USDA Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

Plant Protection Act Section 7721

Fiscal Year 2026 Implementation Plan

Plant Pest and Disease Management and Disaster Prevention Programs

and

The National Clean Plant Network

Contents

Introduction

Under the Plant Protection Act Section 7721 (PPA 7721), the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) annually makes funds available to cooperators—from state and federal agencies, Tribal nations, colleges and universities, non-profit organizations, and industry—to support projects that protect specialty crops, nursery systems, forestry, other agricultural production systems, and natural resources from harmful and invasive plant pests and pathogens. It authorizes permanent funding for the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP) and the National Clean Plant Network (NCPN), at $75 million per year.

Since 2009, APHIS has supported more than 5,890 projects and provided nearly $940 million in funding through PPA 7721. These projects have played a significant role in our efforts to protect American agriculture and educate the public about the threat posed by invasive species. For fiscal year (FY) 2025, the PPA 7721 program received submissions for 607 suggestions requesting over $149 million in funding, including $134.1 million requested for 584 PPMDPP projects and $15.5 million requested for 23 NCPN projects.

PPA 7721 Overview

Under PPA 7721, APHIS offers funding for projects that enhance our ability to safeguard agriculture and facilitate safe agricultural trade. Cooperators nationwide use this funding to strengthen plant pest exclusion systems, optimize domestic pest management and eradication programs, keep commodities moving in commerce without spreading pests and diseases, and expand market opportunities for U.S. products. This work is critical to the USDA mission and helps American agriculture thrive.

Many organizations play a crucial role in protecting our Nation's agriculture, environment, and natural resources from plant pests and diseases. APHIS works closely with numerous federal agencies, state governments, Tribal nations, industries, academia, and other collaborators to develop and implement scientifically-sound approaches to pest detection, surveillance, and eradication. APHIS is responsible for coordinating the identification and prioritization of plant pest threats of national interest, identifying survey protocols, prescribing pest diagnostic procedures, confirming taxonomic identity of plant pests, administering cooperative agreements with cooperators to carry out pest and disease detection surveys, ensuring timely recording and reporting of survey results, and coordinating regulatory responses to pest and disease outbreaks.

Agencies within USDA that may partner with APHIS on PPA 7721, include:

- Agricultural Research Service (ARS) - conducts research, searches for biological control agents in foreign countries, and coordinates the development of certain high-priority National Plant Disease Recovery preparedness documents in response to Homeland Security Presidential Directive 9—Defense of United States Agriculture and Food. ARS also serves as a technical liaison to the U.S. Environmental Protection Agency on pesticide issues via the USDA's Office of Pest Management Policy.
- U.S. Forest Service - manages pests (including survey activity) in national forests and coordinates similar efforts with state and private foresters.

- National Institute of Food and Agriculture (NIFA) - provides outreach to and training for first detectors, oversees the National Plant Diagnostic Network, and conducts diagnostic response exercises for pests of regulatory significance. When a pest cannot be eradicated, NIFA, through the Land Grant University system, may provide funding for research to support long-term control efforts.

As required to implement Section 7721 of the Plant Protection Act, APHIS seeks input from the National Plant Board and state departments of agriculture. State departments of agriculture play a critical role by carrying out plant pest and disease detection surveys. States also carry out specific delimiting surveys to support control and eradication programs. States often lead regulatory responses to new plant pests in accordance with APHIS national policy, sometimes in conjunction with APHIS under the Incident Command System (ICS). APHIS also consults with Cooperative Agricultural Pest Survey (CAPS) cooperators, the Specialty Crop Farm Bill Alliance, industry organizations, and other governmental and non-governmental stakeholders to implement PPA 7721.

Expanded and enhanced partnerships with plant industries and academia have created opportunities for information sharing, coordinated plant pest and disease detection, and reporting activities. Collaboration and cooperation, based on well-established partnerships between plant industries, state officials, academia, and APHIS, remains the catalysts for continued success. APHIS' partnerships are essential to the success of actions identified in this implementation plan, as well as future strategies.

