National Institute of Food and Agriculture International Wheat Yield Partnership Program

MODIFICATION: On page 2 and 11 (1/8/2016). Updated Appropriation Language.

FY 2016 Request for Applications (RFA)

LETTER OF INTENT DEADLINE: March 1, 2016
APPLICATION DEADLINE: May 3, 2016

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

NIFA - INTERNATIONAL WHEAT YIELD PARTNERSHIP (NIFA-IWYP) PROGRAM

INITIAL ANNOUNCEMENT

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

DATES: Letter of Intent (LOI) must be received by **5:00 p.m. Eastern Time** (ET) on **March 1, 2016.** Applications must be received by **5:00 p.m. Eastern Time** on **May 3, 2016**. 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 6 months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

STAKEHOLDER INPUT: The National Institute of Food and Agriculture (NIFA) seeks your comments about this RFA. We will consider the comments when we develop the next RFA for the program, if applicable, and we'll use them to meet the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). Submit written stakeholder comments by the deadline set forth in the DATES portion of this Notice via e-mail to: Policy@nifa.usda.gov. (This e-mail address is intended only for receiving comments regarding this RFA and not requesting information or forms.) In your comments, please state that you are responding to the NIFA International Wheat Yield Partnership Program RFA.

Visit the NIFA website to access a factsheet on the Center of Excellence (COE) designation process, including COE criteria, and a list of programs offering COE opportunities in fiscal year 2016. You can also review a recording of COE outreach webinars held in February and March of 2015 from the site. The COE webpages will be updated throughout FY 2016 with additional information, such as a summary of comments received from stakeholders.

EXECUTIVE SUMMARY: NIFA in coordination with the International Wheat Yield Partnership (IWYP), requests applications for fiscal year (FY) 2016 to seek breakthroughs for cereal breeding using new technologies and also discoveries that lead to significantly greater grain size, grain set and grain filling duration following embryo formation, in diverse environments, without compromising grain protein concentration in Triticeae species. The anticipated amount available for NIFA to support this program in FY 2016 is approximately $3,446,000. NIFA intends to provide additional support of approximately $12 million during FY 2017-2019. The intent of future funding provides an anticipated total amount of funding of approximately $15.4 million to support this program during FY 2016-2019, provided appropriations are available for this purpose.

This notice identifies the objectives for NIFA-IWYP projects, the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for a NIFA-IWYP grant.

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PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

Section 7406 of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246) amends section 2(b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) to authorize the Secretary of Agriculture to establish the Agriculture and Food Research Initiative (AFRI), a competitive grant program that will provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences. The legislation directed the Secretary to award grants to address priorities in United States agriculture in the following areas:

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

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

B. Purpose and Priorities

NIFA aims to support the G20 nations' Wheat Initiative which is committed to coordinate wheat research in the areas of genetics, genomics, physiology, breeding and agronomy internationally. One of the Wheat Initiative's key aims – increasing the genetic component of wheat yield and developing new wheat varieties adapted to different geographical regions – will be delivered by the International Wheat Yield Partnership (IWYP) – an international partnership of research funders and research organizations that includes the Biotechnology and Biological Sciences Research Council of the United Kingdom (BBSRC), Grains Research and Development Corporation of Australia (GRDC), United States Agency for International Development (USAID), United States Department of Agriculture - Agricultural Research Service (USDA-ARS), Department of Biotechnology of India (DBT), International Maize and Wheat Improvement Center, in Spanish, Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT), Agriculture and Agri-Food Canada (AAFC), Institut National de la Recherche Agronomique (INRA), and Syngenta Foundation for Sustainable Agriculture (SFSA).

NIFA's programs are intended to promote advances in U.S. food, agriculture and forestry. Agriculture, for instance, is increasingly worldwide in scope and reach. If appropriate, applicants to NIFA-IWYP may include international partnerships or engagement in proposals. In doing so, applicants are to keep in mind that any international activity included in a proposal (e.g., partnerships, exchanges, training, travel) must first and foremost support NIFA-IWYP program goals. Applicants must clearly describe and demonstrate how international activities proposed in

the application will contribute to and support the objectives and desired outcomes within the United States while also benefiting the international partner.

