Alfalfa and Forage Research Program (AFRP)

FY 2019 Request for Applications (RFA)

APPLICATION DEADLINE: April 5, 2019

ELIGIBILITY: See Part III, A of RFA



United States Department of Agriculture

National Institute of Food and Agriculture

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

ALFALFA AND FORAGE RESEARCH PROGRAM (AFRP)

INITIAL ANNOUNCEMENT

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: This program is listed in the Assistance Listings under the Catalog of Federal Domestic Assistance number 10.330.

DATES: Applications must be received by **5 p.m. Eastern Time** on April 5, 2019 . Applications received after this deadline will normally not be considered for funding (see Part IV, C of this RFA). Comments regarding this request for applications (RFA) are requested within six months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

STAKEHOLDER INPUT: We at the National Institute of Food and Agriculture (NIFA) seek your comments about this 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 stakeholder 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 the Alfalfa and Forage Research Program RFA.

EXECUTIVE SUMMARY: NIFA requests applications for the Alfalfa and Forage Research Program (AFRP) for fiscal year (FY) 2019. The AFRP supports region-based, integrated research and extension projects to expand the use and acreage of alfalfa through increased alfalfa forage or seed yields, forage quality, and profitability. The anticipated amount available for the first year of the two-year grant is approximately $2.1 million supporting total two-year grant amounts up to $500,000. This RFA is being released prior to passage of an appropriations act for FY 2019. Enactment of additional continuing resolutions or an appropriations act may affect the availability and level of funding for this program in the first and second project years.

This notice identifies the objectives for AFRP projects, deadline dates, funding information, eligibility criteria for projects and applicants, and application forms and associated instructions needed to apply for an AFRP grant.

Table of Contents

PART I—FUNDING OPPORTUNITY DESCRIPTION 4
A. Legislative Authority 4
B. Purpose and Priorities 4
C. Program Area Description 4

PART II—AWARD INFORMATION 8
A. Available Funding 8
B. Types of Applications 8
C. Project and Grant Types 9
D. Responsible and Ethical Conduct of Research 9

PART III—ELIGIBILITY INFORMATION 10
A. Eligible Applicants 10
B. Cost Sharing or Matching 10

PART IV—APPLICATION AND SUBMISSION INFORMATION 11
A. Electronic Application Package 11
B. Content and Form of Application Submission 12
C. Submission Dates and Times 17
D. Funding Restrictions 17
E. Other Submission Requirements 18

PART V—APPLICATION REVIEW REQUIREMENTS 19
A. General 19
B. Evaluation Criteria 19
C. Conflicts of Interest and Confidentiality 21
D. Organizational Management Information 21
E. Application Disposition 21

PART VI—AWARD ADMINISTRATION 22
A. General 22
B. Award Notice 22
C. Administrative and National Policy Requirements 22
D. Expected Program Outputs and Reporting Requirements 22

PART VII—AGENCY CONTACT 23

PART VIII—OTHER INFORMATION 25
A. Use of Funds; Changes 25
B. Confidential Aspects of Applications and Awards 26
C. Regulatory Information 26
D. Definitions 26
E. Materials Available on the Internet 26

PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority

The authority for this program is contained in 7 USC 5925(d) (8): High-priority research and extension initiatives.

B. Purpose and Priorities

Alfalfa is the fourth most planted crop in the United States, and is a critical component of dairy feed rations in most of the country. Alfalfa has additional value for soil conservation, biologically fixing atmospheric nitrogen that can be used by subsequent crops grown in rotations, and benefits as a part of wildlife habitats. However, for these additional benefits to be realized, the production of alfalfa must be profitable to farmers through market outlets so they will be willing to maintain or expand the use and acreage of alfalfa.