APHIS continues to bridge the gaps between a myriad of pest detection and surveillance programs and increase the diagnostic capacity for plant pests and diseases. By better integrating and coordinating federal, state, and industry efforts on this front, APHIS can develop a more comprehensive picture of plant health in the United States based on solid, accurate data. This information will help to facilitate and enhance trade opportunities for U.S. plant producers and nursery growers. APHIS will adjust to evolving plant pest and disease concerns; projects addressing pests of specialty crops will remain a high priority for the PPDMDPP.

Guidance for Submitting Suggestions

This document provides guidance for submitting suggestions that fall within the scope of the PPDMDPP and NCPN. Each year a funding interval opens for suggesters to submit suggestions, also referred to as the Open Period, which is typically late spring through summer. Given the extremely competitive nature of the PPA 7721 program, not all projects will receive funding.

National Clean Plant Network

The NCPN, receiving a minimum of $5 million annually from the $75 million in PPA 7721 funding, focuses on establishing clean plant center networking, diagnostic, therapeutic, and foundation plantings. This section of PPA 7721 strives to establish and support a network of clean plant centers to provide high quality asexually propagated plant material free of targeted plant pathogens that cause economic loss, and to protect the environment and ensure the global competitiveness of specialty crop producers. The resulting plant material is then made available to states in support of nursery certification programs and to nurseries, growers, and other users of

clean nursery stock. More information on the NCPN goals, objectives, and strategies for interested applicants can be found in **Appendix A**. The NCPN website provides further information on the Program's application process, which is independent of the PPDMDPP process.

Plant Pest and Disease Management and Disaster Prevention Program

PPDMDPP funds projects focused on critical needs and opportunities to prevent against, detect, and mitigate invasive plant pests and diseases. PPDMDPP funding is intended to support short to medium-term projects that enhance the safeguarding of U.S. agriculture and/or facilitate trade. Suggestions are to be written for a one-year (12 month) timeframe. Suggestions that will require multiple years to achieve success can be submitted. However, these suggestions must clearly state deliverables and anticipated budget for the current year, and ensure the requested amount is appropriate for one year of activity. Receiving funding for a suggestion in one year does not guarantee or imply funding for subsequent years. Suggestions with a finite timeframe and clear goals and deliverables will be given preference over projects that are likely to take several years to complete. For more information, including program resources, visit the PPDMDPP website.

PPDMDPP projects are organized around six goal areas. Descriptions of the goal areas, and objectives, strategies, and rationale for each goal are included in this document.

In the project suggestion, it is essential to outline the:

- Desired goal(s) of the project – what is going to be accomplished;
- Strategy/process to be used in the project – how will goals be accomplished;
- Milestones and the timeline – what are the specific activities and when will they be completed; and
- Anticipated results or impacts of the goal, including how the results or impacts will be measured and success is determined.

For more information on submitting a PPDMDPP suggestion, refer to **Appendix B**.

Rapid Response

Suggestions submitted during the Open Period that focus on responding to a plant pest emergency may be selected for Rapid Response funding. Typically, these suggestions focus on an immediate need for mitigation or treatment, but may also include survey, outreach, or other activities in direct support of an emergency response. The suggestion must clearly identify the budget amounts being requested for the various objectives/components of the project. Suggestions funded through Rapid Response will be announced after the Spending Plan is released. Emergencies that occur after the Open Period has closed can also potentially receive Rapid Response funding. States are encouraged to work with their State Plant Health Director and the pest cross functional working group for assistance in these situations.

Review Criteria

Suggestions are reviewed to identify high quality suggestions that will have meaningful impacts. Reviewers will evaluate suggestions on several criteria, including:

- Alignment with PPDMDPP goal area, objectives, and strategies;

- Benefits for pest surveillance and management efforts;
- Impacts on/benefits to specialty crops and agricultural industries;
- Alignment with PPQ priorities (See **Appendix C**);
- Likelihood of project success;
- Prior/relevant experience of the cooperators;
- Validity of scientific and technological merit; benefits compared to existing technology;
- Appropriate project timeline for intended deliverables; and
- Reasonable budget with adequate detail/description and justification to ensure appropriate use of funds.

