

Agriculture and Food Research Initiative Competitive Grants Program

Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative

Fiscal Year (FY) 2017 Request for Applications (RFA)

LETTER OF INTENT DEADLINE: Not Applicable

APPLICATION DEADLINE: Varies by Program Area

ELIGIBILITY: See Part III, A of RFA



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, AGRICULTURE, NATURAL RESOURCES AND HUMAN SCIENCES EDUCATION AND LITERACY INITIATIVE

INITIAL ANNOUNCEMENT

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

DATES: If applicable, a Letter of Intent (LOI) must be received by **5:00 p.m. Eastern Time** on the deadline date indicated in the Program Area Descriptions section beginning in Part I, C. (see Part IV, A. for LOI instructions). Please note that a LOI is not required for conference grants. Applications must be received by **5:00 p.m. Eastern Time** on the deadline date indicated in the Program Area Descriptions section beginning in Part I, C. Applications received after this deadline will normally not be considered for funding (see Part IV, C.). Comments regarding this request for applications (RFA) are requested within six months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

STAKEHOLDER INPUT: We at the National Institute of Food and Agriculture (NIFA) seek your comments about this request for applications (RFA). We will consider your 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 your written comments by the deadline set forth in the DATES portion of this notice via email to Policy@nifa.usda.gov. (This email address is only for receiving comments regarding this RFA and *not* for requesting information or forms.) In your comments, please state that you are responding to this RFA.

Visit the [NIFA website](#) to access a factsheet on the Center of Excellence (COE) designation process, including COE criteria, and a list of programs offering COE opportunities in fiscal year (FY) 2017. You may also review a recording of COE outreach webinars held in February and March of 2015. We will update COE webpages as appropriate.

NIFA solicits proposed topics for [Agriculture and Food Research Initiative](#) (AFRI) RFAs from eligible state and national commodity boards on an ongoing basis, pursuant to Section 7404 of the Agricultural Act of 2014 (Pub. L. 113-79). Topics must relate to the established AFRI priority areas, which are plant health and production and plant products; animal health and production and animal products; food safety, nutrition, and health; bioenergy, natural resources, and environment; agriculture systems and technology; and agriculture economics and rural communities (as stated in the 2014 Farm Bill).

NIFA received topics from eligible commodity boards until July 18, 2016, for incorporation into FY 2017 RFAs. Topics submitted by the commodity boards that aligned with NIFA priorities were chosen for inclusion in selected Programs of relevant AFRI RFAs. None of the topics submitted by commodity boards were included in this RFA because the topics did not fit the subject matter of this RFA. The NIFA Fact Sheet on implementation of the commodity boards provision of the 2014 Farm Bill can be found at:

<https://nifa.usda.gov/sites/default/files/resource/Commodity%20Board%20Fact%20Sheet%20P6.pdf>. Additional information on eligibility and how to submit topics for inclusion in future AFRI Requests for Applications can be found at: <http://nifa.usda.gov/commodity-boards>.

EXECUTIVE SUMMARY: The Agriculture and Food Research Initiative (AFRI) is America's flagship competitive grants program that provides funding for fundamental and applied research, education, and extension projects in the food and agricultural sciences. In FY 2017, the National Institute of Food and Agriculture (NIFA) requests applications for the AFRI's Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (ELI) to support:

- professional development opportunities for K-14 teachers and education professionals;
- training of undergraduate students in research and extension; and
- fellowships for predoctoral and postdoctoral candidates.

The anticipated amount available for new grants in this FY 2017 ELI RFA is approximately \$18 million.

This RFA is being released prior to the passage of budget appropriations for FY 2017. Enactment of additional continuing resolutions or appropriations may affect the availability or level of funding for this program.

This notice identifies the objectives for AFRI ELI projects, eligibility criteria, and the application forms and associated instructions needed to apply for an AFRI ELI grant.

Table of Contents

PART I—FUNDING OPPORTUNITY DESCRIPTION	4
A. Legislative Authority and Background	4
B. Purpose and Priorities	4
C. Program Area Description	6
PART II—AWARD INFORMATION	16
A. Available Funding	16
B. Types of Applications	16
C. Project Types	17
D. Grant Types	17
E. Responsible and Ethical Conduct of Research	17
PART III—ELIGIBILITY INFORMATION	18
A. Eligible Applicants	18
B. Request for Determination of Status	19
C. Cost Sharing or Matching	19
D. Center of Excellence	20
PART IV—APPLICATION AND SUBMISSION INFORMATION	22
A. Letter of Intent	22
B. Electronic Application Package	22
C. Content and Form of Application Submission	23
D. Submission Dates and Times	40
E. Funding Restrictions	41
F. Other Submission Requirements	41
PART V—APPLICATION REVIEW REQUIREMENTS	42
A. General	42
B. Evaluation Criteria	42
C. Conflicts of Interest and Confidentiality	43
D. Organizational Management Information	43
E. Application Disposition	43
PART VI—AWARD ADMINISTRATION	44
A. General	44
B. Award Notice	44
C. Administrative and National Policy Requirements	44
D. Responsible and Ethical Conduct of Research	44
E. Expected Program Outputs and Reporting Requirements	44
PART VII—AGENCY CONTACTS	46
PART VIII—OTHER INFORMATION	48
A. Use of Funds; Changes	48
B. Confidential Aspects of Applications and Awards	49
C. Regulatory Information	49
D. Definitions	49
E. Materials Available on the Internet	51
TABLE 1. Most Successful Universities and Colleges	52
TABLE 2. Lowest One Third of Universities and Colleges Receiving Federal Funds	52
FIGURE 1. Flow Chart for Strengthening Grant Eligibility	53

PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

Section 7406 of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246) amended 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 that will provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences, as amended by the 2014 Farm Bill under section 7401. The legislation directed the Secretary to award grants to address priorities in U.S. agriculture in the following six Farm Bill priority 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 the Agriculture and Food Research Initiative (AFRI) is to support research, education, and extension work by awarding grants to solve key problems of local, regional, national, and global importance in sustaining conventional, organic, and urban agricultural systems. These include farm efficiency, profitability and sustainability, ranching, bioenergy, forestry, aquaculture, rural communities and entrepreneurship, human nutrition, mitigating impacts of biotic and abiotic constraints on food production, food safety, mitigating food waste and food loss, physical and social sciences, home economics and rural human ecology, biotechnology, and classical breeding. Through this support, AFRI advances knowledge in both fundamental and applied sciences important to agriculture. It also allows AFRI to support education and extension activities that deliver science-based knowledge to end users, allowing them to make informed, practical decisions. This AFRI RFA is announcing funding opportunities for research, education, extension, or integrated research, education, and/or extension projects.

Food and agricultural systems are under the constraints of a growing population, pressure on natural resources, challenges of climate variability, and complex demands of ensuring nutritional security and food safety in a global economy. Addressing these challenges require

research, education, extension, and integrated programs in concert with agroecological approaches that increase agricultural and natural resource sustainability. The term "sustainable agriculture" (NARETPA, 7 U.S.C. 3103) means a combined 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 agricultural 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. AFRI encourages projects addressing enhancement of sustainability of agricultural systems

NIFA supports global engagement that advances U.S. agricultural goals. To attain the agency's goals for U.S. agriculture, global competence of our nation's agricultural workforce, and safe and nutritious food security in a growing world, NIFA recognizes that collaboration with international partners through AFRI can contribute to advances in U.S. agriculture. In an increasingly interconnected world, these U.S. advances may have global importance. Thus, applications in response to AFRI program RFAs may include collaborations with international partners, but may only be submitted by eligible U.S. institutions. Such applications may include subcontracts to international partners or other institutions and must clearly demonstrate benefits to the U.S. Additional guidance on including international activities is provided on the [AFRI International Partnerships website](#).

