p.m. Eastern Time** on **April 02, 2015.** Applications must be received by **5:00 p.m. Eastern Time** on **June 04, 2015.** Applications received after this deadline will normally not be considered for funding (see Part IV, D. of this request for applications (RFA)). Comments regarding this RFA are requested within 6 months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

STAKEHOLDER INPUT: The National Institute of Food and Agriculture (NIFA) seeks your comments about this RFA. We will consider the comments when we develop the next RFA for the program, if applicable, and we'll use them to meet 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)). Submit written stakeholder comments by the deadline set forth in the DATES portion of this Notice to: Policy and Oversight Division; Office of Grants and Financial Management; National Institute of Food and Agriculture; USDA; STOP 2299; 1400 Independence Avenue, SW; Washington, DC 20250-2299; or via e-mail to: Policy@nifa.usda.gov. (This e-mail address is intended only for receiving comments regarding this RFA and not requesting information or forms.) In your comments, please state that you are responding to the Agriculture and Food Research Initiative (AFRI) Food Security Challenge Area RFA.

As part of the National Institute of Food and Agriculture's (NIFA) strategy to successfully implement the 2014 Farm Bill, NIFA is soliciting stakeholder input on NIFA's centers of excellence strategy. Between January and March 2015 NIFA will hold webinars to collect stakeholder input about the centers of excellence strategy in fiscal year (FY) 2015. Upcoming dates for the webinars will be announced on the NIFA website. The full transcript of the webinars will also be available on the NIFA website. NIFA will also request to receive input through an advertised call-in number, fax and email. All comments and suggestions for the FY 2015 centers of excellence should be received by March 30 2015.

EXECUTIVE SUMMARY: AFRI is a competitive grant program to provide funding for fundamental and applied research, education, and extension projects in food and agricultural sciences. In this RFA, NIFA requests applications for the AFRI Food Security Challenge Area Program for FY **2015.** Because the global agricultural output needs to expand by at least 70 percent to meet the food needs of the population expected in 2050, it is imperative to develop innovative and sustainable management strategies for livestock, crops, and critical underlying resources. The goal of this program is to invest in agricultural production research, education, and extension programs for more sustainable, productive and economically viable plant and animal production systems. In FY 2015, applications are sought in the following priority areas:
   1. Agricultural Production Systems
   2. Breeding and Genomics of Crops and Livestock

3. National Strategy for Sustainable Crop and Livestock Production in the United States

The amount anticipated to be available for support of this program in FY **2015** is approximately **$16.8 million**.

This notice identifies the objectives for AFRI Food Security Challenge Area projects, the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for an AFRI Food Security Challenge Area grant.

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PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

Section 7406 of the Agricultural Act of 2014 amends section 2(b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) to authorize the Secretary of Agriculture to establish the Agriculture and Food Research Initiative (AFRI); a competitive grant program to provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences. Grants shall be awarded to address priorities in United States agriculture in the following areas:

1. Plant health and production and plant products;
2. Animal health and production and animal products;
3. Food safety, nutrition, and health;
4. Bioenergy, natural resources, and environment;
5. Agriculture systems and technology; and
6. Agriculture economics and rural communities.

To the maximum extent practicable, NIFA, in coordination with the Under Secretary for Research, Education, and Economics (REE), will make grants for high priority research, education, and extension, taking into consideration, when available, the determinations made by the National Agricultural Research, Extension, Education, and Economics Advisory Board (NAREEEAB) pursuant to section 2(b)(10) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)(10)), as amended. The authority to carry out this program has been delegated to NIFA through the Under Secretary for REE.

B. Purpose and Priorities

The purpose of AFRI is to support research, education, and extension work by awarding grants that address key problems of national, regional, and multi-state importance in sustaining all components of food and agriculture, including farm efficiency and profitability, ranching, renewable energy, forestry (both urban and agroforestry), aquaculture, rural communities and entrepreneurship, human nutrition, food safety, physical and social sciences, home economics and rural human ecology, biotechnology, and conventional breeding. Through this support, AFRI advances knowledge in both fundamental and applied sciences that is important to agriculture. It also allows AFRI to support education and extension activities that deliver science-based knowledge to people, allowing them to make informed practical decisions. This AFRI RFA is announcing funding opportunities for fundamental research, applied research, and integrated research, education, and/or extension projects.

Supporting the many components of agriculture under the constraints of a growing population, pressure on natural resources, and the challenges of climate variability and change, requires research, education, extension, and integrated programs that increase agricultural and natural resource sustainability. The term "sustainable agriculture" (National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA), 7 U.S.C. 3103)) means an integrated system of plant and animal production practices having a site-specific application that will, over the long-term, achieve the following goals: 1) satisfy human food and fiber needs; 2) enhance environmental quality and the natural resource base upon which the agriculture economy depends; 3) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; 4) sustain the economic viability of farm operations; and 5) enhance the quality of life for farmers and society as a whole.

The National Research Council Committee on Twenty-First Century Systems Agriculture recently updated and simplified this definition as a four-part goal: satisfy human food, feed, and fiber needs and contribute to biofuel needs; enhance environmental quality and the resource base; sustain the economic viability of agriculture; and enhance the quality of life for farmers, farm workers, and society as a whole. The committee states that progress toward these goals will require robust systems that adapt to and continue to function in the face of stresses, are productive, use resources efficiently, and balance all four goals across all scales of farms and enterprises. They further state that if the United States is to maintain adequate resources to meet food, feed, fiber, and biofuel needs, progress toward meeting the four goals must be accelerated. This acceleration must be based on research that determines ways to reduce tradeoffs and enhance synergies among the four goals while managing risks associated with their pursuit. The committee's 2010 report, *Toward Sustainable Agricultural Systems in the 21st Century*, provides a review of the contributions of farming practices and systems and fields of science that elaborate on these general goals with respect to many of the specific priorities within AFRI programs.

AFRI is intended to promote advances in U.S. agriculture and forestry. Agriculture, however, is increasingly worldwide in scope and reach. To enhance the ability of the U.S. agricultural workforce to work effectively in an increasingly global environment, applicants to Foundational or Challenge Area RFAs are encouraged to include international partnerships or engagement in proposals as appropriate. For example, the projects can support the goals of globally coordinated initiatives, such as the International Wheat Yield Partnership (http://iwyp.org). Applicants are asked to keep in mind that while international activities supported by AFRI may contribute to Food Security as described in the U.S. government's Feed the Future Food Security initiative (www.feedthefuture.gov), **any international activity proposed under AFRI** – **such as partnerships, exchanges, training, trips, etc.** – **must first and foremost support AFRI's domestic program goals.** Applicants must clearly describe and demonstrate how international activities proposed in applications submitted to AFRI will contribute to and support advances in American agriculture. If international activities are proposed, applicants must describe indicators that will be used to assess those activities. Appropriate indicators include but are not limited to those posted at the U.S. Government's Feed the Future global food security initiative Web site (www.feedthefuture.gov/progress). Additional guidance and suggested examples for possible international partnerships linked to this RFA are provided in the Frequently Asked Questions (FAQ's) at http://www.nifa.usda.gov/funding/afri/pdfs/faqs_AFRI_food_security_intl.pdf and http://www.nifa.usda.gov/funding/afri/pdfs/stakeholder_feedback_2015_food_security.pdf.

Food Security Challenge Area

The 1996 World Food Summit defined food security as "a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." According to the Food and Agriculture Organization of the United Nations (FAO), global agricultural output needs to expand by at least 70 percent to meet the food needs of the population expected in 2050. In the United States and other developed economies, most increases in crop and livestock production will come from existing lands. Therefore, it is important to develop innovative management strategies for livestock, crops, and critical underlying resources that are more sustainable than current strategies. Crop and livestock diversification and the availability of crops and livestock adapted to particular regions are critical for sustainable production systems and food security. This diversification and adaptation will also require new cultivars and breeds with enhanced performance under complex production systems. The National Research Council Committee on 21st Century Systems Agriculture recommended investment in "integrated research and extension on farming systems that focus on interactions among productivity, environmental, economic, and social sustainability outcomes."

The long-term goal of the AFRI Food Security Challenge Area is to sustainably increase agricultural productivity and the availability and accessibility of safe and nutritious food. In addition to new grant opportunities described subsequently in Part 1.C, this challenge area also supports ongoing research, education, and extension programs through continuation awards to projects funded in recent years. These programs focused on adaptation to and mitigation of the impacts of climate change on food production; translational genomics to improve disease resistance and improve fertility in animals; minimizing crop diseases due to fungal pathogens, management of plant pathogens vectored by arthropods and nematodes; implementation of integrated pest management; reducing crop and livestock losses due to pests and diseases; and supporting sustainable food systems to improve food security.

The goal of the Food Security Challenge Area for FY 2015 is to invest in agricultural production research, education, and extension to develop more sustainable, productive, and economically viable plant and animal production systems. This program will also develop regionally adapted crop cultivars and livestock/breeds that contribute to rural economic development and prosperity while enhancing food security. These investments will increase food security by improving agricultural production systems at the regional and national levels and by encouraging diversification of agricultural production.

NIFA may also solicit applications for AFRI funds through other announcements, including supplemental AFRI RFAs or RFAs issued in conjunction with other federal agencies. Such announcements will be made public in the same manner as this announcement. Other sources of funding within NIFA for work relevant to Food Security can be found at www.nifa.usda.gov/afri.

Background

The AFRI Food Security RFA addresses the following priorities of the 2014 Farm Bill:
- A. Plant Health and Production and Plant Products – Plant Systems, Subpriorities
  - Conventional breeding, including cultivar and breed development; selection theory; applied quantitative genetics; breeding for improved food quality; breeding for improved local adaptation to biotic stress and abiotic stress; and participatory breeding.
- B. Animal Health and Production and Animal Products – Animal Systems, Subpriorities
  - Aquaculture
  - Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding
  - Identification of genes responsible for improved production traits and resistance to disease
  - Improved nutritional performance of animals
  - Improved nutrient qualities of animal products and uses
  - The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture
- C. Food Safety, Nutrition, and Health, Subpriorities
  - Postharvest physiology and practices
- D. Agriculture Economics and Rural Communities, Subpriorities
  - Farm efficiency and profitability and
  - New decision tools for farm and market systems

The AFRI Food Security Challenge Area for 2015 aligns with the 2012 USDA REE Action Plan (see
http://www.ree.usda.gov/ree/news/USDA_REE_Action_Plan_03-2014.pdf
and the USDA Office of the Chief Scientist White Paper on Global Food Security, (see
www.usda.gov/documents/global-food-security-science-white-paper.pdf). The Food Security Program
specifically addresses REE Action Plan Goal 1 (*Sustainable Intensification of Agricultural Production*)
and is supportive of Subgoals 1A through 1C (addressing crop and animal production, health, and
genetics; consumers, industry, policy, and markets and trade) and Goal 6 (*Education and Science
Literacy*).

NIFA is soliciting applications for the AFRI Food Security Challenge Area under the following areas:

   (1) Agricultural Production Systems
   (2) Breeding and Genomics of Crops and Livestock
   (3) National Strategy for Sustainable Crop and Livestock Production in the United States

The AFRI Food Security Challenge Area encourages projects that develop content and programs suitable
for delivery through the Cooperative Extension System's eXtension Initiative. You may use funds to
contribute to existing Communities of Practice (CoP)/Learning Networks (LN) or to form a new LN that
focus on Sustainable Production Systems. Projects that propose eXtension component must align with
the eXtension vision, mission, and values. You must have a letter of acknowledgement from eXtension;
you may also need a letter of support from one or more of the CoPs. For detailed guidance on how to
partner with eXtension, go to http://create.extension.org/node/2057.

C. Program Area Description

The RFA requests applications under the following program area priorities to improve agricultural
production to respond to regional and national scale food security needs. Applicants must address only
one of the following program area priorities:

1. Agricultural Production Systems

Program Code – A5160
Letter of Intent Deadline – April 02, 2015 (5:00 p.m., Eastern Time)
Letter of Intent LOI Email Address: FoodSecurity5160@nifa.usda.gov
Application Deadline – June 04, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests
   - Each Coordinated Agricultural Project (CAP) grant must not exceed $1 million per year ($4
     million total, including indirect costs) for project periods of up to 4 years. The Program Area
     Priority anticipates making 6-7 awards in FY 2015.
   - Conference and Food and Agricultural Science Enhancement (FASE) grants must adhere to the
     guidelines outlined beginning in Part II, D, 2.
   - Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Integrated Projects
Requested Grant Types – CAP, Conference, and FASE Grants
Program Area Contacts - Mathieu Ngouajio (202) 401-4895, mngouajio@nifa.usda.gov
                      Steve Smith (202) 401-6134, sismith@nifa.usda.gov
Program Area Priority

The Agricultural Production Systems program area is requesting proposals that will lead to regional and national food security solutions through the development and deployment of innovative crop, animal, or integrated crop-livestock production systems. Proposals should address system innovation to provide solutions to problems threatening the sustainability of agricultural production in the United States. Solutions should increase agricultural productivity while enhancing other ecosystem services.
It is understood that these innovations are not necessarily limited to transformative new technologies, but may also result from a process of combining and recombining partial solutions. Both approaches are welcome.   It is important to analyze how the various partial solutions might be combined to create complete systems that are more economically, environmentally, and socially sustainable than existing systems. This will require a systems approach that emphasizes interactions among system components and processes across multiple scales.

The goal of this program is to develop more sustainable, productive, and economically viable agricultural production systems.

Applicants <u>must </u>address one of the following systems:
- **Crop Management Systems**
- **Animal Management Systems**
- **Integrated Crop and Livestock Management Systems**

Applications <u>must</u> address all of the following for the selected production system:
- How would the proposed program lead to more sustainable, productive, and economically, environmentally, and socially viable production systems today and into the future?
- How would the proposed approach increase food security by strengthening production capacity and capabilities at the regional and national levels today and into the future?