Alfalfa Forage and Research Program (AFRP) is aligned with the USDA Strategic Goals (www.usda.gov/sites/default/files/documents/usda-strategic-plan-2018-2022.pdf) and specifically addresses Goals 1 (Ensure USDA Programs Are Delivered Effciently, Effectively, With Integrity and a Focus on Customer Service), 2 (Maximize the Ability of American Agricultural Producers To Prosper by Feeding and Clothing the World), 4 (Facilitate Rural Prosperity and Economic Development), and 7 (Provide All Americans Access to a Safe, Nutritious, and Secure Food Supply) respectively.

C. Program Area Description

The AFRP will fund projects that have great potential for producing results that lead to the use and expansion of alfalfa acreage through increased forage or seed yields, forage quality, and profitability. The AFRP program encourages applicants to work through multi-state research teams to address priority regional science needs of the alfalfa industry. By bringing together multi-generational expertise found across multiple universities, federal agencies, and industry organizations, the AFRP seeks to posture alfalfa research for significant contributions to sustainable solutions to future food and agriculture challenges.

NIFA is soliciting applications for the FY 2019 AFRP program that will support projects under two primary program priorities:

Priority One: Agricultural Research and Extension projects to increase alfalfa forage or seed yields, forage quality, and profitability: project funding amounts up to $250,000 each year for two years for a total project budget maximum of $500,000.

1. Reduce biotic and abiotic stresses and costs of production through:
   a) Improved management practices,
   b) Plant breeding, or
   c) Other strategies.
2. Improve alfalfa forage and storage systems to optimize economic returns to alfalfa producers and end-users, particularly milk producers.

3. Develop methods to estimate alfalfa forage yield and quality to support marketing as a livestock feed and instruments to reduce producer risks.

4. Explore novel uses for alfalfa such as in fish feeds, nutritive supplements, high-value chemical manufacturing, or bioenergy.

Priority Two: Life Cycle Analysis (LCA) Research supporting field-to-market opportunities: One project available with a funding amount up to $175,000 each year for two years for a total project budget maximum of $350,000.

Develop a Life Cycle Assessment (LCA) model for an alfalfa production system within the context of a dairy production supply chain. The LCA needs to account for energy, material, and environmental emissions and impacts of each stage of the alfalfa production life cycle (planting, production, harvest). It should include material and energy inputs (i.e., seeds, fertilizer, pesticides, water, fuel, equipment, and infrastructure), outputs (production, co-products, and emissions), processing methods, and transportation. In addition, the project should include partial budget analysis with life cycle costing principles integrated. Barriers to supply chains should be identified.

Teams will need to keep the following in mind when creating the LCA:

- A collaboration of experts in life cycle assessment, alfalfa production agriculture, with experience in crop modeling, and relevant industry stakeholders.
- Data for each model should be clearly identified and grounded in referenced data sources and statistical data where possible.
- The project will need to include multiple production practice scenarios to assess regional variation and aggregated scenarios as appropriate to engender useful results. Production scenarios should consider multiple management practices and the influence of crop rotation as appropriate.
- Alfalfa is a critical component of dairy feed rations in most of the country. Alfalfa production scenarios should be built within the context of the dairy production supply chain such that results and data sets are useful for dairy supply chain modeling.
- Impact categories should include at least life cycle greenhouse gas (GHG) emissions and those related to soil and water management.
- The Partial Budget/Life Cycle Cost model should characterize scenario costs and assess the microeconomic and supply chain cost implications of the range of scenarios (e.g. farm level and life cycle cost implications of regional variation in pesticide application.)
- The results and data sets will be expected to be shared through the USDA National Agricultural Library LCA Commons. The LCA Commons is based on the openLCA data model. Data sets should be formatted for use in openLCA prior to delivery to the LCA Commons. LCA Commons staff should be engaged for specifications upon project inception. (Contact LCA Commons support with questions.)

Identification of Program Area: You must specify in the introductory part of the narrative which of the five areas above are addressed by your proposal. If multiple areas are covered, provide an estimate of the percentage of effort/funds dedicated to each with the sum of percentages equaling 100 percent.