Ineligible Expenses
To ensure consistent and proper use per Congressional intent, funding cannot be used to:

- Purchase vehicles (lease, vehicle fuel, and routine maintenance are allowed);
- Build or purchase structures;
- Pay the salaries of permanent Animal and Plant Health Inspection Service-Plant Protection and Quarantine (APHIS-PPQ) staff; or
- Develop or maintain IT applications and systems that:
  - Are duplicative of other PPQ initiatives or PPA 7721 funded projects;
  - Contain personally identifiable information; or
  - Require long-term PPA funding.

Refer to **Appendix D** for further information.

Appendices for Goal areas
In addition to the information under each goal area section, make sure you read the relevant appendices for goals 1S (**Appendix E**), 2 (**Appendix F**) and 3 (**Appendix G**).

Utilization of Canines
Any suggestion that includes a canine component should refer to **Appendix F** for additional information on canine training and utilization requirements, and health and wellness standards for canine teams.

ServiceNow
PPDMDPP suggestions are submitted using the online ServiceNow platform, during the annual Open Period, which occurs in the late spring and summer. Guidance documents for submitting suggestions in ServiceNow can be found on the PPDMDPP website.

Accomplishment Report
If funding was previously provided, the suggester must provide an update on the status of the project/work-to-date. Upload a report when submitting the next suggestion for continued funding, showing progress towards completion of the previous project's objectives and deliverables. A cooperative agreement Accomplishment or Progress Report can be utilized, if it provides the necessary detail, though other formats are acceptable.

PPDMDPP Goal Area Overview

PPA 7721's PPDMDPP is organized into six goal areas; each goal is described with specific objectives and implementation strategies. Each PPDMDPP project suggestion must clearly align with a single goal area, and provide detailed information on project methodology, activities, and milestones, as well as a detailed budget. The budget should include information on all cooperators and contractors (if applicable) and provide justification for funding. Suggestions that include new and innovative strategies for meeting the objectives are encouraged. Project suggestions submitted to the incorrect goal area, that span more than one goal area, or that fail to use the correct budget or goal 1S templates, will not be considered for funding. Suggestions must also be submitted in English for consideration.

Goal 1A – Plant Pest and Disease Analysis

Goal 1A strives to enhance the analysis of available data to make informed decisions to assess plant pest threats. This includes development of new and innovative data analytic approaches or algorithms to improve predictive modeling and surveillance efficiency for invasive pest species. *Goal 1A is not intended to fund experimental work, surveys/monitoring, or observational studies to generate data.* Other goals may be suitable to fund surveys or experimental work. Goal 1A could fund the analysis portion of multiyear surveys once the data has been collected or through the leveraging or synthesis of complementary data sets for modeling or predictive purposes.

Goal 1A Objectives and Strategies

Objective 1: Develop analytical tools or methodologies that help APHIS or state partners identify or define pest and pathway risks using available data.

> ***Strategy 1:*** Development or application of decision support algorithms, approaches, or tools integrating data from various sources for prioritizing areas for surveillance.
>
> ***Strategy 2:*** Develop and implement data-sharing protocols across APHIS, Customs and Border Protection, and other agencies for commercial data analysis.
>
> ***Strategy 3:*** Identify and use appropriate offshore, port of entry, and domestic datasets for analyzing pathways for risk of pest introductions.

Objective 2: Develop risk-based models and decision-support algorithms, approaches, or tools to reduce the entry, establishment, and spread of plant pest species.

> ***Strategy 4:*** Better define biotic and abiotic variables, detect patterns, and test hypotheses that improve the understanding of where an invasive pest may enter, establish, and spread.
>
> ***Strategy 5:*** Conduct evaluation of analytical and resource allocation techniques to optimize decision making.
>
> ***Strategy 6:*** Better define variables that help determine whether an invasive pest will cause economic impact.

