CALL FOR PROPOSALS

PREFACE – This is the eighth year of the Pulse Crop Health Initiative (PCHI). The Steering Committee of the Initiative is leading a process to develop and execute a comprehensive pulse crop research strategy, that within budgetary constraints, provides recommendations to the USDA-ARS for yearly project funding. The Steering Committee seeks plans of work for Fiscal Year 2026 (FY26) to address important research areas related to the health and nutritional benefits of pulse consumption, the functional attributes of pulses as food ingredients, and the agroecosystem sustainability of pulse production. **The deadline for FY26 submissions is April 20, 2026 (Midnight, Central Standard Time).**

INTRODUCTION – The goal of the Pulse Crop Health Initiative is to use collaborative research about pulse crops (dry peas, lentils, chickpeas, and dry beans) to provide solutions to the critical health and sustainability challenges facing the citizens of the United States and the global community. Expected outcomes of this Initiative are to discover and promote the health and nutritional benefits of regular pulse consumption, to enhance the sustainability of the global food supply through optimized production of pulses, and to increase the consumption of pulses through enhanced functionality of whole pulses and pulse ingredients in foods. The Initiative is guided by a Steering Committee that includes commodity group, food industry, health community, and ARS representatives. A comprehensive research plan has been drawn from a previously developed Pulse Health Initiative Strategic Plan, which arose from strategic planning sessions that included industry, academic, and government representatives (available at https://www.usapulses.org/pchi). This plan is the Initiative's recommendation for how the USDA-ARS can most effectively employ the funds appropriated by the U.S. Congress for collaborative pulse crop research efforts that are of the highest national priority and scientific merit.

The Initiative is now asking for plans of work for potential research projects for funding in FY26. Submitted plans of work will be evaluated by both an independent Scientific Review Panel and by the review committees of affiliated industry groups. Those judged to have scientific merit will be asked to prepare final plans containing authorized organizational signatures, revised budgets, and any required changes in the proposed research, within 15 days from receipt of notification. Research must be focused on the following pulse crops: dry peas, lentils, chickpeas, or dry beans. Plans of work addressing more than one of these pulse crops will receive priority during the review/funding process. Plans of work will be considered for all classes of pulse crops. The inclusion of other crops as part of the research activities will be accepted, provided at least one of the four pulse crops remains the primary focus of the proposal.

Plans of work will be accepted for research pertaining to any/all of the following research areas:

1. **Human Health Improvement & Chronic Disease Prevention**
2. **Functionality Traits & Crop Improvement**
3. **Sustainability of Pulse Production Systems**

The following are priority areas for FY26 funding:

Human Health Improvement & Chronic Disease Prevention

- Evaluate the effects of pulse consumption within healthy dietary patterns using controlled human studies or longitudinal cohort designs. Examine biological mechanisms and impact on key health endpoints (e.g., type 2 diabetes risk factors, cardiovascular risk factors, obesity/overweight, inflammation, microbiome and gut health outcomes, and longer-term outcomes such as disease incidence, progression, and healthy aging).
- Conduct well-designed human studies, including intervention trials and longitudinal cohort studies, to compare dietary patterns with differing levels of pulse inclusion, with outcomes assessed over time and defined dietary comparators where feasible.
- Determine the optimal daily/weekly amount of pulse intake (or the dose response relationship) as

it pertains to overall diet quality, nutrition outcomes, and/or health outcomes. Approaches may include human studies, as well as modeling and secondary analyses of existing datasets where appropriate.
- Determine the health benefits of pulse consumption at various life stages (e.g., children, adolescents, women of reproductive age, pregnant or lactating women, and older adults).
- Identify and validate biomarkers of intake for various pulses to improve measurement accuracy and study quality.
- Identify barriers to pulse consumption. Evaluate strategies to increase consumption, acceptance, and consumer understanding, including practical approaches to improve intake.

Functionality Traits & Crop Improvement
- Assess the impact of processing (i.e., dry fractionation, wet fractionation, extrusion, heat treatment, etc.) on digestibility (i.e., PDCAAS) and nutritional value (antinutritional factors, micronutrients, bioactive compounds, etc.) of pulse ingredients such as protein concentrates, protein isolates, texturized pulse proteins.
- Optimize processing conditions and formulations to improve the acceptability, flavor, nutritional value, or health attributes of foods made with pulses.
- Evaluate functional properties of protein and other pulse fractions/ingredients and optimize their use in food applications.
- Develop high-throughput functionality measures that breeders and industry can use to assess functional characteristics of novel germplasm or current varieties.
- Determine factors (genetic or environmental) affecting the functional properties of pulse foods as ingredients in different food applications.
- Determine the variability in chemical/nutritional composition of pulse crops and determine factors (agronomic, genetic or environmental) that influence that variation.
- Develop pulse varieties with improved nutritional or functional attributes, combined with enhanced agronomic traits, and disease and pest resistance.