Additional requirements for this priority:
- Projects must be multidisciplinary and should not only address the biological components of production systems, but should also incorporate the socioeconomic components of the system. For example, proposed research on a set of management practices should include analysis of economic viability and barriers to adoption.
- CAP applicants must work with stakeholders to identify the needs and challenges, develop appropriate strategies to achieve goals and impacts, and involve collaborations of multiple institutions. By the end of 4 years (or earlier), the Project Director (PD) and team are to report the estimated overall economic impact of the CAP activities, as well as other significant, relevant outcomes such as, but not limited to, behavioral, social, and environmental.
- CAP grants must include a data management plan that clearly describes how the data will be disseminated and accessible to the public.
- See other requirements for all program area priorities below.

2. Breeding and Genomics of Crops and Livestock

Program Code – A5161
Letter of Intent Deadline – April 02, 2015 (5:00 p.m., Eastern Time)
Letter of Intent LOI Email Address: FoodSecurity5161@nifa.usda.gov
Application Deadline – June 04, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests

- Each Standard Integrated grant must not exceed $3 million (total, including indirect costs), for project periods of 3-4 years. The Program Area Priority anticipates making 2-3 awards in FY 2015.
- Conference and FASE grants must adhere to the guidelines outlined beginning in Part II, D, 2.
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – <u>Integrated Projects</u>
Requested Grant Types – Standard, Conference, and FASE Grants
Program Area Contacts -   Edward Kaleikau (202) 401-1931, <u>ekaleikau@nifa.usda.gov</u>
                                Lakshmi Matukumalli (202) 401-1766, <u>lmatukumalli@nifa.usda.gov</u>

Program Area Priority
The goal of this program is to develop regionally adapted crop cultivars and/or livestock breeds that contribute to rural economic development and prosperity while enhancing regional and national resilience and food security. Projects are expected to lead to the development of cultivars and/or livestock breeds that are able to resist or tolerate biotic and abiotic threats to production and enhance diversity and resilience of production systems while maintaining or enhancing nutritional value to consumers and food safety. Projects should address the needs and challenges identified by producers and consumers. Proposals may include either crops, animals, or a combination of both. Projects that develop tools and resources to enable discovery and advanced breeding of crops and/or breeds with strong potential to meet the program goals are encouraged.

Applicants must address the following:
- Projects that focus on breeding, genetics, genomics, or phenomics of crop cultivars and/or livestock that meet the program goals described above.
- The focus for integrated projects must be <u>research and education</u>. The educational component should focus on training the next generation of plant and livestock breeders. For additional information on educational activities appropriate for integrated research projects, please see Part II Section C Project Types.

Additional requirements for this priority:
- All proposals must include a data management plan that clearly describes how the data will be disseminated and accessible to the public.
- See other requirements for all program area priorities below.

3. National Strategy for Sustainable Crop and Livestock Production in the United States

Program Code – A5162
Letter of Intent Deadline – April 02, 2015 (5:00 p.m., Eastern Time)
Letter of Intent LOI Email Address: <u>FoodSecurity5162@nifa.usda.gov</u>
Application Deadline – June 04, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests –
- Each Standard grant must not exceed $500,000 <u>total</u> (including indirect costs) for project period of up to 2 years. The Program Area Priority anticipates making 1-2 awards in FY 2015.
- Conference and FASE grants must adhere to the guidelines outlined beginning in Part II, D, 2. Each Conference grant must not exceed $50,000 (indirect costs are not allowed) for project periods of 1 year. The Program Area Priority anticipates making 5-6 conference awards in FY 2015.
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Research Projects
Requested Grant Types – Standard, Conference, and FASE Grants
Program Area Contacts – Nancy Cavallaro (202)-401-5176, ncavallaro@nifa.usda.gov
                                            Robbin Shoemaker (202)-720-5468, rshoemaker@nifa.usda.gov

Program Area Priority
The goal of this priority area is to support meta-analyses to address the potential to maintain or enhance the long-term sustainability of U.S. agricultural production under scenarios of projected changes in resource availability; consumer demands; and social, political and economic conditions. Proposals should address more than one production system and multiple commodities (including major and secondary or regional crops and animal systems), and consider a national-level strategy for agricultural sustainability. The goal is to inform the development of research directions and national strategic policies. Projects must be interdisciplinary, including substantial contributions in each of natural resource; agricultural production; and social, behavioral, and economic disciplines. Food security conferences and workshops may also be used to develop the information, focus, and collaborative partnerships needed to develop priorities for future food security challenge area RFAs.

Applicants must address at least one of the following:
- How can we increase the resilience or sustainability of the nation's agricultural production and food systems in light of projected future changes?
- In what areas of science should the public sector invest that will have the greatest impact of agricultural productivity growth and enhanced food security? How do we determine areas of research that will have the greatest impact on enhancing agricultural productivity growth over the next several decades? What kind of indicators can be developed and used to inform research investment decisions for sustained productivity growth?
- How might producers respond by changing commodity production choices and practices in response to significant environmental, demographic and social changes; what inducements can encourage change at regional and national scales; and what are the barriers to those changes?
- How should the diversity of our crop and animal types, varieties and lines, and the genetic diversity within our crops and livestock, be enhanced to lend resilience to our agriculture?
- How might a changing agricultural landscape in one region impact other regions and the nation's ability to sustainably achieve regional, national, and global food security and economic prosperity?
- What are the characteristics of new technologies and practices that can enhance food security and what are the potential barriers to their adoption and diffusion? Might there be issues with social acceptance and how could that be addressed? What incentives might encourage adoption? What are the potential unintended consequences that might arise from these new technologies on individuals, domestic and international markets?

Additional requirements for this priority:
- Projects must use existing data and information, or data currently being collected, instead of generating new data.
- All proposals must include a data management plan that clearly describes how the data and results will be disseminated and accessible to the public.
- See other requirements for all priority areas below.

D. Other key requirements for all program area priorities:

- All applications must adhere to the requirements beginning in Part IV.
- Projects must be goal-based and be able to bring about change to solve the identified food security issue(s). Projects must convey why and how the proposed work is novel and innovative as well as how would this work and the proposed approach lead to transformational changes in regional and national food security.
  - Integrated projects include research, education, and/or extension components. A research component is required and must be combined with either an education component, and extension component, or both. Each component should be represented by one or more objectives within the application, with no more than two-thirds of a project's budget being allocated to a single area.
  - Applicants must <u>include power analyses</u> if experimental animals are used. Studies comparing treatment groups must justify the sample size for each experimental group, considering the magnitude of the treatment difference for the response variable, standard deviation for the response variable, power, and level of significance (*i.e.,* probability of making a Type I error).
- Applications from and collaborations with small to mid-sized institutions, minority-serving institutions and or Experimental Program to Stimulate Competitive Research (EPSCoR) states are strongly encouraged.
  - Collaboration with international partners is encouraged when appropriate; however, applications must be submitted by eligible U.S. institutions that receive more than half the funding requested. The proposal must focus on how the proposed approach would lead to transformational changes in U.S. regional and national food security
- Contributions to global food security may also be considered, especially cases where improvements in production that could have both U.S. and international importance. Feed the Future Innovation Labs, implemented through consortia of U.S. universities, may offer opportunities to collaborate on global food security research. More information on these programs is available at http://feedthefuture.gov/article/feed-future-innovation-labs. The Consultative Group on International Agricultural Research is another potential source of collaboration (http://www.cgiar.org/our-research/). As stated above, applicants proposing to collaborate with such international research programs, or cooperate with partners in more developed countries, must describe how the relationships advance AFRI's domestic mandate to develop more sustainable, productive, and economically viable plant and animal systems in the United States.
- Leveraging and coordination of project resources with other USDA and non-USDA efforts for the same or similar area(s) is encouraged. This includes, but is not limited to, long-term agroecosystem research and long-term ecological research efforts, USDA Regional Climate Hubs, Know Your Farmer Know Your Food, USDA Food Waste Challenge, and eXtension.

PART II—AWARD INFORMATION

A. Available Funding

The amount available for NIFA support of this program in FY **2015** is approximately **$16.8 million**. The funds will be awarded through a **grant.** There is no commitment by USDA to fund any particular application or to make a specific number of awards.

Awards issued as a result of this RFA will have designated the Automated Standard Applications for Payment System (ASAP), operated by the U.S. Department of Treasury's Financial Management Service, as the payment system for funds. For more information see http://www.nifa.usda.gov/business/method_of_payment.html.

B. Types of Applications

In FY **2015**, you may submit applications to the **AFRI Food Security Challenge Area** Program as one of the following types of requests:

(1) New application. This is a project application that has not been previously submitted to the **AFRI Food Security Challenge Area** Program. We will review all new applications competitively using the selection process and evaluation criteria described in Part V—Application Review Requirements.

(2) Resubmitted application. This is an application that had previously been submitted to the **AFRI Food Security Challenge Area** Program but not funded. Project Directors (PDs) must respond to the previous review panel summary (see Response to Previous Review, Part IV, C.3.c.). Resubmitted applications must be received by the relevant due dates, will be evaluated in competition with other pending applications in appropriate area to which they are assigned, and will be reviewed according to the same evaluation criteria as new applications.

C. Project Types
Applications must identify one of the project types specified with the Program Area(s) and select the appropriate grant type for the application within the constraints of the grant types solicited. The project and grant types solicited in the AFRI Food Security Challenge Area are indicated in the table below and described in the Program Area Descriptions beginning in Part I, C.

Project and Grant Types Solicited by the Food Security Program Area											
	Grant Type										
					Food and Agricultural Science Enhancement (FASE) Grants[1]						
	Standard	**CAP**	**Other (Collabora-tive)**	**Conference**	**New Investigator**	**Strengthening Grants**					
						Sabbatical	**Equipment**	**Seed**	**Standard**	**CAP**	**Conference**
Research				✓	✓	✓	✓	✓	✓		✓
Education											
Extension											
Integrated	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓

[1] FASE Grants have special eligibility requirements. Refer to Part II, D. 4 for eligibility and additional information.

The work proposed for all project types must address a specific Program Area Priority described under Program Area Descriptions beginning in Part I, C., and the application must be submitted directly to that Program Area by the designated deadline date. Additionally, applicants must adhere to the Application and Submission Information beginning in Part IV when preparing applications.

1. **Research Projects**

    Single-function Research Projects support fundamental or applied research conducted by individual investigators, co-investigators within the same discipline, or multidisciplinary teams.

    Fundamental research means research that (i) increases knowledge or understanding of the fundamental aspects of phenomena and has the potential for broad application and (ii) has an effect on agriculture, food, nutrition, or the environment.

    Applied research means research that includes expansion of the findings of fundamental research to uncover practical ways in which new knowledge can be advanced to benefit individuals and society.

    Multidisciplinary projects are those in which investigators from two or more disciplines collaborate closely to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.

2. **Integrated Research, Education, and Extension Projects**

An Integrated Project includes all three functions of the agricultural knowledge system (*i.e.*, research, education, and extension) within a project, focused around a problem or issue. The functions addressed in the project should be interwoven throughout the life of the project and act to complement and reinforce one another. The functions should be interdependent and necessary for the success of the project and <u>no more than two-thirds of the project's budget may be focused on a single component</u>.

   a) The proposed **research** component of an integrated project should address knowledge gaps that are critical to the development of practices and programs to address the stated problem.

   b) The proposed **education** (teaching and teaching-related) component of an Integrated Project should focus on developing skills necessary for entry- and mid-level technical employment or for entering graduate programs in food, agriculture, natural resources, and human sciences. For the purpose of this AFRI program, educational activities may include any of the following:
      - Institutional capacity building through faculty development and instructional delivery programs for K-12 and higher education instructors. Educational activities may include curriculum and instructional materials development; externship opportunities that allow teachers to learn about industry environments and expectations for entry level workers; and opportunities to learn modern pedagogy and innovative teaching methodologies.
      - Experiential learning for students enrolled in associate, baccalaureate, masters, and Ph.D. degree programs. Experiential learning component must address one or two of the following key actions:
         o Research/extension internships for undergraduate students new to food, agriculture, natural resources, and/or human sciences. Students new to food, agriculture, natural resources, and human sciences may include freshman enrolled in food and agricultural sciences and sophomores or juniors enrolled in non-agricultural majors;

- Graduate and postdoctoral students actively engaged in the scholarship of the research/extension projects, including in activities such as internships, externships, and clinics;
- Recruitment and retention of underrepresented college students, including targeted recruitment, mentoring, and experiential learning opportunities; and
- Student study abroad and international research opportunities relevant to overall program goals for U.S. agriculture.

Educational activities must show direct alignment with one of the following:
- Increasing the number of graduates with the necessary technical skills for entry-level positions in food, agriculture, natural resources, and human sciences;
- Improving the technical competencies needed for the workforce in AFRI Priority Areas to ensure that U.S. agriculture remains globally competitive; or
- Enhancing the diversity of the workforce in food, agriculture, natural resources, and human sciences.

Note that routine use of graduate and postdoctoral students as personnel on research projects is not considered education for the purposes of this program. Only students actively engaged in the scholarship of the research/extension projects are considered as education. Actively engaged students could contribute to presentations, articles, posters, and other expressions of scholarship that reflect their own work on the PD's project.

c) The proposed **extension** component of an Integrated Project should conduct programs and activities that deliver science-based knowledge and informal educational programs to people, enabling them to make practical decisions. Program delivery may range from community-based to national audiences and use communication methods from face-to-face to electronic or combinations thereof. Extension Projects may also include related matters such as certification programs, in-service training, client recruitment and services, curriculum development, instructional materials and equipment, and innovative instructional methodologies appropriate to informal educational programs.

Extension activities may address, but are not limited to, the following key strategic actions:
- Support informal education to increase food, agricultural, and health literacy of youth and adults;
- Promote science-based agricultural literacy by increasing understanding and use of food and agricultural science data, information, and programs;
- Build science-based capability in people to engage audiences and enable informed decision making;
- Develop new applications of instructional tools and curriculum structures that increase technical competency and ensure global competitiveness;
- Offer non-formal learning programs that increase accessibility to new audiences at the rate at which new ideas and technologies are tested and/or developed at the community-scale; and
- Develop programs that increase public knowledge and citizen engagement leading to actions that protect or enhance the nation's food supply, agricultural productivity, environmental quality, community vitality, food security, and/or public health and well-being.

These projects should synthesize and incorporate a wide range of the latest relevant research results. Research-related activities such as publication of papers or speaking at scientific meetings are not considered extension for the purposes of this program.