The NIFA International Wheat Yield Partnership Program directly aligns with the Research, Education, and Economics Action Plan (http://www.ree.usda.gov/ree/news/USDA_2014_REE_Action_Plan_08-2014_Final.pdf) and specifically addresses the following goals: Goal 1 – Sustainable Intensification of Agricultural Production, Subgoals 1A, 1B, and 1C (which focus on Crop Production, Health, Genetics, Genomics, Genetic Resources, and Biotechnology); Goal 2 – Responding to Climate and Energy Needs, Subgoal 2A. Responding to Climate Variability; and Goal 4 - Nutrition and Childhood Obesity.

The NIFA International Wheat Yield Partnership Program is aligned with the NIFA Strategic plan (http://nifa.usda.gov/about/pdfs/strat_plan_2014.pdf), and specifically addresses Strategic Goal 1 (Science), by advancing our Nation's ability to achieve global food security and fight hunger (Subgoal 1.1).

The NIFA International Wheat Yield Partnership Program aligns with the USDA Strategic Plan (http://www.ocfo.usda.gov/usdasp/sp2014/usda-strategic-plan-fy-2014-2018.pdf), and specifically addresses; Strategic Goal 3, Help America Promote Agricultural Production and Biotechnology Exports as America Works to Increase Food Security; Objective 3.1, Ensure U.S. Agricultural Resources Contribute to Enhanced Global Security.

C. Program Description

NIFA is requesting applications for the NIFA-IWYP Program under the following program area:

Program Name: NIFA International Wheat Yield Partnership
Program Code: A1142
Letter of Intent Deadline: March 1, 2016 (5:00 PM EST)
E-mail Address for Submission of Letter of Intent: NIFA-IWYP@nifa.usda.gov
Application Deadline: May 3, 2016 (5:00 PM EST**)**
Proposed Budget Requests -

- Standard Grants must not exceed $333,000 per year including indirect costs for project periods of 3 years (up to $1 million total per project, including indirect costs).
- Coordinated Agricultural Projects (CAP) must not exceed $2.0 million per year including indirect costs for project periods of 5 years (up to $10 million total per project, including indirect costs).

Requested Project Type: Research, Integrated
Requested Grant Type: Standard grants; CAP grants; Strengthening Standard grants; Strengthening CAP grants.
Program Area Contact: Ed Kaleikau, (202) 401-1931 or ekaleikau@nifa.usda.gov; and Liang-Shiou Lin, (202) 401-5045 or llin@nifa.usda.gov

NIFA, in alignment with the International Wheat Yield Partnership (IWYP), invites research and integrated proposals in the area of increasing the genetic yield potential of wheat, as defined by "grain yield in the absence of stress".

NIFA-IWYP Program will focus on 2 priority areas: (1) Standard grants using new technologies to enable breakthroughs for cereal breeding and; (2) CAP grants for breakthrough discoveries that lead to significantly greater grain size, grain set and grain filling duration following embryo formation, in diverse environments, without compromising grain protein concentration in Triticeae species.

(1) Standard Grant projects: Technologies are being developed that have the ability to unlock wheat genetics and breeding and to exploit the wheat genome to a much greater extent than is currently possible. Exploiting such technologies could lead to a step change in wheat production. Recent significant advances in basic plant biology has enabled application of this knowledge to crop systems such as wheat. However, wheat has a particularly complex genetic system being an allopolyploid. Therefore transformative research will be required before products can be developed that can be fully exploited by commercial wheat breeders. A standard grant application must be focused on substantial improvements through the use of new technologies applied in cereals, and includes but is not limited to:

- The deployment of genome editing technologies to create novel variation that leads to significant increases in the genetic yield potential of wheat. This does not include mitigating biotic or abiotic stresses.

  New technologies for the precise "editing" of specific genomic regions have opened up extraordinary and far reaching opportunities. There is an opportunity in both strategic and applied cereal breeding programs to target defined changes in specific genes and thereby alter and optimize some of the many underlying physiological pathways that affect yield performance in wheat.

- Photosynthesis – high impact changes in the deposition of carbon compounds during plant development (not those resulting from biotic or abiotic stress tolerance).

