

AFRI FAS Plant Production and Plant Products Program Areas
RFA Announcement and Technical Assistance Webinar

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Meeting Logistics

- This webinar will be recorded. Please be sure your microphone is muted.
- **Zoom Tech Support** = 1-888-799-0125, Option 2
- Throughout the presentation, you may type questions in the chat box.
- Slides and the recording from this webinar will be posted to: nifa.usda.gov/grants/programs/agriculture-food-research-initiative-afri/plant-health-production-plant-products-program-area

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This Webinar Covers the Following AFRI Priorities

- Plant Breeding for Agricultural Production (A1141)
- Conventional Breeding for Cultivar Development (A1143)
- Physiology of Agricultural Plants (A1152)
- Foundational Knowledge of Agricultural Production Systems (A1102)
- Foundational Knowledge of Plant Products (A1103)
- Commodity Board Co-Funding Topics (A1811)
- Data Science for Food and Agriculture (A1541)



USDA National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

NIFA Overview

NIFA Overview

- National Institute of Food and Agriculture (NIFA) is the extramural science-funding agency within USDA's Research, Education and Economics mission area.
- NIFA invests in and supports initiatives that ensure the long-term viability of agriculture.
- NIFA provides **funding and strategic leadership** for programs that ensure groundbreaking discoveries in agriculture-related sciences and technologies reach the people who can put them into practice.

Topics Covered by NIFA Programs



Advanced Technologies

Bioenergy; Biotechnology; Nanotechnology



Education

Minority Serving Institutions; Teaching and Learning; Workforce Development



Food Science

Food Quality; Food Safety



Animals

Animal Breeding; Animal Health; Animal Production; Aquaculture



Environment

Climate Change; Ecosystems; Invasive Pests and Diseases



Food and Nutrition Security

Nutrition; Obesity; Wellness



Business and Economy

Markets and Trade; Natural Resource Economics; Small Business



Farming and Ranching

Agriculture Safety & Technology; Farmer Education; Organic & Family Farms



International

Global Engagement; Global Food Security



Natural Resources

Forests; Grassland and Rangeland; Soil, Water, and Air



Human Sciences

Community Vitality; Family Well-Being; Youth



Plants

Crop Production; Pest Management; Plant Breeding; Plant Health

Project and Grant Types

Project Types

Research

Education

Extension

Integrated

Grant Types

Standard

Partnership*

Conference

New Investigator (Standard, Seed)

Strengthening (Seed, Equipment, Sabbatical, Equipment)

*A1141/A1152



USDA National Institute of Food and Agriculture

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Program Overview

Plant Breeding for Agricultural Production (A1141)/Conventional Breeding for Cultivar Development (A1143)

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Project and Grant Types Reviewed in (A1141)

Project Types

Research

Grant Types

- Conference Grants
- Coordinated Innovation Network
- Partnerships
- Seed Grants (NI and/or strengthening only)
- Equipment or Sabbatical Grants (strengthening only)

2023 Priorities for A1141

RFA Page 23

Plant Breeding projects focused on:

- pre-breeding and germplasm enhancement
- participatory breeding
- selection theory
- applied quantitative genetics
- phenomics and incorporation of modeling (including crop growth models)
- explainable artificial intelligence research related to theory, genetics and crop models is also encouraged.

Coordinated Innovation Networks (CIN):

- build and coordinate public private research and development efforts for major crop plants
- address a grand challenge (e.g., nutrition security, boosting farm income, climate-safe agriculture)
- develop collaborative science and technical platforms that fill critical science and knowledge gaps to deliver innovation for commercialization across a broad US agricultural sector
- aim to address bottlenecks to crop productivity and the public breeding priorities in the USDA plant breeding roadmap (https://www.usda.gov/topics/plants).

A1141 Application Details

- Application Deadline: 5 p.m. (Eastern Time) October 13, 2023
 - Submitted through Grants.gov
- Total funding available in FY 2023: ~\$11.1M funding available to states
- Program Code: A1141
- Maximum* funding per award: \$50K (Conf); \$300K (Seed); \$650K (Std); \$800 (Std-Ptner) Number of applications: ~80-90
- Success rate: ~20% for standard grants

Project and Grant Types Reviewed in (A1143)

- Standard Research Grants
- Seed Grants
- Equipment or Sabbatical (Strengthening only).

