



United States
Department of
Agriculture

National Institute
of Food
and Agriculture

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The logo for the National Institute of Food and Agriculture (NIFA), featuring the letters "NIFA" in a large, white, sans-serif font against a dark background with a stylized sun or field graphic.

REQUEST FOR APPLICATIONS

Methyl Bromide Transition Program (MBT)

MODIFICATIONS: Pages 1,2, and 8

FUNDING YEAR: Fiscal Year 2021
APPLICATION DEADLINE: February **25**, 2021
LETTER OF INTENT DEADLINE: Not Required
ANTICIPATED AVAILABLE FUNDING: Approximately \$1,900,000
CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 10.303

INITIAL ANNOUNCEMENT
National Institute of Food and Agriculture
United States Department of Agriculture

Catalog of Federal Domestic Assistance. The MBT is listed in the Assistance Listings under the Catalog of Federal Domestic Assistance number 10.303.

Table 1: Key Dates and Deadlines

Task Description	Deadline
Application:	5:00 P.M. Eastern Time February 25 , 2021 [<i>Ref to Table 2 of this RFA</i>]
Letter of Intent:	Not Required
Applicants Comments:	Within six months from the issuance of this notice (<i>NIFA may not consider comments received after the sixth month</i>)

Stakeholder Input. The National Institute of Food and Agriculture (NIFA) seeks comments on all request for applications (RFAs) so it can deliver programs efficiently, effectively, with integrity, and with a focus on customer service. NIFA considers comments, to the extent possible when developing RFAs and use comments to help meet the requirements of [Section 103\(c\)\(2\) of the Agricultural Research, Extension, and Education Reform Act of 1998 \(7 U.S.C. 7613\(c\)\(2\)\)](#). Applicants may submit written comments to Policy@usda.gov (email is for comments only). Please use the following subject line: Response to the Methyl Bromide Transition RFA.

Centers of Excellence. Applicants are encouraged to visit the NIFA’s [Centers of Excellence \(COE\)](#) for information on COE designation process, including COE criteria, and a list of programs offering COE opportunities. Recording of COE outreach and COE implementation webinars are also available.

EXECUTIVE SUMMARY

This notice identifies the objectives for the Methyl Bromide Transition Program (MBT) projects, deadlines, funding information, eligibility criteria for projects and applicants, and application forms and associated instructions.

NIFA requests applications for the MBT program for fiscal year (FY) 2021 to support the discovery and implementation of practical pest management alternatives for commodities and uses affected by the methyl bromide phase-out. Enactment and implementation of appropriations or authorizing legislation may affect the availability or level of funding for this program. The anticipated amount available for grants in FY 2021 is approximately \$1.9 million.

In FY 2021, applications are sought for the following project types:

1. Integrated Projects
2. Extension-Only Projects

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PART I. FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority

In accordance with [7 U.S.C. 7626](#), the Secretary of Agriculture is authorized to establish a competitive grants program that provides funding for integrated, multifunctional agricultural research, extension, and education activities. Subject to the availability of appropriations to carry out this program, the Secretary may award grants to colleges and universities (as defined by section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, Hispanic-serving agricultural colleges and universities (HSACU) and 1994 Land-Grant Institutions (7 U.S.C. 7626(b)), on a competitive basis for projects that address priorities in United States agriculture and involve integrated research, education, and extension activities, as determined by the Secretary in consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board (NAREEEAB).

B. Purpose and Priorities

This RFA solicits applications for the Methyl Bromide Transition (MBT) program Assistance Listing 10.303. Methyl bromide is an odorless, colorless gas that is used as an agricultural soil and structural fumigant to control a wide variety of pests. Methyl bromide depletes the stratospheric ozone layer and is classified as a Class 1 ozone-depleting substance. In accordance with the Montreal Protocol on Substances that Deplete the Ozone Layer and the Clean Air Act ([Overview of the Clean Air Act and Air Pollution](#)), the United States government agreed to reduce methyl bromide production and net imports incrementally from the 1991 baseline until the complete phase-out in 2005. Since 2005, the only allowable exemptions are critical use exemptions (CUE), quarantine and pre-shipment exemptions (QPS).

The primary goal and objective of the MBT program is to support the discovery and implementation of practical pest management alternatives to methyl bromide. The MBT program seeks to solve pest problems in key agricultural production and post-harvest management systems, processing facilities, and transport systems for which methyl bromide has been withdrawn or withdrawal is imminent.

Proposals may integrate research and extension activities, or be extension-only, and be designed to provide transitional alternatives that address immediate needs resulting from the loss of availability of methyl bromide. The pressure to completely phase-out methyl bromide has created an urgent need for new economical and effective pest control tactics to control soil-borne and postharvest pests, and pests that need to be controlled by the processing and shipping industries to meet regulatory standards. All proposals must include a description of the economic analysis of costs and efficacy of implementing the new replacement technology.