Stakeholder Input

For information on stakeholder input related to AFRI program, please visit <https://nifa.usda.gov/resource/afri-stakeholder-feedback>.

Background

AFRI is NIFA's flagship competitive grants programs for addressing critical societal issues, and funding is offered through the Foundational Program, five primary Challenge Areas, and the Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (formerly the NIFA Fellowships program) to promote agricultural research, education, extension, and integrated research, education, and/or extension efforts to address societal challenges.

This AFRI RFA is aligned with Section 7406, Subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) as amended by the [2014 Farm Bill](#) under section 7401.

This AFRI RFA addresses the following six Farm Bill priority areas: A. Plant health and production and plant products; B. Animal health and production and animal products; C. Food safety, nutrition, and health; D. Bioenergy, natural resources, and environment; E. Agriculture systems and technology; and F. Agriculture economics and rural communities.

This AFRI RFA also aligns with Strategic Goals 1, 2, 3, and 4 of the [USDA Strategic Plan](#).

This AFRI RFA aligns with the [USDA Research, Education, and Economics \(REE\) Action Plan](#), and specifically addresses Goal 6.

The AFRI ELI Program is aligned with the [NIFA Strategic plan](#), and specifically addresses Strategic Goal 1: Science (Subgoals 1.1, 1.2, 1.3, 1.4, 1.5, 1.6 and 1.7).

C. Program Area Description

The AFRI Food, Agriculture, Natural Resource, and Human Sciences Education and Literacy Initiative addresses projected shortfalls of qualified graduates in the agricultural, food, and renewable natural resources sectors of the U.S. economy ([Employment Opportunities for College Graduates](#)). Thus, the AFRI ELI has three overarching goals:

- Develop pathways to identify and replicate best practices to engage youth in science, technology, engineering and mathematics (STEM) fields within the food, agriculture, natural resources, and human (FANH) sciences through “Professional Development for Secondary School Teachers and Educational Professionals” (Program Code A7501), described under the Program Area Description in Part 1, C, 1.
- Enhance capacity of institutions to produce graduates with skills needed to address challenges of the 21st Century in FANH sciences through “Research and Extension Experiences for Undergraduates (REEU)” (Program Code A7401), described under the Program Area Description in Part 1, C, 2.
- Advance science by recruiting and retaining the best graduate and post-graduate candidates in the FANH sciences through “Predoctoral Fellowships” (Program Code A7101) and “Postdoctoral Fellowships” (Program Code A7201), described under the Program Area Description in Part 1, C, 3 and Part 1, C, 4, respectively.

The Professional Development for Secondary School Teachers and Education Professional (PD-STEP) program area seeks to increase the number of K-14 teachers and educational professionals trained in FANH sciences. Participating teachers are expected to build their skills necessary for integrating FANH concepts in their classes; explore the opportunities available in the FANH career paths; and forge mentorships with professional and business leaders, and faculty.

The REEU program area promotes research and extension learning experiences for undergraduates such that upon graduation they may enter the agricultural workforce with exceptional skills. This initiative will allow colleges and universities to provide fellowship opportunities for undergraduate students, including those from underrepresented and economically-disadvantaged groups, minority-serving institutions, community colleges, and other universities. Projects may provide students opportunities to: 1) Obtain hands-on experiences; 2) Acquire research and extension skills necessary to join the agricultural workforce or pursue graduate studies in the FANH sciences; 3) Obtain a strong mentoring experience required for success in the FANH sciences; and 4) Gain experience by participating in research and extension projects or programs that deliver science-based knowledge to people, thus, enabling them to make practical decisions. Program delivery may include audiences from community-based to national, and may 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.

The PD-STEP and REEU program areas are consistent with the National Research Council's 2009 report, [Transforming Agricultural Education for a Changing World](#), which recommends that academic institutions should broaden the undergraduate student experience by integrating opportunities to participate in research, education, and extension.

Predocctoral and postdoctoral fellowships program areas serve as a means to develop new scientists and professionals to enter research, education, and extension fields within the FANH sciences. The aim of these fellowships is to cultivate future leaders who are able to solve emerging agricultural challenges of the 21st century.

Total Program Funds – Approximately \$18 million

Key Information Applicable to ALL ELI Program Areas:

- All applications must adhere to the requirements beginning in Part IV.
- Applications from, and collaborations with, minority-serving institutions, small to mid-sized institutions, and/or Experimental Program to Stimulate Competitive Research (EPSCoR) states are encouraged.
- All applications to the AFRI ELI program must be aligned with one of the six AFRI Farm Bill priorities, and must address the stated Program Area Priorities described subsequently.
- All AFRI ELI projects are required to provide opportunities for development of leadership skills which are necessary for preparing students for agricultural related careers in private sector, government and academia. Projects must demonstrably incorporate a leadership development component to ensure that students are equipped with both technical and leadership abilities. Specific activities provided through mentoring must include, but not limited to, incorporation of leadership skills, including critical thinking and problem solving, teamwork and communication skills, and training in ethics and professionalism.
- The AFRI ELI Program anticipates funding projects that demonstrate output and outcome measures, including students that are supported directly, internships, externships, and other experiential learning, and international experiences. Other measures of success include: 1) publications, patents, and workshops; 2) curricula materials, academic programs, recruitment and retention programs, and experiential learning opportunities; 3) collaborations developed among institutions; 4) K-14 teachers and educational professionals who benefit from the projects; 5) measurable changes in student learning or engagement; and 6) measurable changes in the number of graduates in FANH disciplines.
- Indirect costs are not allowed for Predocctoral and Postdoctoral grants only.
- Extension or Integrated Projects that partner with eXtension must include financial support for the Community of Practice core functions as well as project-specific activities.

- See each Program Area description for limitations of budgetary amounts, use of funds, and budget periods.
- If an application is funded from any of the four Program Areas, the Project Director (PD) will be required to attend one PD meeting (two PD meetings for Postdoctoral Fellowships) in Washington, DC, during the performance period of the award. Reasonable travel expenses should be included as part of the project budget.
- In addition to the information on Key Personnel Roles (see Part IV, C, 3. f. 1), clearly describe the roles and responsibilities of the PD, collaborator(s), *etc.* (biographical sketches for key personnel should not be included here). If it will be necessary to enter into formal consulting or collaborative arrangements with others, such arrangements should be fully explained and justified.

Applications are solicited in the following four Program Areas:

1. Professional Development for Secondary School Teachers and Educational Professionals (PD-STEP)

Program Area Code – A7501

Proposed Budget Requests –

- Request must not exceed **\$150,000 total per project (including indirect costs) for project periods of up to 3 years.**
- Funds requested may include, but are not limited to, support: K-14 professional participant stipends and travel; costs of continuing education units; provider personnel salaries; software; and curricula.
- Any single institution may submit a maximum of three grant applications; limit of one award per lead institution.
- Applications with budget requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Types – Research, Education, Extension, or Integrated Projects

Requested Grant Types – Standard Grants and FASE (Strengthening Standard) Grants only

Letter of Intent not required for this program area

Application Deadline – June 28, 2017 (5:00 p.m., Eastern Time)

Program Area Contact – Dr. Victoria LeBeaux, (202) 720-2067; K-14@nifa.usda.gov

Program Area Priority - The PD-STEP program area will support Research, Education, Extension or Integrated Projects that promote faculty expertise and encourage widespread implementation of educational innovation at the K-14 levels in the FANH sciences. This includes projects that contain elements of the human sciences (e.g., disciplines that address issues challenging individuals, youth, families, and communities).