2023 Priorities for A1143

Supports public breeding efforts that provide farmers with greater access to locally and regionally adapted cultivars especially associated with climate change.

- must address later stages of cultivar development
- must include
 - how the cultivar will be released and marketed
 - who owns the intellectual property
 - letters of support from stakeholders
 - how the research fits within the overall existing breeding program
 - how this support for later stages of cultivar development will enhance and increase the availability of cultivars in the market place within the duration of the award

A1143 Application Details

- Application Deadline: 5 p.m. (Eastern Time) October 12, 2023
 - Submitted through Grants.gov
- Total funding available in FY 2023: ~\$3.2M funding available to states
- Program Code: A1143
- Maximum* funding per award: \$50K (Conf); \$300K (Seed); \$500K (Std); Number of applications: ~15-20
- Success rate: ~40-50% for standard grants

Physiology of Agricultural Plants (A1152)

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Project and Grant Types Reviewed in (A1152)

RFA Page 21

Project Types

Research only

Grant Types

- Conference Grants
- Standard Research Grants (partnership opportunity)
- Seed Grants (NI and/or strengthening only)
- Equipment or Sabbatical Grants (strengthening only)

Purpose and Priorities

- Seeks to support projects that improve productivity or other performance factors of agriculturally important plants using molecular, biochemical, whole-plant, agronomic, and/or ecophysiological approaches
- Genetic basis of important traits identified through these studies are expected to translate into plant varieties with improved yield or product quality, or growth resilience to adverse environmental conditions including those associated with climate change

2023 Priorities for A1152

RFA Page 22

Plant physiology projects focused on:

- Plant growth and developmental processes, including plant architecture, carbon assimilation, and source-sink relationships;
- Mechanisms of plant response to abiotic stresses, including increased water-use efficiency; or
- Nutrient uptake, assimilation, and/or utilization, particularly increased plant use efficiency for nitrogen, phosphorus, or other supplemental nutrients.

A1152 Application Details

- Application Deadline: 5 p.m. (Eastern Time) August 24, 2023
 - Submitted through Grants.gov
- Total funding available in FY 2023: ~\$6M funding available to states
- Program Code: A1152
- Maximum* funding per award: \$50K (Conf); \$300K (Seed); \$650K (Std); \$800K (Std-Part)
- Number of applications: 80-100 for standard grants
- Success rate: 10-15% for standard grants

Foundational Knowledge of Agricultural Production Systems (A1102)

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Project and Grant Types Reviewed in (A1102)

RFA Page 15

Project Types

- Research
- Integrated (Research + Extension and/or Education)

Grant Types

- Conference Grants
- Standard Grants
- Seed Grants (NI and/or strengthening only)
- Equipment or Sabbatical Grants (strengthening only)

Purpose and Priorities (A1102)

RFA Page 15-16

- Seeks to support projects that advance our knowledge for the wide range of agricultural production systems found across the rural-urban continuum, from conventional or organic open-fields to protected built environments.
- Research will address critical or process-limiting dynamics that occur among and within the various management components of a production system.
- Results are expected to lead to the development of innovative sustainable solutions to challenges limiting or threatening the productivity, profitability, and good stewardship of natural resources, environment, and human capital.

2023 Priorities for A1102 (1/2)

RFA Page 16

Applications must address one or more of the following:

- Investigate how multiple management components of agricultural production systems can be integrated to enhance soil-crop-atmospheric processes or resilience to various biotic and abiotic stresses;
- Determine how **production systems**, can alter the **structure of microbial communities** associated with plants, soils, or other growing media; the ways alterations affect functions such as plant nutrient uptake/utilization efficiency; and resilience to biotic and abiotic stresses;

2023 Priorities for A1102 (2/2)

RFA Page 16

Applications must address one or more of the following:

- Investigate how changes to **cropping systems**, including diversification or intensification, affect crop performance, soil health, and other outcomes beneficial to system resilience; or
- Conduct syntheses and meta-analyses of existing data or develop new or extend existing models to derive general principles about the function, properties, and performance of agricultural production systems.