Applications submitted to the MBT program must incorporate appropriate integrated pest management (IPM) concepts of prevention, avoidance, monitoring, and suppression of pest populations. NIFA anticipates that funded projects will cover a broad range of new methodologies, technologies, systems, and strategies for controlling economically important pests for which methyl bromide has been the only effective management option. The MBT program solicits applications that address systems solutions or strategic (multi-tactic) approaches, rather than focusing on any single tactic to replace methyl bromide. Consider and

evaluate non-fumigant management options where possible. Promising alternatives to methyl bromide must be evaluated under commercial or field-scale conditions for multiple years to ensure that positive results are not due, in part, to low pest pressure following many years of methyl bromide fumigation or variable environmental conditions. A goal of the MBT program is to demonstrate that performance of alternatives is consistent over several production cycles and is technically and economically feasible when scaled-up from research plots to commercial scale. A priority of integrated and extension-only projects is to enhance grower/industrial user knowledge and adoption/implementation of appropriate methyl bromide replacement strategies through extension outreach and demonstrations relevant to real-world systems. All applications must include an objective that describes an economic analysis of the costs and efficacy of implementing the new replacement technology, and a description of methods that will be used in the project to complete the economic analysis of the efficacy and affordability of the replacement strategy.

In FY 2021, the MBT program seeks applications for projects to ensure that economically viable and environmentally-sound alternatives to methyl bromide are in place and available as soon as possible for commodities that have been impacted by the phase-out of methyl bromide.

Applications also will be accepted to find alternatives for commodities that have current Quarantine and Pre-shipment (QPS) Exemptions. Applications must include an economic analysis of adopting and implementing the alternative methodology and the methods used to evaluate the cost/benefit analysis of the proposed alternative.

Projects supporting the transition to an alternative type of cropping/storage/processing system that avoids the need for disinfestation with methyl bromide (e.g., transition to a covered system using soilless culture) will be considered if the alternative has the potential to serve as a viable short to medium-term solution for operations that are currently dependent on methyl bromide or have been impacted by the phase-out of methyl bromide.

Proposals that address integrated pest management issues in commodities not affected by the phase-out of methyl bromide and research-only proposals may be more appropriate for the Applied Research and Development program area of the [Crop Protection and Pest Management Program](#).

Applications submitted to the MBT program must address one or more of the following questions:

1. How can non-fumigant management options be developed and/or improved as part of a systems-based integrated pest management strategy?
2. What integrated strategies could be used to improve soil health, resulting in improved pest management in crops impacted by the loss of methyl bromide in the pre-harvest environment? Examples include altering the microbial community of the soil to favor beneficial microorganisms that could inhibit pests and pathogens; soil amendments to reduce pests; and use of cover crops and rotations to reduce pest populations.
3. What strategies could be used in a systems-based integrated pest management approach to improve pest management in the post-harvest environments impacted by the loss of methyl bromide?

4. How can current methyl bromide alternatives be improved or combined to improve their effectiveness and economic viability?

eXtension. MBT encourages (but does not require) projects that develop content suitable for delivery through [eXtension](#).

Handling of baseline data and data collection will be addressed in the Data Management Plan (DMP) in accordance with the [Part IV § B](#) of this RFA.

The MBT program is aligned with the USDA Strategic Plan found at <https://www.usda.gov/sites/default/files/documents/usda-strategic-plan-2018-2022.pdf>

- Goal 2: Maximize the Ability of American Agricultural Producers to Prosper by Feeding and Clothing the World.

The MBT program is aligned with the USDA Science Blueprint found at <https://www.usda.gov/sites/default/files/documents/usda-science-blueprint.pdf>

- Theme 1: Sustainable Ag Intensification
- Theme 3: Food and Nutrition Translation
- Theme 4: Value Added Innovation

The MBT program is aligned with the USDA Agriculture Innovation Agenda found at <https://www.usda.gov/sites/default/files/documents/agriculture-innovation-agenda-vision-statement.pdf>

- I. Create a comprehensive U.S. agriculture innovation strategy to align public and private research efforts
- II. Integrate the latest innovative conservation technologies and practices into USDA programs

Table 2: Program Key Information

Title	Description
Program Code:	112.C
Program Code Name:	Methyl Bromide Transition
CFDA Number	10.303
Project Type:	Integrated, Extension-Only
Grant Type:	Standard
Application Deadline	February 25 , 2021
Grant Duration:	Approximately 24-36 Months
Anticipated # of Awards:	Approximately 4-5
Maximum Award Amount:	Approximately \$500,000

PART II. AWARD INFORMATION

A. Available Funding

Enactment and implementation of appropriations or authorizing legislation may affect the availability or level of funding for this program. The anticipated amount available for grants in FY 2021 is approximately \$1.9 million. USDA is not committed to funding any particular application or to make a specific number of awards. The [Automated Standard Application for Payments](#), operated by the Department of Treasury, Bureau of Fiscal Service, is the designated payment system for awards resulting from this RFA.