Regional Collaboration: AFRP Research and Extension proposals must pursue regional

collaboration represented through participation of at least two states within the same geographic region and/or states that share a common border between two regions. Regional balance and involvement of new investigators may be taken into consideration during the proposal review process. Geographic regions are defined as:

> **Western**: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
>
> **Central:** Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.
>
> **Eastern:** Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Ohio, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

Proposals must include industry and other stakeholder input in priority setting, project development, and conduct of the research and extension activities from AFRP projects.

The AFRP program seeks to enhance the effectiveness of limited state, federal, and industry resources and accelerate the translation of practices, technology, and information that are developed. Applicants are encouraged to provide evidence of interdisciplinary, multi-state cooperation, and use the expertise and resources of land grant and other colleges and universities, Federal agencies, and private industry to leverage AFRP funding.

Two Year Work Plan: Applicants must submit a two-year work plan with a budget for each of the two years. The two-year work plan and budget will be reviewed, but only the first year of the work plant will be funded in the first year. Funding for the second year will be awarded after a continuation request is submitted, and with appropriate reported progress for the first year. Second year funding is dependent on the FY 2020 annual appropriation from Congress.

Management Plan: Applicants must provide a Management Plan that describes public access to the research results (see Management Plan Section IV.B. 3.c.7).

Information Dissemination Plan: The projects must include well-defined information dissemination, customer, and stakeholder engagement activities that specify your target audience including individuals, market segments, communities, or other groups that will be served by the project. Such engagement efforts must include a detailed plan and schedule for how science-based knowledge and technology will be delivered through formal or informal educational programs such as workshops, field days, and other extension, outreach, and engagement activities, as well as published documents including bulletins, extension guides, germplasm or variety releases, licensing agreements, and/or on-line media.

Technology Readiness Level: Applicants are expected to report the readiness status for commercial use of information or technology components developed through this program for use by growers, seed companies, hay and feed suppliers, or other production system or end-product supply chain participants. As applicable, the readiness status must be reported for the beginning of the project, by identifying information or technology components towards the market place, and the expected

advancement by the end of the project. Proposed accomplishments should be described by documenting progress from one technology readiness level (TRL) tollgate to another. See Crop Research TRL worksheet at: https://nifa.usda.gov/program/agronomic-forage-crops- program.

Project Directors Workshop: As required by the AFRP, successful applicants must attend one project director (PD) meeting during each year of the project. The PD meeting may be held in Washington, DC, or other locations within the Continental United States, in conjunction with other related grant programs, professional meetings. For budget development purposes, applicants are required to request funds to attend such a meeting (see Part IV B, 6.)

NIFA encourages (but does not require) Integrated Research and Extension Projects that develop content suitable for delivery through eXtension (https://extension.org/).

PART II—AWARD INFORMATION

A. Available Funding

The anticipated funding amount available for AFRP grants in FY 2019 is approximately $2.1 million. This RFA is being released prior to the passage of an appropriations act for FY 2019. Enactment of additional continuing resolutions or an appropriations act may affect the availability or level of funding for this program.

The total two-year project budget cannot exceed a maximum of $500,000, with no more than $250,000 for each year for Priority One projects. Priority Two projects cannot exceed a maximum of $350,000, with no more than $175,000 for each year. Total budgets include indirect costs for the entire two-year project period. AFRP intends to fund the second year through a continuation award amendment contingent upon availability of funds for the second year and the success of the project in the first year. There is no commitment by USDA 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, you may submit applications to the AFRP Program as one of the following types of requests:

New application. This is a project application that has not been previously submitted to the AFRP Program. We will review all new applications competitively using the screening for administrative requirements, review panel evaluation of proposals using evaluation criteria and selection process described in Part V—Application Review Requirements.