Additional Information - A1102

RFA Page 16-17

- Applications to study management of pests or beneficial species may be more appropriate for the Pests and Beneficial Species (A1112) program area priority.
- Applications to study microbiome function may be more appropriate for the Agricultural Microbiomes (A1402) program area.
- A1102 does not support projects focused on livestock.
- Applications focusing on climate change, ecosystems services, rangelands, or addressing issues at the landscape or regional scale may be more appropriate for the Sustainable Agroecosystems(A1451) Program Area Priority.

A1102 Application Details

- Application Deadline: 5 p.m. (Eastern Time) September 14, 2023
 - Submitted through Grants.gov
- Total funding available in FY 2023: ~\$4M funding available to states
- Program Code: A1102
- Maximum funding per award: \$50K (Conf); \$300K (Seed); \$650K (Std); \$750K (Std-integrated)
- Number of applications: 50 75 for standard grants
- Success rate: 14 26% for standard grants (2020 2022)

Foundational Knowledge of Plant Products (A1103)



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A1103 Project and Grant Types Reviewed

RFA Page 17

Project Types

Research only

Grant Types

- Conference Grants
- Standard Research Grants
- Seed Grants (New Investigator and/or strengthening only)
- Equipment or Sabbatical Grants (strengthening only)

A1103 Purpose and Priorities

- Supports projects to study the biosynthesis of plant-derived, high-value biomolecules for use in foods, pharmaceuticals, and other products
- Projects must focus on agriculturally-important plants, but the choice of plant species must be justified
- Molecular, biochemical, synthetic biology, or eco-physiological approaches may be used to determine the biosynthetic pathways for industrially-important biomolecules
- Intent of this program is for results to be translated into discoveries that help create or meet emerging and future markets and contribute towards long-term demand for agricultural-based products

A1103 Priorities

RFA Page 18

Applications must address one or more of the following (order does not indicate importance):

- Primary and/or secondary metabolic pathways regulating the biosynthesis of plant metabolites that improve the quality of food and/or feed;
- Biosynthetic pathways of metabolites with herbicidal or pesticidal activities;
- Improving the production (biosynthesis) of plant-based chemicals that have industrial and/or pharmaceutical relevance; or
- Macronutrient and/or micronutrient biosynthesis, accumulation, and/or availability that are beneficial to human health and nutrition.

A1103 Additional Information

- Projects focusing on species and commodities that are important to underserved farmers or small- or medium-sized farms are welcome.
- Applications that address topics related to medicinal studies or human health are not appropriate for this program area priority.
- Applications that address plant physiology or environmental responses may be more appropriate for Physiology of Agricultural Plants (A1152).

A1103 Application Details

- Application Deadline: 5 p.m. Eastern Time, Thursday, August 17, 2023
 - Submitted through Grants.gov
 - See additional details for Conference Grant applications
- Total funding available in FY 2023: ~ \$5M funding available to states
- Program Code: A1103
- Maximum funding per award: \$50K (Conf); \$300K (Seed); \$650K (Std)
- Number of applications: 25 45 for standard grants
- Success rate: 20 30% for standard grants

Commodity Board Co-funding Topics (A1811)

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A1811 Project and Grant Type Reviewed

- Project Type: Research only.
- Grant Type(s): Standard and FASE (Strengthening Standard and New Investigator.
- **Grant Duration:** 36-48 months or 36-60 months (topic specific).

A1811 Purpose and Priorities

- NIFA and various commodity boards are seeking to co-fund research projects relevant to the respective commodity board.
- Topics are determined by the boards and will be included in an upcoming RFA modification by May 2, 2023.
- Boards that provided support in 2022 included:
 - California Walnut Commission (1), The Cotton Board (6), National Peanut Board (1), American Pulse Association (1),* United Sorghum Checkoff Program (1), United Soybean Board (3), Colorado Potato Administrative Committee (1).