Goal 1A Rationale
There is a critical need to assess plant pest threats due to increases in passenger travel, trade, and interstate and international movement of plant products. Analytical tools and approaches could help APHIS target high-risk pathways to prevent pest entry and prepare for the potential establishment of high-risk pests. They could also help APHIS allocate survey resources more strategically and better understand invasion biology infestations so that it can effectively respond to and/or reduce plant pest incursions.

Goal 1S – Plant Pest and Disease Survey

This goal provides funding for survey work and provides taxonomic expertise and increases identification capacity to enhance APHIS' plant pest surveillance activities and facilitate the early detection of invasive plant pests. Early detection of invasive plant pests allows for more options when considering the appropriate response and improves the likelihood of a successful outcome. APHIS' plant pest surveillance activities offer an essential safeguard that complements offshore preclearance and port of entry activities.

This goal area fosters alignment between Goal 1S surveys and other pest surveillance surveys (for example, the CAPS Program) or surveys supporting domestic program pests. APHIS' pest surveillance activities continue to encourage surveys targeting multiple pests based on commodities, taxa, environments and habitats, industries and businesses, and high-risk pathways.

Goal 1S Objectives and Strategies
Objective 1: Conduct invasive plant pest surveys, and provide taxonomic expertise and increase diagnostic capacity in support of agriculture crops, specialty crops, trade, and identified program surveys listed below under Survey Strategy.

> ***Strategy 1:*** Conduct National Priority Surveys, Pest Program Surveys, and Cooperator Surveys, for invasive plant pest introductions across the United States, with broad participation by states, universities, and Tribes.
>
> ***Strategy 2:*** Provide taxonomic expertise and increase capacity for preliminary identification needs for plant pest surveys and provide cost-efficient identification centers that accept and process survey samples from other states.
>
> - Provide expert systematic and taxonomic identification services for samples collected from PPA 7721 Goal 1S surveys, APHIS' pest detection activities, and CAPS surveys.
>
> **Note**: Suggestions should focus on the processing and identification of survey samples only. Other products such as screening aids, job aids, training materials, and/or workshops should be submitted under PPA 7721 Goal 3. Outreach focused efforts should be submitted under PPA 7721 Goal 5.

Objective 2: Target multiple high-risk pathways across the United States to prevent invasive plant pest introductions and improve preparedness and response capabilities.

> ***Strategy 3:*** Conduct surveys targeting multiple pathways for invasive pest introduction, to increase knowledge about the distribution and risk of plant pests.

Goal 1S Rationale
Funding should be allocated to address high-risk pests across the United States. Goal 1S provides funds to meet the increasing demands of surveying for invasive pests that are of national concern. This goal will address the most significant pests for which a robust national detection program is necessary to protect agricultural, environmental, and natural resources. Early pest detection is critical to avert economic and environmental damage, reducing losses from pest damage and/or mitigation measures. If a pest spreads, mitigation costs can reach millions of dollars, in addition to lost farm revenues and damage to ecosystems. Survey results can also support export certification and retain or expand U.S. export markets.

Survey Strategy
For FY 2026, survey suggestions under Goal 1S will be divided into three overarching areas:

I. National Priority Surveys
II. Pest Program Surveys
III. Cooperator Surveys

I. National Priority Surveys
National Priority Surveys primarily target pests on the FY 2026 National Priority Pest List, available on the CAPS Resource and Collaboration website. Suggestions seeking funding as a National Priority Survey must:

- Use an approved survey name for National Priority Surveys (See **Appendix E**);
- Include multiple pests;
- Ensure at least 60% of the pests in the survey are National Priority Pests;
- Align with the intended host(s) or habitat; and
- Align with the Host Matrix, which identifies National Priority Pests and hosts.