  The ability to radically alter the control of photosynthesis and the pathways of carbon deposition into various metabolites and storage molecules in cereals such as wheat could achieve new yield potential. The identification of genetic variation affecting these complex characters should allow the generation of novel ideotypes with ideal architectures and high harvest indices. A research program that includes discoveries that lead to a better understanding of how nitrogen supply brings about patterns of carbon fixation and deposition would also be very valuable.

- High throughput production of double haploids from all wheat genotypes.

  There is a need for innovative technologies that enable the creation of double haploid wheat via high throughput and reproducible mechanisms that can be controlled and manipulated and/or are largely genotype independent. Developed methods need to be amenable to widespread deployment to wheat breeding programs around the world.

- Development of methods of measuring yields and other important phenotypic traits in field plots using new technologies.

  The use of remote sensing technologies, including Unmanned Aerial Vehicles (UVAs) and multispectral cameras, has opened up the opportunity of taking measurements across fields that can be processed to provide estimates of crop yields and quantify other specific traits. The advances in this technology are progressing but need to be further refined and reduced to efficient practice with optimal precision for routine use in wheat breeding programs. Research that focuses on technologies and software that efficiently and accurately interprets the digital data collected would be extremely valuable.

- Development of practical systems for facile implementation of hybrid wheat breeding programs leading to commercial production of hybrids.

  Wheat researchers have attempted to capitalize on and optimize heterosis to increase yields. However, several key components need to be developed in wheat to enable widespread production of hybrid wheat. Potential areas of research challenges include: determination of heterotic groupings; identification of the most efficient breeding methods for parental development, e.g., genome wide selection; more widely applicable and efficient CMS and fertility restoration systems; defining the most favorable parental ideotypes and associated necessary traits for reliable and efficient commercial scale hybrid seed production; and be able to accurately predict which parents could generate the most beneficial heterosis for specific traits.

(2) Coordinated Agricultural Projects (CAP): The primary emphasis for CAP applications will be to seek breakthrough discoveries that lead to significantly greater grain size, grain set and grain filling duration following embryo formation, in diverse environments, without compromising grain protein concentration. <u>CAP grant applications should largely focus on substantial improvements in spike/grain sink dynamics, and includes but is not limited to</u>:

- Discovery of genetic variation and the underlying genes that increase floret number, grain number, and grain size.
- Development of genetic tools for genetic discoveries that facilitate breeding of improved grain traits.
- Enhanced carbon capture where increased carbohydrates are then available to improve grain formation and development.
- Maximization of spike photosynthesis that leads to enhanced grain yield.
- Optimization of carbon assimilation, carbohydrate mobilization, partitioning/redistribution to grain.
- Optimization of the timing of breakdown, release and transport of sucrose to the developing spike.

- Optimization of plant phenologies for major wheat growing environments that leads to increased yield as related to grain traits.

- Improvements in sink dynamics that improve the timing and duration of flowering, the size of the spike, number of florets laid down, pollination efficiencies, mature grain number and grain size.

Other Program Key Information:

- Applications to this program can be either standard research projects or CAP integrated projects adhering to the appropriate budgetary limitations. CAP integrated applications must include at least two of the three functions of the agricultural knowledge system (i.e., research, education, and extension) within a project, focused around a problem or issue. CAP applications that include training and education for the next generation of plant breeders will be viewed favorably. Refer to Part II, C. and Part III, A. for Integrated Project Type definitions and eligibility information.

- All applications must adhere to the requirements beginning in Part IV unless specified under the program description.

- Most awards will be made under this RFA as continuation awards. A continuation award is an award instrument by which the Department 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 1) performance has been satisfactory, 2) appropriations are available for this purpose, and 3) continued support would be in the best interest of the Federal government and the public. Awardees are expected to participate in a rigorous post-award management activity to be determined by the Agency Contact at the formative stages of the project.

- Standard research projects and CAP integrated projects must include a budgeted plan for data management that includes making data publically available and /or compatible with other open data sources. Specifically, applications must provide a description and budgeted plan for the release of research results (e.g., data, germplasm, cultivars, 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 http://nifa.usda.gov/resource/nifa-general-terms-and-conditions-grants-and-cooperative-agreements. The following sections are particularly relevant: Genetic Resources from Outside of the U.S (page 5); and Patents and Inventions including Plant Variety Protection and Release of Animal or Plant Genome Sequence Data, Distribution of Animal or Plant Genomic Resources, and the Release or Distribution of Plant Germplasm (pages 21-26).