Sustainability of Pulse Production Systems
- Assess the water footprint and demonstrate the value of improved water use efficiency in pulse-small grain cropping systems (e.g., field studies; life-cycle analyses).
- Determine the carbon footprint and assess the value of pulse cropping systems on soil carbon sequestration and the reduction of greenhouse gas emissions.
- Build on the recently published life-cycle analysis (LCA) of pulse crops grown in the U.S*, by investigating practices to reduce greenhouse gas emissions at both regional and national levels, with the goal of making pulse crops a net-zero protein source.
- Develop improved pulse varieties that fix more nitrogen and identify enhanced plant-rhizobia interactions that yield superior nitrogen-fixing capacity.
- Develop agronomic strategies to improve soil health indicators through the incorporation of pulses in cropping systems.
- Evaluate the effects of consuming pulses at different levels, in accordance with the latest Dietary Guidelines, on sustainability metrics and outcomes, such as carbon footprint, water usage, ecological impact, and soil health. This assessment aims to improve existing system models and enhance agricultural systems overall.

* Bandekar, P.A., B. Putnam, G. Thoma, M. Matlock. 2022. Cradle-to-grave life cycle assessment of production and consumption of pulses in the United States. J. Env. Mgmt. 302:114062

A single PI may submit up to two plans of work; however, each plan (i.e., proposed project) will be

handled as a distinct, autonomous and complete submission**.** Submitted plans of work should be for a finite duration in time (typically 2 to 4 years), as the Steering Committee encourages the conceptual development of multi-year projects to address long-term research needs. **However, funds will be distributed to cooperators for 12-month periods.** Funding decisions for the continuation of multi-year projects will be based on progress made as defined in the following section, on fund availability and scientific priorities, as well as the current Status-of-Funds (Federal Financial Status Report prepared by the institution's accounting office) of any prior PCHI award(s) to the receiving project. The long-range goal of the Steering Committee is to make the Initiative an annually funded program (based on need) to ensure multi-year project continuity. During the FY26 cycle, new Non-Assistance Cooperative Agreements (NACA's) for those receiving Year 1 project funds will be in effect August 1, 2026 through July 31, 2027. Subsequent amendments, dependent on progress and available Initiative funding, may extend the agreement for up to four years. *NACA's are limited to a maximum of four years by Federal statute. PI's should ensure all funding is expended at least 30-60 days prior to the Term Date listed on the REE-451 cover sheet of the agreement.*

SUBMISSION DEADLINE and REVIEW PROCESS - The deadline for submitting plans of work (Application Packet) is **April 20, 2026**. Plans of work received on or before that date will be initially reviewed for completeness and then will be forwarded to an independent Scientific Review Panel and to Affiliated Group review committees from each participating industry organization. The PCHI Steering Committee will follow Scientific Review Panel recommendations as closely as possible.

The Scientific Review Panel(s) will judge each submitted plan of work using the following criteria:

1. **Scientific Merit, Conceptual Adequacy & Innovation** – is the work well conceived? Is the planned work novel? Does it include an innovative approach to answering the objectives? Are the methods and procedures appropriate? Are hypotheses and objectives clearly delineated? Is the work feasible as defined? What is the probability that the described research will be completed within stated time frames? Does the work duplicate existing or previously conducted research?

2. **Institutional Qualifications** – are the researchers qualified to conduct the proposed study? Are researchers aware of current literature on the proposed area of study? Are available facilities, instrumentation, equipment, personnel, and existing funding adequate to provide proper augmentative support of the proposed study? Are the requested dollars adequate, excessive, or too low to complete the study?

3. **Relevance and/or Progress** – does the proposed study address the prioritized needs of the Initiative? Does the study directly relate to action items determined from the Initiative Strategic Plan? Will the work lead to development of new knowledge or new technology to provide solutions to the critical health, functionality, and sustainability challenges? Progress will be documented through semi-annual reporting of research progress and financial assessments.

If you have any questions regarding the submission process, forms, etc., please contact Roy Scott, National Program Leader, Office of National Programs, USDA-ARS, Beltsville, MD, roy.scott@usda.gov or Annette Muehler, Center Director Secretary, Edward T. Schafer Agricultural Research Center, Fargo, ND, annette.muehler@usda.gov.

For questions regarding Non-Assistance Cooperative Agreement (NACA's), please contact: Kristy Brown, USDA-ARS, Ft. Collins, CO; kristy.brown@usda.gov

Please note that plans of work will be regarded as confidential documents. Distribution will be limited to

parties involved with the review process.

To be considered for FY26 funding, an electronic copy (submitted as a Word file via email) of each complete plan of work must be received no later than midnight (CST) April 20, 2026. It should be emailed to Yukiko Naruoka (ynaruoka@usapulses.org) with a copy (cc) to Annette Muehler (annette.muehler@usda.gov**).**

A confirmation email will be sent upon receipt of the submission.

Please note that FY26 templates MUST be used. Potential principal investigators (PIs) should carefully read the instructions, etc. and ensure that their plans of work conform exactly to the described format and that all required documents are included with the application and are received by the deadline of April 20, 2026. **USDA-ARS applicants must include the completed budget form (attached).**