For example, if a suggestion proposes a Forest Pest Survey for Siberian silk moth, black fir sawyer, and hemlock wooly adelgid, this would be allowed because the survey:

- Aligns with one of the approved National Priority Survey names;
- Targets two National Priority Pests (Siberian silk moth and black fir sawyer);
- Includes one pest of state concern (hemlock wooly adelgid);
- At least 60% of the pests are from the national priority pest list; and
- Work for all pests is about equal in scope. Note: a suggestion that seeks most of the work to complete hemlock wooly adelgid and only token surveys for National Priority Pests would not be supported.

Pathways surveys for National Priority Pests. The pathway approach to survey is based on identifying areas that are at the highest risk for pest introductions. For example, moths included in the Asian defoliator survey lay eggs on shipping containers. Locations that store shipping containers from Asia are potential high-risk areas for new pest introductions. The pathway approach would identify critical points along the pathway for a survey. This type of targeted detection survey or risk-based survey enhances the ability to identify and target high-risk areas, zones, locations, and sites that have an increased potential for exotic pest introductions. This approach can be combined with any survey using sound analytical tools, known risk sites, history of pest detections in an area, and other sources of information.

If a state is interested in only surveying for pests of state concern, like pecan weevils, then they should not submit a suggestion for a National Priority Pest survey because this insect is not listed as a National Priority Pest. This type of suggestion can be submitted as a Cooperator Survey.

II. Pest Program Surveys
Pest Program Surveys are associated with specific PPQ domestic programs and primarily support the program's detection surveys. See the Recognized Federal Programs or Program Pests list (**Appendix E**). Survey methods for Pest Program Surveys must:

- Follow the PPQ program's guidance for survey;
- Clearly be associated with the PPQ Program's detection survey activities; and
- Not support treatment or post treatment activities.

III. Cooperator Surveys
Cooperator Surveys are for pests not regulated nationally, or less than 60% of pests included in the survey are on the National Priority Pest List, and/or are part of a specific commodity survey which supports export or trade. These surveys are usually rated lower than the other surveys, as the focus of Goal 1S funding is on National Priority Surveys and Pest Program Surveys. Some examples of Cooperator Surveys include coffee pest survey and weed surveys on state lands.

Additional Guidance for Goal 1S Surveys

Survey Methods
Goal 1S uses active surveillance as the primary method for detecting new pests. This generally includes trained staff monitoring traps, visually inspecting plants, or collecting plant samples.

For the most up-to-date methods for survey and identification, see the Approved Methods for National Priority Pests. All surveys conducted for National Priority Pests must use the survey methods defined in the Approved Methods page for the specific pest. The information on the Approved Methods site supersedes any survey and identification/diagnostic information that may be found in other CAPS documents (i.e., Commodity-based Survey References and Guidelines, CAPS Pest Datasheets, others).

A survey that seeks to monitor a pest population after a control treatment has been applied would not fall into Goal 1S. Survey suggestions intended to confirm success of or supplemental to a regulatory treatment must be submitted under Goal 6.

Outreach
Surveys related to gaining public reporting or performing surveys of the public are not appropriate under this goal area. When public outreach is the primary goal, the suggestion should be submitted to Goal 5. Goal 1S will not support outreach efforts.

Submitting Goal 1S Suggestions
Starting with the FY 2026 funding cycle, fields for 'Purpose' and 'Technical Approach' have been added within the ServiceNow Goal 1S suggestion form.

Purpose
Include how this survey supports early pest detection and mitigation. Provide clear justification why this survey is necessary and what specialty crop or agricultural industry it supports. If applicable, include impacts on trade.

Technical Approach
Provide specific survey process and methodology. If the survey focuses on a pathway, describe the pathway(s) you intend to target to protect agriculture and natural resources.

Accomplishment Report
The accomplishment report should include:

- Number of traps set and monitored or visual surveys conducted
- Number of samples collected
- Number of positive and negative traps/visual surveys/samples per counties

See additional general guidance for Accomplishment Reports on page 5.