Integrated Projects aim to resolve today's problems through the application of science-based knowledge and address needs identified by stakeholders. Integrated Projects clearly identify anticipated outcomes and have a plan for evaluating and documenting the success of the project. These projects should lead to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group.

Integrated Project applicants are encouraged to review www.nifa.usda.gov/funding/integrated/integrated.html for additional information on integrated programs, including tips for writing Integrated Project applications and an example of an integrated application. Those interested in submitting Integrated Project applications are encouraged to contact the appropriate Program Area Priority Contact to discuss the anticipated project parameters and outcomes to ensure the application content appropriately meets the requirements of an Integrated Project.

D. Grant Types

Applications must propose one of the project types specified within the Program Areas and select the appropriate grant type for the application within the constraints of the grant types solicited.

1. Coordinated Agricultural Project Grants

The Coordinated Agricultural Project (CAP) is a type of Research, Education, Extension, or Integrated Project that supports large-scale, multi-million dollar projects to promote collaboration, open communication, and the exchange of information; reduce duplication of effort; and coordinate activities research, extension, and education. A CAP contains the needed science-based expertise in research, education, and/or extension, as well as expertise from principal stakeholders and partners, to accomplish project goals and objectives. Note that Food and Agricultural Science Enhancement grants can be submitted to Program Areas that solicit CAP Grants.

2. Standard Grants

Standard Grants support targeted original scientific Research, Education, Extension, or Integrated Projects.

3. Conference Grants

Conference grants support scientific meetings that bring together scientists to identify research, education, and/or extension needs, update information, or advance an area of science. These activities are recognized as integral parts of scientific efforts. Support for a limited number of meetings covering subject matter encompassed by this solicitation will be considered for partial or, if modest, total support. Individual conference grants are not expected to exceed $50,000 for one year and are not renewable. Indirect costs are not permitted on Conference grant awards.

4. Food and Agricultural Science Enhancement Grants

Food and Agricultural Science Enhancement (FASE) Grants strengthen science capabilities in research, education, and/or extension programs. FASE Grants are designed to help institutions develop competitive projects, and to attract new scientists and educators into careers in high-priority areas of National need in agriculture, food, and environmental sciences. Within this RFA, FASE Grants provide support for New Investigators and Strengthening grants, whereas Pre- and

Postdoctoral Fellowships are being solicited in a separate AFRI Sciences Education and Literacy Initiative (ELI) Program RFA. Specific eligibility requirements for all FASE grants are described below.

a. Pre- and Postdoctoral Fellowship Grants
The current AFRI – Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (ELI) was formerly known as AFRI NIFA Fellowships Grant Program to provide fellowships to undergraduate, predoctoral, and postdoctoral students in the agricultural sciences. The program goals are (1) to promote research and extension experiential learning for undergraduates such that upon graduation they may enter the agriculture workforce with exceptional skills and (2) to prepare the next generation of scientists through doctoral and post-doctoral fellowships. Program information, including the anticipated release date, is available at www.nifa.usda.gov/funding/afri/afri.html.

b. New Investigator Grants
An individual who is beginning his/her career, does not have an extensive scientific publication record, and has less than 5 years postgraduate, career-track experience is encouraged to submit an application for a New Investigator grant for research, education, and/or extension activities. The new investigator may not have received competitively awarded federal research funds with the exception of pre- or postdoctoral grants or USDA National Research Initiative or AFRI Seed grants. The application must contain documentation that lists all prior federal support. The work proposed for New Investigator grants must address a specific Program Area Priority described under Program Area Descriptions in Part I, C and the application must be submitted directly to that Program Area by the designated deadline.

c. Strengthening Grants
These funds are expected to enhance institutional capacity with the goal of leading to future funding in the project area, as well as strengthen the competitiveness of the investigator's research, education, and/or extension activities. Strengthening grants consist of Standard grant types (both single-function and multi-function projects) as well as Seed grants, Equipment grants, and Sabbatical grants. The work proposed for Strengthening grants must address a specific Program Area Priority described under Program Area Descriptions in Part I, C, and the application must be submitted directly to that Program Area by the designated deadline. All applications submitted for Strengthening grants must fulfill the eligibility requirements described below.

1. Strengthening Grant Eligibility
   Strengthening grants are limited to 1) State Agricultural Experiment Stations or degree-granting institutions eligible for USDA Experimental Program to Stimulate Competitive Research (EPSCoR) funding or 2) small and mid-sized or minority-serving degree-granting institutions that previously had limited institutional success for receiving federal funds and are eligible for reserved strengthening funds for Research, Education, Extension, and Integrated Project grants. See Figure 1 following Part VIII to assist with determining eligibility for Strengthening grants.

2. Strengthening Grant Eligibility Definitions

   a) **EPSCoR States**
      Every year, NIFA determines the states that are eligible for USDA EPSCoR funding. This list includes states having a funding level no higher than the 38th percentile of all states based on a 3-year rolling average of AFRI funding levels, excluding FASE

Strengthening funds granted to EPSCoR states and small-mid-sized and minority-serving degree-granting institutions.

FY 2015:

For FY 2015, the following States meet the requirements for this category:

FY 2015 USDA EPSCoR States		
Alabama	Mississippi	South Carolina
Alaska	Montana	South Dakota
Arizona	Nevada	Utah
Connecticut	New Hampshire	Vermont
Idaho	New Mexico	Wyoming
Kentucky	North Dakota	
Maine	Rhode Island	

Other entities eligible for USDA EPSCoR funds in FY 2015 include the following United States commonwealths, territories, possessions and their successors, and the District of Columbia:

Other Entities eligible for USDA EPSCoR Funds	
American Samoa	Northern Mariana Islands
District of Columbia	Puerto Rico
Guam	Virgin Islands of the United States.
Micronesia	

b) **Small and mid-sized institutions** are academic institutions with a current total enrollment of 17,500 or less, including graduate and undergraduate as well as full- and part-time students. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, VA 20191 (Phone: (888) 349-7715; www.hepinc.com).

c) **Minority-serving institutions** are academic institutions whose enrollment of a single minority group or a combination of minority groups (as defined in Part VIII, H) exceeds 50 percent of the total enrollment, including graduate and undergraduate as well as full- and part-time students.

Applicants applying under this category should indicate the current percentage of applicable minority students enrolled at the institution in a cover letter. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, VA 20191 (Phone: (888) 349-7715; www.hepinc.com). A list of post-secondary minority-serving institutions is available at www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html.

d) **Limited institutional success** is defined as institutions that are not among the most successful universities and colleges for receiving federal funds for science and engineering research. See Table 1 following Part VIII for an alphabetical list of the most successful institutions.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state, are excluded from eligibility for all strengthening funds. The institution may petition for an exemption to this rule as described in Part III, B.

3. Strengthening Grant Types

An individual applicant may submit only one of the following types of strengthening applications (Sabbatical grants, Equipment grants, and Seed grants) as PD this fiscal year. Investigators are encouraged to contact the Program Area Priority Contact of the appropriate program area priority, regarding suitability of project topics to verify that their submission is appropriate to the program area priority. For Equipment grants, investigators are also encouraged to contact the appropriate Program Area Priority Contact regarding appropriateness of requested equipment for topics within program area priority requirements.

a) **Sabbatical Grants**

Sabbatical grants are to provide an opportunity for faculty to enhance their research, education, and/or extension capabilities by funding sabbatical leaves. Collaborative arrangements are encouraged. Grants will be limited to 1 year of salary and funds for travel and supplies, where justified, and are not renewable.

NIFA also encourages and will support the concept of "mini-sabbaticals" for faculty and researchers desiring short-term training to learn new techniques that will improve their competitiveness. These short-term training opportunities generally follow all of the sabbatical requirements described beginning in Part IV, C, but for a shorter duration. These grants may be used to participate in short courses offered at various research institutions.

b) **Equipment Grants**

Equipment grants are designed to strengthen the research, education, and/or extension capacity of institutions by funding the purchase of one major piece of equipment. These grants are not intended to replace requests for equipment in individual project applications. Rather, they are intended to help fund items of equipment that will upgrade infrastructure. Requests for computer equipment are allowed only if the equipment is to be used in an activity integral to the proposed project. Requests for computer equipment will not be permitted if the equipment will primarily serve as a word processor or perform administrative functions.

Each request shall be limited to one major piece of equipment within the cost range of $10,000-$250,000 and are not renewable. The amount of federal funding requested shall not exceed 50 percent of the cost or $50,000, whichever is less. Unless a waiver is granted by NIFA using the criteria listed in Part III, C, it is the responsibility of the PD to secure required matching funds with non-federal funds (see Part III, C for more information). No installation, maintenance, warranty, or insurance expenses may be paid from these grants, nor may these costs be part of the matching funds. Indirect costs are not permitted on Equipment grant awards.

c) **Seed Grants**

Seed grants are to provide funds to enable investigators to collect preliminary data or perform other preliminary activities in preparation for applying for future grants from AFRI. The grants are not intended to fund stand-alone projects, but rather projects that will lead to further work applicable to one of the AFRI Program Areas. Seed grant applications

proposing an Integrated Project only need to include one of the three functions (research, education, extension) and justify how this Seed grant will allow the applicant to become competitive for future Integrated Project funding.

Each seed grants is limited to a total of $150,000 (including indirect costs) for two year duration and are not renewable.

    d) Strengthening Standard Grants
Standard grant applications that meet the eligibility requirements for Strengthening grants are eligible for reserved strengthening funds as a Strengthening Standard grant. The eligibility requirements only apply to the lead PD and are not required for co-PD(s) associated with the project.

    e) Strengthening Conference Grants
Conference Grant applications that meet the eligibility requirements for Strengthening Grants are eligible for reserved strengthening funds as a Strengthening Conference Grant. The eligibility requirements only apply to the lead PD and are not required for co-PD(s) associated with the project.

E. Responsible and Ethical Conduct of Research

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering. Consequently, we consider education in RCR essential to the preparation of future scientists. In accordance with sections 2, 3, and 8 of 7 CFR Part 3022, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award that the institution will comply with the above requirements. Per award terms and conditions, grant recipients shall, upon request, make available to NIFA the policies, procedures, and documentation to support the conduct of the training.

Note that the training referred to herein shall be either on-campus or off-campus training. The general content of the ethics training will, at a minimum, emphasize three key areas of research ethics: authorship and plagiarism, data and research integration, and reporting misconduct. Each institution will be responsible for developing its own training system, as schools will need flexibility to develop training tailored to their specific student needs. Grantees should consider the Collaborative Institutional Training Initiative (CITI) program for RCR (https://www.citiprogram.org/rcrpage.asp). Typically this RCR education addresses the topics of: Data Acquisition and Management - collection, accuracy, security, access; Authorship and Publication; Peer Review; Mentor/Trainee Responsibilities; Collaboration; Conflict of Interest; Research Misconduct; Human Subject Research; and Use of Animals in Research.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

1. Conference Grants

Eligible applicants for Research Projects include:1) State Agricultural Experiment Stations; 2) colleges and universities (including junior colleges offering associate degrees or higher); 3) university research foundations; 4) other research institutions and organizations; 5) federal agencies; 6) national laboratories; 7) private organizations or corporations; 8) individuals who are U.S. citizens, nationals, or permanent residents; and 9) any group consisting of two or more entities identified in 1 through 8. Eligible institutions do not include foreign and international organizations.

2. Integrated Projects

Eligible applicants for Integrated Projects include: 1) colleges and universities, 2) 1994 land-grant institutions, and (3) Hispanic-serving agricultural colleges and universities.

For Integrated Projects, the terms "college" and "university" mean an educational institution in any state that 1) admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate; 2) is legally authorized within such state to provide a program of education beyond secondary education; 3) provides an educational program for which a bachelor's degree or any other higher degree is awarded; 4) is a public or other nonprofit institution; and 5) is accredited by a nationally recognized accrediting agency or association. A research foundation maintained by a college or university is eligible to receive an award under this program.

3. Hispanic-Serving Agricultural Colleges and Universities (HSACU)

Section 7101 of the Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) amended section 1404 of NARETPA (7 U.S.C. 3103) to create a definition for a new group of cooperating institutions: Hispanic-serving Agricultural Colleges and Universities (HSACUs). HSACUs are colleges and universities that qualify as Hispanic-serving Institutions (HSIs) and offer associate, bachelors, or other accredited degree programs in agriculture-related fields. HSACUs do not include 1862 land-grant institutions.

The 2014 Farm Bill required NIFA to establish an ongoing process allowing public colleges and universities that offer 4-year or advanced degrees in the food and agricultural sciences to apply for designation as Non-Land Grant College of Agriculture (NLGCA institutions. HSACUs are given the opportunity to opt out of their status to be considered for designation as a NLGCA; however, this decision will be binding on them until September 30, 2018.

Pursuant to section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) (7 U.S.C. 7626), which authorized the Integrated Research, Education, and Extension Competitive Grant Program, all four-year HSIs are eligible to apply for integrated projects as identified in the FY 2014 AFRI RFA. Two-year HSIs may also be eligible to apply but only if the institution has been certified as a HSACU for the fiscal year in which funding is being provided.

A list of the institutions certified and therefore eligible to apply as HSACUs for grants under FY 2015 RFAs, including this RFA, will be made available at www.nifa.usda.gov/nea/education/in_focus/hispanic_if_hispanic_HSACU.html. Institutions

appearing on this list are granted HSACU certification by the Secretary for the period starting October 1, 2014, and ending September 30, 2015. Certifications are valid for FY 2015 only. Additional questions on HSACU eligibility can be emailed to hsacu@nifa.usda.gov.

4. Food and Agricultural Science Enhancement Grants

The Food and Agricultural Science Enhancement (FASE) grants have additional eligibility requirements. See Part II, D, 4 for details.

B. Request for Determination

If an applicant's institution can be considered a minority-serving institution and wishes to be considered for a Strengthening Grant (as described in Part II, D. 3. b), but does not serve one or more of the minority groups specified in the Definitions section of this RFA (see Part VIII, H), the applicant must submit to NIFA documentation supporting the request. This documentation (see below) must be submitted as part of the requestor's Letter of Intent(LOI) and the full application package (see Part IV, B. 3. g. 7)), and must be received by NIFA by the applicable program deadline. The Secretary of Agriculture or designated individual will determine whether the group or groups identified are eligible under this program.