Program Area Additional Information:

- See details for the **REQUIRED Project Summary and Project Narrative format** on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/PD-STEP-Additional-Instructions.pdf>. **Proposals that are not in compliance with these instructions can be excluded from review.**
- In addition to the information on:

- Documentation of Collaboration (see Part IV, C, 3. f. 5), provide evidence of collaboration and contributions amongst the host institution and other institutions from which the teacher participants will be recruited. Examples include letters of support from the Superintendents, Principals and/or Department Heads of the respective schools.
- Biographical Sketch in Part V, 5.2 of the NIFA Grants.gov application guide, indicate the number of continuing education courses developed and taught/trained the number of secondary school educators by the applicant.
- Projects should provide immersive learning experiences for K-14 teachers and educational professionals (counselors, administrators, etc.) to create and replicate best practices to improve student success outcomes within the FANH sciences.
- Only professional development and continuing education activities for current K-14 education professionals are allowed under this program.
- Non-exhaustive examples of professional development projects include:
 - Developing self-sustaining models for professional development that better prepare education professionals to provide outstanding teaching, guidance, institutional structures, etc. that enhance student outcomes in the FANH sciences.
 - Changing instructional approaches to effectively identify skill gaps and address conceptual areas particularly challenging to students.
 - Integrating innovations in science and pedagogy into existing professional development programs (e.g., through hands-on research and extension experiences with partner institutions and labs).
 - Exploring self-sustaining web-based approaches for professional development for education professionals.
 - Other methods to fill the existing gap of professional development in advanced FANH sciences for educational professionals at the K-14 education level.
- Applications that involve participation from industry and nonprofit organizations through collaborating mentors and/or that better connect education professionals, particularly those from low-resource schools, to existing USDA and Federal resources (e.g., USDA Agricultural Research Service, Forest Service, Extension offices, federal labs, open data resources) to enhance student outcomes in the FANH sciences are encouraged.
- In addition to the [AFRI review criteria](#), PD-STEP applications will also be evaluated according to the following program specific criteria:
 - The following elements must be described: institutional long-range goals, identification of a problem or opportunity to be addressed, justification for the project, innovation, advancing educational equity, multidisciplinary and/or problem-based focus, and potential for adoption by other institutions/organizations.
 - Roles of key personnel and mentors (if applicable) are clearly defined.
 - Partnerships with other organizations, industry, and institutions are established with letters of support.
 - Methods for evaluating success of project activities and documenting potential impact against measurable outcomes are suitable and feasible.
 - Project will enhance and sustain human capital beyond the life of the grant.

2. **Research and Extension Experiences for Undergraduates (REEU)**

Program Area Code – A7401

Proposed Budget Requests –

- Requests must not exceed **\$300,000 total per project (including indirect costs) for project periods of up to 4 years.**
- Any single institution can submit a maximum of three grant applications; limit of one award per lead institution.
- Applications with budget requests exceeding the budgetary guidelines will not be reviewed.
- **Project costs must be predominantly for student support**, including items such as participant stipends, housing, meals, travel, and laboratory use fees. Costs in budget categories outside Participant Support must be modest and reasonable.

Requested Project Types – Research, Education, Extension, or Integrated Projects

Requested Grant Types – Standard Grants and FASE (Strengthening Standard) Grants only

Letter of Intent not required for this program area

Application Deadline – June 28, 2017 (5:00 p.m., Eastern Time)

Program Area Contact – Dr. Victoria LeBeaux, (202) 720-2067;
undergraduate@nifa.usda.gov

Program Area Priority – The REEU program area will support Research, Education, Extension, or Integrated Projects that provide undergraduate students with experiential learning opportunities. This includes projects that contain elements of the human sciences (e.g., disciplines that address issues challenging individuals, youth, families, and communities).

Program Area Additional Information:

- See details for the **REQUIRED Project Summary and Project Narrative format** on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/REEU-Additional-Instructions.pdf>. **Proposals that are not in compliance with these instructions can be excluded from review.**
- In addition to the information on:
 - Documentation of Collaboration (see Part IV, C, 3. f. 5), provide letters of commitment of collaboration and contributions amongst the host institution and other institutions from which the undergraduate Fellows will be recruited. Examples include letters of support from the Deans and/or Department Heads of the respective schools 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. Mentor Letter(s) must be included in the Documentation of Collaboration. A letter of commitment from the Primary Mentor is required. If there is more than one Primary Mentor, a letter of commitment must be provided for each primary mentor. The letter(s) from the Primary Mentor(s) must indicate a description of the committed responsibilities and the projected time spent with the undergraduate students throughout the proposed project. If there are Collaborating Mentor(s), letter(s) from those mentor(s) must clearly describe

- their committed responsibilities and the projected time spent with the undergraduate students throughout the proposed project.
- R&R Senior Key Person Profile (see Part IV, C, 3 f 4) a member(s) of the host institution(s) must be listed as the PD(s) on the application under *Project Role Field*, and enter “Mentor” for corresponding scientific mentor(s) for *Other Project Role Category*.
 - Biographical Sketch in Part V, 5.2. of the NIFA Grants.gov application guide, indicate the TOTAL number of undergraduate students directly mentored or trained through experiential learning activities during the past four (4) years
 - Projects should provide opportunities for undergraduate students at colleges and universities, including those from underrepresented and economically disadvantaged groups, veterans, first generation college students, students at minority-serving institutions, community colleges and other universities to obtain hands-on experiences.
 - Non-exhaustive examples of experiential projects include: (a) research and extension apprenticeships, internships, or similar participatory learning within the AFRI Farm Bill priority areas; (b) practicums in agricultural laboratories, farms or Cooperative Extension Programs; (c) externships in the private or public sector; and (d) study abroad focused on global food security issues to develop global competency skills.
 - Participating fellows could also build their skills necessary for graduate studies; explore the opportunities available in academia, business, government and other career paths; and forge mentorships with professional and business leaders and faculty.
 - Applications that involve new collaborations or enhance existing partnerships with community colleges, minority-serving institutions, and other institutions where limited research and extension opportunities in mission-relevant STEM fields are encouraged.
 - Applications that involve industry participation (e.g., through collaborating mentors) and/or that target a FANH science industry where there is a documented shortage of talent or lack of adequate skills preparation for the needs of the industry are encouraged.
 - Projects that will catalyze and result in the implementation of a self-sustaining model for increased/enhanced experiential learning for a diverse undergraduate student population at the host and partner institutions are encouraged.
 - In addition to the [AFRI review criteria](#), REEU applications will also be evaluated according to the following program specific criteria:
 - The following elements must be described: institutional long-range goals, identification of a problem or opportunity to be addressed, justification for the project, innovation, advancing educational equity, multidisciplinary and/or problem-based focus, and potential for adoption by other institutions/organizations.
 - Roles of key personnel and mentors are clearly defined.
 - Partnerships with other organizations, industry, and institutions are established

with letters of support.

- Methods for evaluating success of project activities and documenting potential impact against measurable outcomes are suitable and feasible.
- Project will enhance and sustain human capital beyond the life of the grant.

3. Predoctoral Fellowships

Program Area Code – A7101

Proposed Budget Requests –

- Predoctoral Fellowship requests must not exceed **\$95,000 total per project (including institutional allowance) for project periods of up to 2 years.** Predoctoral Fellowship Grants are not renewable and are limited to a total of \$47,500 per year, for:
 - Stipend - up to \$25,000 per year;
 - Tuition, fees, fringe benefits, supplies, travel, workshops, and publications - up to \$19,500 per year;
 - Institutional allowance (in lieu of indirect costs) – up to \$3,000 per year; indirect costs are not permitted on Predoctoral Fellowship Grant awards;
 - With the exception of the stipend, awarded funds in other budget categories may be carried over from year 1 to year 2. The stipend is capped at \$25,000 per year, and cannot be carried over from year 1 to year 2.
- Applications with budget requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Types – Research, Education, Extension, or Integrated Projects

Requested Grant Type – Predoctoral Fellowship Grants only

Letter of Intent not required for this program area

Application Deadline – June 21, 2017 (5:00 p.m., Eastern Time)

Program Area Contact – Dr. Ray Ali; nifafellows@nifa.usda.gov

Program Area Priority – The AFRI Predoctoral Fellowships program area will support projects with: a) focused research, education, and extension objectives that are aligned with six AFRI Farm Bill priority areas; b) well-developed academic experiences and global competencies; c) productive and interactive mentoring; d) appropriate and applicable training/career development activities; and e) substantive evaluation plans.