A1811 Application Details

- Application Deadline: 5 p.m. (EST) August 3, 2023
 - Submitted through Grants.gov
- Total funding available in FY2023: To be announced
- Program Code: A1811
- Maximum funding per award: Topic specific (\$300,000 \$600,000)
- Applicants must provide a letter of co-funding support from the commodity board directly to the NIFA Program Contact within 60 calendar days after the application submission deadline.

A1541 Cross-Cutting Data Science for Food and Agriculture (DSFAS) Purpose and Priorities

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A1541 Project and Grant Types Reviewed

RFA Page 91

Project Types

- Research
- Integrated

Grant Types

- Standard
- Conference
- Strengthening

A1541 Purpose and Priorities

- Focus on intersections between data science/artificial intelligence (AI) and agricultural areas to enable systems and communities to
 - effectively utilize data,
 - improve resource management, and
 - integrate new technologies and approaches to further U.S. food and agriculture enterprises.
- Applications for research and integrated research projects must address one of the six AFRI priority areas. We especially welcome proposals in the areas of climatesmart agriculture and forestry, food and nutrition security, environmental sustainability, economic revitalization, and justice; projects that focus on intersections between one or more of these areas are also welcome.
- The most competitive proposals will be equally well grounded in agricultural and food sciences and in data science; in addition, competitive proposals will clearly communicate the relevance and novelty of the proposed research in both areas.

Application Details

- Application Deadline: 5 p.m. (Eastern Time) November 16, 2023
 - Submitted through Grants.gov

- Total funding available in FY 2024: ~\$7.5 million
- Program Code: A1541

NSF 23-019 Advancing Plant Transformation

- AFRI priorities A1103, A1152, A1141
- Prepend titles with "Plant Transform:"
- See https://www.nsf.gov/pubs/2023/nsf23019/nsf23019.jsp for details.
- Apply directly to the priority above that represents the closest fit.
- NIFA solicits proposals relevant to US Agriculture that will lead to improvement over current methodologies and with potential societal benefits.



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Application Details and Documents

Cost Share or Matching

- Matching is required unless a waiver applies.
 - Required: commodity specific, not national scope.
 - Waived: results particularly benefit a specific commodity, but are likely to be applicable to agricultural commodities generally OR involves a minor commodity, involves scientifically important research, and recipient is unable to satisfy matching requirement.
 - Not required: not commodity specific or national in scope.
- Matching resources will not be factored into the review process as evaluation criteria.
- See 7 U.S.C. 3157 (b)(9)(A-C)

Key Documents

RFA Page 120

Key components of your Application:

- Project Summary/Abstract
- Project Narrative
- Bibliography/Reference List
- Data Management Plan
- Other Documents (See RFA and NIFA Grants Application Guide)

Key Documents: Project Narrative

- Project Narrative is 18 page limit and will be strictly enforced.
 - Single line spacing (no more than six lines per vertical inch)
 - 12-point font
 - Includes text, figures and tables
- Within 18 pages provide:
 - Introduction
 - Rational and Significance
 - Approach
- Applications exceeding the page limitation will be returned without review
- Additional details are available in the "FY 2023 Foundational and Applied Science RFA Additional Information for Part IV, C" PDF in the attachments list on the AFRI RFA Resources page.

Key Documents: Data Management Plan

- Investigators must provide detailed (up to 2 pages) business and management plans including:
 - Expected data type
 - Data format
 - Data storage and preservation
 - Data sharing, protection and public access
 - Roles and responsibilities
- Please also review: <u>nifa.usda.gov/resource/data-management-plan-nifa-funded-research-projects</u>

Application Submission

• NIFA only accepts electronic submission of applications.

- NIFA Grants Application Guide available: <u>nifa.usda.gov/resource/nifa-grantsgov-application-guide</u>
- Application documents must be in Portable Document Format (PDF) to be accepted by NIFA, including your narrative and budget justifications.
 - Grants.gov may allow other formats, but NIFA does <u>not</u>
 - Do not use third-party PDF builders

RFA Page 118

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NOTE: The guide provided here is meant to serve as an example. Refer to and follow the Grants.gov Application Guide provided in the application package on Grants.gov for the specific funding opportunity of interest.