The Request for Determination as a minority-serving institution must include the following and be provided in the order specified below:

1. A description of each minority group that is being submitted for determination;
2. Data or studies supporting this group's designation as a minority group; and
3. Data indicating that enrollment of the minority group(s) exceeds 50 percent of the total enrollment at the academic institution, including graduate and undergraduate and full- and part-time students.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state (listed in Part II, D. 3. b. 1) a)), are excluded from eligibility for all strengthening funds. However, if any campus within a multi-campus listing can provide information demonstrating that it is administratively independent or has an independent accreditation, then the institution may petition for an exemption to this rule and request eligibility for strengthening funds. The LOI and the application must include a letter indicating how the institution is independent of the main campus, either through accreditation or administration, how the institution is eligible as a small and mid-sized or minority-serving institution due to enrollment, and total federal funds received for science and engineering research and development. The letter must be signed by the Authorized Representative (AR) and included with the LOI and the full application (see Part IV, B. 3. g. 7)).

C. Cost Sharing or Matching

If a funded **applied Research or Integrated Project** with an applied research component, is commodity-specific and not of national scope, the grant recipient is required to match the USDA funds awarded on a dollar-for-dollar basis from non-Federal sources with cash and/or in-kind contributions.

For Equipment Grants: The amount of Federal funds provided may not exceed 50 percent of the cost of the equipment acquired using funds from the grant, or $50,000, whichever is less. Grantees are required to match 100 percent of Federal funds awarded from non-Federal sources. The Secretary may waive all or part of the matching requirement if all three of the following criteria are met: 1) applicants must be a college, university, or research foundation maintained by a college or university that ranks in the lowest

one third of such colleges, universities, and research foundations on the basis of Federal research funds received (see Table 2 following Part VIII for eligibility); 2) if the equipment to be acquired using funds from the grant costs not more than $25,000; and 3) has multiple uses within a single research project or is usable in more than one research project. If the institution believes it is eligible for the waiver for matching funds, the budget justification must include a letter signed by the institution's AR stating this information.

D. Centers of Excellence

Pursuant to Section 7214 of the Agricultural Act of 2014 (Pub. L. 113-79), beginning in Fiscal Year 2015, for applicable competitive research and extension programs, NIFA will be recognizing and providing priority in the receipt of funding to applications from "centers of excellence" that have been established for purposes of carrying out research, extension, and education activities relating to the food and agricultural sciences. In July of 2014, NIFA held listening sessions and accepted written comments from stakeholders to inform NIFA's implementation of the centers of excellence provision. Information from the webinars and a summary of the input gathered are available on NIFA's website at http://www.nifa.usda.gov/about/offices/legis/cntr_ex_webinar_documents.html

A center of excellence is composed of 1 or more of the following entities that provide financial or in-kind support to the center of excellence. Therefore, an eligible applicant who wishes to be considered as a center of excellence must be one of the following entities that provides financial or in-kind support to the Center being proposed, as described in the grant application.

> (A) State agricultural experiment stations;
> (B) colleges and universities;
> (C) university research foundations;
> (D) other research institutions and organizations;
> (E) Federal agencies;
> (F) national laboratories;
> (G) private organizations, foundations, or corporations;
> (H) individuals; or
> (I) any group consisting of 2 or more of the entities described in (A) through (H).

Only CAP grants and standard grant applicants may be considered for COE designation. See Part IV, C. of this RFA for additional requirements that eligible applicants must meet to be considered a center of excellence.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent (LOI) Instructions

Applicants are encouraged to submit a "Letter of Intent to Submit an Application" by the Letter of Intent due date specified in this RFA. This does not obligate the applicant in any way, but will provide useful information to NIFA in preparing for application review.

Although a letter of intent is not required, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows program staff to estimate the potential review workload and plan the review.

Please follow the guidelines below for LOI submission
1. The Letter of Intent must adhere to the following formatting guidelines:
    a. Font size must be at least 12 point
    b. Margins must be at least one inch in all directions
    c. Line spacing must not exceed six lines of text per vertical inch
    d. Page size must be letter (i.e., 8.5 inches × 11 inches)

2. The Letter of Intent is limited to **three pages** for CAP grants and **two pages** for all other grant types.
    a. On Page 1, provide **only** the following information:
        i. the name, professional title, department, institution, and *e*-mail address of the lead project director (PD) and name, professional title, department, and institution of all collaborating investigators
        ii. the Program Area or the Program Area Priority that is most closely addressed in the application
    b. On Page 2, include:
        i. a descriptive title
        ii. rationale
        iii. overall hypothesis or goal
        iv. specific objectives
        v. approach
        vi. potential impact and expected outcomes

3. When submitting LOI, NIFA will only accept LOI in the portable document format (PDF). Attach the PDF LOI to an e-mail addressed to the appropriate Program Area *e*-mail address for Submission of Letter of Intent indicated in this RFA. In the e-mail subject line, write: Letter of Intent [Program Area Code] _ [PDs Last Name].

4. A Letter of Intent is encouraged for all grant types, except Conference Grant applications.

5. Submission of more than one Letter of Intent to a program is discouraged.

6. Letters of Intent will be reviewed by scientific program staff in order to plan for appropriate expertise for the peer review panel and ensure that the proposed project fits appropriately within the Program Area Priorities.

B. Electronic Application Package

Only electronic applications may be submitted via Grants.gov to NIFA in response to this RFA. We urge you to submit early to the Grants.gov system. For an overview of the Grants.gov application process see http://www.grants.gov/web/grants/applicants/grant-application-process.html.

New Users of Grants.gov

Prior to preparing an application, we recommend that the Project Director/Principal Investigator (PD/PI) first contact an Authorized Representative (AR), also referred to as Authorized Organizational Representative (AOR), to determine if the organization is prepared to submit electronic applications through Grants.gov. If not (e.g., the institution/organization is new to the electronic grant application process through Grants.gov), then the one-time registration process must be completed **PRIOR** to submitting an application. It can take as long as 2 weeks to complete the registration process so it is critical to begin as soon as possible. In such situations, the AR should go to **"Register" in the top right corner of the Grants.gov web page (or go to** http://www.grants.gov/web/grants/register.html**) for information on registering the institution/organization with Grants.gov.** Part II 1 of the NIFA Grants.gov Application Guide contains detailed information regarding the registration process. Refer to item 2. below to locate the "NIFA Grants.gov Application Guide."

Steps to Obtain Application Package Materials

To receive application materials:

1. You must download and install a version of Adobe Reader compatible with Grants.gov to access, complete, and submit applications. For basic system requirements and download instructions, see http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html. Grants.gov has a test package that will help you determine whether your current version of Adobe Reader is compatible.

2. To obtain the application package from Grants.gov, go to http://www.grants.gov/web/grants/applicants/apply-for-grants.html. Under Step 1 click on "Download a Grant Application Package," and enter the funding opportunity number

    Funding Opportunity Number: USDA-NIFA-AFRI-004875

    in the appropriate box and click "Download Package." From the search results, click "Download" to access the application package.

    Contained within the application package is the "NIFA Grants.gov Application Guide." This guide contains an introduction and general Grants.gov instructions, information about how to use a Grant Application Package in Grants.gov, and instructions on how to complete the application forms.

    If you require assistance to access the application package (e.g., downloading or navigating Adobe forms) **or submitting the application,** refer to resources available on the Grants.gov website (http://www.grants.gov/web/grants/applicants/applicant-resources.html). Grants.gov assistance is also available at:

    > Grants.gov customer support
    > 800-518-4726 toll-free or 606-545-5035
    > Business Hours: 24 hours a day, 7 days a week. Closed on federal holidays.

Email: support@grants.gov

Grants.gov iPortal (see https://grants-portal.psc.gov/Welcome.aspx?pt=Grants): Top 10 requested help topics (FAQs), Searchable knowledge base, self-service ticketing and ticket status, and live web chat (available 7:00 a.m. - 9:00 p.m. ET). Get help now!

Have the following information available when contacting Grants.gov:

- Funding Opportunity Number (FON)
- Name of agency you are applying to
- Specific area of concern

See http://www.nifa.usda.gov/funding/electronic.html for additional resources for applying electronically.

C. Content and Form of Application Submission

You should prepare electronic applications following Parts V and VI of the NIFA Grants.gov Application Guide. This guide is part of the corresponding application package (see Section A. of this Part). The following is **additional information** needed to prepare an application in response to this RFA. **If there is discrepancy between the two documents, the information contained in this RFA is overriding.**

Note the attachment requirements (e.g., PDF) in Part III section 3. of the guide. <u>ANY PROPOSALS THAT ARE NON-COMPLIANT WITH THE REQUIREMENTS (e.g., content format, PDF file format, file name restrictions, and no password protected files) WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW.</u> Grants.gov does not check for NIFA required attachments or that attachments are in PDF format; see Part III section 6.1 of the guide for how to check the manifest of submitted files. Partial applications will be excluded from NIFA review. We will accept subsequent submissions of an application until close of business on the closing date in the RFA (see Part V, 2.1 of the NIFA Grants.gov Application Guide for further information).

Grants.gov provides online tools to assist if you do not own PDF-generating software. You will find PDF conversion software at http://www.grants.gov/web/grants/support/technical-support/software/pdf-conversion-software.html.

For questions related to the preparation of an application, review the NIFA Grants.gov Application Guide and the applicable RFA. If assistance is still needed for preparing application forms content, contact:

- Email: electronic@nifa.usda.gov
- Phone: 202-401-5048
- Business hours: Monday through Friday, 7:00 a.m. – 5:00 p.m. ET, excluding federal holidays.

All application information provided below is general for all Project and Grant Types. However, some types require different information. These differences are noted by a ☼ symbol. Proper preparation of an application will assist reviewers in evaluating the merits of each application in a systematic, consistent fashion.

1. SF 424 R&R Cover Sheet
Information related to the questions on this form is dealt with in detail in Part V, 2 of the NIFA
Grants.gov Application Guide.

   a. Field 12. Proposed Project – For the start date of the project, select a date at least six months after
   the submission deadline date for the program. Choose the end date to correspond to the correct duration
   of the project.

2. SF 424 R&R Project/Performance Site Location(s)
Information related to the questions on this form is dealt with in detail in Part V, 3 of the NIFA
Grants.gov Application Guide.

3. R&R Other Project Information Form
Information related to the questions on this form is dealt with in detail in Part V, 4 of the NIFA
Grants.gov Application Guide.

   a. Fields 1 and 2. Are Human Subjects Involved? and Are Vertebrate Animals Used?

   ☼ *For Sabbatical Grant Applications* – Applicants whose research requires use of human subjects or
   vertebrate animals must have their project reviewed by the appropriate committee(s) at the institution
   where the research will be conducted.

   b. Field 7. Project Summary/Abstract. The Project Summary is limited to **250 words.** The summary
   should also include the relevance of the project to the goals of **AFRI Food Security Challenge Area**.
   The Project Summary must list the names and institutions of the PD and co-PDs and indicate which
   specific FY 2015 Program Area Priority the proposed project addresses. Program Area Priorities are
   stated within each Program Area Description (see Part I, C). Applications that do not address at least
   one Program Area Priority will not be reviewed. Title the attachment as 'Project Summary' in the
   document header and save file as 'ProjectSummary'. See Part V. 4.7 of NIFA Grants.gov Application
   Guide for further instructions and a link to a suggested template.

   A recommended template for the Project Summary/Abstract can be found at:
   www.nifa.usda.gov/funding/templates/project_summary.doc.

   ☼ *For Conference Grant Applications* – State the objectives of the conference, symposium, or
   workshop, as well as the proposed location and probable inclusive date(s) of the conference. Please
   state in the summary the specific Program Area Priority to which the project applies.

   ☼ *For Sabbatical Grant Applications* – Indicate overall project goals and supporting objectives.

   ☼ *For Equipment Grant Applications* – Indicate equipment sought and overall project goals for its
   use.

   c. Field 8. Project Narrative

NOTE: The Project Narrative may not exceed **a total of 18 pages** with 12-point font and line spacing not
exceeding six lines of text per vertical inch, including all figures and tables. Applicants requesting
consideration of center of excellence status must include their justification within the 18-page limit of the
project narrative.

For Sabbatical, Equipment, and Seed Grant applications, the Project Narrative section may not exceed a total of 7 pages with 12-point font and line spacing not exceeding six lines of text per vertical inch, including all figures and tables.

To ensure fair and equitable competition, applications exceeding the applicable page limitation will be returned without review.

Each Project Narrative is expected to be complete; however, preprints (see Part IV, C. 4. g) related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative.

Project Narrative <u>Attachment</u> must include all of the following:

1)   Response to Previous Review (if applicable)
This requirement only applies to Resubmitted Applications as described in Part II, B. The Project Narrative <u>attachment</u> should include two components: 1) a one-page response to the previous review panel summary titled "Response to Previous Review" included as the first page of the <u>attachment</u> and 2) the 7- or 18-page Project Narrative, as required (see Part IV, C 3 c above). The one-page Response to Previous Review does not count against the 7- or 18-page limit of the Project Narrative.

2)   Project Narrative
  a. Introduction
  Include a clear statement of the long-term goal(s) and supporting objectives of the proposed project. Summarize the body of knowledge or past activities that substantiate the need for the proposed project. Describe ongoing or recently completed activities significant to the proposed project including the work of key project personnel. Include preliminary data/information pertinent to the proposed project. All works cited should be referenced (see Bibliography & References Cited in section d. below).

  b.   Rationale and Significance
      1. Concisely present the rationale behind the proposed project;
      2. Describe the specific relationship of the project's objectives to one of the Program Area Priorities. Applications that do not address at least one Program Area Priority will not be reviewed; and
      3. The potential long-range improvement in and sustainability of U.S. agriculture and food systems should be shown clearly. These purposes are described under Purpose and Priorities in Part I, B. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.

  c.   Approach
  The activities proposed or problems being addressed must be clearly stated and the approaches applied are to be clearly described. Specifically, this section must include:
      1.   A description of the activities proposed and the sequence in which the activities are to be performed;
      2.   Methods to be used in carrying out the proposed project, including the feasibility of the methods;
      3.   Expected outcomes;
      4.   Means by which results will be analyzed, assessed, or interpreted;

5. How results or products will be used;
6. Pitfalls that may be encountered;
7. Limitations to proposed procedures;
8. A full explanation of any materials, procedures, situations, or activities related to the project that may be hazardous to personnel, along with an outline or precautions to be exercised to avoid or mitigate the effects of such hazards; and
9. A timeline for attainment of objectives and for production of deliverables that includes annual milestones with specific, measurable outcomes.
10. If international activities (e.g., partnerships, exchanges, travel) are proposed (see Part I, B), applicants must describe indicators that will be used to assess those activities. Appropriate indicators include but are not limited to those posted at the U.S. Government's Feed the Future global food security initiative Web site (www.feedthefuture.gov/progress). Additional information about global engagement can be found at http://www.nifa.usda.gov/globalengagement.cfm including a resource section containing various guidance documents for NIFA applicants.