Eligible Predoctoral Fellows - The individual must have advanced to candidacy, as per institutional requirements, by **June 21, 2017** (as per CFR 3430.303), and provide documentation from the graduate advisor or the institution by the application deadline. The intent of the NIFA Predoctoral Fellowship Program is to support current doctoral students who are at the stage of conducting dissertation research, ultimately leading to completion of the dissertation and respective terminal degree. Predoctoral students, inclusive of those with baccalaureate and/or masters degrees, who meet the aforementioned criteria, may apply.

Program Area Additional Information:

- See details for the **REQUIRED Project Summary and Project Narrative** format on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/Pre-and-Postdoc-Additional-Instructions-1.pdf>. **Proposals that are not in compliance with**

these instructions can be excluded from review.

- The predoctoral candidate must be the sole PD listed on the Key Personnel form of the application. The mentor should not be listed as a Co-PD. Select “Graduate Student” for the Predoctoral Fellowship applicant and “Other (Specify)” for the corresponding scientific mentor(s).
- Mentor Letter and the Reference Letters must be included in the Documentation of Collaboration. See the details for submission of Mentor Letter and Reference Letters on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/Pre-and-Postdoc-Additional-Instructions-2.pdf>.
- In addition to the information on:
 - Attach Biographical Sketch Field (see Part IV, C, 4 c), applicants must include Grade Point Average (GPA) and Graduate Record Exam (GRE) scores. The Biographical sketch of the Primary mentor (more than one Primary Mentor for integrated project only) should include the number of mentees mentored at least for the last 5 years.
 - Current and Pending Support (see Part IV, C, 4 d), the predoctoral applicant and the scientific mentor(s) (as documentation of on-going work in the mentor's laboratory) must complete current and pending support. This information is only required for the PD (i.e., the student) and the primary mentor.
 - Logic Model and Management Plan (see Part IV, C, 3 f 12), failure to include these components may result in the application not being accepted by the program for evaluation.
- As part of the fellows’ professional development, attendance to other scientific or professional meetings is encouraged.
- At the time of the award and release of funds from NIFA to sponsoring institution, Fellows are required to carry out their projects on a full-time basis (i.e. 100% effort), as specified by the sponsoring institution in accordance with its own policies.
- We highly recommend that applications be submitted through the mentor's institution with the mentor institution listed as the applicant.
- The applicant must identify the functional focus of the fellowship (Research, Education, Extension, or Integrated) leading to a doctoral degree.
- The selection of disciplines to address an issue is to be determined by the prospective applicant in consultation with appropriate mentors.
- Evidence of scholastic achievement should be demonstrated through current doctoral transcript, Graduate Record Exam (GRE) scores, and other academic successes.
- Priority will be given to applications that show a novel and innovative approach that will advance knowledge in targeted discipline(s). Multidisciplinary and transdisciplinary approaches to address AFRI Farm Bill priority areas are encouraged.
- Applications that involve industry participation (e.g., through collaborating mentors) are encouraged.
- Fellows are expected to build the professional skills necessary for career agility; explore opportunities available in academia, industry, government and other career

paths; and forge mentorships with professional and business leaders and faculty.

4. Postdoctoral Fellowships

Program Area Code – A7201

Proposed Budget Requests –

- Postdoctoral Fellowship requests must not exceed **\$165,000 total per project (including institutional allowance) for project periods of up to 2 years** and are not renewable.
 - Funds should be requested primarily for salary support, although other expenditures (e.g., fringe benefits, supplies, travel, workshops, and publications) are allowable costs.
 - Expenditures other than salary support may not exceed \$30,000 per year and must be itemized and properly justified.
 - Institutional allowance, in lieu of indirect costs, not to exceed \$3,000 per year, may be requested within the \$165,000 maximum award limit. Indirect costs are not permitted on Postdoctoral Fellowship Grant awards.
- Applications with budget requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Types – Research, Education, Extension, or Integrated Projects

Requested Grant Type – Postdoctoral Fellowship Grants only

Letter of Intent not required for this program area

Application Deadline – June 21, 2017 (5:00 p.m., Eastern Time)

Program Area Contact – Dr. Ray Ali; nifafellows@nifa.usda.gov

Program Area Priority – The AFRI Postdoctoral Fellowships program area will support projects with: a) focused research, education, and extension objectives that are aligned with AFRI Farm Bill priority areas; b) well-developed academic experiences and global competencies; c) productive and interactive mentoring; d) appropriate and applicable training/career development activities; and e) substantive evaluation plans.

Eligible Postdoctoral Fellows - All doctoral degree requirements must be satisfied no earlier than **January 1, 2014** and no later than **March 21, 2018** (as per CFR 3430.303), documentation from the graduate advisor, graduate committee, or the institution must be provided by the application deadline.

Program Area Additional Information:

- See details for the **REQUIRED Project Summary and Project Narrative format** on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/Pre-and-Postdoc-Additional-Instructions-1.pdf>. **Proposals that are not in compliance with these instructions can be excluded from review.**
- The postdoctoral scholar must be the sole PD listed on the Key Personnel form of the application. The mentor should not be listed as a Co-PD. Select “Post Doctoral” for the Postdoctoral Fellowship applicant. Select “Other (Specify)” for the corresponding scientific mentor(s). Enter “Mentor” for corresponding scientific mentor(s) in the *Other Project Role Category Field*.

- Mentor Letter and the Reference Letters must be included in the Documentation of Collaboration. See the details for submission of Mentor Letter and Reference Letters on the NIFA website at <https://nifa.usda.gov/sites/default/files/resource/Pre-and-Postdoc-Additional-Instructions-2.pdf>.
- At the time of the award and release of funds from NIFA to sponsoring institution, Fellows are required to carry out their projects on a full-time basis (i.e. 100% effort), as specified by the sponsoring institution in accordance with its own policies.
- In addition to the information on Attach Biographical Sketch Field (see Part IV, C, 4 c), applicants must include the date of completion of their terminal degree. The Biographical sketch of the Primary mentor (more than one Primary Mentor if integrated project only) should include the number of mentees mentored at least for the last 5 years.
- Note that the Program Area Additional Information identified for Predoctoral Fellowships also applies to AFRI Postdoctoral Fellowships.
- Although a proposed project may fit in the context of the mentor's existing scientific area, the Postdoctoral Fellowship Grant should initiate an independent scientific program, rather than serve as an extension of ongoing projects in the mentor's laboratory.
- The PD will be required to attend one NIFA AFRI ELI PD meeting in Washington, DC during the performance period of the award. The PD is also required to attend a PD meeting of the Foundational Program Area or a Challenge Area with which the project is most closely aligned during the performance period of the award. Reasonable travel expenses should be included as part of the project budget.

PART II—AWARD INFORMATION

A. Available Funding

Of the amount available to make awards, no less than 30 percent will be made available to fund integrated research, education, and extension projects. Of the AFRI funds allocated to research activities, section 7406 of the FCEA directs 60 percent toward grants for fundamental (or basic) research and 40 percent toward grants for applied research. Of the AFRI funds allocated to fundamental research, not less than 30 percent will be directed toward research by multidisciplinary teams. It is expected that no less than 15 percent of the FY 2017 funds will be made available for Food and Agricultural Science Enhancement (FASE) Grants, and no more than two percent of the funds available for fundamental research will be made available for Equipment Grants.

There is no commitment by USDA to fund any particular application or to make a specific number of awards.

NIFA anticipates \$18 million will be available to support Program Areas in this AFRI RFA that are designed to help solve critical problems across the United States for project durations of up to 2, 3 or 4 years (FY 2017 – FY 2020).

