



GUIDELINES FOR REVIEWING FY 2018 AGRICULTURE AND FOOD RESEARCH INITIATIVE APPLICATIONS

United States
Department of
Agriculture

Research,
Education, and
Economics

National Institute
of Food and
Agriculture

1400 Independence
Avenue SW
Washington, DC
20250

Program Information: Learn more about available or anticipated National Institute of Food and Agriculture (NIFA) competitive grant programs at <http://nifa.usda.gov>. Select “Grants” from the upper navigation bar to find links to full announcements of various programs, including the current Agriculture and Food Research Initiative (AFRI) Request for Applications (RFA, also available at <https://www.nifa.usda.gov/afri-request-applications>).

Conflict of Interest: You must disqualify yourself as a reviewer of an application if you have had one of the following relationships with the Project Director (PD) or other key personnel listed in the application: (1) have ever been a thesis or postdoctoral advisee/advisor; (2) have been a co-author on a publication within the past 3 years, including pending publications and submissions; (3) have been a collaborator on a project within the past 3 years, including current and planned collaborations; (4) for someone in your field, have had a consulting/financial arrangement or other conflict-of-interest in the past 3 years, including receiving compensation of any type (*e.g.*, money, goods, or services); (5) are from the same institution, had previous employment with the institution within the past 12 months, or are being considered for employment at the institution; and (6) have a known family relationship such as a spouse, child, sibling, or parent, or other relationship, such as a close personal friendship, that you think might tend to affect your judgment or be seen as doing so by a reasonable person familiar with the relationship. If you encounter a situation about which you are uncertain, please bring it to the attention of the NIFA National Program Leader for a decision.

Confidentiality: The U.S. Department of Agriculture receives applications in confidence and is responsible for protecting the confidentiality of their submission and contents. For this reason, confidentiality must be maintained; therefore, DO NOT copy, quote, or otherwise use material from this application. If you believe that a colleague can make a substantial contribution to the review, consult with the NIFA National Program Leader before disclosing either the contents of the application or the applicant's name. When you complete the review, please destroy all printed and electronic materials related to the application and maintain its confidentiality. If you are unable to review, please contact the respective NIFA National Program Leader, destroy all printed and electronic materials related to the application, and maintain its confidentiality.

Application Page Limit: For Standard Research, Standard Education, Standard Extension, Standard Integrated, Coordinated Agricultural Project (CAP), Collaborative, Planning/Coordination, Conference, New Investigator, 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. 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. For applications to the Exploratory program within the Foundational Program RFA, 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. For Predoctoral and Postdoctoral 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. For Research and Extension Experiences for Undergraduates (REEU) and Professional Development for Secondary School Teachers and Educational Professionals (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. These page limitations apply regardless of whether figures or tables are included. Additions to the Project Narrative (appendices) are allowed only if they are directly germane to the proposed research and are strictly limited to a total of two preprints. Reviewers are advised that, should these limits be exceeded, only text within the requirements need be read.

Evaluation Criteria: Your review comments will be a critical component of the panel's evaluation and ranking of the application(s). The review panel will consider the details of all comments received for each application. All reviews must be submitted electronically through the Peer Review System (PRS), which can be accessed through the following website: <https://prs.nifa.usda.gov>. More information related to review submission via PRS is provided in an email sent to you by the National Program Leader. The evaluation criteria are listed beginning on the next page for various types of applications.

Evaluation Criteria

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

1. Research Project Applications

These evaluation criteria will be used for the review of all single-function Research Project applications.

a. Scientific Merit of the Application for Research

- 1) Novelty, innovation, uniqueness, and originality;
- 2) Where model systems are used, ability to transfer knowledge gained from these systems to organisms of importance to U.S. agriculture;
- 3) Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
- 4) Clarity and delineation of objectives;
- 5) Adequacy of the description of the undertaking;
- 6) Suitability and feasibility of methodology and Data Management Plan;
- 7) Demonstration of feasibility through preliminary data; and
- 8) Probability of success of the project is appropriate given the level of scientific originality, and risk-reward balance.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