☼ *For Integrated Project Applications –*
- Integrated Project applications must include at least two of the three functions of the agricultural knowledge system (i.e., research, education, and extension). Each function should be represented by one or more objectives within the application.
- Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single function.
- Integrated Projects must include individuals on the project team with significant expertise in each component of the project (research, education, and/or extension).
- A plan for evaluating progress toward achieving project objectives must be included. The plan must include milestones, which signify the completion of a major deliverable, event, or accomplishment and serve to verify that the project is on schedule and on track for successful conclusion. The plan should also include descriptions of indicators that you will measure to evaluate whether the research, education, and/or extension activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes.
- In addition to the Project Narrative requirements above, the proposed Integrated Project should clearly articulate:
  o Stakeholder involvement in project development, implementation, and evaluation, where appropriate;
  o Objectives for each function included in the project (note that extension and education activities are expected to differ and to be described in separate project objectives; see enumerated descriptions in Part II, C.); and
  o A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
- AFRI encourages Integrated Projects that develop content suitable for delivery through eXtension. This content is for "end users" as opposed to staff development and must follow the eXtension Guiding Principles and guidelines for including eXtension in a proposal presented at http://about.extension.org/wiki/NIFA_RFA_Information. Funds may be used to 1) enhance an existing Community of Practice or 2) to establish a new Community of Practice, as appropriate.
- AFRI encourages Integrated Projects that are suitable for 4-H audiences and stakeholder groups while meeting identified program priorities. The 4-H Youth Development is the programmatic outreach of the Land Grant Universities and Institutions to our youngest citizens

in their communities and provides opportunities for youth to develop skills, practical knowledge, and wisdom with an emphasis on practical application of knowledge or "learning by doing." By engaging 4-H in AFRI projects, applicants engage young people as citizen scientists; increase their awareness of the role of agriculture; and prepare young people for higher education and the 21st century work environment. Opportunities for engaging 4-H in AFRI proposals should align with the 4-H Mission Mandates of Science, Engineering and Technology; Healthy Living; and Citizenship. See guiding principles at www.national4-hheadquarters.gov or contact your university Cooperative Extension headquarters and/or State 4-H Program Office.

☼ *For Conference Grant Applications* – In addition to the Project Narrative requirements above, substitute the following in the Approach section:
- A justification for the meeting;
- Recent meetings on the same subject with dates and locations;
- Names and organizational affiliations of the chair and other members of the organizing committee;
- A proposed program (or agenda) for the conference, including a listing of scheduled participants and their institutional affiliations; and
- The method of announcement or invitation that will be used.

☼ *For Sabbatical Grant Applications* – In addition to the Project Narrative requirements above, substitute the following in the Approach section:
- A general description of the research, education, and/or extension interests and goals of the applicant in order to provide perspective for the application;
- A description of the project to be pursued while on the sabbatical leave;
- A statement of how the sabbatical leave will enhance the capabilities of the applicant; and
- A statement of future research goals and objectives once the sabbatical is complete and how the sabbatical will enable the applicant to pursue these goals.

☼ *For Equipment Grant Applications* – In addition to the Project Narrative requirements above, include a general description of the project(s) for which the equipment will be used, how the equipment will fit into or enhance the research, education, and/or extension program, and how the equipment will allow the applicant to become competitive for future funding or move into new research areas. Also include a description of other similar or complementary equipment available to the PD at the institution and why the requested equipment is necessary.

☼ *For Seed Grant Applications* – Include all of the components detailed in the Project Narrative section above and present enough detail to allow adequate evaluation. In order to be competitive, long-term goals and a statement describing how this Seed Grant will allow the applicant to become competitive for future funding must be included.

d. Center of Excellence Justification

Only CAP grants and standard grant applicants may be considered for COE designation.

In addition to meeting the other requirements detailed in Part IV, C., of this Request for Application (RFA), eligible applicants who wish to be considered as centers of excellence must provide a brief justification statement, as part of their Project Narratives and within the page limits provided, describing how they meet the standards of a center of excellence, based on the following criteria:

(A) the ability of the center of excellence to ensure coordination and cost effectiveness by reducing unnecessarily duplicative efforts regarding research, teaching, and extension in the implementation of the proposed research and/or extension activity outlined in this application;
(B) in addition to any applicable matching requirements, the ability of the center of excellence to leverage available resources by using public-private partnerships among agricultural industry groups, institutions of higher education, and the Federal Government in the implementation of the proposed research and/or extension activity outlined in this application. Resources leveraged should be commensurate with the size of the award;
 (C) the planned scope and capability of the center of excellence to implement teaching initiatives to increase awareness and effectively disseminate solutions to target audiences through extension activities in the implementation of the proposed research and/or extension activity outlined in this application; and
(D) the ability or capacity of the center of excellence to increase the economic returns to rural communities by identifying, attracting, and directing funds to high-priority agricultural issues in support of and as a result of the implementation of the proposed research and/or extension activity outlined in this application.

Additionally, where practicable (not required), center of excellence applicants should describe proposed efforts to improve teaching capacity and infrastructure at colleges and universities (including land-grant colleges and universities, cooperating forestry schools, certified Non-Land Grant Colleges of Agriculture (NLGCA) (list of certified NLGCA is available at http://www.nifa.usda.gov/funding/pdfs/nlgca_colleges.pdf), and schools of veterinary medicine).

d. Field 9. Bibliography & References Cited. No Page Limit Title the attachment as 'Bibliography & References Cited' in the document header and save file as 'BibliographyReferencesCited'.

All work cited in the text should be referenced in this section of the application. All references must be complete; include titles and all co-authors; conform to an acceptable journal format; and be listed in alphabetical order using the last name of the first author or listed by number in the order of citation.

e. Field 10. Facilities & Other Resources Title the attachment as 'Facilities & Other Resources' in the document header and save file as 'FacilitiesOtherResources'.

f. Field 11. Equipment. Title the attachment as 'Equipment' in the document header and save file as 'Equipment'.

In addition to describing available equipment, items of nonexpendable equipment necessary to conduct and successfully complete the proposed project should be listed in Field C. of the R&R Budget and described in the Budget Justification (Field K. of the R&R Budget).

g. Field 12 – Other documents

1) **Key Personnel Roles –Two-Page Limit**. Title the attachment as 'Key Personnel' and save file as 'KeyPersonnel'.

Clearly describe the roles and responsibilities of the PD, co-PD(s), collaborator(s), and other key personnel. Biographical sketches for key personnel should be attached in the R&R Senior/Key Person Profile described in Part IV, C, 5. 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 consultant(s) or collaborator(s) are known at the time of application, a

biographical sketch should be provided in the R&R Senior/Key Person Profile. Collaborators simply providing services or materials should not be listed in the R&R Senior/Key Person Profile and a biographical sketch is not required. Evidence (letters of support) for this type of collaboration should be provided in the 'Documentation of Collaboration' (see number 5 below). These signed letters should provide evidence that the collaborators involved have agreed to render these services. For Integrated Grant Applications – state for key personnel an estimate of the percent of time devoted to research, education, and/or extension activities.

2) **Logic Model – PDF Attachment**. Required for Integrated Project Grants Only. Allowable for Research Projects. Two-Page Limit. Title the attachment as 'Logic Model' and save file as 'LogicModel'.

> Applications proposing Education, Extension, or Integrated projects must include the elements of a logic model detailing the activities, outputs, and outcomes of the proposed project. The logic model planning process is a tool that should be used to develop your project <u>before</u> writing your application. This information may be provided as a narrative or formatted into a logic model chart. More information and resources related to the logic model planning process are provided at www.nifa.usda.gov/funding/integrated/integrated_logic_model.html.

3) **Project Management Plan** – PDF Attachment. Required for Integrated Project Grants Only. Allowable for Research Projects. Three-Page Limit. Title the attachment as 'Management Plan' and save file as 'ProjectManagementPlan'.

> The application must contain a clearly articulated project management plan to ensure efficient functioning of the team that includes an organizational chart, administrative timeline, and a description of how the project will be governed, as well as a strategy to enhance coordination, collaboration, communication, and data sharing and reporting among members of the project team and stakeholder groups. Applications must include a plan for sustaining the program beyond the termination of the project.

> The management plan should also include an advisory group of principal stakeholders, partners, and professionals to assess and evaluate the quality, expected measurable outcomes, and potential impacts for the proposed research, education, and/or extension. Please include letters of commitment (in Documentation of Collaboration below), rationale for their role, and how they will function effectively to support the goals and objectives of the project. The plan must demonstrate how partners and stakeholders contribute to project assessment on an annual basis.

4) **Data Management Plan** - PDF Attachment. Required for Integrated Project Grants Only. Allowable for Research Projects. Two-Page Limit. Title the attachment as 'DataManagement Plan' and save file as 'ManagementPlan'

5) **Documentation of Collaboration –** PDF Attachment. No Page Limit. Title the attachment as 'Documentation of Collaboration' in the document header and save file as 'Collaboration'.

> Evidence (e.g., letter(s) of support) should be provided that the collaborators involved have agreed to render services. The applicant also will be required to provide additional information on consultants and collaborators in the budget portion of the application.

☼ *For Sabbatical Grant Applications* – Provide documentation that arrangements have been made with an established investigator(s) to serve as host, including:
- A letter from the home institution detailing the particular arrangements at the home institution with respect to salary and date and duration of sabbatical;
- A letter from the scientific host(s) indicating willingness to serve in this capacity and a description of the host's contribution to the proposed activities both scientifically and with regard to use of facilities and equipment; and
- A statement signed by the Department Head or equivalent official at the host institution indicating a commitment to provide research space and facilities for the period of the applicant's presence.

☼ *For Equipment Grant Applications* – The application must contain a letter(s) from the organization(s) committed to providing the non-Federal matching funds. Provide evidence of institutional commitment for operation and maintenance of requested equipment. Arrangements for sharing equipment among faculty are encouraged. However, it must be evident that the PD is a principal user of the requested equipment.

4. R&R Senior/Key Person Profile (Expanded)
Information related to the questions on this form is dealt with in detail in Part V, 5. of the NIFA Grants.gov Application Guide. This section of the guide includes information about the people who require a Senior/Key Person Profile, and details about the Biographical Sketch and the Current and Pending Support, including a link to a suggested template for the Current and Pending Support.

a. *Project Role Field* – Complete appropriately.

☼ *For Sabbatical Grant Applications* – Select "PD/PI" for the Sabbatical Grant applicant. Select "Other" for the corresponding scientific host(s) and any other personnel whose qualification merit consideration in the evaluation of the application.

☼ *For Equipment Grant Applications* – Select "PD/PI" for the Equipment Grant applicant. Select "Faculty" for the other major users of the equipment.

b. *Other Project Role Category Field* – Complete appropriately, if applicable

c. *Attach Biographical Sketch Field* –Two-Page Limit (excluding publications listings) per PD, co-PD, senior associate, and other professional personnel. Title the attachment as 'Biographical Sketch' in the document header and save file as 'BiographicalSketch'.

A biographical sketch (vitae) of the PD and each co-PD, senior associate, and other professional personnel should be included.

The Conflict of Interest list should not be included in the biographical sketch, but it must be provided as a separate document (see Part IV, C. 8. c for more information).

☼ *For Sabbatical Grant Applications* – A Biographical Sketch must be submitted for the Sabbatical Grant applicant, the scientific host(s), and any other personnel whose qualifications merit consideration in the evaluation of the application.

☼ *For Equipment Grant Applications* – A Biographical Sketch for both the Equipment Grant applicant and other major users of the equipment must be submitted.

d. *Attach Current and Pending Support Field* – PDF Attachment. No Page Limit. Title the attachment as 'Current and Pending Support' in the document header and save file as 'CurrentPendingSupport'.

A recommended template for the Current and Pending Support can be found at: www.nifa.usda.gov/funding/templates/current_pending.doc.
Current and Pending Support information is only required for personnel with PD or co-PD indicated as their Project Role on the R&R Senior/Key Person Profile. All applications must contain a list of all Current and Pending Support detailing public or private support (including in-house support) to which personnel identified in the application have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Please note that the project being proposed should be included in the pending section of the form. Total projects listed for each PD should be indicated as percent effort and not exceed 100% for concurrent (Current and Pending) projects.

The AFRI program will not fund an application that duplicates or overlaps substantially with other NIFA funding (including non-competitive funds such as Special Grants or Hatch capacity funds) or other Federal funding. As an addendum to the Current and Pending Support, provide a brief summary for any completed, current, or pending projects that appear similar to the current application, especially previous NRI or AFRI awards.

☼ *For Sabbatical Grant Applications* – Current and Pending Support for both the Sabbatical Grant applicant and the scientific host(s) (as documentation of on-going work in the host's laboratory) must be completed.

☼ *For Equipment Grant Applications* – Current and Pending Support for both the Equipment Grant applicant and other major users of the equipment must be completed. If the applicant has significant funding from other sources, a justification must be provided in the Project Narrative for how this equipment will strengthen the applicant's research program or institution.

5. R&R Personal Data – As noted in Part V, 6 of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award.

6. R&R Budget
Information related to the questions on this form is dealt with in detail in Part V, 7 of the NIFA Grants.gov Application Guide.

a. Budget Periods. Applications must contain a budget for each budget period for the entire duration of the proposed project. Annual and cumulative budgets are required.