- The CAP priority area will not fund research focused on breeding methods, agronomic systems and biotic or abiotic stress avoidance.

- CAP applications linking primary research targets such as those described above to other research objectives that address the overarching IWYP goal of significantly increasing the genetic yield potential of wheat, e.g., increased carbon capture, photosynthesis, architecture, harvest index will be viewed favorably.

- CAP applications must include, as an appendix, a budgeted project management plan and timeline to ensure efficient functioning of the CAP team. A timeline chart of milestones to be achieved that clearly identifies which key personnel are involved in which objectives during each time segment of the project is particularly helpful. This plan should include an organizational chart, administrative timeline, a description of how the project will be governed, intellectual property management, and identification of short-, medium- and long-term metrics that will be used in project evaluation, the expectations for each team member, a mechanism whereby progress metrics can be evaluated, and how the project will coordinate, complement and/or link to existing programs or projects funded by IWYP. The management plan must include a strategy to become self-supporting by the end of the project period.

- CAP applications should consider budgeting to hire an administrative project manager at the lead PD's institution to facilitate day-to-day operations, planning and strong coordination of team members.

- CAP applications must include, as an appendix, a budgeted plan and timeline for an advisory group of principal stakeholders and scientists relevant to the proposed project to assess and evaluate the quality, potential outcomes, and impacts, and how they could function effectively to support the goals and objectives of the CAP.

- CAP applications that demonstrate coordination and collaboration with international partners, especially other projects funded by IWYP (http://iwyp.org/) will be viewed favorably for the standard applications and will be essential for the CAP applications. However, applications must be submitted by eligible US institutions.

PART II—AWARD INFORMATION

A. Available Funding

The amount available for NIFA support of this program in FY 2016 is approximately $3,446,000 million. The intent of future funding provides an anticipated total amount of funding of approximately $15.4 million to support this program during FY 2016-2019, provided appropriations are available for this purpose.

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

Awards issued as a result of this RFA will have designated the Automated Standard Applications for Payment System (ASAP), operated by the Department of Treasury's Bureau of the Fiscal Service, as the payment system for funds. For more information see http://fms.treas.gov/index1.html.

B. Types of Applications

In FY 2016, you may only submit a new application to the NIFA-IWYP Program:

New application. This is a project application that has not been previously submitted to the NIFA-IWYP Program. We will review all new applications competitively using the selection process and evaluation criteria described in Part V—Application Review Requirements.

C. Project Types

Applicants must propose one of the AFRI project types specified within the program description beginning in Part I, C. of this RFA. Only project types (Research, Integrated) specifically solicited under the program described in Part I, C. of this RFA will be considered for review. A detailed description of the project types available across AFRI is located at http://nifa.usda.gov/afri-request-applications/Project_Types_NIFA.pdf.

D. Grant Types

Applicants must select the appropriate AFRI grant type specified within the program description beginning in Part I., C. of this RFA. Only grant types (Standard grants; Strengthening Standard grants; CAP grants; Strengthening CAP grants.) specifically solicited under the program described in Part I., C. of this RFA will be considered for review. A detailed description of the grant types available across AFRI is located at http://nifa.usda.gov/afri-request-applications/Grant Type - FY 2016 AFRI RFA.pdf.

E. Responsible and Ethical Conduct of Research

See http://nifa.usda.gov/responsible-and-ethical-conduct-research for further information.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

Eligibility is linked to the **project type**.

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

2. **Integrated Projects**
   Eligible applicants for Integrated Projects include: 1) colleges and universities; 2) 1994 Land-Grant Institutions; and (3) Hispanic-serving agricultural colleges and universities.

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

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

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

A list of the institutions certified and therefore eligible to apply as HSACUs for grants under FY 2016 RFAs, including this RFA, will be made available at www.nifa.usda.gov/nea/education/in_focus/hispanic_if_hispanic_HSACU.html. Institutions appearing on this list are granted HSACU certification by the Secretary for the period starting October 1, 2015, and ending September 30, 2016. Certifications are valid for FY 2016 only. Additional questions on HSACU eligibility can be emailed to hsacu@nifa.usda.gov.

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 time of 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.