This RFA is being released prior to the passage of an appropriations act for FY 2017. Enactment of additional continuing resolutions or an appropriations act may affect the availability or level of funding for this program.

Funding of projects beyond FY 2017 is contingent upon the availability of funds, and the best interests of the US government. Funding in FY 2017 does not obligate NIFA to any future-year commitments.

The funds will be awarded through a grant. There is no commitment by NIFA to fund any particular application or to make a specific number of awards.

The Automated Standard Applications for Payment System (ASAP), operated by the Department of Treasury's Bureau of the Fiscal Service, is the designated payment system for awards resulting from this RFA. For more information see https://www.fiscal.treasury.gov/fsservices/gov/pmt/asap/asap_home.htm.

B. Types of Applications

In FY 2017, you may submit applications to one of the Program Areas in this RFA as one of the three types of requests: (1) New Application; (2) Renewal Application; and (3) Resubmitted Application.

- (1) **New application.** This is a project application that has not been previously submitted to NIFA. We will review all new applications to ensure they meet administrative requirements and all applications will be competitively evaluated by a review panel using criteria and selection processes described in Part V—Application Review Requirements.

- (2) **Renewal application.** This is a project application that requests additional funding for a project beyond the period that was approved in an original or amended award. Applications for renewed funding must contain the same information as required for new applications; they also must contain a Progress Report (see Project Narrative, Part IV). We must receive the renewal applications by the relevant due dates. We will evaluate renewal applications in competition with other pending applications in the program area priority to which they are assigned, and will be reviewed according to the same evaluation criteria (Part V, B.) as new applications.
- (3) **Resubmitted application.** This is an application that was submitted previously to NIFA but not funded. Project Directors (PDs) must respond to the previous review panel summary (see Response to Previous Review, Part IV, C.). We must receive resubmitted applications by the relevant due dates. We will evaluate resubmitted applications in competition with other pending applications in the program priority area to which they are assigned, and review them according to the same evaluation criteria (Part V, B.) as new applications. A renewal application that was submitted previously but not funded and is being resubmitted is also considered as Resubmitted application; however, PDs must include a Progress Report (see 2 above) and a Response to Previous Review.

C. Project Types

Applicants must propose one of the AFRI project types specified within the relevant program area description beginning in Part I, C. of this RFA. Only project types specifically solicited under each Program Area or Program Area Priority described in Part I, C. of this RFA will be considered for review. A detailed description of the project types available across AFRI is located at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Project-Types.pdf>.

D. Grant Types

Applicants must select the appropriate AFRI grant type specified within the relevant program area description beginning in Part I, C. of this RFA. Only grant types specifically solicited under each program area or program area priority described in Part I, C. of this RFA will be considered for review. A detailed description of the grant types available across AFRI is located at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Grant-Types.pdf>.

E. Responsible and Ethical Conduct of Research

In accordance with sections 2, 3, and 8 of 2 CFR Part 422, 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. Award recipients shall, upon request, make available to NIFA the policies, procedures, and documentation to support the conduct of the training. See <http://nifa.usda.gov/responsible-and-ethical-conduct-research> for more information.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

Applications may only be submitted by eligible entities. Eligibility is linked to the project type. All project types are described beginning in Part II, C.

Applicants must respond to the Program Area priorities and deadlines found in this RFA. Grant recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. Failure to meet an eligibility criterion by the application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award (see Part III B).

1) Research, Education or Extension Projects

Eligible applicants for single-function Research, Education or Extension Projects include: 1) State Agricultural Experiment Station; 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 2 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 (<https://nifa.usda.gov/hispanic-serving-agricultural-colleges-and-universities-hsacu>).

For Integrated Projects, the terms "college" and "university" mean an educational institution in any state which 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) Food and Agricultural Science Enhancement Grants

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

B. Request for Determination of Status

1. Minority–Serving Institution

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.), but does not serve one or more of the minority groups specified in the Definitions section of this RFA (see Part VIII, D.), 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 (if required) and the full application package (Part IV, B.) and we must receive it by the applicable program area or program area priority deadline. The Secretary of Agriculture or designated individual will determine whether the group or groups identified by the institution are eligible as a minority group for the purpose of receiving a Strengthening Grant under this program.

The following information must be provided within the application 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.

2. Multi-Campus Institution

All institutions grouped under one main campus as listed in Table 1, unless located in an Experimental Program to Stimulate Competitive Research (EPSCoR) State (see Part II, D.) 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 Letter of Intent (if required) and the application must include a letter indicating how the institution is independent of the main campus, either through accreditation or administration. In addition, the letter should stipulate that 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 Letter of Intent (if requested) and the completed application (see Part IV, B.).

C. Cost Sharing or Matching

If an 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 (see Part IV, C., 6). See Part VIII, D. for the definition of applied research. NIFA may waive the matching funds requirement for a grant if we determine that:

- (a) The results of the project, while of particular benefit to a specific agricultural commodity, are likely to be applicable to agricultural commodities generally; or

(b) The project involves a minor commodity, the project deals with scientifically important research, and the grant recipient is unable to satisfy the matching funds requirement.

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. Center 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 recognize and provide priority in the receipt of funding to applications from "centers of excellence" that carry out research, extension, and education activities that relate to the food and agricultural sciences. NIFA held listening sessions in July 2014 and accepted written comments from stakeholders to inform NIFA's implementation of the COE provision. Information from the webinars and a summary of the input are available on NIFA's website at <http://nifa.usda.gov/centers-excellence>.

A COE is composed of one or more of the following entities that provide financial or in-kind support to the COE.

- (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 two or more of the entities described in (A) through (H).

COE designation is available only for **standard grant and Coordinated Agricultural Project (CAP) grant** applications. Part IV, C., of this RFA contains additional requirements for COE consideration.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent

If a Program Area or Program Area Priority within this RFA requires a Letter of Intent (LOI), then a LOI is a prerequisite for submission of an application. Refer to the Program Area Descriptions beginning in Part I, C for LOI deadlines for a specific Program Area or Program Area Priorities. For detailed guidance on LOI submission, see [AFRI Letter of Intent Instructions.pdf](#).

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 information about the pre-award phase of the grant lifecycle see <http://www.grants.gov/web/grants/learn-grants/grants-101/pre-award-phase.html>.

New Users of Grants.gov

Prior to preparing an application, we recommend that the Project Director/Principal Investigator (PD/PI) first contact an AR 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 two 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/applicants/adobe-software-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/download-application-package.html> and enter the funding opportunity number

Funding Opportunity Number: USDA-NIFA-AFRI-006354

From the search result, click “Select Package” to access the application package. A Grant Application Package is tied to a particular funding opportunity. You may submit

an application ONLY to the particular funding opportunity to which the Grant Application Package is associated.

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-tools-and-tips.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. Eastern Time).

Have the following information available when contacting Grants.gov:

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

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** you need to prepare for 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 in Part III, Section 3 of the guide (e.g., PDF). 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. Grants.gov does not check for NIFA required attachments or whether 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).

For any 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. Eastern Time, excluding [federal holidays](#).

NOTE: See Part I.C. 1. thru 4. for Program Area-specific instructions relating to Project Summary, Project Narrative, and Predoctoral/Postdoctoral Mentor and Reference Letters. Proposals that are not in compliance with these instructions can be excluded from review.

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. See Part V, Section 2.18 of the NIFA Grants.gov Application Guide for the required certifications and assurances (e.g., Prohibition Against Entities Requiring Certain Internal Confidentiality Agreements).

2. SF 424 R&R Project/Performance Site Location(s)

Detailed information related to the questions on this form is available in Part V, 3 of the NIFA Grants.gov Application Guide.