If a project is funded, beginning in the first year of funding, the project director will be required to attend annual investigator meetings for the duration of the award (excluding Conference applications).

☼ *For Integrated Project Applications* – Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single component. Projects that

include partnering with eXtension must include financial support for the Community of Practice core functions as well as project-specific activities.

☼ *For Conference Grant Applications* – The budget for the conference may include an appropriate amount for transportation and subsistence costs for participants and for other conference-related costs. Conference awards are not expected to exceed $50,000 and are not renewable. Indirect costs are not permitted on Conference Grant awards. Include an itemized breakdown of all support requested from the AFRI in the Budget Justification (Field K. of the R&R Budget).

☼ *For Sabbatical Grant Applications* – Limit to one year's salary and funds for travel and supplies.

☼ *For Equipment Grant Applications* – Each request shall be limited to one major piece of equipment within the cost range of $10,000-$250,000. Equipment grants are not renewable. The amount of federal funding requested shall not exceed 50 percent of the cost or $50,000, whichever is less. Unless waived, it is the responsibility of the PD to secure the required matching funds with non-Federal funds (see Part III, C for more information). No installation, maintenance, warranty, or insurance expenses may be paid from these awards, nor may these costs be part of the matching funds. Indirect costs are not permitted on Equipment Grant awards.

☼ *For Seed Grant Applications* – Each award will be limited to $150,000 (total, including indirect costs) for two years and are not renewable.

b. *Field K. Budget Justification* – PDF Attachment. No Page Limit. Title the attachment as 'Budget Justification' in the document header and save file as 'BudgetJustification'.

All cumulative budget categories, with the exception of Indirect Costs, for which support is requested must be individually listed (with costs) in the same order as the cumulative budget. NOTE: For continuation awards, all budget categories for year one must also be fully justified. If consulting, collaborative, or subcontractual arrangements are included in the application, these arrangements should be fully explained and justified. The rate of pay for any consultant must be included, if known at the time of application. Please include a cost breakdown for the consultant, including the number of days in service, travel, and per diem, as well as the rate of pay. Letters of consent or collaboration and other evidence should be provided in the Documentation of Collaboration (see Part IV, C. 4. g. 5) to show that collaborators have agreed to participate. A proposed statement of work, biographical sketch, and a budget for each arrangement involving the transfer of substantive programmatic work or the provision of financial assistance to a third party must be supplied. In multi-institutional applications, a budget and budget narrative must be included for each institution involved. The lead institution and each participating institution must be identified.

☼ *For Integrated Project Applications* – Each function should be represented by one or more objectives within the application. Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single component.

☼ *For Equipment Grant Applications* – The Budget Justification should describe the instrument requested including the manufacturer and model number, if known; provide a detailed budget breakdown of the equipment and accessories required; and indicate the amount of funding requested from USDA for each component of equipment requested. A letter signed by the institution's AR stating that the necessary non-Federal matching funds will be made available from an institutional or

other source is required. An institution that believes it is eligible for the waiver of the matching funds should include a letter stating and documenting the eligibility that is signed by the institution's AR (see Table 2 following Part VIII for eligibility). A justification must be given for how this equipment will strengthen the applicant's research program or institution.

c. Subcontract Arrangements - If it will be necessary to enter into a formal subcontract agreement with another institution, financial arrangements must be detailed in the "R&R Subaward Budget Attachment(s) Form." Annual and cumulative budgets, budget justification and a letter of commitment signed by the Authorized Representative (AR) are required for each subcontract agreement. Refer to Part V, 8. of the NIFA Grants.gov Application Guide for instructions on completing this form.

d. Matching

If you conclude that matching funds are not required as specified under Part III, C. Cost-Sharing or Matching, you must include a justification in the Budget Narrative. We will consider this justification when ascertaining final matching requirements or in determining if required matching can be waived. NIFA retains the right to make final determinations regarding matching requirements.

When a grant provides a particular benefit to a specific agricultural commodity, the grant recipient must match awarded USDA funds with cash and in-kind contributions on a dollar-for-dollar basis from non-federal sources. Written verification means:

(a) For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized representatives of the donor organization (and the applicant organization ONLY if provided after submission of the application), must include: (1) The donor's name, address, and telephone number; (2) the name of the applicant organization; (3) the title of the project; (4) the dollar amount of the cash donation (the budget narrative must describe how the cash donation will be used); (5) a statement that the donor will pay the cash contribution during the grant period; and (6) whether the applicant can designate cash as the applicant deems necessary or the cash contribution has been designated to a particular budget item.

(b) For any third party in-kind contributions, a separate pledge agreement for each contribution, signed by the authorized representatives of the donor organization (and the applicant organization ONLY if provided after submission of the application), must include: (1) The donor's name, address, and telephone number; (2) the name of the applicant organization; (3) the title of the project; (4) a good faith estimate of the current fair market value of the third party in-kind contribution and a description of how the fair market value was determined; and (5) a statement that the donor will make the contribution during the grant period.

Summarize on a separate page the sources and amount of all matching support from outside the applicant institution and place that information in the proposal as part of the Budget Narrative. You must place all pledge agreements in the proposal immediately following the summary of matching support.

Establish the value of applicant contributions in accordance with applicable cost principles. Refer to OMB Circular A-21 (2 CFR Part 220), Cost Principles for Educational Institutions, for further guidance and other requirements relating to matching and allowable costs.

7. Supplemental Information Form
Information related to the questions on this form is dealt with in detail in Part VI, 1 of the NIFA Grants.gov Application Guide.

a. Field 2. Program to which you are applying. Enter the Program (Area Priority) Code Name and the Program (Area Priority) Code for the Program Area Priority to which you are applying from the information provided in the Program Area Descriptions beginning in Part I, C. An application can only be submitted to one program (Area Priority). It is extremely important that the Program (Area Priority) Code Name and Program (Area Priority) Code are spelled correctly and match this RFA. If you have a question about which topic area is appropriate for your application, please contact the Program Area Priority Contact.

Program Area Priority	Program Code:
Global Food Security: Agricultural Production Systems	A5160
Global Food Security: Breeding and Genomics of Crops and Livestock	A5161
Global Food Security: National Strategy for Sustainable Crop and Livestock Production	A5162

b. Field 8. Conflict of Interest List. **No Page Limit.** Title the attachment as 'Conflict of Interest' in the document header and save file as 'ConflictofInterest'. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions.

A Conflict of Interest List is required for all applications submitted to the AFRI. The Conflict of Interest List should be provided as a separate PDF attachment and not included in the vitae or resume. A Conflict of Interest List must be completed individually for all personnel who have submitted a Biographical Sketch in the R&R Senior/Key Personnel Profile. Collate all individual Conflict of Interest lists into a single document file. The lists can only be submitted as a single PDF attachment. A recommended template for the Conflict of Interest List can be found at:
www.nifa.usda.gov/funding/templates/conflict_of_interest.doc.

D. Submission Dates and Times

1. Letter of Intent
   a. *Deadline – April 02, 2015* (5:00 p.m., ET).
   b. Attach the PDF LOI to an *e*-mail addressed to the specific email for your program area priority:
      A5160 LOI *e*-mail address: FoodSecurity5160@nifa.usda.gov
      A5161 LOI *e*-mail address: FoodSecurity5161@nifa.usda.gov
      A5162 LOI *e*-mail address: FoodSecurity5162@nifa.usda.gov
         In the email subject line, write: *Letter of Intent A51xx_ [PDs Last Name]*.
   c. An acknowledgement receipt will be sent via email by replying to the sender within 5 business days after submission.
   d. LOIs will be reviewed by scientific program staff in order to plan for appropriate expertise for the application peer review panel and ensure that the proposed project fits appropriately within the Program Area Priorities.

2. Full Application

Prior to electronic submission of the application via Grants.gov, it is strongly recommended that an administrative review be conducted to ensure that an application complies with all application preparation instructions. An application checklist is included in Part VII of the NIFA Grants.gov Application Guide to assist with this review.

While the checklist should be used to check the application for completeness, the application should be checked for the following required item(s). This is not an exhaustive list of required items; it only serves to highlight items that may be overlooked. The list includes:

- Project Type
- Key Personnel
- Logic Model (Integrated Projects Only)
- Current and Pending Support (listing this proposal)
- Conflict of Interest List

Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.

Applications must be received by Grants.gov by **5:00 p.m. Eastern Time on June 04, 2015**. Applications received after this deadline will normally not be considered for funding.

If you have trouble submitting an application to Grants.gov, you should FIRST contact the Grants.gov Help Desk to resolve any problems. Keep a record of any such correspondence. See Part IV, A for Grants.gov contact information.

We send email correspondence to the AR regarding the status of submitted applications. Therefore, applicants are strongly encouraged to provide accurate email addresses, where designated, on the SF-424 R&R Application for Federal Assistance.

If the AR has not received correspondence **from NIFA** regarding a submitted application within 30 days of the established deadline, contact the Agency Contact identified in Part VII of the applicable RFA and request the proposal number assigned to the application. **Failure to do so may result in the application not being considered for funding by the peer review panel. Once the application has been assigned a proposal number, this number should be cited on all future correspondences.**

E. Funding Restrictions

Section 715 of the Consolidated and Further Continuing Appropriations Act of 2015 limits indirect costs to 30 percent of the total Federal funds provided under each award. Therefore, when preparing budgets, you should limit your request for the recovery of indirect costs to the lesser of your institution's official negotiated indirect cost rate or the equivalent of 30 percent of total Federal funds awarded.

If your institution does not have, or cannot obtain, a negotiated rate, you must calculate an indirect cost rate in order to request indirect costs. You should calculate an indirect cost rate based on actual costs for the entire organization from the most recently completed accounting year. If no prior cost history exists, you should use budgeted costs for the entire organization. You should follow the example(s) found at: http://nifa.usda.gov/business/indirect_cost_process.html for information regarding this process.   You may elect not to charge indirect costs and, instead, use all grant funds for direct costs. If indirect costs are not charged, the phrase "None requested" should be written in this space."

Funds made available for grants under the AFRI program shall not be used for the construction of a new building or facility or the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

F. Other Submission Requirements

1. Successful Application Submission
You should follow the submission requirements noted in Part IV, Section 1.9 in the document entitled "NIFA Grants.gov Application Guide."

2. Application Status
For information about the **status of a submitted application**, see Part III., Section 6 of the NIFA Grants.gov Application Guide.

3. Multiple submissions
In accordance with Part III, Section5 of NIFA Grants.gov Application Guide, duplicate, essentially duplicate or predominantly overlapping applications submitted to one or more program areas within the AFRI (including FASE Grants) in any one fiscal year will not be reviewed. In addition, applicants may not submit to AFRI an application that is considered duplicate, essentially duplicate, or predominantly overlapping with an application submitted to another NIFA program in the same fiscal year

PART V—APPLICATION REVIEW REQUIREMENTS

A. General

We evaluate each application in a two-part process. First, we screen each application to ensure that it meets the administrative requirements as set forth in this RFA. Second, a review panel will technically evaluate applications that meet these requirements.

We select reviewers based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors: (a) The level of relevant formal scientific, technical education, or 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 reviewers experts from various areas of specialization within relevant scientific, education, or extension fields; (c) the need to include as reviewers other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs; (d) the need to include as reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and federal agencies, and private profit and non-profit organizations) and geographic locations; (e) the need to maintain a balanced composition of reviewers with regard to minority and female representation and an equitable age distribution; and (f) the need to include reviewers who can judge the effective usefulness of each application to producers and the general public.

When each peer review panel has completed its deliberations, the responsible program staff of **AFRI Food Security Challenge Area** will recommend that the project: (a) be approved for support from currently available funds or (b) be declined due to insufficient funds or unfavorable review.

AFRI Food Security Challenge Area reserves the right to negotiate with the PD/PI and/or with the submitting organization or institution regarding project revisions (e.g., reductions in the scope of work, funding level, period, or method of support) prior to recommending any project for funding.

For more information on the peer review process, see
www.nifa.usda.gov/business/competitive_peer_review.html

B. Evaluation Criteria

We will use the evaluation criteria below to review applications submitted in response to this RFA:

Projects supported under this program shall be designed, among other things, to accomplish one or more of the purposes of agriculture research, education, and extension, subject to the varying conditions and needs of states. Therefore, in carrying out its review, the peer review panel will take into account the following factors.

1. Research Project Applications
These evaluation criteria will be used for the review of all single-function Research Project applications.
  a. **Scientific Merit of the Application for Research**
    1. Novelty, innovation, uniqueness, and originality;
    2. Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
    3. Clarity and delineation of objectives;

4. Adequacy of the description of the undertaking and suitability and feasibility of methodology;
5. Demonstration of feasibility through preliminary data; and
6. Probability of success of the project is appropriate given the level of scientific originality, and risk-reward balance.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
1. Qualifications of applicant (individual or team) to conduct the proposed project, including performance record and potential for future accomplishments;
2. Demonstrated awareness of previous and alternative approaches to the problem identified in the application;
3. Institutional experience and competence in subject area;
4. Adequacy of available or obtainable support personnel, facilities, and instrumentation; and
5. Planning and administration of the proposed project, including: time allocated for systematic attainment of objectives; and planned administration of the proposed project and its maintenance, partnerships, collaborative efforts, and the planned dissemination of information for multi-institutional projects over the duration of the project.

c. Project Relevance: Documentation that the research is directed toward specific Program Area Priority identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities.

d. Center of Excellence Status
All eligible applicants will be competitively peer reviewed (as described in Part V, A. and B. of this RFA), and ranked in accordance with the evaluation criteria. Those that rank highly meritorious and requested to be considered as a center of excellence will be further evaluated by the peer panel to determine whether they have met the standards to be centers of excellence (Part III D. and Part IV C.). In instances where they are found to be equally meritorious with the application of a non-center of excellence, based on peer review, selection for funding will be weighed in favor of applicants meeting the center of excellence criteria. NIFA will effectively use the center of excellence prioritization as a "tie breaker". Applicants that rank highly meritorious but who did not request consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding.