National Institut of Food and NIFA GRANTS.GOV APPLICATION GUIDE

A Guide for Preparation and Submission of NIFA Applications via Grants.gov



The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.



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Proposal Evaluation Process

Evaluation Process

RFA Page 122

Proposals are assigned for review to at least 3 reviewers with expertise in the proposed topic.

Reviewers will produce individual reviews of each proposal, evaluating the strengths and weaknesses.

These written
reviews are used to
begin panel
discussions with
other reviewers
serving on the peerreview panel.

Through these discussions, peer-review panelists come to consensus on the final rating and ranking of proposals.

Evaluation Criteria

RFA Page 123

Detailed evaluation criteria for each project type, grant type, and centers of excellence are found in the "AFRI Review Criteria" PDF in the attachments list on the AFRI RFA Resources page.

- Research Projects
 - Scientific Merit of the Application for Research
 - Qualifications of Project Personnel, Adequacy of Facilities, and Project Management
 - Project Relevance
 - Center of Excellence Status

Timeline of Competitive Programs

1-2 months

2-3 months

1-2 months

- Request for Applications (RFA) release
- Proposal writing and planning
- Proposals due

- Proposal under peer review
- Proposal funding notifications

Awards are finalized and made

On average, a competitive program takes about <u>3-5 months</u> from the proposal due date to an award being made to an institution.

We will keep you updated as much as possible. We appreciate your patience!

* If your program takes longer due to additional steps, please change as needed

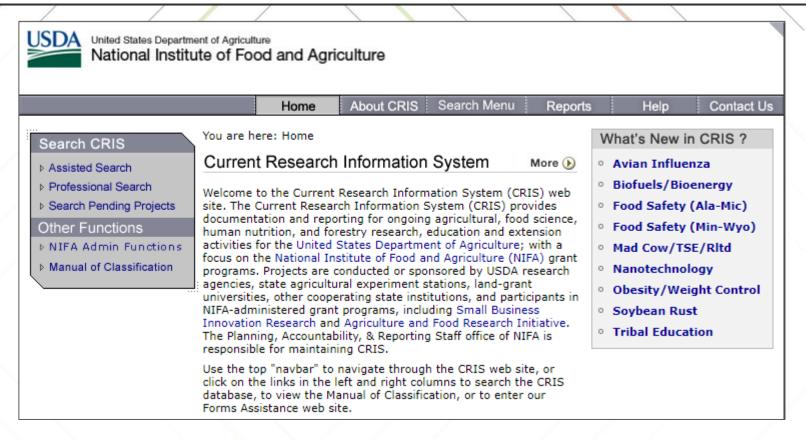


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Additional Information

Use CRIS to Find Funded Awards



- Plant Breeding for Agricultural Production (A1141)
- Conventional Breeding for Cultivar Development (A1143)
- Physiology of Agricultural Plants (A1152)

- Foundational Knowledge of Agricultural Production Systems (A1102)
- Foundational Knowledge of Plant Products (A1103)
- Commodity Board Co-Funding Topics (A1811)

Upcoming Events

 NIFA Events Calendar for upcoming deadlines, meetings and webinars: <u>nifa.usda.gov/events</u>

 Upcoming Request for Applications (RFA) release calendar: <u>nifa.usda.gov/upcoming-rfa-calendar</u>

Grant Resources

- Funding Opportunities: <u>nifa.usda.gov/grants/funding-opportunities</u>
- Competitive Grants Flowchart: <u>nifa.usda.gov/competitive-grants</u>
- NIFA Grant Resources: <u>nifa.usda.gov/grant-training</u>
- NIFA Policy Guide: <u>nifa.usda.gov/policy-guide</u>
- Indirect Costs: <u>nifa.usda.gov/indirect-costs</u>
- A Guide for Preparation and Submission of NIFA Applications via Grants.gov:
 apply07.grants.gov/apply/opportunities/instructions/PKG00249520-instructions.pdf
- Information on Awarded Grants: cris.nifa.usda.gov

Questions?

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