B. Application Restrictions

NIFA will evaluate applications using the criteria described in [Part V](#) of this RFA. Applications for FY 2021 are limited to the following application types:

1. ***New application***: New applications will be evaluated using the criteria described in [Part V](#) of this RFA and are subject to the due dates herein (see [Appendix III](#) for definition).
2. ***Resubmitted application***: Resubmitted applications must include the response to the previous review panel summary and are subject to the same criteria and due dates herein. Resubmitted applicants must enter the NIFA-assigned proposal number of the previously submitted application in the *Federal Field (Field 4)* on the application form (see [Appendix III](#) for definition).

C. Project Types

The following describes the two types of projects that are eligible for funding. Applicants must propose one of the following project types:

1. ***Integrated projects*** focus on research for new alternatives and extension to encourage adoption and implementation of methyl bromide alternatives.

If you are submitting an application for an integrated project, incorporate, and identify, research and extension goals into the proposed project. As a general guideline, no more than two thirds of the project's budget should be devoted to either function. Extension efforts, such as field demonstrations, grower trials, workshops, and distributed information, should result in commercial awareness, understanding, and adoption of new technology and alternatives to methyl bromide fumigation. Economic analysis of the proposed new strategy must be an integral part of the project. Also, include in your proposal the requirements listed below for both integrated and extension-only projects.

2. ***Extension-Only projects*** increase levels of adoption and implementation of pest management strategies by producers and growers.

Extension-only projects facilitate the adoption and implementation of practices that will result in effective management of pests without the use of methyl bromide and will lead to measurable behavior changes in the identified audience or stakeholder group. Project proposals may include development of extension materials and information delivery systems for outreach efforts, conducting field-scale or on-farm demonstrations, or delivery of IPM extension outreach, and training. Document the existence of a research base relevant to the

extension effort. Include an economic analysis of the proposed new strategy as an integral part of the project. Analyses of target population risk perception and economic constraints to adoption are essential for all extension-only projects. Also, include in your proposal the requirements listed below for both integrated and extension-only projects.

Requirements for Both Integrated and Extension-Only projects:

- a. Scalability. Research on alternatives must be at the commercial or field-scale over multiple season/cycles. Large-scale trials will be a key component of successful proposals, as they may identify variability, technical problems, and pest relationships pertinent to marketable yields that may not be evident in small plot trials. Extension-only projects must be conducted at the commercial or field scale.
- b. Economic Analysis. Integrated and Extension-only projects must include an economic analysis with direct comparison of cost effectiveness of proposed alternatives in the absence of methyl bromide to no treatment. Additionally, the following is required:
 - Analysis of the overall transition cost to a new technology, from acquisition of materials and knowledge to efficacy metrics.
 - Analyses of profit margins including information on the cost calculation, the cost/amount of the new technology and the value of the labor used, and any equipment needed for the application.
 - Changes in revenues (e.g., changes in the commodity price or more importantly, changes in quantity of the available commodity for marketing).
 - The appropriate expertise of the team submitting the application to conduct the economic analysis.
- c. Justification. Provide a justification statement in the Project Narrative (see [Part IV § B2ci](#) for more information): (1) to explain the issues and economic losses faced by their commodity since the phase-out of methyl bromide and (2) on how the proposed project could result in economically feasible methyl bromide alternatives.
- d. Extension. Clearly identify Extension personnel involved in the project. Clearly delineate formal extension programs to expedite adoption and implementation of proposed alternatives in the proposal and clearly outline funding for these activities in the Budget Narrative.
- e. Timeline. Explicitly describe timelines for completion of the major objectives in the application for the entire project period, which may range from one to three years from the start date. NIFA expects experiments to be replicated in at least two separate trials and results to be presented to the relevant user community within the time period of the project.
- f. Logic model. All applicants are required to: (1) submit a project-specific logic model chart as part of each application and (2) explain how the proposed work supports the programmatic logic model chart provided in **Table 3**. Include in the logic model chart all of the following: inputs, outputs (participants and activities), outcomes, situation, assumptions, and external factors of the proposed project. See Project Types ([Part II § C](#)) and Content and Form of the Application ([Part IV § B2i](#)) for specific requirements for the inclusion of the logic model within the application. More information and resources related to the logic model planning process are provided at: [Integrated Programs' Logic Model Planning Process](#) and [IPM Planning and Evaluation](#).

Please note: The programmatic logic model chart for the MBT program (**Table 3**) incorporates stakeholder input, anticipated outcomes, and all appropriate elements. NIFA will use the programmatic logic model to guide the development of future funding priorities and to document the impact of investments made by the MBT program.