In addition, the applicant's Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

2. Integrated Project Applications
These evaluation criteria will be used for the review of all multi-function Integrated Project applications.
a. Merit of the Application for Science Research, Education, and/or Extension
1. Project objectives and outcomes are clearly described, adequate, and appropriate. All project components (i.e., research, education, extension) – at least two are required – are reflected in one or more project objectives;
2. Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
3. Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;

4. Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
5. Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
6. Proposed education (teaching) has an impact upon and advances the quality of food and agricultural sciences by strengthening institutional capacities and curricula to meet clearly delineated needs and train the next generation of scientists and educators.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
1. Roles of key personnel are clearly defined;
2. Key personnel have sufficient expertise to complete the proposed project, and where appropriate, partnerships with other disciplines (e.g., social science or economics) and institutions are established;
3. Evidence of institutional capacity and competence in the proposed area of work is provided;
4. Support personnel, facilities, and instrumentation are sufficient;
5. A clear plan is articulated for project management, including time allocated for attainment of objectives and delivery of products; maintenance of partnerships and collaborations; and a strategy to enhance communication, data sharing, and reporting among members of the project team; and
6. The budget clearly allocates sufficient resources to carry out a set of research, education (teaching), and/or extension activities that will lead to desired outcomes, with no more than two-thirds of the budget focused on a single project component.

c. Project Relevance
1. Documentation that the project is directed toward specific Program Area Priority identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities;
2. Project components (research, education, and/or extension) – at least two are required – are fully integrated and necessary to address the problem or issue;
3. The proposed work addresses identified stakeholder needs;
4. Stakeholder involvement in project development, implementation, and evaluation is demonstrated, where appropriate;
5. Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
6. For extension or education (teaching) activities, curricula and related products will sustain education or extension functions beyond the life of the project; and
7. For extension or education (teaching) activities, the resulting curricula or products share information and recommendations based on knowledge and conclusions from a broad range of research initiatives.

d. Center of Excellence Status

All eligible applicants will be competitively peer reviewed (as described in Part V, A. and B. of this RFA), and ranked in accordance with the evaluation criteria. Those that rank highly meritorious and requested to be considered as a center of excellence will be further evaluated by the peer panel to determine whether they have met the standards to be centers of excellence (Part III D. and Part IV C.). In instances where they are found to be equally meritorious with the application of a non-center of excellence, based on peer review, selection for funding will be weighed in favor of applicants meeting the center of excellence criteria. NIFA will effectively use the center of excellence prioritization as a "tie breaker". Applicants

that rank highly meritorious but who did not request consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding .

In addition, the applicant's Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

3. Conference Grant Applications
   a. Relevance of the proposed conference to agriculture and food systems in the U.S. and appropriateness of the conference in fostering scientific exchange;
   b. Qualifications of the organizing committee and appropriateness of invited speakers to topic areas being covered; and
   c. Uniqueness, timeliness of the conference, and appropriateness of budget requests.

4. New Investigator and Strengthening Standard Grant Applications Refer to the review criteria listed above for the applicable Project Type (Research or Integrated) to which you are applying.

C. Conflicts of Interest and Confidentiality

During the peer evaluation process, we take extreme care to prevent any actual or perceived conflicts of interest that may impact review or evaluation. For the purpose of determining conflicts of interest, we determine the academic and administrative autonomy of an institution by reference to the current Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 555, Reston, VA, 20191. Phone: (888) 349-7715. Web site: http://www.hepinc.com.

Names of submitting institutions and individuals, as well as application content and peer evaluations, are 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, to the extent permitted by law; therefore, the names of the reviewers will not be released to applicants.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one time basis, with updates on an as needed basis. This requirement is part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. We will provide you copies of forms recommended for use in fulfilling these requirements as part of the pre-award process. Although an applicant may be eligible based on his/her status as one of these entities, there are factors that may exclude an applicant from receiving federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual involved or a determination that an applicant is not responsible based on submitted organizational management information).

E. Application Disposition

An application may be withdrawn at any time before a final funding decision is made regarding the application; however, withdrawn applications normally will not be returned. One copy of each application that is not selected for funding, including those that are withdrawn, will be retained by **AFRI Food Security Challenge Area** for a period of 3 years.

PART VI—AWARD ADMINISTRATION

A. General

Within the limit of funds available for such purpose, the NIFA awarding official shall make grants to those responsible, eligible applicants whose applications are judged most meritorious under the procedures set forth in this RFA. The date specified by the NIFA awarding official as the effective date of the grant shall be no later than September 30 of the federal fiscal year in which the project is approved for support and funds are appropriated for such purpose, unless otherwise permitted by law. 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 NIFA under this RFA may be used only for the purpose for which they are granted in accordance with the approved application and budget, regulations, terms and conditions of the award, applicable federal cost principles, USDA assistance regulations, and NIFA General Awards Administration Provisions at 7 CFR part 3430, subparts A through E.

B. Award Notice

The award document will provide pertinent instructions and information including, at a minimum:

(1) Legal name and address of performing organization or institution to which the director has issued an award under the terms of this request for applications;

(2) Title of project;

(3) Name(s) and institution(s) of PDs chosen to direct and control approved activities;

(4) Identifying award number and the Federal Agency Identification Number assigned by NIFA;

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

(6) Total amount of financial assistance approved for the award;

(7) Legal authority(ies) under which the award is issued;

(8) Appropriate Catalog of Federal Domestic Assistance (CFDA) number;

(9) Applicable award terms and conditions (see http://www.nifa.usda.gov/business/awards/awardterms.html to view NIFA award terms and conditions);

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

(11) Other information or provisions deemed necessary by NIFA to carry out its respective awarding activities or to accomplish the purpose of a particular award.

C. Administrative and National Policy Requirements

Several federal statutes and regulations apply to grant applications considered for review and to project grants awarded under this program. These include, but are not limited to the ones listed below.

2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

2 CFR Part 400 —USDA implementation of 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

2 CFR Part 415 – USDA General Program Administrative Regulations.

7 CFR Part 1, subpart A—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.

2 CFR Part 180 and Part 417--OMB Guidelines to Agencies on Government-Wide Debarment and Suspension (Nonprocurement) and USDA Nonprocurement Debarment and Suspension.

7 CFR Part 331 and 9 CFR Part 121—USDA implementation of the Agricultural Bioterrorism Protection Act of 2002.

2 CFR Part 416—USDA General Program Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

2 CFR Part 418—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.

2 CFR Part 421—USDA Implementation of Governmentwide Requirements for Drug-Free Workplace (Grants).

2 CFR Part 422—Research Institutions Conducting USDA-Funded Extramural Research; Research Misconduct.

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

7 CFR 3430—Competitive and Noncompetitive Non-formula Financial Assistance Programs-- General Award Administrative Provisions.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15b (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).

44 U.S.C. 3541 et seq. (Pub. L. 107-347) - Federal Information System Security Management Act of 2002 (FISMA), to improve computer and network security within the Federal Government. Applies to awardees if it will collect, store, process, transmit, or use information on behalf of NIFA.

D. Expected Program Outputs and Reporting Requirements

Grantees are to use REEport, NIFA's electronic, web-based inventory system to submit an initial project initiation which documents expected products and outcomes of the project. Additionally, annual progress report documenting realized project outcomes must be submitted to the electronic system. The web-based system facilitates an electronic workflow between grantees and NIFA for project accomplishments to be easily searchable and allows for public access to information on federally-funded projects. The details of these reporting requirements, including those specific to the annual and final technical reports, are included in the award terms and conditions.

PART VII—AGENCY CONTACT

Applicants and other interested parties are encouraged to contact:

For general questions related to the AFRI programs, applicants and other interested parties are encouraged to contact:

AFRI Program Office:
Dr. Luis Tupas Deputy Director, Institute of Bioenergy, Climate, and Environment
Dr. Dionne Toombs, Acting Deputy Director, Institute of Food Safety and Nutrition
Dr. Muquarrab Qureshi, Deputy Director, Institute of Youth, Family, and Community
Dr. Parag Chitnis, Deputy Director, Institute of Food Production and Sustainability

Telephone: (202) 401-5022
Fax: (202) 401-6488
E-mail: AFRI@nifa.usda.gov

Programmatic Contacts –

Specific questions pertaining to technical matters may be directed to the appropriate
Program Area Contacts:

Program Area Priority	Program Area Contact:
Agricultural Production Systems	Mathieu Ngouajio (202) 401-4895 mngouajio@nifa.usda.gov Steve Smith (202) 401-6134 sismith@nifa.usda.gov
Breeding and Genomics of Crops and Livestock	Edward Kaleikau (202) 401-1931 ekaleikau@nifa.usda.gov Lakshmi Mutukumalli (202) 401-1766 lmatukumalli@nifa.usda.gov
National Strategy for Sustainable Crop and Livestock Production in the United States	Nancy Cavallaro (202) 401-5176 ncavallaro@nifa.usda.fov Robbin Shoemaker (202)-720-5468 rshoemaker@nifa.usda

Administrative/Business Contacts –

Rochelle McCrea
(202) 401-2880
rmccrea@nifa.usda.gov

Sondra Watkins
(202) 401-4249
swatkins@nifa.usda.gov

PART VIII—OTHER INFORMATION

A. Access to Review Information

We will send copies of reviews, not including the identity of reviewers, and a summary of the panel comments to the applicant PD after the review process has been completed.

B. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

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

2. Changes in Project Plans

a. The permissible changes by the awardee, PD(s), or other key project personnel in the approved project shall be limited to changes in methodology, techniques, or other similar aspects of the project to expedite achievement of the project's approved goals. If the awardee or the PD(s) is uncertain as to whether a change complies with this provision, the question must be referred to the Authorized Departmental Officer (ADO) for a final determination. The ADO is the signatory of the award document, not the program contact.

b. The awardee must request, and the ADO must approve in writing, all changes in approved goals or objectives prior to effecting such changes. In no event shall requests be approved for changes that are outside the scope of the original approved project.

c. The awardee must request, and the ADO must approve in writing, all changes in approved project leadership or the replacement or reassignment of other key project personnel, prior to effecting such changes.

d. The awardee must request, and the ADO must approve in writing, all 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, prior to instituting such transfers, unless prescribed otherwise in the terms and conditions of the award.

e. The project period may be extended without additional financial support, for such additional period(s) necessary to complete or fulfill the purposes of an approved project, but in no case shall the total project period exceed any applicable statutory limit or expiring appropriation limitation. The terms and conditions of award include information about no-cost extensions of the award and when ADO's prior approval is necessary.

f. Changes in Approved Budget: Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee 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 award.

C. Confidential Aspects of Applications and Awards

When an application results in an award, it becomes a part of the record of NIFA 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 application. The original copy of an application that does not result in an award will be retained by the Agency for a period of three years. Other copies will be destroyed. Such an application will be released only with the consent of the applicant or to the extent required by law. An application may be withdrawn at any time prior to the final action thereon.

D. Regulatory Information

For the reasons set forth in the final Rule related Notice to 7 CFR part 3015, subpart V (48 FR 29114, 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 (44 U.S.C. chapter 35), the collection of information requirements contained in this notice have been approved under OMB Document No. 0524-0039.

E. Application Disposition

When each peer review panel has completed its deliberations, the responsible program staff of AFRI will recommend that the project: (a) be approved for support from currently available funds or (b) be declined due to insufficient funds or unfavorable review.

AFRI reserves the right to negotiate with the PD and/or with the submitting organization or institution regarding project revisions (e.g., reductions in the scope of work, funding level, period, or method of support) prior to recommending any project for funding.

An application may be withdrawn at any time before a final funding decision is made regarding the application; however, withdrawn applications normally will not be returned. One copy of each application that is not selected for funding, including those that are withdrawn, will be retained by AFRI for a period of three years.

F. Materials Available on the Internet

AFRI program information will be made available on the NIFA Web site: www.nifa.usda.gov/funding/afri/afri.html. The following are among the materials available on the AFRI More Information Page:
1. More information about upcoming AFRI 2015 Requests for Applications
2. AFRI Abstracts of Funded Projects
3. AFRI Annual Reports

G. Electronic Subscription to AFRI Announcements

If you would like to receive notifications of all new announcements pertaining to AFRI RFA, you can register via Grants.gov at www.grants.gov/search/subscribeAdvanced.do.
- Enter the e-mail address at which you would like to receive the announcements
- Enter "10.310" for *CFDA Number*
- Select "Subscribe to Mailing List"

Other criteria may be selected; however, your e-mail address and the CFDA number are the only data required to receive AFRI announcements. You do not need to be a registered user of Grants.gov to use this service. You may modify your subscriptions or unsubscribe at any time.

H. Definitions

Please refer to [7 CFR 3430, Competitive and Noncompetitive Non-formula Financial Assistance Programs--General Award Administrative Provisions](#), for applicable definitions for this NIFA grant program.

For the purpose of this program, the following additional definitions are applicable:

Director means the Director of the National Institute of Food and Agriculture (NIFA) and any other officer or employee of NIFA to whom the authority involved is delegated.

Food and Agricultural Science Enhancement (FASE) Grants mean funding awarded to eligible applicants to strengthen science capabilities of Project Directors, to help institutions develop competitive scientific programs, and to attract new scientists into careers in high-priority areas of National need in agriculture, food, and environmental sciences. FASE awards may apply to any of the three agricultural knowledge components (i.e., research, education, and extension). FASE awards include Pre- and Postdoctoral Fellowships, New Investigator grants, and Strengthening grants.

Integrated project means a project incorporating two or three functions of the agricultural knowledge system (research, education, and extension) around a problem or activity.

Limited institutional success means institutions that are not among the most successful universities and colleges for receiving Federal funds for science and engineering research. A list of successful institutions will be provided in the RFA.

Minority-serving institution means an accredited academic institution whose enrollment of a single minority or a combination of minorities exceeds fifty percent of the total enrollment, including graduate and undergraduate and full- and part-time students. An institution in this instance is an organization that is independently accredited as determined by reference to the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, Virginia 22042.

Minority means Alaskan Native, American Indian, Asian-American, African-American, Hispanic American, Native Hawaiian, or Pacific Islander. The Secretary will determine on a case-by-case basis whether additional groups qualify under this definition, either at the Secretary's initiative, or in response to a written request with supporting explanation.

Multidisciplinary project means a project on which investigators from two or more disciplines collaborate to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.