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

c. Project Relevance

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

2. Integrated Project Applications

These evaluation criteria will be used for the review of all multi-function Integrated Project applications.

a. Merit of the Application for Research, Education, and/or Extension

- 1) Project objectives and outcomes are clearly described, adequate, and appropriate. All project components (i.e., research, education, extension) – at least two are required – are reflected in one or more project objectives;
- 2) Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
- 3) Adequacy of the Data Management Plan;
- 4) Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;
- 5) Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
- 6) Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
- 7) Proposed education (teaching) has an impact upon and advances the quality of food and agricultural sciences by strengthening institutional capacities and curricula to meet clearly delineated needs and train the next generation of scientists and educators.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

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

c. Project Relevance

- 1) Documentation that the project is directed toward specific Program Area Priority identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S.

agriculture with respect to natural resources and the environment, human health and well-being, and communities;

- 2) Project components (research, education, and/or extension) – at least two are required – are integrated and necessary to address the problem or issue;
- 3) The proposed work addresses identified stakeholder needs;
- 4) Stakeholder involvement in project development, implementation, and evaluation is demonstrated, where appropriate;
- 5) Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
- 6) For extension or education (teaching) activities, curricula and related products will sustain education or extension functions beyond the life of the project; and
- 7) For extension or education (teaching) activities, the resulting curricula or products share information and recommendations based on knowledge and conclusions from a broad range of research initiatives.

3. Conference Grant Applications

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

4. Exploratory Research Applications

- a. Scientific merit of the proposed activity;
- b. Appropriateness of the grant for developing proof of concept of new and untested ideas including high risk research;
- c. The applicant's previous experience and background along with the proposed activities; and
- d. Relevance of the project to sustainable U.S. agriculture, the environment, human health and well-being, and rural communities.

5. New Investigator and Strengthening Standard Grant Applications

Refer to the review criteria listed above for the applicable Project Type (Research or Integrated) to which the applicant is applying.

6. Sabbatical Grant, Equipment Grant, and Seed Grant Applications

- a. The merit of the proposed activities or equipment as a means of enhancing the capabilities and competitiveness of the applicant and/or institution;
- b. The applicant's previous experience and background along with the appropriateness of the proposed activities or equipment for the goals proposed; and
- c. Relevance of the project to long-range improvements in and sustainability of U.S. agriculture, the environment, human health and well-being, and rural communities.

7. Predoctoral and Postdoctoral Fellowship Applications

- a. Merit of the Application for Research, Education, and/or Extension
 - 1) Novelty, multidisciplinary innovation, uniqueness, originality, and advancing current knowledge;
 - 2) Conceptual adequacy of the research, education, and/or extension, as applicable;
 - 3) Project objectives and outcomes are clearly described and measurable, adequate, and appropriate;
 - 4) Proposed approach, procedures, or methodologies are appropriate, clearly described, suitable, and feasible;
 - 5) The predoctoral or postdoctoral fellow has documented achievement of high educational quality and excellence (e.g., GPA, list of scholarly activities, honors, professional society membership, etc.)
 - 6) Appropriate educational opportunities and curriculum plan for proposed area of study.
 - 7) Novelty and innovation in the training and career development plans supports the career trajectory of the Fellows and provides sufficient time to obtain teaching credentials or competencies

- b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
 - 1) Roles of the Fellow(s), mentor(s), and other key personnel are clearly defined;
 - 2) Assessment of predoctoral or postdoctoral applicants': critical thinking and analytical skills based on organization and details provided in the application; ability to develop into a leader in the food and agricultural sciences; level of maturity of thought, alignment between career goals and objectives and appropriate activities and opportunities presented to achieve those goals; documented achievement of high educational quality and excellence (e.g., GPA, program of study, publications, presentations, awards); appropriate educational opportunities, mentoring, and curriculum plan for proposed area of study;
 - 3) Fellow(s), along with mentor(s) and other key personnel, have sufficient preparation/expertise to ensure successful completion of the proposed project, and where appropriate, partnerships with other relevant disciplines and institutions are established;
 - 4) Evidence provided that the proposed work is original and developed by the applicant in consultation with other key personnel;
 - 5) Evidence that the identified institution has capacity and competence in the proposed area of work and support personnel, facilities, and instrumentation are sufficient;
 - 6) A clear plan is articulated for project management, including time allocated for attainment of objectives, responsibilities for deliverables, and delivery of products;
 - 7) Appropriate mentor engagement and training in research, education, and/or extension is described.