B. Cost Sharing or Matching

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

C. Centers of Excellence

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

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

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

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

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent (LOI) Instructions

Applicants must submit a "Letter of Intent to Submit an Application" by the Letter of Intent due date specified in this RFA. Program Areas within this RFA require a Letter of Intent as a prerequisite for submission of an application. Refer to the Program Area Descriptions beginning in Part I, C. for Letter of Intent deadlines for a specific Program Area or Program Area Priorities. For detailed guidance regarding LOI format and submission, see AFRI Letter of Intent Instructions.pdf.

The Letter of Intent deadline date is March 1, 2016 at 5:00 pm ET.

B. Electronic Application Package

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

New Users of Grants.gov

Prior to preparing an application, we recommend that the Project Director/Principal Investigator (PD/PI) first contact an Authorized Representative (AR, also referred to as Authorized Organizational Representative 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 2 weeks to complete the registration process so it is critical to begin as soon as possible. In such situations, the AR should go to **"Register" in the top right corner of the Grants.gov web page (or go to** http://www.grants.gov/web/grants/register.html**) for information on registering the institution/organization with Grants.gov.** Part II.1. of the NIFA Grants.gov Application Guide contains detailed information regarding the registration process. Refer to item 2. below to locate the "NIFA Grants.gov Application Guide".

Steps to Obtain Application Package Materials

To receive application materials:

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

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

Funding Opportunity Number: USDA-NIFA-AFRI-005515

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

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

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

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

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

Have the following information available when contacting Grants.gov:

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

C. Content and Form of Application Submission

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

Note the attachment requirements (e.g., PDF) in Part III section 3. of the guide. 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 that attachments are in PDF format; see Part III section 6.1 of the guide for how to check the manifest of submitted files. Partial

applications will be excluded from NIFA review. We will accept subsequent submissions of an application until close of business on the closing date in the RFA (see Part V, 2.1 of the NIFA Grants.gov Application Guide for further information).

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.

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

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

3. R&R Other Project Information Form

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

a. Field 7. Project Summary/Abstract. The summary should also include the relevance of the project to the goals of NIFA-IWYP Program. 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 a total of 18 pages of written text regardless of whether it is single- or double-spaced with 12-point font and line spacing not exceeding six lines of text per vertical inch, including all figures and tables. We have established this maximum (18 pages) to ensure fair and equitable competition.

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.

The Project Narrative must include all of the following:

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

section c.). In addition, this section should include in-depth information on the following, when applicable:

(1) Estimates of the magnitude of the issues and their relevance to stakeholders and to ongoing state-federal food and agricultural research, education and extension programs.
(2) The role of stakeholders in problem identification, planning, implementation, and evaluation as appropriate.
(3) Reasons for performing the work at the proposing institution.

b. Rationale and Significance: Concisely present the rationale behind the proposed project. The potential long-range improvement in and sustainability of U.S. agriculture and food systems should be shown clearly. These purposes are described under Purpose and Priorities in Part I, B. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.

c. Objectives: All applications must include a statement(s) of specific aims of the proposed effort in clear, concise, complete, and logically arranged terms.

d. Methods: Explicitly state the procedures or methodology you will apply to the proposed effort. This section should include but not necessarily be limited to, descriptions of:

(1) stakeholder involvement in problem identification, planning, implementation and evaluation;
(2) proposed project activities, listed sequentially;
(3) techniques to be employed in this project, including their feasibility and rationale;
(4) expected results;
(5) how extension and education activities will be evaluated;
(6) how data will be analyzed or interpreted;
(7) plans to communicate results to stakeholders and the public;
(8) pitfalls that might be encountered; and
(9) limitations to proposed procedures.

e. Project Timetable: The proposal should outline all important phases as a function of time, year by year, for the entire grant funding period.

For Integrated Projects

- Applications must include at least two of the three functions of the agricultural knowledge system (i.e., research, education, and extension). Each function should be represented by one or more objectives within the application.
- Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single function.

