

Agriculture and Food Research Initiative Competitive Grants Program

Education and Workforce Development Program

Fiscal Years (FY) 2019 and 2020 Request for Applications (RFA)

LETTER OF INTENT DEADLINE: Varies by Program Area

APPLICATION DEADLINE: Varies by Program Area (See Parts I, C and IV, C)

ELIGIBILITY: See Part III, A of RFA

This RFA solicits applications for two funding cycles (FY 2019 and FY 2020). Applicants considering applying to the second year should check the [AFRI RFA webpage](#) and www.grants.gov after February 6, 2020 for the FY 2020 Funding Opportunity Number and Application Kit, as well as for any programmatic changes.



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

EDUCATION AND WORKFORCE DEVELOPMENT PROGRAM

INITIAL ANNOUNCEMENT

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

DATES FOR LETTERS OF INTENT AND APPLICATIONS: The Program Area Descriptions section in Part I, C identifies the applicability of a Letter of Intent (LOI) and, if applicable, the deadline date for its submission. In these instances, it must be received by **5:00 p.m. Eastern Time** on the deadline date.

This RFA solicits applications for two funding cycles (FY 2019 or FY2020). Applications for FY 2019 funding cycle must be received by **5:00 p.m. Eastern Time** on the deadline dates indicated in Part I, C of this RFA, Program Area Descriptions. Applications for FY 2020 funding cycle must be received by **5:00 p.m. Eastern Time** on the deadline dates indicated in Part I, C of this RFA, Program Area Descriptions.

Applications received after these deadlines will not be considered for funding (see Part IV, C of this RFA). Comments regarding this request for applications (RFA) are requested within six (6) 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 Education and Workforce Development 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 FY 2019.

NIFA solicits proposed topics for [Agriculture and Food Research Initiative](#) (AFRI) RFAs from eligible state and national commodity boards on an ongoing basis. Topics must relate to the established six priority areas for AFRI. NIFA received topics from eligible commodity boards through July 30, 2018, for incorporation into FY 2019 RFAs. Topics submitted by the commodity boards that aligned with NIFA priorities were chosen for inclusion in selected program areas 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. Details on general information and topic submission resources for inclusion in future AFRI RFAs can be found at: <https://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 2019 and FY 2020, the National Institute of Food and Agriculture (NIFA) requests applications for the AFRI's Education and Workforce Development (EWD) Program areas to support:

- professional development opportunities for K-14 educational professionals;
- workforce training at community, junior, and technical colleges;
- training of undergraduate students in research and extension; and
- fellowships for predoctoral candidates and postdoctoral scholars.

The anticipated amount available for new grants in this FY 2019 Education and Workforce Development RFA is approximately **\$29.166 million**. The FY 2020 anticipated amount has not yet been determined.

This RFA solicits Standard Grants and Food and Agricultural Science Enhancement (FASE) Grants, whereas project types solicited in this RFA are Research, Education, Extension, and Integrated Research, Education and/or Extension projects. Grant types and project types solicited vary by program area priority, and not all grant types are solicited within each program area priority. See **Part I, C** (Program Area Descriptions) for grant and project types solicited by each specific program area priority, and **Part II, C** for a description of each individual grant type and project type.

This notice identifies the objectives for the AFRI Education and Workforce Development program including program priorities, deadline dates, funding information, eligibility criteria for projects and applicants, and application forms and associated instructions needed to apply for an AFRI Education and Workforce Development grant.

Significant changes described in this RFA include:

- Name change of Professional Development for Secondary School Teachers and Educational Professionals (PD-STEP) program to Professional Development for Agricultural Literacy (PDAL) program.
- Project funding level and duration in the Professional Development for Agricultural Literacy program.
- Addition of new Agricultural Workforce Training Grants program
- Education Coordination Network addition to the REEU program.
- Project duration in the Predoctoral Fellowship program.

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PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority

Section 2(b) of the Competitive, Special, and Facilities Research Grant Act (hereafter referred to as the Act) (7 U.S.C. 3157), as amended, authorizes the Agriculture and Food Research Initiative (AFRI), a competitive grant program to provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences in the following six 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 the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 3157). The Secretary delegates the authority to the Under Secretary in 7 CFR 2.21 and the Under Secretary delegates it to NIFA.

B. Purpose and Priorities

The purpose of 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 provides funding for research-only, education-only, extension-only, and integrated research, education, and/or extension projects addressing the six priorities identified in Part I, A.

Food and agricultural systems are under the constraints of a growing population, pressure on natural resources, challenges of climate variability and change, and complex demands of ensuring nutritional security and food safety in a global economy. Addressing these challenges requires research, education, extension, and integrated programs in concert with agroecological approaches that increase agricultural and natural resource sustainability. The term "sustainable agriculture" (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 this RFA 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, visit <https://nifa.usda.gov/resource/afri-stakeholder-feedback>.

Background

AFRI is NIFA's flagship competitive grants programs for food and agricultural sciences, and funding is offered through the Foundational and Applied Science, Sustainable Agricultural Systems, and Education and Workforce Development Requests for Applications for addressing critical societal issues.