Renewal application. This is a project application that requests additional funding for a project beyond the period that was approved in an original or amended award. Applications for renewed funding must contain the same information as required for new applications; they also must contain a Progress Report (see Project Narrative, Part IV). We must receive renewal applications by the relevant due dates. We will evaluate renewal applications in competition with other pending applications in the area to which they are assigned and review them according to the same evaluation criteria (Part V, B) as new applications. If you are submitting a renewal application, enter the NIFA-assigned award number of the previously funded application in the Federal field (Field 4 on the form).

Resubmitted application. This is an application that had previously been submitted to the NIFA but not funded. Project Directors (PDs) must respond to the previous review panel summary (see Response to Previous Review, Part IV). We must receive resubmitted applications by the relevant due dates. We will evaluate resubmitted applications in competition with other pending applications in the appropriate area to which they are assigned and review them according to the same evaluation criteria (Part V, B) as new applications. If you are submitting a resubmission

application, enter the NIFA-assigned proposal number of the previously submitted application in the Federal field (Field 4 on the form).

C. Project and Grant Types

1. Project Types

Only projects that integrate research and extension objectives will be considered for Priority One projects. Priority Two projects can be research only.

2. Grant Types

The following is a list of available grant types under this RFA.

(a) Standard. This is an award instrument by which NIFA agrees to support a specified level of effort for a predetermined project period without the announced intention of providing additional support at a future date.

(b) Renewal. This is an award instrument by which NIFA agrees to provide additional funding under a standard award as specified in paragraph (b)(1) of this section for a project period beyond that approved in an original or amended award, provided that the cumulative period does not exceed any statutory time limitation of the award.

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 more information.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

The following groups or individuals are eligible to submit applications for this RFA:

1. State agricultural experiment stations;
2. Colleges and universities;
3. University research foundations;
4. Other research institutions and organizations;
5. Federal agencies;
6. National laboratories;
7. Private organizations or corporations;
8. Individuals who are United States citizens or nationals; or
9. A group consisting of two or more of the entities described in (1) through (8).

Award 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, will preclude NIFA from making an award even if an application is reviewed.

B. Cost Sharing or Matching

The Agriculture Improvement Act of 2018 (HR 2) removed the matching requirements for some NIFA competitive grants imposed by the Agricultural Act of 2014. Therefore, there are changes to the matching requirements for some funds awarded in 2019.

For FY 2019, NIFA does not require matching support for the Alfalfa and Forage Research program and matching resources will not be factored into the review process as evaluation criteria.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Electronic Application Package

Applicants are required to submit applications electronically 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 Authorized Representative (AR, also referred to as Authorized Organizational Representative, or AOR) to determine if the organization is prepared to submit electronic applications through Grants.gov. If not (e.g., the institution/organization is new to the electronic grant application process through Grants.gov), then the one-time registration process must be completed **PRIOR** to submitting an application. It can take as long as 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 two, below, to locate the "NIFA Grants.gov Application Guide."

Steps to Obtain Application Package Materials

To receive application materials:

1. You must download and install a version of Adobe Reader compatible with Grants.gov to access, complete, and submit applications. For basic system requirements and download instructions, see 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.

2. To obtain the application package from Grants.gov, go to https://www.grants.gov/web/grants/applicants/download-application-package.htmland enter the funding opportunity number where appropriate

   Funding Opportunity Number: USDA-NIFA-OP-006691

   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 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 the following locations:

Grants.gov customer support
800-518-4726 Toll-Free or 606-545-5035
Business Hours: 24 hours a day, 7 days a week. Closed on federal holidays. Email: support@grants.gov

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

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

B. Content and Form of Application Submission

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

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

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

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

1. **SF 424 R&R Cover Sheet**

Information related to the questions on this form is dealt with in detail in Part V, 2 of the NIFA Grants.gov Application Guide. See Part V, Section 2.18 of the NIFA Grants.gov Application

Guide for the required certifications and assurances (e.g., Prohibition Against Entities Requiring Certain Internal Confidentiality Agreements).