- Integrated Projects must include individuals on the project team with significant expertise in each component of the project (research, education, and/or extension).
- A plan for evaluating progress toward achieving project objectives must be included. The plan must include milestones, which signify the completion of a major deliverable, event, or accomplishment and serve to verify that the project is on schedule and on track for successful conclusion. The plan should also include descriptions of indicators that you will measure to evaluate whether the research, education, and/or extension activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes.
- In addition to the Project Narrative requirements above, the proposed Integrated Project should clearly articulate:
  - Stakeholder involvement in project development, implementation, and evaluation, where appropriate;
  - Objectives for each function included in the project (note that extension and education activities are expected to differ and to be described in separate project objectives; see enumerated descriptions in Part II, C.); and
  - A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
- This program encourages Integrated Projects that develop content suitable for delivery through eXtension. This content is for "end users" as opposed to staff development and must follow the eXtension Guiding Principles and guidelines for including eXtension in a proposal presented at http://about.extension.org/wiki/NIFA_RFA_Information. Funds may be used to 1) enhance an existing Community of Practice or 2) to establish a new Community of Practice, as appropriate.

f. Center of Excellence Justification

Only Standard grant and CAP grant applications may be considered for COE designation.

In addition to meeting the other requirements detailed in Part IV, C., of this Request for Application (RFA), eligible applicants who wish to be considered as centers of excellence must provide a brief justification statement, at the end of their Project Narratives and within the page limits provided for Project Narratives, describing how they meet the standards of a center of excellence, based on the following criteria:
(A) the ability of the center of excellence to ensure coordination and cost effectiveness by reducing unnecessarily duplicative efforts regarding research, teaching, and extension in the implementation of the proposed research and/or extension activity outlined in this application;
(B) in addition to any applicable matching requirements, the ability of the center of excellence to leverage available resources by using public-private partnerships among agricultural industry groups, institutions of higher education, and the Federal Government in the implementation of the proposed research and/or extension activity outlined in this application. Resources leveraged should be commensurate with the size of the award;

C) the planned scope and capability of the center of excellence to implement teaching initiatives to increase awareness and effectively disseminate solutions to target audiences through extension activities in the implementation of the proposed research and/or extension activity outlined in this application; and
(D) the ability or capacity of the center of excellence to increase the economic returns to rural communities by identifying, attracting, and directing funds to high-priority agricultural issues in support of and as a result of the implementation of the proposed research and/or extension activity outlined in this application.

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

c. Field 9. Bibliography & References Cited - PDF attachment. No page limit. Title the attachment as 'Bibliography & References Cited' in the document header and save file as 'Bibliography & References Cited'.

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

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

e. Field 11. Equipment – PDF Attachment. No Page Limit. Title the attachment as 'Equipment' in the document header and save file as 'Equipment'.
Describe available equipment. Items of nonexpendable equipment necessary to conduct and successfully complete the proposed project should be listed in Field C. of the R&R Budget and described in the Budget Justification (see section 6 below).

f. Field 12. Other Attachments
The following instructions are in addition to those noted in Part V 4.12 of the NIFA Grants.gov Application Guide.

1) Key Personnel Roles – PDF attachment. 2-Page limit. Title the attachment as 'Key Personnel' and save file as 'KeyPersonnel'.

☼ For Integrated Grant Applications – state for key personnel an estimate of the percent of time devoted to research, education, and/or extension activities.

2) Logic Model – PDF attachment. Required for all Integrated Project applications. Encouraged for other Research Project applications. 2-Page limit. Title the attachment as 'Logic Model' and save file as 'LogicModel'.

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

3) Management Plan – PDF Attachment. Required for Integrated Project applications. Encouraged for Research Project applications. 3-Page limit. Title the attachment as 'Management Plan' and save file as 'ManagementPlan'.

   The plan is to be clearly articulated and include an organizational chart, administrative timeline, and a description of how the project will be governed, as well as a strategy to enhance coordination, collaboration, communication, and data sharing and reporting among members of the project team and stakeholder groups. The plan must also address how the project will be sustained beyond termination of an award. The management plan must also include an advisory group of principal stakeholders, partners, and professionals to assess and evaluate the quality, expected measurable outcomes, and potential impacts for the proposed research, education, and/or extension. Please include rationale for their role, and how they will function effectively to support the goals and objectives of the project. The plan must demonstrate how partners and stakeholders contribute to project assessment on an annual basis.

4) Data Management Plan (DMP) - PDF Attachment. Required for Research Projects and Integrated Project Grants. 2-Page Limit. Title the attachment as 'Data Management Plan' and save file as 'DataManagementPlan'.