3. R&R Other Project Information Form

Detailed information related to the questions on this form is available in Part V, 4 of the NIFA Grants.gov Application Guide.

a. Field 7. Project Summary/Abstract – PDF Attachment. Title the attachment as ‘Project Summary’ in the document header and save file as ‘ProjectSummary’

The summary should also include the relevance of the project to the goals of the Program Area Priority within this RFA to which the application is submitted. See Part V. 4.7 of NIFA Grants.gov Application Guide for further instructions and a link to the required form. If relevant, applicants must state in the last sentence of their application’s Project Summary section that the proposal is submitted in response to a specific commodity board topic.

b. Field 8. Project Narrative. - PDF Attachment. Title the attachment as ‘Project Narrative’ in the document header and save file as ‘ProjectNarrative’

For Standard, New Investigator, Coordinated Agricultural Project (CAP), Conference, Strengthening Standard, Strengthening CAP and Strengthening Conference Grant applications, the Project Narrative section 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.

For Predoctoral Fellowship applications, the Project Narrative section may **not exceed a total of 6 pages** with 12-point font and line spacing not exceeding six lines of text per vertical inch,

including all figures and tables. For Postdoctoral Fellowship, REEU, and PD-STEP applications, the Project Narrative section may **not exceed a total of 10 pages** with 12-point font and line spacing not exceeding six lines of text per vertical inch, including all figures and tables.

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.

For Exploratory Research 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. 3.f.6) 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.

The Project Narrative Attachment 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 attachment should include two components: 1) a one-page response to the previous review (containing the previous proposal number in the first line) titled “Response to Previous Review” as the first page of the attachment and 2) the 6-, 7-, 10- or 18-page Project Narrative, as required (see Part IV, C. 3. b., above). The one-page “Response to Previous Review” does not count against the 6-, 7-, 10- or 18-page limit of the Project Narrative.

2) Progress Report (if applicable)

This requirement only applies to the Renewal applications and Resubmitted applications that are Renewal Applications (see Part II B). These applications must include a progress report within the applicable page limitation of the Project Narrative.

In addition, the Project Narrative attachment must have

(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. This section should include in-depth information on the following, when applicable:

- (i) Estimates of the magnitude of the issues and the relevance to stakeholders and ongoing state-federal food and agricultural research, education, and extension programs;
- (ii) The role of stakeholders in problem identification, planning, implementation, and evaluation, as appropriate; and
- (iii) Reasons for performing the work at the proposed institution.

All works cited should be referenced (see Bibliography & References Cited in PART IV, C. 3. c., 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

- 1. Objectives: All applications must include a statement of objectives or specific aims of the proposed project in clear, concise, complete, and logically arranged terms.
- 2. Methods: Explicitly state the procedures or methodology you will apply in the proposed project. This section should include, but not necessarily be limited to, descriptions of:
 - a. Stakeholder involvement, if applicable, in problem identification, planning, implementation, and evaluation;
 - b. Proposed project activities, listed sequentially;
 - c. Techniques to be employed in this project, including their feasibility and rationale;
 - d. Expected results;
 - e. How extension and education activities, if applicable, will be evaluated;
 - f. How data will be analyzed or interpreted;
 - g. Plans to communicate results to appropriate audiences, including relevant scientific peers, stakeholders and the public, as appropriate;
 - h. Pitfalls that might be encountered;
 - i. Limitations to proposed procedures.
- 3. Project Timetable: The proposal should outline all important phases as a function of time, year by year, for the entire project, including periods beyond the grant funding period.

➤ *For Education Project Applications* – In addition to the Project Narrative requirements above, the proposed Education Project should clearly articulate:

- The potential for advancing the quality of education by addressing a specific problem or opportunity;
- The target audience and the level of education addressed;
- The long-term benefits to the institution, including how the institution attributes a high priority to the project and how the project is linked to and supported by the institution's strategic plan;
- A plan for evaluating progress toward achieving project objectives. 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 education activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes; and
- A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.

➤ *For Extension Project Applications –*

- Extension Projects should involve a series of connected learning activities that engage the public in practical problem solving. Programming should be more than a one-time event, a single publication, a one-dimensional activity, or a general public awareness campaign. Together, informal learning activities should be elements in a curriculum-based program that has learning goals and objectives.
- Extension Projects should be connected to both 1) scientific-research based information and 2) science-based teaching techniques and informal education principles.
- In addition to the Project Narrative requirements above, the proposed Extension Project should give emphasis to scholarly principles of engagement and outreach that clearly articulate:
 - The importance of informal education to address a specific local problem or issue;
 - The theoretical basis of informal outreach methods used;
 - Development and/or implementation of a curriculum-based series of connected learning activities (including educational materials) that engage the public in practical problem solving;
 - A plan for evaluating progress toward achieving project objectives. 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 extension activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes; and
 - A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
- AFRI welcomes “community-based” Extension Projects. Community-based programming ranges from a single town to a county, collection of counties, state, or region. Applications with leadership from campus-based faculty specialists that incorporate programming/work of local agents are highly desirable.

- AFRI welcomes (but does not require) Extension Projects that develop content suitable for delivery through eXtension (<https://extension.org/>). This content is for “end users” as opposed to staff development and must align with the eXtension principles, implementation plan, and other requirements presented at <https://extension.org/about/>. Funds may be used to contribute to an existing Community of Practice or to form a new Community of Practice as appropriate.
- *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. Some Program Area Priorities may require all three functions of the agricultural knowledge system, and applicants should consult the relevant Program Description (see Part I, C) for the specific requirements of the Program Area Priority to which they are applying.
 - 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:
 - Stakeholder involvement in project development, implementation, and evaluation, where appropriate;
 - 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
 - A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
 - NIFA encourages (but does not require) Integrated Projects that develop content suitable for delivery through eXtension (<https://extension.org/>).
 - AFRI encourages (but does not require) Integrated Projects that are suitable for 4-H audiences and stakeholder groups while meeting identified program priorities. 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 <http://4-h.org/> 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 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

Only standard grant and CAP grant application may be considered for center of excellence (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 at the end of their Project Narratives and within the page limits provided for Project Narratives, 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).

c. Field 9. Bibliography & References Cited – PDF Attachment. 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.

d. Field 10. Facilities & Other Resources – PDF Attachment. No Page Limit. Title the attachment as ‘Facilities & Other Resources’ in the document header and save file as ‘FacilitiesOtherResources’.

e. Field 11. Equipment – PDF Attachment. No Page Limit. Title the attachment as ‘Equipment’ in the document header and save file as ‘Equipment’.

Describe 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 (see Part IV, C. 6 below).

f. Field 12. Other Attachments

The following instructions are in addition to those noted in Part V 4.12 of the NIFA Grants.gov Application Guide.

- 1) Key Personnel Roles – **PDF Attachment. 2-Page Limit.** Title the attachment as ‘Key Personnel’ and save file as ‘KeyPersonnel’.

☼ *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. 2-Page Limit. Required for all Integrated Project applications. Encouraged for Research, Education, or Extension Project applications.** Title the attachment as ‘Logic Model’ and save file as ‘LogicModel’.

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 before 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 <https://nifa.usda.gov/resource/integrated-programs-logic-model-planning-process>.

- 3) Management Plan – **PDF Attachment. 3-Page Limit. Required for Integrated Project applications. Encouraged for Research, Education, or Extension Project applications.** Title the attachment as ‘Management Plan’ and save file as ‘ManagementPlan’.

The plan is to be clearly articulated and include 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. The plan must also address how the project will be sustained beyond termination of an award.

The management plan must 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 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 (DMP) - **PDF Attachment. 2-Page Limit. Required for Research, Education, Extension, or Integrated Project applications.** Title the attachment as ‘Data Management Plan’ and save file as ‘DataManagementPlan’.