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

3. **R&R Other Project Information Form**
Detailed information related to the questions on this form is available in Part V, 4 of the NIFA Grants.gov Application Guide.

a. Field 7. Project Summary/Abstract.
The summary should also include the relevance of the project to the goals of AFRP. See Part V. 4.7 of NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

b. Field 8. Project Narrative.
NOTE: The Project Narrative shall not exceed 18 pages of written text and up to three additional pages for figures and tables. We have established this maximum (18 pages) to ensure fair and equitable competition. The Project Narrative must include all of the following:

i. Introduction. Identify which of the five program areas you are applying for and the approximate percentage (%) of your project in each area if multiple areas are addressed. (Be sure to separate percentages between 1a, 1b, and 1c as well.) Clearly state the high priority need of the alfalfa industry, who will benefit and how they will benefit, and the specific goals of the proposed research. Summarize the body of knowledge or other past activities related to your proposed research, citing the work of key project personnel or others that is relevant to the project. Preliminary data or information pertinent to the proposed research should be included in this section. If the proposed research builds on work of any past cycles of AFRP funding, describe how the proposed work is distinct from earlier research and/or will add value to the earlier research. Describe the qualifications of key personnel, adequacy of facilities, and the project management capability of the applicant institution.

ii. Rationale and Significance. Concisely present the rationale behind the proposed research as it relates to the use and expansion of alfalfa acreage through increased forage or seed yields, forage quality, and profitability. This section should address:
    - The priority-setting process and method of engaging stakeholder involvement in problem identification, planning, implementation of the research, evaluation, and utilization of results.
    - Describe any coordination of the research in national or regional efforts, and how this research complements other similar work conducted by land grant and other universities, Federal agencies, and industry.
    - Discuss the contributions and/or novel ideas that the proposed project offers.
    - For renewal applications, this section should include a progress report as described in section vii of this field.

iii. Objectives: Include a list of project objectives.

iv. Approach. Describe how you will address each stated objective. Include in your approach:
- Methods to be used in carrying out the research and extension components.
- Means by which results will be analyzed, assessed, and interpreted.
- A detailed description of how you will communicate your findings and transfer technologies to intended users (Information Dissemination Plan).
- A clear description of each team members' role and responsibility to the project.
- For the entire project, a timeline that outlines all-important phases as a year-by-year function of time, including periods beyond the grant funding period.

v. Expected outcomes and benefits. Projects must include a clear description of the expected accomplishments, and how research's progress and benefits (outputs and outcomes) will be tracked and measured. This section can include:
- Anticipated specific uses for your results or products.
- Specific changes in knowledge about alfalfa forage or seed crops and their performance that will directly result from your research. Also, present the status and expected advancement of information or technology components towards the market place measured as technology readiness level (TRL, see Part IV B 3(c) field 12).
- Performance measures such as number of new alfalfa acres planted, increased seed sales, relative changes in land use, enhanced sustainability of production systems, or change in market share.
- Estimated increases in profit or risk reductions from growing alfalfa, or other quantitative measures of impact in crop or livestock production.
- Describe the potential long-term benefits of utilizing the new technology based on current knowledge and practice, and the estimated impact on the alfalfa industry and American agriculture.

vi. This requirement only applies to Resubmitted Applications as described in Part II, B (Resubmission project type). The Project Narrative is to include two components: 1) a one-page maximum response to the previous review (containing the previous proposal number in the first line) titled "Response to Previous Review" as the first page of the Narrative and 2) the 18 page Project Narrative, as required (see Part IV, C. 3. b., above). The additional one-page "Response to Previous Review" does not count against the 18-page limit of the Project Narrative. This is required for all applications previously submitted to this program.

vii. This requirement only applies to Renewal Applications (see Part II B). Renewal applications must provide a progress report within section ii of the Project Narrative, detailing, for each objective of the original project award: (1) project activities, both completed and continuing; (2) results and outputs from those activities; and (3) significant outcomes and impacts. The report should be embedded into the project narrative and not bring the narrative to more than the maximum 18 pages. There are no extra pages given for the progress report. Additionally, please include the NIFA proposal number or award number from the original project.