This AFRI RFA aligns with the following USDA Strategic Goals:

- Goal 2: Maximize the Ability of American Agricultural Producers To Prosper by Feeding and Clothing the World;
- Goal 3: Promote American Agricultural Products and Exports;
- Goal 4: Facilitate Rural Prosperity and Economic Development;
- Goal 5: Strengthen the Stewardship of Private Lands Through Technology and Research;
- Goal 6: Ensure Productive and Sustainable Use of Our National Forest System Lands; and
- Goal 7: Provide All Americans Access to a Safe, Nutritious, and Secure Food Supply.

C. Program Area Descriptions

The AFRI EWD RFA 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](#)). This RFA seeks applications for preparing technology and data-savvy workforce in education, research, extension, farming, and industrial sectors.

Thus, the AFRI EWD has three overarching goals:

1. Enhancing Agricultural Literacy and Workforce Training offers institutional grants for in-service training, in order to provide K-14 educators increased knowledge of food and agricultural science disciplines and career opportunities, and help them develop improved curricula to train agricultural workforce for the future. See Program Area Description in Part 1, C, 1 for “**Professional Development for Agricultural Literacy**” (formerly Professional Development for Secondary School Teachers and Educational Professionals, **Program Code A7501**) and “**Agricultural Workforce Training Grants**” (**Program Code A7601**).
2. Developing Pathways offers undergraduates in food, agriculture, or allied disciplines, the technical and leadership skills required for employment in the food and agricultural sectors or in graduate programs. NIFA will award institutional grants that offer experiential learning opportunities, beyond traditional classroom experience or course work that include but are not limited to internships, externships, practicums, global leadership, and study abroad, in research and extension. These opportunities must be designed to help students develop the critical thinking, problem solving, digital competency, international experiences, and communication skills needed for future employment and/or higher education. See Program Area Description in Part 1, C, 2 for “**Research and Extension Experiences for Undergraduates**” (**Program Code A7401**).
3. Advancing Science supports graduate and post-graduate education in agriculture and related disciplines. NIFA Predoctoral and Postdoctoral Fellowship program areas will continue to support predoctoral candidates and postdoctoral trainees respectively. These Fellowship awards can also enable interested predoctoral candidates and postdoctoral trainees to obtain training in industry and international research on issues relevant to U.S. agriculture. See Program Area Description in Part 1, C, 3 and Part 1, C, 4 for “**Predocorral Fellowships**” (**Program Code A7101**) and “**Postdoctoral Fellowships**” (**Program Code A7201**), respectively.

The Professional Development for Agricultural Literacy (formerly Professional Development for Secondary School Teachers and Education Professionals (PD-STEP)) program area seeks to increase the number of K-14 educational professionals trained in the Food and Agricultural Sciences. Participants are expected to develop skills necessary for integrating food and agricultural science concepts in their classes; explore the opportunities available in food and agricultural science career paths; and/or forge mentorships with professional and business leaders, and faculty.

The Agricultural Workforce Training Grants program area seeks to develop an industry ready workforce within the food and agricultural sciences. Through curriculum development at community, junior, and technical colleges/institutes this program will expand job-based, experiential learning opportunities for students to enable a work-ready labor force for 21st century agricultural jobs.

The Research and Extension Experiences for Undergraduates (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 allows colleges and universities to provide fellowship opportunities for undergraduate students, including those from underrepresented and economically disadvantaged groups, minority-serving institutions, community colleges, and universities. Projects must provide students opportunities to: 1) obtain hands-on experience in research and extension to develop skills necessary to join the agricultural workforce or pursue graduate studies in the food and agricultural sciences; 2) receive a strong mentoring experience required for success in the food and agricultural sciences; and 3) participate in research and extension projects or programs that deliver science-based knowledge to individuals and communities to develop leadership skills, including communication, critical thinking, and problem solving skills, necessary to support decision making and planning. Program delivery may include students located at eligible institutions locally or nationally, and may use in-person, electronic, or a combination of both, as methods of communication. Extension Projects may also include related matters such as certification programs, in-service training, client recruitment and services, curriculum development, instructional materials and equipment, problem identification and program development and delivery, and innovative instructional methodologies appropriate to informal educational programs.

The Predoctoral and Postdoctoral Fellowships program areas help to develop new scientists and professionals to enter research, education, and/or extension fields within the food and agricultural sciences within the private sector, government, or academia. 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 \$29.166 million

Key Information Applicable to all EWD Program Areas:

1. All applications must adhere to the requirements in Part IV.
2. Applications from, and collaborations with, minority-serving institutions, small to mid-sized institutions, and/or Established Program to Stimulate Competitive Research (EPSCoR) states are welcome to these program areas. Applications that include collaborations with international partners are also welcome. For information on NIFA international partnerships that may be of interest to applicants, see <https://nifa.usda.gov/resource/afri-international-partnerships>.
3. All applications to the AFRI EWD program areas must be aligned with one of the six AFRI Farm Bill priorities, and must address the stated Program Area Priorities described subsequently.
4. All AFRI EWD projects are required to provide opportunities for development of leadership skills, which are necessary for preparing students for agriculture related careers in the 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 are not limited to, incorporation of leadership skills, critical thinking, problem solving, teamwork, communication skills, and training in ethics and professionalism.