The DMP should clearly articulate how the project director (PD) and co-PDs plan to manage and disseminate data generated by the project. NIFA and reviewers will consider the DMP during the merit review process. NIFA is aware of the need to provide flexibility in assessing DMPs. The DMP should contain the following components.

a. Expected Data Type

Describe the type of data (e.g., digital, non-digital), how they will be generated, and whether the data are primary or metadata. Examples include: for research, lab work, field work and surveys; for education, number of students enrolled/participated, degrees granted, curriculum, and training products; for extension, outreach materials, number of stakeholders reached, number of activities, and assessment questionnaires.

b. Data Format

For data to be readily accessible and usable, it is critical to use an appropriate community-recognized standard and machine readable formats when they exist. The data should preferentially be stored in recognized public databases. Regardless of the format used that data set should contain enough information to allow independent use of the data.

c. Data Storage and Preservation

Data should be stored in a safe environment with adequate measures taken for its long-term preservation. Applicants should describe plans for storing and preserving their data during and after the project and specify the data repositories, if they exist. They should outline strategies, tools, and contingency plans that will be used to avoid data loss, degradation, or damage.

d. Data Sharing and Public Access

Describe your data access and sharing procedures during and after the grant. Provide any restrictions such as copyright, confidentiality, patent, appropriate credit, disclaimers, or conditions for use of the data by other parties.

e. Roles and Responsibilities

Who will ensure DMP implementation? This is particularly important for multi-investigator and multi-institutional projects. Provide a contingency plan in case key personnel leave the project. Also, what resources will be needed for the DMP? If funds are needed, have they been added to the budget request and budget narrative? Projects must budget sufficient resources to develop and implement the proposed DMP.

- 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.

- 6) Preprints – **PDF Attachment. Limited to 2 preprints.** Title the attachment as 'Preprints' in the document header and save file as 'Preprints'.

Preprints 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. Extraneous materials will not be used during the peer review process. Only manuscripts in press for a peer-reviewed journal will be accepted and must be accompanied by letters of acceptance from the publishing journals). Preprints attached in support of the application should be single-spaced. Each preprint must be identified with the name of the submitting organization, the name(s) of the PD(s), and the title of the application.

- 7) Minority-Serving Institution Documentation – **PDF Attachment.** Title the attachment as 'Minorityinfo' in the document header and save file as 'Minorityinfo'.
(a) Letter identifying percentage of applicable minority students.
(b) Request for Determination of Status– see Part III, B.
- 8) Felony Convictions or Tax Delinquent Status Documentation - **PDF Attachment.** Title the attachment as Felony and Tax Certification in the document header and save file as 'FelonyTaxCertification'. See Part V. Section 4.12 of the NIFA Grants.gov Application Guide for instructions regarding mandatory form.

4. R&R Senior/Key Person Profile (Expanded)

Detailed information related to the questions on this form is available in Part V, 5 of the NIFA Grants.gov Application Guide. This section of the guide includes instructions about the people who require senior/key person profile, and details about the biographical sketch and the current and pending support, including a link to the required form for the current and pending support.

A Senior/Key Person Profile should be completed for the PD and each co-PD, senior associate, and other professional personnel, including collaborators playing an active role in the project. Collaborators only providing services or materials should not be listed in the R&R Senior/Key Person Profile. Evidence (letters of support) for this type of collaboration should be provided in the Documentation of Collaboration (see Part IV, C. 3. f. 5).

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 qualifications 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* – **PDF Attachment. 2-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’ followed by the last name of the PD or co-PD such that each biographical sketch file in the application has a distinct file name.**

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. 7. b 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 required form 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, if the 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 project listed for each PD should be indicated as percent effort and not exceeds 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 formula 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 National Research Initiative (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. Part V, 6 also notes the importance and use of the information.

6. R&R Budget

Detailed information related to the questions on this form is available in Part V, 7 of the NIFA Grants.gov Application Guide.

- a. **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.

For grants that require matching funds as specified under Part III, C., the Budget Narrative should include written verification of commitments of matching support (including both cash and in-kind contributions) from third parties. Written verification means:

1. For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized 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.
2. 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 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards", for further guidance and other requirements relating to matching and allowable costs.

- b. 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, Sabbatical, and Equipment Grant applications). The Project Directors for Seed Grant applications are required to attend beginning in the second year of funding. The Project Directors for Exploratory Grant applications are required to attend the investigator meeting near the termination time of the award. Reasonable travel expenses should be included as part of the project budget.

- *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* – These awards will be limited to a total of \$150,000 (including indirect costs) for two years and are not renewable.
- c. **Field H. Indirect Costs** – NIFA is prohibited from paying indirect costs exceeding 30 percent of the total Federal funds provided under each award. This limitation is equivalent to 42.857 percent of the total direct costs of an award. See Part IV, E for additional information.
- d. **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. 3. f. 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 NIFA 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.

e. 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.

f. Matching

Equipment Grants requiring matching funds, as specified in Part III, C., must include a letter in the budget justification signed by the institution’s AR stating that the necessary non-Federal matching funds will be made available from the institution or other source. 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% of federal funds awarded from non-Federal sources. If the institution believes it is eligible for the waiver for matching funds (see Part III, C. for waiver eligibility), the budget justification must include a letter signed by the institution’s AR stating this information. NIFA 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.

For applied Research or Integrated Projects with an applied research component, if a funded project is commodity-specific and not of national scope, the grant recipient is required to match the NIFA funds awarded on a dollar-for-dollar basis from non-federal sources with cash and/or in-kind contributions.

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

Establish the value of applicant contributions in accordance with applicable cost principles. Refer to 2 CFR Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards,” for further guidance and other requirements relating to matching and allowable costs.

7. Supplemental Information Form

Detailed information related to the questions on this form is available 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). Note that accurate entry of the Program (Area Priority) Code Name and Program (Area Priority) Code is extremely important for proper and timely processing of application. Failure to enter this information correctly may result in your application not being retrieved on time for review. If you have a question about which topic area is appropriate for your application, please contact the Program Area Priority Contact.
- b. **Field 8. Conflict of Interest List: PDF Attachment. No Page Limit.** Title the attachment as ‘Conflict of Interest’ in the document header save the file as ‘ConflictofInterest’. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions and a link to the required form.

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.

The required form 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

We recommend that you conduct an administrative review of the application before submission of it via Grants.gov to ensure that it complies with all preparation instructions. An application checklist is included in Part VII of the NIFA Grants.gov Application Guide to assist with this review.

You should check the application for completeness. The application should be checked for the following required items, which may include:

- Project Summary/Abstract
- Project Narrative
- Bibliography & References Cited
- Logic Model for Integrated Program
- Management Plan for Integrated Program
- Data Management Plan
- Facilities & Other Resources
- Curriculum Vitae
- Conflict of Interest Lists
- Current and pending support
- Budget
- Budget Justification

This is not an exhaustive list of required items; it only serves to highlight items that may be overlooked. Failure to include any of the three critical required documents of Project Summary/Abstract, Project Narrative, or Bibliography & References Cited sections as PDF attachment will result in the application not being reviewed or considered for funding by NIFA.

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

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.

1. Letter of Intent

The Letter of intent if applicable, must be received at NIFA by **5:00 p.m. Eastern Time** on the dates indicated in the Program Area Descriptions beginning in Part I, C and in the format specified in Part IV, A.

2. Full Application

Applications must be received by Grants.gov by **5:00 p.m. Eastern Time on the dates indicated in the Program Area Descriptions beginning in Part I, C**. Applications received after this deadline will normally not be considered for funding.

We send email correspondence to the AR regarding the status of submitted applications. We strongly encourage you 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 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, you should cite this number on all future correspondence.**

E. Funding Restrictions

Section 713 of the Consolidated Appropriations Act, 2016 (Pub. L. 114-113) limits indirect costs to 30 percent of the total federal funds provided under each award. Similar language may be included in the FY 2017 appropriation, therefore, when preparing budgets, you should limit your request of 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. See Part V section 7.9 of the NIFA Grants.gov Application Guide for further indirect cost information.