NOTE: Appendices to the Project Narrative are allowed if they are directly germane to the proposed project. Do not add appendices to circumvent the page limit.

c. Field 12. Add Other Attachments
See Part V. Section 4.12 of the NIFA Grants.gov Application Guide (Field 12 on the form) for instructions for this field.

Data Management Plan. A Data Management Plan (DMP) is required and is to clearly articulate how the project director (PD) and co-PDs plan to manage and disseminate the data generated by the project. The DMP will be considered during the merit review process (see Part V, B.). **See PART III Section 3.1 of the NIFA Grants.gov Application Guide for NIFA attachment specifications.**

The requirements for preparation and inclusion of a DMP in your application is included on the following web page, https://nifa.usda.gov/resource/data-management-plan-nifa-funded-research-projects. Also included on the web page are FAQs and information about accessing examples of DMPs.

Technology Readiness Level (TRL) (Mandatory filled form, in addition to project narrative): It is mandatory that applicants include information on the readiness status for commercial use of information or technology components developed through this program. Each project is required to submit a project level technology readiness table in addition to individual readiness levels for each technology the project addresses. In addition, the technology development will be paired with outcomes that will create a full project view of the commercial value of the project's objectives. Details on how this information is required to be formatted can be found within the Crop Research TRL Worksheet, available on the NIFA website: https://nifa.usda.gov/program/agronomic-forage-crops-program.

Management Plan (Mandatory, 1-2 pages, in addition to project narrative): The management plan is to be clearly articulated and include an organizational chart, administrative timeline, and a description of how the project will be governed, as well as a strategy to enhance coordination, collaboration, communication, and data sharing and reporting among members of the project team. The plan must also address how the project will be sustained beyond termination of an award, if relevant.

The management plan should describe how the quality, expected measurable outcomes, and potential impacts for the proposed research and extension project would be evaluated. Please include rationale for each role, and how the individual will function effectively to support the goals and objectives of the project. The plan must demonstrate how partners contribute to project assessment.

In addition, applications must provide a description and budgeted plan for releasing germplasm, cultivars, or other genetic resources that is compliant with the *Research Terms and Conditions* that govern NIFA-funded projects in the areas of plant breeding, genetics and genomics. The terms and conditions can be found at: www.nsf.gov/pubs/policydocs/rtc/agencyspecifics/nifa_1014.pdf. The following sections are particularly relevant: Genetic Resources from Outside of the U.S (page 5); Patents and Inventions including Plant Variety Protection (pages 6-8); and Release of Animal or Plant Genome Sequence Data and Distribution of Animal or Plant Genomic Resources, and the Release or Distribution of Plant Germplasm (pages 10-12).

4. **R&R Senior/Key Person Profile (Expanded)**
Detailed information related to the questions on this form is available in Part V, 5 of the NIFA Grants.gov Application Guide. This section of the guide includes instructions about senior/key person profile requirements, and details about the biographical sketch and the current and pending support, including a link to a suggested template for the current and pending support.

5. **R&R Personal Data –** As noted in Part V, 6 of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award. Part V.6 also notes the importance and use of the information. However, NIFA strongly recommends applicants to provide the requested information to help NIFA identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PDs/PIs and co-PDs/PIs. Information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. The information you submit will be kept confidential and will be used only for tracking and statistical purposes necessary to meet the demands of the agency and will not be part of the review process.

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

Indirect Costs
For further information and instructions regarding indirect costs, refer to Part V, section 7.9 of the NIFA Grants.gov Application Guide. For indirect cost funding restrictions, refer to Part IV, D. of this RFA.

Project Director Workshop
The AFRP requires successful applicants or a designee to attend an annual project director workshop. For the purposes of budget development, applicants are required to request funds for travel for attending these workshops. The request for these funds should be clearly indicated in the budget narrative section of the application.