- c. Project Relevance
 - 1) Documentation that the proposed research, education, and/or extension activity is directed toward specific Program Area Priorities identified in this RFA;
 - 2) Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
 - 3) Science-based knowledge, skills, and capabilities gained are related to the NIFA foundational programs and challenge areas and will enhance and sustain human capital beyond the life of the project; and
 - 4) Potential of the proposed project and training in serving as a good foundation for the applicant predoctoral or postdoctoral fellow to complete PhD degrees or provide the requisite, individualized and mentored experiences that will develop his/her research skills that help them become independent and productive scientists.

8. Research and Extension Experiential Learning for Undergraduates Applications

- a. Scientific Merit of the Application for Research, Education, and/or Extension
 - 1) Novelty, multidisciplinary innovation, uniqueness, originality, and advancing current knowledge/practice in student learning;
 - 2) Project objectives and outcomes are clearly described and measurable, adequate, and appropriate;
 - 3) Proposed approach, procedures, or methodologies are appropriate, clearly described, suitable, and feasible;
 - 4) 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, student recruitment plan, multidisciplinary and/or problem-based focus, and potential for adoption by other institutions/organizations.
- b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
 - 1) Roles of key personnel and mentors are clearly defined;
 - 2) Key personnel, have sufficient preparation/expertise to ensure successful completion of the proposed project, and where appropriate, Partnerships with other organizations, industry, and institutions are established with letters of support;
 - 3) Evidence provided that the proposed work is original and developed by the applicant in consultation with other key personnel;
 - 4) Evidence that the identified institution has capacity and competence in the proposed area of work and support personnel, facilities, and instrumentation are sufficient;
 - 5) A clear plan is articulated for project management, including time allocated for attainment of objectives, responsibilities for deliverables, and delivery of products;

- c. Project Relevance
 - 1) Documentation that the proposed research, education, and/or extension activity is directed toward specific Program Area Priorities identified in this RFA;
 - 2) Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
 - 3) Project will enhance and sustain human capital beyond the life of the grant;
 - 4) Any perceived pitfalls and alternative strategies or approaches are addressed.

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

- a. Pedagogical Merit of the Application
 - 1) Novelty, multidisciplinary innovation, uniqueness, originality, and advancing current knowledge/practice in K-14 FANH education;
 - 2) Project objectives and outcomes are clearly described and measurable, adequate, and appropriate;
 - 3) Proposed approach, procedures, or methodologies are appropriate, clearly described, suitable, and feasible;
 - 4) 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.
- b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
 - 1) Roles of key personnel and mentors (if applicable) are clearly defined;
 - 2) Key personnel, have sufficient preparation/expertise to ensure successful completion of the proposed project, and where appropriate, partnerships with other organizations, industry, and institutions are established with letter of support;
 - 3) Evidence provided that the proposed work is original and developed by the applicant in consultation with other key personnel;
 - 4) Evidence that the identified institution has capacity and competence in the proposed area of work and support personnel, facilities, and instrumentation are sufficient;
 - 5) A clear plan is articulated for project management, including time allocated for attainment of objectives, responsibilities for deliverables, and delivery of products;
 - 6) Appropriate participant engagement and training in research, education, and/or extension is described.
- c. Project Relevance
 - 1) Documentation that the proposed research, education, and/or extension activity is directed toward specific Program Area Priorities identified in this RFA;

- 2) Methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
- 3) Project will enhance and sustain human capital beyond the life of the grant.
- 4) Any perceived pitfalls and alternative strategies or approaches are addressed.