Table 3: Methyl Bromide Transition Program Logic Model

Inputs	Outputs: Participants	Outputs: Activities/Products	Outcomes/Impacts: Change in Knowledge (Short Term)	Outcomes/Impacts: Change in Actions/Behavior (Medium Term)	Outcomes/Impacts: Change in Condition (Long Term)
Annual appropriation USDA coordination USDA intra-agency coordination U.S. government interagency coordination Program Directors Support Staff Panel Managers Review Panels members Stakeholder and partner comments	Stakeholders Producers and processors Commodity groups General public Colleges and universities Cooperative Extension University scientists and Extension specialists State agencies Federal agencies USDA NIFA	Respond to authorization and appropriation Publish RFA Recruit panel managers and peer review panelists Conduct peer review panel meetings Award funds to meritorious applications Promote the development of alternatives to methyl bromide Communicate positive outcomes to key stakeholders	Gap analysis reveals research needs New options for management of commodity pests developed Existing knowledge adapted to commodity systems Current knowledge is applied to a strategic plan to eliminate methyl bromide between commodity producer and processors and researchers Best management practices available for Extension to communicate to stakeholders New knowledge applied to an evolving strategic plan	New alternatives to methyl bromide both chemical and nonchemical, increasing in usage Best management practices for integrated pest management adopted New technologies and innovations for producers and processors being implemented Economic feasibility and effective methyl bromide alternatives in use	Pests are controlled economically without the use of methyl bromide, complying with the Montreal Protocol and Clean Air Act No further Critical Use Nominations (CUNs) Critical Use Exemptions (CUE) are needed Increased production due to reduced pest losses Reduced environmental risks from environmentally damaging pest control methods Continued production of safe, affordable, and high-quality commodities U.S. production practices adopt and implement appropriate alternatives to methyl bromide, assuring U.S. producers a competitive place in the global marketplace

Logic Model Chart Supporting Information:

Assumptions:

Proposals will address commodities and industries negatively impacted by the phase-out of methyl bromide
 Multidisciplinary teams include economic analysis of the tested alternative
 Integrated projects provide best management practices to producers and processors

External Factors:

Congressional funding/appropriations
 EPA Pesticide Registration
 Montreal Protocol and Clean Air Act
 Methyl Bromide Technical Options Committee (MBTOC) decisions

- g. Project Director Meeting. For all funded projects, at least one member of the project team is required to attend the annual International Methyl Bromide Alternatives Outreach Conference (MBAO) (www.mbao.org) starting with the second year of funding, or another relevant conference if applicable. For the purposes of budget development, applicants are required to request funds to support participation in at least one MBAO conference or an alternative conference approved by NIFA. Show your requests for funds for project director meetings in the budget and budget narrative of the application.

D. Ethical Conduct of Funded Projects

In accordance with sections [2, 3, and 8 of 2 CFR Part 422](#), institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award that the institution will comply with the above requirements. Award recipients must, upon request, make available to NIFA the policies, procedures, and documentation to support the conduct of the training. See [Responsible and Ethical Conduct of Research](#) for further information.

PART III. ELIGIBILITY INFORMATION

A. Eligibility Requirements

Applicants for the MBT must meet all the requirements discussed in this RFA. Failure to meet the eligibility criteria by the application deadline may result in exclusion from consideration or, preclude NIFA from making an award. For those new to Federal financial assistance, NIFA's [Grants Overview](#) provides highly recommended information about grants and other resources to help understand the Federal awards process.

Applications may only be submitted by colleges and universities (as defined by section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, Hispanic-serving agricultural colleges and universities (HSACU) and 1994 Land-Grant Institutions (7 U.S.C. 7626(b)).

Award recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. Failure to meet an eligibility criterion by the application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

Duplicate or Multiple Submissions – duplicate or multiple submissions are not allowed. NIFA will disqualify both applications if an applicant submits duplicate or multiple submissions.

B. Cost Sharing or Matching

Match Required – Applicants **MUST** provide matching contributions at minimum on a dollar-for-dollar basis for all Federal funds awarded under the MBT. By statute, match may include funds from an agricultural commodity promotion, research and information programs.

NIFA may waive the matching funds requirement for a grant if one of the following applies:

1. The results of the project, while of particular benefit to a specific agricultural commodity, are likely to be applicable to agricultural commodities generally; or
2. The project involves a minor commodity, the project deals with scientifically important research, and the grant recipient is unable to satisfy the matching funds requirement.

C. Centers of Excellence

Pursuant to [Section 7214 of the Agricultural Act of 2014 \(Pub. L. 113-79\)](#), NIFA will recognize and prioritize COE applicants that carry out research, extension, and education activities that relate to the food and agricultural sciences. A COE is composed of one or more of the following entities that provide financial or in-kind support to the COE.

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

PART IV. APPLICATION AND SUBMISSION

A. Method of Application

Applicants must apply to this RFA electronically; no other method or response is accepted. The electronic application for this RFA and additional resources are available on [Grants.gov](https://www.grants.gov) and [Grants 101](#). **Table 4** provides instructions on how to obtain an electronic application. **Part II § 1** of the [NIFA Grants.gov Application Guide](#) (Application Guide) contains detailed information regarding the [Grants.gov](https://www.grants.gov) registration process.