7. **Supplemental Information Form**
Detailed information related to the questions on this form is available in Part VI, 1 of the NIFA Grants.gov Application Guide.

a. Field 2. Program to which you are applying. Enter the program code name (i.e., enter "**Alfalfa and Forage Research Program**") and the program code (i.e., enter "**AFRP**"). Note that accurate entry of the program code is very important for proper and timely processing of an application.

b. Field 8. Conflict of Interest List. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

8. **Representations Regarding Felony Conviction and Tax Delinquent Status for Corporate Applicants**

This is a required form for corporate applicants. See Part VI, 2 of the NIFA Grants.gov

Application Guide for a description of the term, "corporation," and detailed information related to the questions on the form

C. Submission Dates and Times

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

This is not an exhaustive list of required items; it only serves to highlight items that are often overlooked. The checklist should be used in addition to this to ensure your application is complete. Please double check you have included the following items:

- Resubmitted projects only: Response to previous review;
- Renewal projects only: Progress Report;
- Crop Research Technology Readiness Level (TRL) description of information and technology advancement;
- Management Plan;
- Data Management Plan;
- Current and Pending Support forms for each PD and Co-PD;
- Signed Tax and Felony Certification Form; and
- Two-year budget and associated narrative.

Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.
Applications must be received by Grants.gov by **5 p.m. Eastern Time on April 5, 2019** . Applications received after this deadline will normally not be considered for funding.

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

We send email correspondence to the AR regarding the status of submitted applications. 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.**

D. Funding Restrictions

Section 713 of the Consolidated Appropriations Act, 2018 (Pub. L. 115-141) limits indirect costs to 30 percent of the total federal funds provided (or 42.857 percent of total direct costs) under

each award. Similar language may be included in the FY 2019 appropriation, therefore, when preparing budgets, you should limit your request for the recovery of indirect costs to the lesser of your institution's official negotiated indirect cost rate or the equivalent of 30 percent of total Federal funds awarded. See Part V section 7.9 of the NIFA Grants.gov Application Guide for further indirect cost information.

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

E. Other Submission Requirements

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

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

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 technical review panel will evaluate applications that meet the administrative requirements.

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

- the level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities;
- the need to include experts from various areas of specialization within relevant scientific, education, or extension fields;
- the need to include other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs;
- the need to include experts from a variety of organizational types (e.g., colleges, universities, industry, state and federal agencies, and private profit and non-profit organizations) and geographic locations;
- the need to maintain a balanced composition with regard to minority and female representation and an equitable age distribution; and
- the need to include reviewers who can judge the effective usefulness of each application to producers and the general public.

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

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

We will send copies of reviews, ***not*** including the identity of reviewers, and a summary of the 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. These 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 rating and ranking of proposals. 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.