5. The AFRI EWD program areas anticipate funding projects that demonstrate output and outcome measures, such as number of students that are supported directly or undertaking internships, externships, and other experiential learning and international experiences. Additional measures of success include, but are not limited to: 1) publications, patents, and workshops; 2) development of 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 food and agricultural science disciplines.
6. The AFRI EWD Program Areas encourage projects that train participants with the skills to develop and apply Artificial Intelligence technologies to prepare them for today's economy and jobs of the future.
7. The AFRI EWD Program Areas encourage projects that train participants with the skills relevant to develop and ensure rural prosperity including e-connectivity, quality of life, a rural workforce, technological innovation, and economic development.
8. Extension Projects or Integrated Projects with an extension component that partner with eXtension must include financial support for the Community of Practice core functions as well as project-specific activities.

Applications are solicited in the following four Program Areas:

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

Program Area Code: A7501

Proposed Budget Requests:

- Budgets, including indirect costs, for Standard Grants and Strengthening Standard Grants must not exceed **\$300,000** total per project for project periods of up to four years.
- Funds requested may include, but are not limited to, support 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.
- Food and Agricultural Science Enhancement (FASE) (Strengthening Standard) Grants must adhere to the guidelines outlined beginning in Part II, C(2).
- 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
Application Deadlines:

- **Fiscal Year 2019:** June 13, 2019 (5:00 p.m., Eastern Time)
- **Fiscal Year 2020:** April 28, 2020 (5:00 p.m. Eastern Time)

Program Area Contacts: Dr. Victoria LeBeaux (Lead Program Contact) and Dr. Ray Ali (Program Co-Lead) at (202) 720-2067 or K-14@nifa.usda.gov

Program Area Priority:

- Research, Education, Extension or Integrated Projects must promote faculty expertise and encourage widespread implementation of educational innovation at K-14 levels in the food and agricultural Sciences. This includes projects that contain elements of the human sciences (e.g., disciplines that address issues challenging individuals, youth, families, and communities).
- Projects should provide immersive learning experiences for K-14 educational professionals (teachers, counselors, administrators, etc.) to create and replicate best practices to improve student success outcomes within the food and agricultural sciences.
- Non-exhaustive examples of 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 food and agricultural 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 laboratories).
 - Exploring self-sustaining web-based approaches for professional development for education professionals.
 - Develop improved curricula to train or retrain agricultural workforce for the future.
 - Other methods to fill the existing gap of professional development in advanced food and agricultural sciences for educational professionals at the K-14 education level.

Program Area Additional Information:

- See **Part IV, C** of this RFA for the **REQUIRED** Project Summary and Project Narrative format. Proposals that do not comply with these instructions may be excluded from review and consideration of funding.
- Projects that involve participation from industry and nonprofit organizations through collaborating mentors and/or that connect education professionals, particularly those from low-resource schools, to existing USDA and Federal resources (e.g., USDA Agricultural Research Service, Forest Service, Federal laboratories, open data resources) to enhance student outcomes in the food and agricultural sciences are encouraged.
- As applicable, if the majority of project activities are taking place off-site, off-campus indirect cost rates should be charged. If organized by the program, the Project Director (PD) will be required to attend one NIFA AFRI EWD PD meeting during the

performance period of the award. Reasonable travel expenses must be included as part of the project budget.

- This program area accepts new and resubmitted applications only. Renewal applications are not accepted in this program area.

2. Agricultural Workforce Training Grants

Program Area Code: A7601

Proposed Budget Requests:

- Budgets, including indirect costs, for Standard Grants and Strengthening Standard Grants must not exceed **\$500,000** total per project for project periods of up to five years. Funds requested may include, but are not limited to, support 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.
- Food and Agricultural Science Enhancement (FASE) (Strengthening Standard, New Investigator, Equipment, and Sabbatical) Grants must adhere to the guidelines outlined beginning in Part II, C(2). 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, New Investigator, Equipment, and Sabbatical) Grants only

Letter of Intent Deadlines (See Part IV, A of this RFA for instructions):

- **Fiscal Year 2019:** June 11, 2019 (5:00 p.m. Eastern Time)
- **Fiscal Year 2020:** LOI not required

Program Area e-mail Address for Submission of Letter of Intent: K-14@nifa.usda.gov

Application Deadlines:

- **Fiscal Year 2019:** August 22, 2019 (5:00 p.m., Eastern Time)
- **Fiscal Year 2020:** May 26, 2020 (5:00 p.m. Eastern Time)

Program Area Contacts: Dr. Victoria LeBeaux (Lead Program Contact) and Dr. Ariela Zycherman (Program Co-Lead) at (202) 720-2067 or K-14@nifa.usda.gov

Program Area Priority:

Research, Education, Extension or Integrated Projects must address the following:

- All applications to this program area must provide workforce training in at least one of the six AFRI priority areas.
- Projects should develop curriculum for workforce training in the food and agricultural sciences at community, junior, and technical colleges/institutes.
 - Curriculum development includes and is not limited to creation of curriculum and instructional delivery systems, pilot testing/implementation of curriculum and delivery methods, development of assessment tools, and evaluation.
- Projects of interest include but are not limited to:
 - Curriculum for industry-based training programs/apprenticeships allowing students to ‘earn while they learn’
 - Curriculum for new job-based, experiential learning opportunities that allow students more time working in job simulation or ‘on-the-job’ training environments

- Refreshing existing workforce development curriculum to meet the needs of 21st century agricultural industry

Program Area Additional Information:

- See **Part IV, C** of this RFA for the **REQUIRED** Project Summary and Project Narrative format. Proposals that do not comply with these instructions may be excluded from review and consideration of funding. Projects that involve partnerships with local government, economic development organizations, and workforce-focused nonprofit organizations are encouraged.
- Applications that target low-employment geographic areas or groups are encouraged.
- Self-sustaining projects that will continue after grants funds expire are encouraged. Curriculum for workforce training developed under this program area for a technical certificate, 2-year associates or technical degree or other industry accepted credential is acceptable. (Certificates, training or coursework for/part of baccalaureate or post-graduate degrees IS NOT supported under this program area priority).
- Programs must be developed by or for community/junior/technical colleges/institute and their industry partners. All applications to this program area must demonstrate committed and active partnership with and/or relevance to industry.
- As applicable, if the majority of project activities are taking place off-site, off-campus indirect cost rates should be charged. If organized by the program, the Project Director (PD) will be required to attend one NIFA AFRI EWD PD meeting during the performance period of the award. Reasonable travel expenses must be included as part of the project budget.
- This program area accepts new and resubmitted applications only. Renewal applications are not accepted in this program area.

3. Research and Extension Experiences for Undergraduates (REEU)

Program Area Code: A7401

Proposed Budget Requests:

- **Research and Extension Experiences for Undergraduates (REEU)** budgets, including indirect costs, for both Standard Grants and Strengthening Standard Grants must not exceed **\$400,000** total per project for project periods of four years, or **\$500,000** total per project for project periods of five years.
- **Education Coordinated Network for Research and Extension Experiences for Undergraduates (REEU-ECN)** budgets, including indirect costs, for Standard Grants, and Strengthening Standard Grants addressing the education coordination network priority must not exceed **\$400,000** total per project for project periods of five years.
- Project costs for REEU projects 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 (and may include justified support for the coordination of the program).
- Tuition for course credit and promotional items are not allowable costs in this program.
- Any single institution may submit a maximum of three grant applications; limit of one award per lead institution.
- FASE (Strengthening Standard) Grants must adhere to the guidelines outlined in Part II, C(2) of this RFA.

- 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 Deadlines:

- **Fiscal Year 2019:** June 27, 2019 (5:00 p.m., Eastern Time)
Note: Education Coordinated Network for Research and Extension Experiences for Undergraduates (REEU-ECN) applications will only be accepted in FY 2019.
- **Fiscal Year 2020:** April 07, 2020 (5:00 p.m. Eastern Time)

Program Area Contacts: Dr. Ariela Zycherman (Lead Program Contact) and Dr. Victoria LeBeaux (Program Co-Lead) at (202) 531-0643 or undergraduate@nifa.usda.gov

Program Area Priority:

Projects must provide undergraduate students with experiential learning opportunities that include significant research and/or extension components in the food and agricultural sciences.

- Projects must be aligned with one or more of the six AFRI priority areas.
- Within the Farm Bill priority areas, the REEU program area may also include opportunities for digital and data competency development within the undergraduate research and extension learning experiences.
 - The Food and Agriculture Cyberinformatics and Tools (FACT) initiative recognizes that data in agricultural systems is used to identify solutions and often involves high-dimensional and multi-scale data, machine learning, data visualization, and predictive modeling. Approaches to using data also can require transdisciplinary teams to work across scientific, economic, environmental, and industrial spheres. The FACT Initiative invests in efforts that integrate information technology, computer science, engineering, statistics, business, economics, and social sciences communities with traditional agricultural research, education, extension, as well as agricultural producers and food-system participants. **NOTE:** If a FACT component is included in the proposal, include the acronym “FACT” in the title.

Education Coordinated Network for Research and Extension Experiences for Undergraduates (REEU-ECN)

In addition to the priorities listed above, applications are solicited to develop a network of REEU projects and personnel that will foster national-level coordination of opportunities for students and to enhance collaboration among projects. The REEU program will award a single grant to an institution to maintain the education-coordinated network. The REEU- ECN will provide a clearinghouse for project outputs, data, and documents and it will create and maintain any number of collaboration spaces for REEU project directors and other key personnel to interact and share information, including but not limited to a listserve. The network will also be responsible for organizing the PD meeting in association with NIFA Program Leadership every 18 months to two years. Additionally, the network will create and maintain a portable public facing website, to include information on all funded REEU programs and links to the program websites. Coordination education network proposals should include the acronym “REEU-ECN” in the title. **REEU-ECN will only be offered in FY 2019 and will award a single grant.**

Program Area Additional Information:

- See **Part IV, C** of this RFA for the **REQUIRED** Project Summary and Project Narrative format. Proposals that do not comply with these instructions may be excluded **from** review and consideration of funding.
- Projects must provide opportunities to include hands-on experiences 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 and community colleges.
- Non-exhaustive examples of experiential projects include:
 - Research and extension apprenticeships, internships, or similar participatory learning within the six AFRI Farm Bill priority areas.
 - Practicums in agricultural laboratories, farms, or Cooperative Extension Programs.
 - Externships in the private or public sector.
 - Study abroad focused on global food security issues to develop global competency skills.
- Participating students 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 food and agricultural 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.
- Projects should develop a plan for tracking students, beyond their participation in the program that demonstrates the impacts of the program on career choices and post-graduation employment and/or enrollment in higher education.
- If organized by the program or the coordination network, the PD will be required to attend one NIFA AFRI EWD PD meeting during the performance period of the award. Reasonable travel expenses must be included as part of the project budget.
- Awarded projects are required to maintain a website, linked to a central REEU webpage to be hosted by the REEU Coordinated Education Network, which describes the program, eligibility for student participation, and application guidelines.
- This program area accepts new and resubmitted applications. Renewal applications are disallowed.
- Previously awarded REEU projects that wish to continue their program, should reapply as a new application and include a progress report detailed in **Part IV, C**. These applications will be competed with new and resubmitted applications.

4. Predoctoral Fellowships

Program Area Code: A7101

Proposed Budget Requests:

- Predoctoral Fellowship requests, including institutional allowance, must not exceed **\$180,000** total per project for project periods of up to three years. Predoctoral Fellowship Grants are not renewable and are limited to a total of \$60,000 per year, for the following:
 - Stipend – up to \$35,000 per year;
 - Tuition, fees, fringe benefits, supplies, travel, workshops, and publications – up to \$22,000 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 one to other years. The stipend is capped at \$35,000 per year, and cannot be carried over from year one to the next.
- 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 (FASE) Grants only

Letter of Intent: Not required for this program area

Application Deadlines:

- **Fiscal Year 2019:** July 18, 2019 (5:00 p.m., Eastern Time)
- **Fiscal Year 2020:** June 16, 2020 (5:00 p.m. Eastern Time)

Program Area Contacts: Dr. Ray Ali (Lead Program Contact) and Dr. Joyce Parker (Program Co-Lead) at (202) 720-2727 or nifafellows@nifa.usda.gov

Program Area Priority:

Research, education, extension and integrated research, education and/or extension projects must address all of the following:

- Objectives that are aligned with one or more of the six AFRI priority areas;
- Well-developed academic experiences and global competencies;
- Productive and interactive mentoring plans;
- Appropriate and applicable training/career development activities; and
- Substantive evaluation plans.

Eligible Predoctoral Fellows – The individual predoctoral Project Director (PD) must be a citizen, national, or permanent resident of the United States and, as per CFR 3430.303, have advanced to candidacy, as per institutional requirements, by:

- **Fiscal Year 2019 competition: July 18, 2019**
- **Fiscal Year 2020 competition: June 16, 2020**

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 above criteria, may apply.

Program Area Additional Information:

- See **Part IV, C** of this RFA for the **REQUIRED** Project Summary and Project Narrative format. Proposals that do not comply with these instructions may be excluded from review and consideration of funding.
- 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).
- As part of the Fellows’ professional development, attendance at scientific or professional meetings and experiences in industry or at field locations aimed at the development of skills in the applied sciences are 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, program of study, and/or 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, transdisciplinary, and applied approaches are encouraged.
- Applications that involve industry participation are encouraged.
- Applications that involve international experiences (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.
- If organized by the program, the PD will be required to attend one NIFA AFRI EWD PD meeting during the performance period of the award. Reasonable travel expenses must be included as part of the project budget.
- This program area only accepts new and resubmitted applications. Renewal applications are disallowed.
- Consistent with the program goal of fostering career independence, 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 substantively completes at least 50% of the fellowship performance period (e.g., 12 months for a 24-month award, 18 months for a 36-month award). Note that actual performance may occur prior to the official award start date and must be validated by the AR. The conversion process includes the following:
 - A letter (PDF) from the Project Director indicating objectives completed, funds remaining, timeline involved, etc. Said letter must be signed by the AOR.
 - A letter (PDF) from the mentor attesting to the fellowship accomplishments that

might be considered towards the substantive fellowship performance period requirements (i.e., commencement date of actual performance, time spent on career development and planning/training, mentoring, project planning, etc.).

Email both letters to the National Program Leader. 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. Note: Predoctoral Fellowships cannot be converted into Postdoctoral Fellowships.