Table 4: Steps to Obtain Application Materials

Steps	Action
Step One: Register	<i>New Users</i> to Grants.gov must register early with Grants.gov prior to submitting an application (Register Here).
Step Two: Download Adobe	Download and Install Adobe Reader (see Adobe Software Compatibility for basic system requirements).
Step Three: Find Application	Using this funding opportunity number USDA-NIFA-ICGP-008059 , search for application here: Opportunity Package .
Step Four: Assess Readiness	Contact an AR prior to starting an application to assess the organization’s readiness to submit an electronic application.

Table 5: Help and Resources

Grants.gov Support	NIFA Support
Grants.gov Online Support Telephone support: 800-518-4726 Toll-Free or 606-545-5035 Email support: support@grants.gov Self-service customer based support: Grants.gov iPortal Key Information: Customer service business Hours 24/7, except federal holidays .	Email: policy@usda.gov Key Information: Business hours: Monday thru Friday, 7a.m. – 5p.m. ET, except federal holidays .

B. Content and Form of the Application

The [Application Guide](#) is part of the corresponding application package for this RFA. The RFA overrides the [Application Guide](#) if there is a discrepancy between the two documents. NIFA will accept subsequent submissions to an application until the application deadline. However, applicants that do not meet the application requirements, to include partial applications, risk being excluded from NIFA’s review. NIFA will assign a proposal number to all applications that meet the requirements of this RFA. Applicants must refer to the proposal number when corresponding with NIFA. **Table 6** outlines other key instructions for applicants.

Table 6: Key Application Instructions

Instruction	References (All references are to the <u>Application Guide</u>)
Attachments must be in a portable document format (PDF) format.	Part III § 3
Check the manifest of submitted files to verify attachments are in the correct format.	Part III § 6.1
Conduct an administrative review of the application before submission.	Part VII
Follow the submission instructions.	Part IV § 1.5
Provide an accurate email address, where designated, on the SF-424 R&R.	Part IV § 1.5
Contact the Grants.gov helpdesk for technical support, and keep a record of the correspondence.	
Contact NIFA if applicant does not received correspondence from NIFA regarding an application within 30 days of the application deadline.	

SF 424 R&R Cover Sheet. See **Part V § 2** and **Part V § 2.17** of the [Application Guide](#) for the required certifications and assurances.

Please note the start date for FY 2021 MBT awards can be no later than September 1, 2021.

SF 424 R&R Project/Performance Site Location(s). See **Part V § 3** of the [Application Guide](#).

R&R Other Project Information Form. See **Part V § 4** of the [Application Guide](#).

1. Field 7. Project Summary (PS)/Abstract. The PS must list the names and institutions of the PD and co-PDs. In the first line of the summary, state the type of project you are submitting; for example, “This is an Integrated project” or “This is an Extension-Only project.” Also, the PS must show how the project goals align with the project goals of the MBT program. See **Part V § 4.7** of the [Application Guide](#) for instructions and suggested templates.
2. Field 8. Project Narrative (PN). The PN must not exceed 18 *1.5 spaced* pages of written text, figures and tables (the font size for tables should be no smaller than 11 points, Times New Roman). The page limits outlined here ensure fair and equitable competition. Appendices to the PN are allowed if they are directly germane to the proposed project. Do not add appendices to circumvent the page limit. The PN must include all of the following:
 - a. **Response to Previous Review (if applicable):** The response to previous review must not exceed two pages of *1.5 spaced* text. This does not count towards the page limit for the PN.
 - b. **Introduction:**
 - i. State the project type (Integrated, Extension-Only).

- ii. Include a clear statement of the long-term goal(s) and list the objectives of the proposed project.
 - iii. Summarize the body of knowledge or past activities that substantiate the need for the proposed project including information about or reference to the specific critical issue pest management strategy or similar document with identifiable stakeholder input.
 - iv. Describe ongoing or recently completed activities significant to the proposed project including the work of key project personnel. Include preliminary data/information pertinent to the proposed project. Reference all works cited [see Bibliography & References Cited ([Part IV § B3](#))].
- c. **Rationale and Significance:**
- i. Concisely present the rationale behind the proposed project. Provide a justification statement: (1) to explain the issues and economic losses faced by their commodity since the phase-out of methyl bromide and (2) how the proposed project could result in economically feasible methyl bromide alternatives.
 - ii. Include the economic and yield losses faced by the commodity or industry due to the loss of methyl bromide.
 - iii. Present a clear, concise set of project objectives including cost/benefit analysis of new approaches. For Extension projects: What is the value of adopting the new technology? In this section, describe any novel ideas or contributions that the proposed project offers.
- d. **Objectives:**
- i. Provide clear, concise descriptions of the specific objectives of the proposed project. Clearly number the objectives.
 - ii. Include the description of the appropriate economic analysis for the respective project type. Include the methodology and design for the economic analysis.
- e. **Approach:** Clearly state the activities proposed or problems addressed and clearly describe the approaches applied. Specifically include in this section:
- i. A description of the activities proposed and the sequence in which the activities are to be performed.
 - ii. Methods to be used in carrying out the proposed project, including the feasibility of the methods.
 - iii. Expected outcomes. Provide milestones and verifiable indicators to measure impact across a broad range of criteria (e.g., a timeline for grower adoption of techniques that lead to production, economic, and environmental benefits).
 - iv. Means by which results will be analyzed, assessed, or interpreted. Describe plans to evaluate the outreach component, including means by which data will be analyzed and interpreted, and details of plans to communicate results to stakeholders and the public.
 - v. Describe pitfalls that may be encountered.
 - vi. Describe limitations to proposed procedures.
 - vii. Describe stakeholder involvement in identification of project priorities, their implementation, and adoption.
- f. **Project Timeline:** Provide a timeline for attainment of objectives and for production of deliverables that includes annual milestones with specific, measurable outcomes. Outline all-important phases as a function of time, year by year, for the entire project,