   The DMP should clearly articulate how the project director (PD) and co-PDs plan to manage and disseminate data generated by the project. NIFA and reviewers will consider the DMP during the merit review process. NIFA is aware of the need to provide flexibility in assessing DMPs. The DMP must not exceed the two-page limit and should contain the following components depending on the type of research being conducted.

   a. Expected Data Type
   Describe the type of data (e.g. digital, non-digital) and how they will be generated (lab work, field work, surveys, etc.). Are these primary or metadata?

   b. Data Format
   For scientific data to be readily accessible and usable it is critical to use an appropriate community-recognized standard and machine readable formats when

they exist. The data should preferentially be stored in recognized public databases appropriate for the type of research conducted. Regardless of the format used (notebook, samples, images, spreadsheet, etc.), that data set should contain enough information to allow independent investigators to understand, validate, and use the data.

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

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

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

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

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

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

   Preprints related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative. Extraneous materials will not be used during the peer review process. Only manuscripts in press for a peer-reviewed journal will be accepted and must be accompanied by letters of acceptance from the publishing journals). Preprints attached in support of the application should be single-spaced. Each preprint must be identified with the name of the submitting organization, the name(s) of the PD(s), and the title of the application.

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

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

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

a. Matching Funds

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

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

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

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

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

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

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

If a project is funded, beginning in the first year of funding, the Project Director will be required to attend annual investigator meetings for the duration of the award. Reasonable travel expenses should be included as part of the project budget.

For Integrated Project Applications – Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single component. Projects that include partnering with eXtension must include financial support for the Community of Practice core functions as well as project-specific activities.

c. Field H. Indirect Costs – NIFA is prohibited from paying indirect costs exceeding 30 percent of the total Federal funds provided under each award. This limitation is equivalent to 42.857 percent of the total direct costs of an award. See Part IV, E. for additional information.

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

All cumulative budget categories, with the exception of Indirect Costs, for which support is requested must be individually listed (with costs) in the same order as the cumulative budget. NOTE: For continuation awards, all budget categories for year one must also be fully justified. If consulting, collaborative, or subcontractual arrangements are included in the application, these arrangements should be fully explained and justified. The rate of pay for any consultant must be included, if known at the time of application. Please include a cost breakdown for the consultant, including the number of days in service, travel, and per diem, as well as the rate of pay. Letters of consent or collaboration and other evidence should be provided in the Documentation of Collaboration (see Part IV, C. 3. f. 4) to show that collaborators have agreed to participate. A proposed statement of work, biographical sketch, and a budget for each arrangement involving the transfer of substantive programmatic work or the provision of financial assistance to a third party must be supplied. In multi-institutional applications, a budget and budget narrative must

be included for each institution involved. The lead institution and each participating institution must be identified.

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

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

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

a. Field 2. Program to which you are applying. Enter the program (code) name (i.e., enter "**International Wheat Yield Partnership"** and the program code (i.e., enter "**A1142**"). 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.
A Conflict of Interest List is required for all applications submitted to this program. The Conflict of Interest List should be provided as a separate PDF attachment and not included in the vitae or resume. A Conflict of Interest List must be completed individually for all personnel who have submitted a Biographical Sketch in the R&R Senior/Key Personnel Profile. Collate all individual Conflict of Interest lists into a single document file. The lists can only be submitted as a single PDF attachment.

A recommended template for the Conflict of Interest List can be found at: www.nifa.usda.gov/funding/templates/conflict_of_interest.doc.

D. Submission Dates and Times

1. Letter of Intent (LOI)

The Letter of intent must be received at NIFA by **5:00 p.m. ET on March 1, 2016**. See Part IV, A. for further information regarding the LOI.

2. Full Application

A LOI is required prior to submission of an application. See Part IV, A. for further information regarding the LOI.

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

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

- Logic Model
- Management Plan
- Data management Plan
- Conflict of Interest
- Current and Pending Support

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

Applications must be received by Grants.gov by **5:00 p.m. Eastern Time on May 3, 2016**. Applications received after this deadline will normally not be considered for funding.

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

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

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

E. Funding Restrictions

Section 715 of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) 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 2016 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. See webpage at http://nifa.usda.gov/indirect-costs for indirect cost options.