5. Postdoctoral Fellowships

Program Area Code: A7201

Proposed Budget Requests:

- Postdoctoral Fellowship requests, including institutional allowance, must not exceed **\$165,000** total per project for project periods of up to two years. These requests are not renewable.
 - Funds must be requested primarily for salary or stipend, and be properly justified.
 - Other expenditures (e.g., fringe benefits, supplies, travel, workshops, and publications) may not exceed \$30,000 per year and must be itemized and properly justified.
 - Institutional allowance (in lieu of indirect costs) – up to \$3,000 per year. 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 (FASE) Grants only

Letter of Intent: Not required for this program area

Application Deadlines:

- **Fiscal Year 2019:** July 18, 2019 (5:00 p.m., Eastern Time)
- **Fiscal Year 2020:** June 16, 2020 (5:00 p.m. Eastern Time)

Program Area Contact: Dr. Ray Ali (Lead Program Contact) and Dr. Joyce Parker (Program Co-Lead) at (202) 720-2727 or nifafellows@nifa.usda.gov

Program Area Priority:

Research, education, extension and integrated research, education and/or extension projects must address all of the following:

- Objectives that are aligned with one or more of the six AFRI priority areas;
- Well-developed academic experiences and global competencies;
- Productive and interactive mentoring;
- Appropriate and applicable training/career development activities; and
- Substantive evaluation plans.

Eligible Postdoctoral Fellows – As per CFR 3430.303, all doctoral degree requirements must be satisfied by:

- **Fiscal Year 2019 competition:** no earlier than **January 1, 2016**, and no later than **April 18, 2020**

- **Fiscal Year 2020 competition:** no earlier than **January 1, 2017**, and no later than **March 16, 2021**

Documentation from the graduate advisor, graduate committee, or the institution must be provided by the application deadline. The postdoctoral project director (PD) must be a citizen, national, or permanent resident of the United States.

Program Area Additional Information:

- See **Part IV, C** of this RFA for the **REQUIRED** Project Summary and Project Narrative format. Proposals that do not comply with these instructions may be excluded from review and consideration of funding.
- 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.
- 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.
- Note that the Program Area Additional Information identified for Predoctoral Fellowships also applies to 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.
- Multidisciplinary, transdisciplinary, and applied approaches are encouraged.
- Applications that involve industry participation are encouraged.
- Applications that involve international experiences (e.g., through collaborating mentors) are encouraged.
- If organized by the program, the PD will be required to attend one NIFA AFRI EWD PD meeting during the performance period of the award. The PD is also required to attend a PD meeting of the Foundational and Applied Science Program Areas or the Sustainable Agricultural Systems Program Area with which the project is most closely aligned during the performance period of the award. Reasonable travel expenses must be included as part of the project budget.
- This program area accepts new and resubmitted applications only. Renewal applications are not accepted in this program area.

PART II—AWARD INFORMATION

A. Available Funding

The anticipated amount available to support the AFRI program in FY 2019 is approximately \$400 million. NIFA anticipates \$29.166 million will be available to support program areas in this AFRI RFA. The FY 2020 anticipated amount has not yet been determined.

Of the total amount available to make awards for the AFRI program, 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, no less than 60 percent will be directed 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 2019 and FY 2020 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 (see Part II, C for information about FASE Grants including Equipment Grants).

Of the \$29.166 million available to support the program areas in this RFA, no less than 11.25% will be made available for FASE grant types under the FASE program.

The funds will be awarded through a grant for performance periods of up to five years. NIFA may choose to issue a grant on a continuation basis. A continuation award is an award instrument by which NIFA agrees to support a specified level of effort for a predetermined period of time with a statement of intention to provide additional support at a future date, provided that performance has been satisfactory, appropriations are available for this purpose, and continued support would be in the best interest of the federal government and the public. 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 2019 and FY 2020, you may submit applications to one of the program areas in this RFA as one of the three types of requests: (1) New Application or (2) 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) **Resubmitted application.** This is an application that was submitted previously to NIFA but not funded. Project Directors must respond to the previous review panel summary (see **Part IV, C**, Response to Previous Review). We must receive resubmitted applications by the relevant due dates. We will evaluate resubmitted applications in competition with other pending applications in the appropriate 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. If you are resubmitting an application, enter the NIFA-assigned proposal number of the previously submitted application in the Federal Identifier (Field 4.a. of the SF 424 (R&R) form).

C. Project Types and Grant Types

1. **Project Types.** Applicants must propose one of the AFRI project types specified within the relevant program area descriptions 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 (Research, Education, Extension, and Integrated Research, Education and/or Extension) available across AFRI is located at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Project-Types.pdf>.
2. **Grant Types.** Applicants must select the appropriate AFRI grant type specified within the relevant Program Area Descriptions 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 (Standard Grants, Coordinated Agricultural Projects, Conference Grants, Collaborative Grants, and FASE Grants) available across AFRI is located at <https://nifa.usda.gov/sites/default/files/resource/AFRI-Grant-Types.pdf>.

D. 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 <https://nifa.usda.gov/responsible-and-ethical-conduct-research> for further information.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

Applications may only be submitted by eligible entities. 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.

Eligibility is linked to the project type as specified below.

1. Research, Education or Extension Projects

Eligible applicants for single-function Research, Education or Extension Projects include: a) State Agricultural Experiment Station; b) colleges and universities (including junior colleges offering associate degrees or higher); c) university research foundations; d) other research institutions and organizations; e) Federal agencies, f) national laboratories; g) private organizations or corporations; h) individuals who are U.S. citizens, nationals, or permanent residents; and i) any group consisting of two or more entities identified in a) through h). Eligible institutions do not include foreign and international organizations.