- including periods beyond the grant-funding period. Proposals that are non-compliant with the requirement for a timeline will be at risk of being excluded from NIFA review.
- g. **Cooperation and Institutional Involvement:** Cooperative, multi-institutional and multidisciplinary applications are encouraged. Where applicable, identify each institutional unit contributing to the project and designate the lead institution or institutional unit. Clearly define the programmatic roles, responsibilities and budget for each institutional partner.
 - h. **Data Management Plan:** Two-Page Limit. The pages for the Data Management Plan do not count toward the 18-page limit for the project narrative. See below for details.
 - i. **Logic Model Chart:** Required. Three-Page Limit. All applications require submission of a logic model chart. See the specific requirements for logic models in [Part II § C](#). The project-specific logic model must provide details for the: inputs, outputs (activities and participants), and outcomes, situation, assumptions, and external factors of the proposed project. The logic model planning process may also be used to develop your project before writing your application. Format this information as a logic model chart. Refer to the logic model chart in your project description, evaluation plans, and elsewhere, as applicable. Title the attachment as 'Logic Model' and save file as 'LogicModel'. Other Attachments. The font for the logic model chart may be smaller than the 12-point font required for the project narrative. The pages for the logic model chart do not count toward the 18-page limit for the project narrative. **Proposals that are non-compliant with the requirements for a logic model chart will be at risk of being excluded from NIFA review.** For samples and templates see [IPM Planning and Evaluation](#); additional information is available on the NIFA and University of Wisconsin web sites: [Integrated Programs' Logic Model Planning Process](#); [Logic Model Planning Process](#); and [Program Development and Evaluation](#).

Please note: The programmatic logic model chart for the MBT program (**Table 3**) incorporates stakeholder input, anticipated outcomes, and all appropriate elements. NIFA will use the programmatic logic model to guide the development of future funding priorities and to document the impact of investments made by the MBT program.

- j. **Summary of Previous Work on Methyl Bromide Alternatives:** Provide a summary of your work on methyl bromide alternatives that was previously funded from all sources (if applicable), progress toward completion, general conclusions and remaining funds balances.
- k. **Centers of Excellence Justification:** Applicants requesting consideration of COE status must include their justification at the end of their Project Narratives and within the page limits provided for the project narrative.

For consideration as a COE, you must provide a brief justification statement, as part of your Project Narrative and within the page limits provided, which describes how you meet the standards of a COE, based on the following criteria:

1. The ability of the COE to ensure coordination and cost effectiveness by reducing unnecessarily duplicative efforts in the research, teaching, and extension activities outlined in this application;
2. In addition to any applicable matching requirements, the ability of the COE to leverage available resources by using public-private partnerships among agricultural

- industry groups, institutions of higher education, and the federal government in the proposed research and/or extension activities outlined in this application. Resources leveraged be commensurate with the size of the award;
3. The planned scope and capability of the COE to implement teaching initiatives that increase awareness and effectively disseminate solutions to target audiences through extension activities of the proposed research and/or extension activity outlined in this application; and
 4. The ability or capacity of the COE 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), COE 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).

3. Field 9. Bibliography & References Cited. See **Part V § 4.9** of the [Application Guide](#).
4. Field 12. Add Other Attachments. See **Part V § 4.12** of the [Application Guide](#).

R&R Senior/Key Person Profile (Expanded). See **Part V § 5** of the [Application Guide](#) for profile requirements, details about the biographical sketch, and suggested support templates.

R&R Personal Data. This information is voluntary and is not a precondition of award (see **Part V § 6** of the [Application Guide](#)).

R&R Budget. See **Part V § 7** of the [Application Guide](#).