You may not use grant funds awarded under this authority to renovate or refurbish research, education, or extension space; purchase or install fixed equipment in such place; or the plan, repair, rehabilitate, acquire, or construction of buildings or facilities.

F. Other Submission Requirements

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

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

Multiple submissions

In accordance with Part III, Section 5 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 scientific peer-review process will be used to technically evaluate applications that meet the administrative requirements.

We select reviewers based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors:

- 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;
- the need to include experts from various areas of specialization within relevant scientific, education, or extension fields;
- the need to include 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;
- the need to include 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;
- the need to maintain a balanced composition with regard to minority and female representation and an equitable age distribution; and
- the need to include reviewers who can judge the effective usefulness of each application to producers and the general public.

After each peer review panel has completed its deliberations, the responsible program staff will recommend that your project be approved for support from currently available funds or be declined due to insufficient funds or unfavorable review.

NIFA 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 AFRI project for funding.

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

B. Evaluation Criteria

Detailed evaluation criteria for each project types, grant types, exploratory projects and center of excellence are outlined at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Review-Criteria.pdf>. We will use the appropriate evaluation criteria to review applications submitted in response to this RFA.

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. See http://www.nifa.usda.gov/business/competitive_peer_review.html for further information about conflicts of interest and confidentiality as related to the peer review process.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted one-time, with updates on an as-needed basis. This requirement is part of the responsibility determined 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 its 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. Each application that is not selected for funding, including those that are withdrawn, will be retained by the agency for a period of three 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, the information described in [2 CFR 200.210](#).

See <http://www.nifa.usda.gov/business/awards/awardterms.html> to view current NIFA award terms and conditions.

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 may include, but are not limited to, the ones listed on the NIFA web page – <http://nifa.usda.gov/federal-regulations>.

NIFA Federal Assistance Policy Guide—a compendium of basic NIFA policies and procedures that apply to all NIFA awards, unless there are statutory, regulatory, or award-specific requirements to the contrary—is available at <http://nifa.usda.gov/policy-guide>.

D. Responsible and Ethical Conduct of Research

Refer to Part II, E for more information.

E. Expected Program Outputs and Reporting Requirements

The output and reporting requirements are included in the award terms and conditions (see <http://www.nifa.usda.gov/business/awards/awardterms.html> for information about NIFA award terms). If there are any program or award-specific award terms, those, if any, will be identified in the award.

If a project is funded, beginning in the first year of funding, the PD will be required to attend annual investigator meetings (excluding Conference, Sabbatical, and Equipment Grant applications). Seed Grant applications are required to attend beginning in the second year of funding. Exploratory Grant applications are required to attend the investigator meeting near the termination time of the award. Reasonable travel expenses should be included as part of the project budget.

PART VII—AGENCY CONTACTS

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

AFRI Program Office:

Dr. Parag Chitnis, Deputy Director, Institute of Food Production and Sustainability

Dr. Denise Eblen, Deputy Director, Institute of Food Safety and Nutrition

Dr. Muquarrab Qureshi, Deputy Director, Institute of Youth, Family, and Community

Dr. Louis Tupas, Deputy Director, Institute of Bioenergy, Climate, and Environment

Telephone: (202) 401-5022

Fax: (202) 401-6488

E-mail: AFRI@nifa.usda.gov

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

Program Area	Program Area Contact
Professional Development for Secondary School Teachers and Educational Professionals (PD-STEP)	Victoria LeBeaux (202) 720-2067; victoria.s.lebeaux@nifa.usda.gov
Research and Extension Experiences for Undergraduates (REEU)	Victoria LeBeaux (202) 720-2067; victoria.s.lebeaux@nifa.usda.gov
Predoctoral Fellowships	Ray Ali (202)720-2727; rali@nifa.usda.gov
Postdoctoral Fellowships	Ray Ali (202)720-2727; rali@nifa.usda.gov

Administrative/Business Contacts:

Rochelle McCrea

Title: Team Leader

Unit: Office of Grants and Financial Management, Awards Management Division

Location: 2160 Waterfront Centre

[Full Address and Directions](#)

Phone: (202) 401-2880

Fax: (202) 401- 6271

Email: rmccrea@nifa.usda.gov

Sondra Watkins

Title: Team Leader

Unit: Office of Grants and Financial Management, Awards Management Division

Location: 2170 Waterfront Centre

[Full Address and Directions](#)

Phone: (202) 401- 4249

Fax: (202)-401-3237

Email: swatkins@nifa.usda.gov

PART VIII—OTHER INFORMATION

A. 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 Budget or Project Plans

In accordance with [2 CFR 200.308](#), awardees must request prior approval from NIFA for the following program or budget-related reasons:

- (i) Change in the scope or the objective of the project or program (even if there is no associated budget revision requiring prior written approval).
- (ii) Change in a key person specified in the application or the federal award.
- (iii) The disengagement from the project for more than three months, or a 25 percent reduction in time devoted to the project, by the approved project director or principal investigator.
- (iv) The inclusion, unless waived by the federal awarding agency, of costs that require prior approval in accordance with 2 CFR 200 Subpart E—Cost Principles of this part or 45 CFR Part 75 Appendix IX, “Principles for Determining Costs Applicable to Research and Development under Awards and Contracts with Hospitals,” or 48 CFR Part 31, “Contract Cost Principles and Procedures,” as applicable.
- (v) The transfer of funds budgeted for participant support costs as defined in §200.75 Participant support costs to other categories of expense.
- (vi) Unless described in the application and funded in the approved federal awards, the subawarding, transferring or contracting out of any work under a federal award, including fixed amount subawards as described in §200.332 Fixed amount subawards. This provision does not apply to the acquisition of supplies, material, equipment, or general support services.
- (vii) Changes in the approved cost-sharing or matching provided by the non-federal entity.
- (viii) The need arises for additional federal funds to complete the project.
- (ix) NIFA Predoctoral and Postdoctoral Fellowships can be converted to Standard Grants under certain circumstances (e.g., if the Fellow obtains a faculty position). One condition is that the Fellow has completed at least one year in the fellowship. The conversion process commences with a formal request by e-mail from the Project Director indicating objectives completed, funds remaining, timeline involved, etc. If initially agreed upon by the National Program Leader,

additional administrative processes take place (e.g., submission of an application, revised budget, etc.). NIFA reserves the right to approve or deny the conversion request.

The awardee will be subject to the terms and conditions identified in the award. See <http://www.nifa.usda.gov/business/awards/awardterms.html> for information about NIFA award terms.

B. 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 of Agriculture 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. We will retain for three years a copy of an application that does not result in an award. 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.

C. Regulatory Information

For the reasons set forth in the final Rule related Notice to 2 CFR Part 415, Subpart C, 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.

D. 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:

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.

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.

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, Coordinated Agricultural Project and Conference Grant types as well as Seed Grants, Equipment Grants, and Sabbatical Grants.

Transdisciplinary project means a project on which investigators from different disciplines working collaboratively and integrate different disciplines and move beyond discipline-specific approaches to address a common problem.

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 at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Grant-Types.pdf>.

E. Materials Available on the Internet

AFRI program information will be made available on the NIFA website at www.nifa.usda.gov/funding/afri/afri.html. The following are among the materials available on the NIFA website:

1. Stakeholder Input
2. Requests for Applications
3. AFRI Abstracts of Funded Projects
4. AFRI Annual Synopsis
5. Frequently Asked Questions
6. Interagency Programs

TABLE 1. Most Successful Universities and Colleges

Any institution listed in [Table 1](#) is not eligible for Strengthening Grants from the FASE program unless they are located in an EPSCoR state.

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

The lowest one third of universities and colleges receiving Federal funds listed in [Table 2](#) are used to determine eligibility for possible waiver of matching funds requirement for Equipment Grants.

FIGURE 1. Flow Chart for Strengthening Grant Eligibility

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