2. Integrated Projects

Eligible applicants for Integrated Projects include: a) colleges and universities; b) 1994 Land-Grant Institutions; and c) Hispanic-serving agricultural colleges and universities (see <https://nifa.usda.gov/hispanic-serving-agricultural-colleges-and-universities-hsacu>).

For item a) under Integrated Projects, the terms "college" and "university" mean an educational institution in any state which i) 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; ii) is legally authorized within such state to provide a program of education beyond secondary education; iii) provides an educational program for which a bachelor's degree or any other higher degree is awarded; iv) is a public or other nonprofit institution; and v) 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

[Part II, C\(2\)](#) contains the eligibility details for Food and Agricultural Science Enhancement (FASE) Grants. Note that under FASE program, Strengthening Standard Grants are solicited in this RFA.

Applicants must respond to the program area priorities and deadlines found in Part I, C of 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).

B. Request for Determination of Status

1. Minority–Serving Institution

If an institution is applying for a Strengthening Grant (see [Part II, C\(2\)](#)) and wants the Secretary to consider a group, beyond one included in the minority definition (see Part VIII, D), then documentation (see below) must be submitted as part of the requestor’s Letter of Intent (if required) and the full application package (Part IV, C) by the applicable program area or program area priority deadline. The Secretary of Agriculture (or designated individual) will use the information in the documentation to determine whether the group or groups identified are qualified as a minority group for the purpose of receiving a Strengthening Grant under the FASE program (for Strengthening Grants information, refer to <https://nifa.usda.gov/sites/default/files/resource/AFRI-Grant-Types.pdf>).

Documentation for the request for determination as a minority-serving institution must include the following and be provided in the order specified below:

- a. A description of each minority group being submitted for determination;
- b. Data or studies supporting this group’s designation as a minority group; and
- c. 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 following Part VIII, unless located in an Established Program to Stimulate Competitive Research (EPSCoR) state (listed in [Part II, C\(2\)](#)), 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, how the institution is eligible as a small and mid-sized or minority-serving institution due to enrollment, and total federal funds received for science and engineering research and development. The Authorized Representative (AR) must sign the letter.

C. Cost Sharing or Matching

If an applied Research (see **Part VIII, D**) 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. Based on submitted documents, 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. NIFA may waive all or part of the matching requirement if all three of the following criteria are met:

- 1) Application is from 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) The equipment to be acquired costs not more than \$25,000; and
- 3) The equipment has multiple uses within a single research project or is usable in more than one research project. To be considered for this waiver, the budget must include a letter signed by the institution's AR addressing the noted criteria.

D. Center of Excellence

Pursuant to Section 7214 of the Agricultural Act of 2014 (Pub. L. 113-79), 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 on COE provision, and frequently asked questions are available at the NIFA website: <https://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 (1) through (8).

COE designation is available only for the **standard grant** and the **Coordinated Agricultural Project (CAP) grant** applications submitted to the program areas or program area priorities in the Foundational and Applied Science, and Sustainable Agricultural Systems RFAs. If applicable, Part IV, C of the RFA contains additional requirements for COE consideration. Note that CAP grants are not solicited in this RFA.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent

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

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 <https://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 <https://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:

- a. 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 <https://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.
- b. To obtain the application package from Grants.gov, go to <https://www.grants.gov/web/grants/applicants/search-opportunity-package.html> and enter the funding opportunity number where appropriate

Funding Opportunity Number for FY 2019: USDA-NIFA-AFRI-006769

Funding Opportunity Number for FY 2020: Applicants considering applying to the second year should check the [AFRI RFA webpage](#) and www.grants.gov after September 30, 2019 for the FY 2020 Funding Opportunity Number and Application Kit, as well as for any programmatic changes.

Click “Search”. On the displayed page, click the corresponding link to continue. A Grant Application Package is tied to a particular funding opportunity. You may move the forms amongst different Grant Application Packages but you may ONLY submit an application 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 (<https://www.grants.gov/web/grants/support.html>). Grants.gov assistance is also available at:

Grants.gov customer support (<https://www.grants.gov/web/grants/support.html>)

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:

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

C. Content and Form of Application Submission

Application and submission information including page limits and narrative font sizes for AFRI Education and Workforce Development RFA applications are available as a [separate document on the NIFA website](#).

D. Submission Dates and Times

a. Letter of Intent

Letter of Intent is only required for the Agricultural Workforce Training Grants Program for FY 2019 applications.

b. 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 the deadline will normally not be considered for funding. A [reference table of all AFRI deadlines](#) is available on the website.

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 must include:

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

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 1.5 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, B for Grants.gov contact information.

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 1462(a) and (c) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) limits indirect costs for the overall award to 30 percent of Total Federal Funds Awarded (TFFA) under a research, education, or extension grant. The maximum indirect cost rate allowed under the award is determined by calculating the amount of indirect costs using:

- 1) the sum of an institution's negotiated indirect cost rate and the indirect cost rate charged by sub-awardees, if any; or
- 2) 30 percent of TFFA.