1. Match – If an applicant concludes that the matching requirements described under [Part III § B](#) of this RFA is not applicable to them; the applicant must include an explanation of their conclusion in the *budget justification*. NIFA will consider this justification when determining final matching requirements or if required matching can be waived. NIFA retains the right to make final determinations regarding matching requirements. Grants that require matching funds as specified under [Part III § B](#) of this RFA must list in their *budget justification* the matching sources, the identification of the entity(ies) providing the match, and the total pledged amount. A written verification of commitments of matching support (a pledge agreement) is not required. However, applicants are subject to the documentation, valuing and reporting requirements, as specified in [2 CFR Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards \(the Uniform Guidance\),”](#) and [7 CFR 3430, “Competitive and Noncompetitive Non-Formula Federal Assistance Programs – General Award Administrative Provisions.”](#)
2. Indirect costs (IDC) – See [Part IV § C](#) of this RFA for funding restrictions regarding indirect cost, and **Part V § 7.9** of the [Application Guide](#) for additional information.
3. Project Director Meeting. MBT awardees are required to have at least one member of the project team attend the annual International Methyl Bromide Alternatives Outreach Conference starting with the second year of funding, or another relevant conference if applicable. Funds must be included in the budget with details included in the budget narrative. See [Part II § C](#) of this RFA.

Data Management Plan. A DMP is required for this program. Applicants should clearly articulate how the project director (PD) and co-PDs plan to manage and disseminate the data generated by the project. The DMP will be considered during the merit review process (see [Part V § B](#) of this RFA, [Part III § 3.1](#) of the [Application Guide](#) and [NIFA’s Data Management Plan](#)).

Supplemental Information Form. See [Part VI § 1](#) of the [Application Guide](#).

1. Field 2. Program to which the applicant is applying. Enter the program “**Methyl Bromide Transition**” and the program code “**112.C.**” Accurate entry is critical.
2. Field 8. Conflict of Interest List. See [Part VI § 1.8](#) of the [Application Guide](#).

Representations Regarding Felony Conviction and Tax Delinquent Status for Corporate Applicants. This is required for corporate applicants. See [Part VI § 2](#) of the [Application Guide](#) for a description of the term, “corporation.”

C. Funding Restrictions

Indirect Cost (IDC) not to exceed 30 percent of Total Federal Funds Awarded (TFFA) of the recipient. Section 1462(a) and (c) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) limits IDC for the overall award to 30 percent of Total Federal Funds Awarded (TFFA) under a research, education, or extension grant. The maximum IDC rate allowed under the award is determined by calculating the amount of IDC using:

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

Additional restrictions on indirect costs may be imposed at time of award, when required by law, such as in the annual appropriations act that provides funding for the program.

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

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

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

In the event of an award, the prime awardee is responsible for ensuring the maximum indirect cost allowed for the award is not exceeded when combining IDC for the Federal portion (i.e., prime and sub-awardee(s)) and any applicable cost-sharing (see 7 CFR 3430.52(b)). Amounts exceeding the maximum allowable IDC are considered unallowable. See sections 408 and 410 of 2 CFR 200.

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

PART V. APPLICATION REVIEW REQUIREMENTS

A. NIFA's Evaluation Process

NIFA evaluates each application in a two-part process. First, we screen each application to ensure that it meets the administrative requirements as set forth in this RFA. Second, a scientific peer-review process will be used to technically evaluate applications that meet the administrative requirements using a review panel (see [NIFA Peer Review Process](#)).

Scientific Peer Review Process:

NIFA selects reviewers for the review panel based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors:

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

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

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

After the review process has been completed, NIFA sends copies of reviews, *not* including the identity of reviewers, and a summary (if applicable) of the review panel comments to the PD.

Conflicts of interest. NIFA takes extreme care to prevent any actual or perceived conflicts of interest that may influence the review or evaluation (see [NIFA Peer Review Process for Competitive Grant Applications](#)).

B. Evaluation Criteria

Integrated and Extension-Only Proposals

1. Proposal Technical Merit and Quality (45 points)

This criterion will be used to assess the likelihood that the proposal will have an impact upon and advance the goals of the MBT program. Elements that will be considered include:

- a. The description and documentation of project objectives and outcomes of the problem to be

addressed; the needs of the commodity, industry or regulatory sector; and the problems faced because of the loss of methyl bromide.