Small and mid-sized institutions are academic institutions with a current total enrollment of 17,500 or less including graduate and undergraduate and full- and part-time students. An institution, in this instance, is an organization that possesses a significant degree of autonomy. Significant degree of autonomy is defined by being independently accredited as determined by reference to the current version

of the *Higher Education Directory*, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, Virginia 22042 (703-532-2300).

Strengthening Grants mean funds awarded to institutions eligible for FASE Grants to enhance institutional capacity, with the goal of leading to future funding in the project area, as well as strengthening the competitiveness of the investigator's research, education, and/or extension activities. Strengthening grants consist of Standard and Coordinated Agricultural Project Grant types as well as Seed Grants, Equipment Grants, and Sabbatical Grants.

USDA EPSCoR States (Experimental Program to Stimulate Competitive Research) means States which have been less successful in receiving funding from AFRI, having a funding level no higher than the 38th percentile of all States based on a 3-year average of AFRI funding levels, excluding FASE Strengthening funds granted to state agricultural experiment stations and degree-granting institutions in EPSCoR States and small, mid-sized, and minority-serving degree-granting institutions. The most recent list of USDA EPSCoR States is provided in this RFA.

TABLE 1. Most Successful Universities and Colleges Receiving Federal Funds*.
Use to Determine Eligibility for Strengthening Grants

Arizona State University (all campuses)	Princeton University	University Maryland, College Park
Baylor College of Medicine	Purdue University (all campuses)	University Massachusetts, Amherst
Boston University	Rutgers, The State University New Jersey (all campuses)	University Massachusetts, Worcester
Brown University	Scripps Research Institute, The	University Miami
California Institute of Technology	Stanford University	University Miami (all campuses)
Carnegie Mellon University	State University of New York, Stony Brook (main campus)	University Minnesota (all campuses)
Case Western Reserve University	Texas A&M University (main campus)	University Missouri, Columbia
Colorado State University	Tufts University	University New Mexico (all campuses)
Columbia University	University Alabama, Birmingham	University North Carolina, Chapel Hill
Consortium for Ocean Leadership	University Alaska, Fairbanks	University of Medicine & Dentistry New Jersey
Cornell University (all campuses)	University Arizona	University Pennsylvania
Dartmouth College	University California, Berkeley	University Pittsburgh (all campuses)
Duke University	University California, Davis	University Rochester
Emory University	University California, Irvine	University South Florida
Florida State University	University California, Los Angeles	University Southern California
George Washington University, The	University California, San Diego	University Texas, Austin
Georgia Institute of Technology (all campuses)	University California, San Francisco	University Texas Health Science Center, Houston
Harvard University	University California, Santa Barbara	University Texas Health Science Center, San Antonio
Indiana University - Purdue University, Indianapolis	University Chicago	University Texas M. D. Anderson Cancer Center
Iowa State University	University Cincinnati (all campuses)	University Texas Medical Branch
Johns Hopkins University, The	University Colorado (all campuses)	University Texas Southwestern Medical Center
Louisiana State University (all campuses)	University Connecticut (all campuses)	University Utah
Massachusetts Institute of Technology	University Corporation for Atmospheric Research	University Virginia (main campus)
Medical College, Wisconsin	University Delaware	University Washington
Medical University, South Carolina	University Florida	University Wisconsin, Madison
Miami State University	University Georgia	Vanderbilt University
Mount Sinai School of Medicine	University Hawaii, Manoa	Virginia Commonwealth University
New York University	University Illinois, Chicago	Virginia Polytechnic Institute and State University
North Carolina State University	University Illinois, Urbana-Champaign	Wake Forest University
Northwestern University	University Iowa	Washington University, St. Louis
Ohio State University (all campuses)	University Kansas (all campuses)	Woods Hole Oceanographic Institution
Oregon Health & Science University	University Kentucky (all campuses)	Yale University
Oregon State University	University Maryland, Baltimore	Yeshiva University
Pennsylvania State University (all campuses)		

***Data obtained from the table of 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 FY 2009 of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation). Campuses that are part of a larger university system as listed in Table 1 may petition for an exemption to this rule (see Part III, B for information).

TABLE 2. Lowest One Third of Universities and Colleges Receiving Federal Funds*.

Use to Determine Eligibility for Possible Waiver of Matching Funds Requirement for Equipment Grants

A. T. Still University of Health Sciences	Hendrix College	Regis University
Abilene Christian University	HI Pacific University	Rhodes College
Agnes Scott College	Highline Community College	RI College
AK Pacific University	Hinds Community College	Ridgewater College
Albright College	Hood College	Roanoke College
Allegheny College	Houston Community College	Rocky Mountain College
American Indian Higher Ed. Consortium	Hudson Valley Community College	Rollins College
American University Puerto Rico	IL College of Optometry	Roosevelt University
Angelo State University	IL Wesleyan University	Saginaw Valley State University
Anne Arundel Community College	Immaculata University	Saint Augustine's College
Antioch University all campuses	IN University-Purdue University Ft. Wayne	Saint Cloud State University
AR Tech University	IN Wesleyan University	Saint Edward's University
Arapahoe Community College	Independent College Fund	Saint Lawrence University
Arizona Western College	Indian River State College	Saint Mary's College (Notre Dame, IN)
Arrowhead Community Colleges	Institute of American Indian and Alaska Native Culture and Arts Development	Saint Mary's College CA
Art Ctr. College of Design	Iona College	Saint Mary's College MD
Assumption College	Ithaca College	Saint Mary's University (San Antonio, TX)
Atlanta Metropolitan College	Ivy Tech Community College IN all campuses	Saint Mary's University MN
Atlantic College	John Brown University	Saint Michael's College
Augusta State University	John Carroll University	Saint Norbert College
Augustana College (Rock Island, IL)	Johnson & Wales University (Providence, RI)	Saint Vincent Catholic Medical Ctrs. NY
Augustana College (Sioux Falls, SD)	Juniata College	Saint Vincent College
Austin College	Kalamazoo College	Salem State University
Austin Community College	Kansas City KS Community College	Salisbury University
Avila University	Kansas City University of Medicine and Biosciences	Salve Regina University
Babson College	Kean University	San Diego Mesa College
Baker University	Keene State College	Sarah Lawrence College
Baltimore City Community College	Kenyon College	SC Sea Grant Consortium
Bard College	Knox College	Seattle Community Colleges all campuses
Bard College at Simon's Rock	Kutztown University PA	Seattle Pacific University
Bay Mills Community College	LA Universities Marine Consortium	Seminole State College
Beaufort County Community College	Lake Forest College	Seminole State College FL
Beloit College	Lake Superior State University	Shawnee State University
Benedictine University	Lakeshore Technical College	Simmons College
Bennett College	Landmark College	Skagit Valley College
Bennington College	Laramie County Community College	Slippery Rock University PA
Bentley University	Lasell College	Sojourner-Douglass College
Bethany College (Bethany, WV)	Le Moyne College	South Mountain Community College
Bethune-Cookman University	Lebanon Valley College	Southeast MO State University
Birmingham-Southern College	Lee College	Southeastern OK State University
Bismarck State College	Lehigh Carbon Community College	Southern CT State University
Bowie State University	LeMoyne-Owen College	Southern Polytechnic State University
Bridgewater State University	LeTourneau University	Southern UT University
Butler County Community College (Butler, PA)	Lewis-Clark State College	Southwest FL College

Butler University	Lock Haven University PA	Southwestern Assemblies of God University
Butte College	Longwood University	Southwestern College (Chula Vista, CA)
Cabrini College	Loras College	Southwestern Indian Polytechnic Institute
Calhoun Community College	Los Rios Community College District (all campuses)	Southwestern OK State University
Canisius College	Lyndon State College	Springfield College (Springfield, MA)
Capitol College	Lyon College	Springfield Technical Community College
Carl Albert State College	MA College of Liberal Arts	State University of New York College Old Westbury
Carroll College	Manhattan College	State University of New York College Oswego
Carroll University	Mansfield University PA	State University of New York College Potsdam
Central Arizona College	Marietta College	State University of New York Empire State College
Central College	Marist College	State University of New York Farmingdale
Central Community College	Martin University	State University of New York Fredonia
Central CT State University	Mary Baldwin College	State University of New York Institute of Technology Utica-Rome
Central OR Community College	Marygrove College	State University of New York New Paltz
Centre College	Maryville University Saint Louis	State University of New York Purchase College
Chadron State College	McNeese State University	Stevenson University
Chestnut Hill College	Mercyhurst College	Stonehill College
Christian Brothers University	Mesa State College	Suffolk University
Clarion University PA all campuses	Mesabi Range Community and Technical College	Susquehanna University
Clark State Community College	Metropolitan State College Denver	Sweet Briar College
CO College	Middle TN School of Anesthesia	Taylor University
CO State University all campuses	Mid-South Community College	Thiel College
Cochise College	Midwestern State University	Tohono O'odham Community College
Coe College	Midwestern University (Chicago, IL)	Tri-College University
College of Lake County	Millersville University PA	Troy University main campus
College of Saint Benedict	Millsaps College	Truckee Meadows Community College
College of Saint Elizabeth	Milwaukee School of Engineering	TX A&M University-Texarkana
College of Saint Scholastica	Misericordia University	TX College
College of the Atlantic	Mohave Community College	TX Wesleyan University
College Southern NV	Monmouth College	Tyler Jr. College
College Wooster	Montgomery County Community College	Union Graduate College
Columbia College (Columbia, MO)	Mountain State University	University AK System of Higher Ed.
Columbia College (Columbia, SC)	MS University for Women	University AR Monticello
Columbia College of Nursing	MT State University Billings	University Central MO
Columbus State University	MT Tech College of Technology	University Charleston
Commonwealth Medical College, The	MT University System all campuses	University Consortium for Geographic Information Science
Concord University	Mt. Saint Mary's University	University Dallas
Concordia College (Moorhead, MN)	Muhlenberg College	University Evansville
CUNY Bronx Community College	Nashville State Community College	University Hartford
CUNY Kingsborough Community College	National College of Natural Medicine	University Houston Clear Lake
Cuyahoga Community College all campuses	National-Louis University	University IL Springfield
Dakota State University	NE Indian Community College	University Indianapolis
Del Mar College	Neumann University	University Mary Washington
Dickinson State University	New England School of Acupuncture	University MD Ctr. for Environmental Science
Doane College	Nicholls State University	University MD University College

Dominican University	North GA College & State University	University ME Augusta
Drury University	North IA Area Community College	University NE Kearney
East Stroudsburg University PA	Northampton Community College	University North AL
Eastern Arizona College	Northeast Community College	University of Saint Mary
Eastern IL University	Northeast TX Community College	University of the Incarnate Word
Eastern Mennonite University	Northern MI University	University of the South
Eastern OR University	Northern WY Community College District	University Phoenix
Eastern University	Northwest FL State College	University PR, Cayey
East-West University	Northwest MO State University	University Puget Sound
Eckerd College	Northwestern Health Sciences University	University Redlands
Edison State College	Northwestern MI College	University Rio Grande
Edward Via College of Osteopathic Medicine	Northwestern OK State University	University Sagrado Corazón
El Camino College Compton Ctr.	Northwestern State University	University Tampa
Elgin Community College	NY Institute of Technology all campuses	University West GA
Elon University	NY Law School	University WI-Parkside
Emerson College	Ocean County College	University WI-River Falls
Emporia State University	OH Northern University	University WI-Whitewater
Essex County College	OH Wesleyan University	University S. Naval Academy
Fairleigh Dickinson University all campuses	Orangeburg-Calhoun Technical College	VA Military Institute
Fayetteville Technical Community College	Otterbein University	Valdosta State University
Ferrum College	PA College of Technology	Victoria College
Fitchburg State University	Pace University all campuses	Viterbo University
FL State College Jacksonville	Pacific Lutheran University	VT Technical College
Florence-Darlington Technical College	Pacific States University	Wabash College
Fox Valley Technical College	Paine College	Warren Wilson College
Francis Marion University	Palau Community College	Washburn University
Franciscan University Steubenville	Pasadena City College	Washington and Lee University
Fresno City College	Pearl River Community College	Washington State Community College
Ft. Hays State University	Peninsula College	Waukesha County Technical College
Ft. Lewis College	Pepperdine University Malibu	Weber State University
GA Southwestern State University	Philadelphia College of Osteopathic Medicine	Western Carolina University
Gadsden State Community College	Philadelphia University	Western New England College
Gainesville State College	Philander Smith College	Western University of Health Sciences
Galveston College	Pikes Peak Community College	Westfield State College
Gateway Technical College	Pitzer College	Westminster College (New Wilmington, PA)
Gettysburg College	Plymouth State University	Westmont College
Gonzaga University	Polk State College	Wheaton College (Norton, MA)
Gordon College (Wenham, MA)	Portland Community College	Wheaton College (Wheaton, IL)
Goucher College	Presbyterian College	White Earth Tribal and Community College
Grand View University	Prescott College	Widener University all campuses
Greenville Technical College	Providence College	Wiley College
Hamilton College (Clinton, NY)	Quinsigamond Community College	William Carey University
Hamline University	Radford University	Winona State University
Haywood Community College	Red Rocks Community College	Wofford College
Heartland Community College	Reed College	Worcester State University

**Data obtained from the table of Federal obligations, including American Recovery and Reinvestment Act obligations for science and engineering research and development to universities and colleges, ranked by total amount received, by agency from the FY 2009 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation).

FIGURE 1. Flow Chart for Strengthening Grant Eligibility.

Do you have an appointment at a State Agricultural Experiment Station or a degree granting institution?

```
                    Yes                                              No
                     |                                               |
        Are you eligible for EPSCoR Funds?                     Not Eligible
              |                 |
             Yes               No
              |                 |
          Eligible     Are you at a minority-serving institution? See Part VIII, H for a definition.
                                 |                                           |
                                Yes                                         No
                                 |                                           |
                    Is your institution among the          Is your institution small or mid-sized
                    most successful (see Table 1)?              (total enrollment < 17,500)?
                       |                 |                       |                      |
                      Yes               No                      Yes                    No
                       |                 |                       |                      |
                  Not Eligible       Eligible        Is your institution among the   Not Eligible
                                                      most successful (see Table 1)?
                                                         |                 |
                                                        Yes               No
                                                         |                 |
                                                    Not Eligible       Eligible
```