The maximum allowable indirect cost rate under the award, including the indirect costs charged by the sub-awardee(s), if any, is the lesser of the two rates.

If the results of number one, is the lesser of the two rates, the grant recipient is allowed to charge the negotiated indirect cost rate on the prime award and the sub-award(s), if any. Any sub-awards would be subject to the sub-awardee's negotiated indirect cost rate. The sub-awardee may charge its negotiated indirect cost rate on its portion of the award, provided the sum of the indirect cost rate charged under the award by the prime awardee and the sub-awardee(s) does not exceed 30 percent of the TFFA.

If the result of number two, is the lesser of the two rates, then the maximum indirect cost rate allowed for the overall award, including any sub-award(s), is limited to 30 percent of the TFFA. That is, the indirect costs of the prime awardee plus the sum of the indirect costs charged by the sub-awardee(s), if any, may not exceed 30 percent of the TFFA.

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 1.5 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 using a review panel.

Scientific Peer Review Process:

We select reviewers for the review panel 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 of NIFA will recommend that your project is either approved for support from currently available funds or declined due to insufficient funds or unfavorable review.

NIFA reserves the right to negotiate with the PD/PI and/or 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 (if applicable) of the review panel comments to the PD after the review process has been completed.

B. Evaluation Criteria

A reviewer's written evaluation entails two levels of assessment. First, the reviewer summarizes how well the application addressed each evaluation criterion. After the application has been assessed for strengths and weaknesses of each criterion, the reviewer then evaluates the overall likelihood that the project will have significant outcome and impact. The written reviews are used to begin panel discussions with other reviewers serving on the peer review panel. Through these discussions, peer review panelists come to consensus on the final ranking of the applications. A

complete description of NIFA's peer review process can be found at the NIFA website: <https://nifa.usda.gov/resource/nifa-peer-review-process-competitive-grant-applications>.

Detailed evaluation criteria for each project types, grant types, exploratory research projects and center of excellence are outlined in the [AFRI Evaluation Criteria](#). 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 <https://nifa.usda.gov/resource/nifa-peer-review-process-competitive-grant-applications> 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 <https://nifa.usda.gov/terms-and-conditions> 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 – <https://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 <https://nifa.usda.gov/policy-guide>.

D. Responsible and Ethical Conduct of Research

Refer to Part II, D for more information.

E. Expected Program Outputs and Reporting Requirements

The output and reporting requirements are included in the award terms and conditions (see <https://nifa.usda.gov/terms-and-conditions> for information about NIFA award terms). If there are any program- or award-specific award terms, they will be identified in the award.

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.

Dr. Louis Tupas, Acting 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 Lead Program Area Priority Contact:

Program Area	Program Area Contact
Professional Development for Agricultural Literacy (PDAL) Grants (formerly Professional Development for Secondary School Teachers and Educational Professionals (PD-STEP))	Lead: Dr. Victoria LeBeaux (202) 720-2067 or K-14@nifa.usda.gov ; Co-Lead: Dr. Ray Ali
Agricultural Workforce Training (AWT) Grants	Lead: Dr. Victoria LeBeaux (202) 720-2067 or K-14@nifa.usda.gov ; Co-Lead: Dr. Ariela Zycherman
Research and Extension Experiences for Undergraduates (REEU)	Lead: Dr. Ariela Zycherman (202) 531-0643 or undergraduate@nifa.usda.gov ; Co-Lead: Dr. Victoria LeBeaux
Predocctoral Fellowships	Lead: Dr. Ray Ali (202) 720-2727 or nifafellows@nifa.usda.gov ; Co-Lead: Dr. Joyce Parker
Postdoctoral Fellowships	Lead: Dr. Ray Ali (202) 720-2727 or nifafellows@nifa.usda.gov ; Co-Lead: Dr. Joyce Parker

Administrative/Business Contacts:

Towana DeShazo

Title: Team Leader, Team III

Unit: Branch I

Location: 2162 Waterfront Centre

[Full Address and Directions](#)

Phone: (202) 401-4155

Fax: (202) 401- 3237

Email: tdeshazo@nifa.usda.gov

Sondra Watkins
Title: Team Leader, Team II
Unit: Branch II
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.

The awardee will be subject to the terms and conditions identified in the award. See <https://nifa.usda.gov/terms-and-conditions> 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

This program is not subject to the provisions 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](#) is provided on the website.

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, 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 (703-532-2300).

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, 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 Team is composed of investigators from multiple disciplines that cross boundaries using holistic approaches to address complex challenges that cannot be solved using single-disciplinary approaches.

USDA EPSCoR States (Established Program to Stimulate Competitive Research, formerly Experimental Program to Stimulate Competitive Research) mean 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 <https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri>. 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 [Most Successful Universities and Colleges](#) 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](#) used to determine eligibility for possible waiver of matching funds requirement for Equipment Grants.

FIGURE 1. Flow Chart for Strengthening Grant Eligibility

The [Flow Chart for Strengthening Grant Eligibility](#) will help to determine your eligibility to apply for strengthening grants.