- b. The description of the proposed implementation of methyl bromide alternatives and the appropriate extension activities for adoption of the alternatives, and formal extension and economic analysis to expedite the adoption of proposed alternatives delineated in a measurable, outcome-oriented plan in the proposal.
 - c. The conceptual soundness of the proposed approach including appropriate research hypotheses.
 - d. The description of the suitability, feasibility, originality, and innovation of the proposed approach, procedures, or methodologies; description of potential commercial applications with costs (both fixed and recurring) including the transition costs to the proposed alternative methods; and the inclusion of a comparison of the costs and efficacy of the commercially-used quantity of methyl bromide that might be replaced by the alternative methods.
 - e. Preliminary data that demonstrates feasibility of the proposed research.
 - f. Properly designed economic analysis methodology that clearly demonstrates the cost of the methyl bromide alternative(s). Proposals that simply state that the project will conduct an economic analysis without describing the methodology and participation of appropriate personnel to conduct the analysis do not meet this criterion.
 - g. The level of scientific originality and risk-reward balance that indicate a high probability of project success.
 - h. Description of the suitability and feasibility of the data management plan.
2. *Qualifications of Project Personnel, Adequacy of Facilities, and Project Management (20 points)*
- a. Adequate documentation that the project is directed toward specific research and/or extension program area priorities identified in this RFA.
 - b. The description and documentation of stakeholder needs for the proposed work.
 - c. Suitable and feasible plan and methods for evaluating success of project activities and for documenting potential impact(s) with measurable short and mid-term outcomes.
 - d. The description of the proposal's plan for adoption and implementation of results generated by the project, and description of cost-effective approaches and criteria to measure and assess the adoption, implementation, and potential impact(s) of the project.
3. *Project Relevance (35 points)*
- This criterion will be used to assess the likelihood that the proposal will address the needs of commodities impacted by the loss of methyl bromide and will advance goals of the MBT program. Elements considered include:
- a. Adequate documentation that the project is directed toward specific research and/or extension program area priorities identified in this RFA.
 - b. The description and documentation of stakeholder needs for the proposed work.
 - c. Suitable and feasible plan and methods for evaluating success of project activities and for documenting potential impact(s) with measurable short and mid-term outcomes.
 - d. The description of the proposal's plan for adoption and implementation of results generated by the project, and description of cost-effective approaches and criteria to measure and assess the adoption, implementation, and potential impact(s) of the project.

C. Confidential Aspects of Applications and Awards

When an application results in an award, it becomes a part of NIFA transaction records, which are available to the public. Information that the Secretary of Agriculture determines to be confidential,

privileged, or proprietary in nature will be held in confidence to the extent permitted by law. Therefore, applicants should clearly mark any information within the application they wish to have considered as confidential, privileged, or proprietary. NIFA will retain a copy of an application that does not result in an award for three years. Such an application will be released only with the consent of the applicant or to the extent required by law. An applicant may withdraw at any time prior to the final action thereon.

D. Regulatory Information

This program is not subject to the provisions of [Executive Order 12372](#), which requires intergovernmental consultation with state and local officials. Under the provisions of the [Paperwork Reduction Act of 1995 \(44 U.S.C. Chapter 35\)](#), the collection of information requirements contained in this notice have been approved under [OMB Document No. 0524-0039](#).

APPENDIX I: AGENCY CONTACT

Programmatic Contact

Name	Email	Telephone
Amer Fayad	amer.fayad@usda.gov	816-894-7228

For administrative questions related to

- Grants.gov, see [Part IV](#) of this RFA
- Other RFA or application questions, please email policy@usda.gov
- Awards under this RFA, please email awards@usda.gov

U.S. Postal Mailing Address:

National Institute of Food and Agriculture
U.S. Department of Agriculture
P.O. Box 419205, MS 10000
Kansas City, MO 64141-6205

Courier/Package Delivery Address:

National Institute of Food and Agriculture
United States Department of Agriculture
2312 East Bannister Road, MS 10000
Kansas City, MO 64141-3061

APPENDIX II: GLOSSARY OF TERMS

Name	Acronyms
Authorized Representative	AR
Agricultural Research, Extension, and Education reform Act of 1998	AREERA
Catalog of Federal Domestic Assistance	CFDA
Center of Excellence	COE
Data Management Plan	DMP
Methyl Bromide Technical Options Committee	MBTOC
National Institute of Food and Agriculture	NIFA
Request for Application	RFA
Research, Education, and Economics	REE
United States Department of Agriculture	USDA

APPENDIX III: DEFINITIONS

Refer to 7 CFR 3430 [Competitive and Noncompetitive Non-formula Federal Assistance Programs – General Award Administrative Provisions](#) for additional definitions.

Terms	Definitions
Integrated Pest Management (IPM)	Is “a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health and environmental risks.” (Food, Conservation, and Energy Act of 2008). The National IPM Roadmap (2018) provides further description of IPM (see A National IPM Road Map).
Integrated Project	A project incorporating two or three functions of the agricultural knowledge system (research, education, and extension) around a problem or activity. For the MBT program, research and extension must be included in integrated projects.
Matching	The process through which a grant recipient match awarded USDA funds with cash and in-kind contributions on a dollar-for-dollar basis. The matching funds must derive from non-Federal sources.
Multidisciplinary project	A project in which investigators from two or more disciplines collaborate to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.
New Application	An application not previously submitted to a program.
Partnership	Requires that all partners have a substantial involvement in the project throughout the life of the project. If a partnership between multiple entities is proposed, the proposal must clearly identify the following: <ol style="list-style-type: none"> 1. A narrative of each entity's clearly established role in the project; 2. How each entity involved as a partner on the project will contribute to execution of project objectives, determine experimental design, develop the project work plan and time table, and submit collaborative, timely reports; and 3. A comprehensive project budget that reflects each entity's financial or in-kind contribution to the total project budget costs.
Resubmitted Application	A project application that was previously submitted to a program, but the application was not funded.