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

F. Other Submission Requirements

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

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

NIFA-IWYP Program 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.

B. Evaluation Criteria

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

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

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

   a. **Scientific Merit of the Application for Research**
      i. Novelty, innovation, uniqueness, and originality;

ii. Where model systems are used, ability to transfer knowledge gained from these systems to organisms of importance to U.S. agriculture;
iii. Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
iv. Clarity and delineation of objectives;
v. Adequacy of the description of the undertaking and suitability and feasibility of methodology;
vi. Demonstration of feasibility through preliminary data; and
vii. 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

i. Qualifications of applicant (individual or team) to conduct the proposed project, including performance record and potential for future accomplishments;
ii. Demonstrated awareness of previous and alternative approaches to the problem identified in the application;
iii. Institutional experience and competence in subject area;
iv. Adequacy of available or obtainable support personnel, facilities, and instrumentation; and
v. 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

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

d. Center of Excellence Status

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

consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding.
In addition, the applicant's Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

2. Integrated Project Applications

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

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

i. 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;
ii. Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
iii. Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;
iv. Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
v. Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
vi. 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

i. Roles of key personnel are clearly defined;
ii. 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;
iii. Evidence of institutional capacity and competence in the proposed area of work is provided;
iv. Support personnel, facilities, and instrumentation are sufficient;
v. 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
vi. 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

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

d. Center of Excellence Status

i. All eligible applicants will be competitively peer reviewed (as described in Part V, A. and B. of this RFA), and ranked in accordance with the evaluation criteria. Those that rank highly meritorious and requested to be considered as a center of excellence will be further evaluated by the peer panel to determine whether they have met the standards to be centers of excellence (Part III D. and Part IV C.). In instances where they are found to be equally meritorious with the application of a non-center of excellence, based on peer review, selection for funding will be weighed in favor of applicants meeting the center of excellence criteria. NIFA will effectively use the center of excellence prioritization as a “tie breaker”. Applicants that rank highly meritorious but who did not request consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding. In addition, the applicant’s Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

C. Conflicts of Interest and Confidentiality

During the peer evaluation process, we take extreme care to prevent any actual or perceived conflicts of interest that may impact review or evaluation. See http://www.nifa.usda.gov/business/competitive_peer_review.html for further information about conflicts of interest and confidentiality as related to the peer review process.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one time basis, with updates on an as needed basis. This requirement is part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. We will provide you copies of forms recommended for use in fulfilling these requirements as part of the preaward 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 NIFA-IWYP Program 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:

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

(2) Title of project;

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

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

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

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

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

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

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

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

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

C. Administrative and National Policy Requirements

Several federal statutes and regulations apply to grant applications considered for review and to project grants awarded under this program. These may include, but are not limited to, the ones listed on the NIFA web page - http://nifa.usda.gov/federal-regulations.

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

Responsible and Ethical Conduct of Research

Please refer to Part II, E. for more information.

D. Expected Program Outputs and Reporting Requirements

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

PART VII—AGENCY CONTACT

Applicants and other interested parties are encouraged to contact:

Programmatic Contacts–

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Administrative/Business Contacts –

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Sondra Watkins
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PART VIII—OTHER INFORMATION

A. Access to Review Information

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

B. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

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

2. Changes in Project Plans

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

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

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

d. The awardee must request, and the ADO must approve in writing, all transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not federal funds are involved, prior to instituting such transfers, unless prescribed otherwise in the terms and conditions of the award.

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

f. Changes in Approved Budget: Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee and approved in writing by the ADO prior to instituting such changes, if the revision will involve transfers or expenditures of

amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or award.

C. Confidential Aspects of Applications and Awards

When an application results in an award, it becomes a part of the record of NIFA transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the application. The original copy of an application that does not result in an award will be retained by the Agency for a period of three years. Other copies will be destroyed. Such an application will be released only with the consent of the applicant or to the extent required by law. An application may be withdrawn at any time prior to the final action thereon.

D. Regulatory Information

For the reasons set forth in the final Rule related Notice to 2 CFR part 415, subpart C , this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 35), the collection of information requirements contained in this Notice have been approved under OMB Document No. 0524-0039.

E. 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.