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

1. **Design** (60 points). Each of the following components should be considered:
    - The application's methodologies and analytical approaches are appropriate to project objectives, have high scientific merit and effectively integrate the research and extension activities. (25 pts)
    - The application demonstrates a "whole systems approach"; that is a compelling understanding of the problem(s) it will address, the regional production system as a whole, and how the proposed solution(s) will contribute to both. (5 pts)
    - Project is well planned and potentially attainable within project time, scope, and budget. (10 pts)
    - Awareness of previous or alternative approaches are identified and explained when necessary. Even if a single component is the focus of the project, the proposal must provide a thorough analysis of the broader systems context for why that component is critical. (5 pts)
    - A clear division between past work and future work should be described, especially if a project is a renewal (the Crop Research TRL can be used to explain the differences in past and proposed future research.) (5 pts)
    - Project feasibility, or likelihood it will help maintain and expand the use of alfalfa grown in the U.S. and advance the science. (10 pts)
    - Innovative projects are encouraged.
2. **Outreach plan** (20 points). Application includes a detailed extension engagement and outreach plan and schedule for how 1) team interacts with interested communities (e.g., producers, extension specialists and consultants, or other supply chain participants) to understand need, and 2) new genetic materials, information, knowledge, and technology will be delivered to those served by the project. A description of how extension outreach impacts will be measured and reported is also included.
3. **A regional, interdisciplinary, and industry-engaged approach** (10 points). The application documents the necessary collective expertise in biological sciences, physical sciences, engineering, socio-economic sciences, extension, and program evaluation, as well as participation from principal stakeholders and partners. Qualifications of project personnel are clearly demonstrated. How these experts collaborate to reach project goals, increasing the sustainability, productivity and profitability of the alfalfa industry, should be well described.
4. **RFA alignment** (5 points). Application clearly states which RFA research area(s) will be addressed, and the specified objectives are relevant to RFA purpose and priorities.
5. **Appropriateness of budget** (5 points). Budget allocations should reflect the personnel and tasks associated with the activities needed to accomplish the objectives. The budget plan should describe how this program's funding complements other funding sources including Federal capacity and competitive funds, and state, industry, and other kinds of support.

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 AFRP 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.

Responsible and Ethical Conduct of Research

Refer to Part II, D for more information.

D. 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 programs or award-specific award terms, they will be identified in the award.

Proposal requirement changes: Please note this year progress reports within the proposal for renewal applications will not be allowed extra pages. In addition, a technology readiness level form must be submitted with each project.

PART VII—AGENCY CONTACT

Applicants and other interested parties are encouraged to contact:

Programmatic Contact –
Ann Marie Thro
Title: National Program Leader
Unit: Institute of Food Production and Sustainability
Location: 3192 Waterfront Centre
Full Address and Directions
Phone: (202) 401-6702
Fax: (202) 401-6156
Email: athro@nifa.usda.gov

Alternate Programmatic Contact –
Megan O'Reilly
Title: Program Specialist
Unit: Institute of Food Production and Sustainability
Location: 3414 Waterfront Centre
Full Address and Directions
Phone: (202) 445-5410
Fax: (202) 401-1782
Email: moreilly@nifa.usda.gov

Jeffrey Steiner
Title: Division Director
Unit: Institute of Food Production and Sustainability
Location: 3131 Waterfront Centre
Full Address and Directions
Phone: (202) 734-1067
Fax: (202) 401-6156
Email: jeffrey.steiner@nifa.usda.gov

Administrative/Business Contact –
Susan Bowman
Title: Branch Chief
Unit: Awards Management Branch I
Location: 2240 Waterfront Centre
Full Address and Directions
Phone: (202) 401-4324
Fax: (202) 401-6271
Email: sbowman@nifa.usda.gov

Adriene Woodin
Title: Branch Chief
Unit: Awards Management Branch II
Location: 2182 Waterfront Centre
Full Address and Directions

Phone: (202) 401-4320
Fax: (202) 401-6271
Email: awoodin@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 sub awarding, transferring or contracting out of any work under a federal award, including fixed amount sub awards as described in §200.332 Fixed amount sub awards. 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 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

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.

Partnership requires that all partners have a substantial involvement in the project throughout the life of the project. If a partnership between multiple entities is proposed, the proposal must clearly identify the following:

1. A narrative of each entity's clearly established role in the project;
2. How each entity involved as a partner on the project will contribute to execution of project objectives, determine experimental design, develop the project work plan and time table, and submit collaborative, timely reports; and
3. A comprehensive project budget that reflects each entity's financial or in-kind contribution to the total project budget costs.

E. Materials Available on the Internet

AFRP program information is available on the internet in two different places. Specific program information on contacts and RFA updates are available on the NIFA Website at https://nifa.usda.gov/funding-opportunity/alfalfa-and-forage-research-program. More general information on Forage programs, in additional to instructions on the Technology Readiness Level can be found at https://nifa.usda.gov/program/agronomic-forage-crops-program.