Upload the Correct Template
Goal 1S suggestions must attach either the Goal 1S Survey or Goal 1S Diagnostic Laboratory Template found on the PPDMDPP Website. These templates are required, and failure to provide complete and accurate responses throughout the templates will negatively impact your overall suggestion rating. Contractual costs must be shown and justified in the financial template. Additional worksheets (tabs) can be added to accommodate multiple cooperators.

Suggestions that fail to use the correct, current templates will be removed from consideration.

See **Appendix E** for specific guidance with Goal 1S.

Goal 2 – Domestic Inspection

This goal strives to target domestic inspection activities at vulnerable points in the safeguarding continuum focusing on the movement of products and commodities potentially carrying pests of regulatory significance.

Goal 2 Objectives and Strategies
Objective 1: Promote and expand inland inspections of high-risk pathways for regulated articles and plant pest movement.

> ***Strategy 1:*** Conduct inspection activities of regulated articles moving internationally or interstate.
>
> ***Strategy 2:*** Conduct follow-up inspections in states receiving international and interstate regulated cargo that present a risk of moving plant pests, to include the development of inspection techniques.
>
> ***Strategy 3:*** Develop, design, or improve ways to analyze inspection programs for efficiency and effectiveness.

Objective 2: Expand the use of canine teams for domestic inspection activities (excluding domestic survey/detection activities).

> ***Strategy 4:*** Develop new capacities of agriculture detection canine teams in support of destination inspections.
>
> **Note**: Canine activities related to domestic survey/pest detection activities are found under Goal 1S.

Goal 2 Rationale

Canine teams have demonstrated their effectiveness in detecting pests and prohibited items during inspections at ports of entry and in domestic inspections. Expanding canine detection activities may provide an additional line of defense to prevent the introduction and interstate movement of harmful plant pests that may have gone undetected at ports of entry. Additionally, increases in e-commerce traffic has resulted in increased illegal movement of quarantine products and plant pests, resulting in greater need for inspections at mail facilities and express carrier hubs. These highly active pathways represent prime locations for targeted canine detection activities.

Information gained from the interception of agricultural items and pests in domestic inspection activities can improve states' risk assessment efforts.

Several pests of limited distribution within the United States are regulated by the Code of Federal Regulations and Federal Orders. Many of these allow the movement of regulated articles under Compliance Agreements and Limited Permits. Increasing the number of inspections and audits of facilities at origin and destination will increase the level of protection against introduced pests and increase the effectiveness of completing inspections and audits.

See **Appendix F** for specific guidance with Goal 2.

Goal 3 – Increase Identification Capacity and Strengthen Pest Detection Technology

This goal strives to increase the capacity for identifying and detecting plant pests of regulatory significance by improving survey technologies, providing taxonomic expertise, developing diagnostics, and producing training resources. Suggestions can target plant pests and diseases in any taxonomic group, although preference will be given to suggestions that address quarantine pests of economic importance. These can include, but are not limited to, arthropods, bacteria, fungi, nematodes, phytoplasmas, viroids, and viruses. Suggestions should explain why the pest or disease, and proposed tool or training resource, are important and what benefits the proposed work will provide.

PPQ requires a specific taxonomic level of identification for making regulatory decisions on regulated plant pests; therefore, suggestions that incorporate machine learning or artificial intelligence must address that minimum taxonomic level of identification. Further, the methods must ensure the proposed pest(s) and non-targets can be distinguished based on the proposed technology. Suggestions should also consider whether/how the technology can be deployed in the field, and if it is cost-effective for use in regional or national surveys. PPQ cannot respond to

a pest detection without having a physical sample, although environmental DNA (eDNA) suggestions that address other aspects of detection and diagnostics may be funded.

Any proposed diagnostic tool must effectively discriminate target species from related species and be effective for large composite samples and high throughput, with demonstrated sensitivity and practical implementation for survey programs. The development of tools for final confirmatory diagnostics must ensure accuracy and reproducibility. Comparisons with existing screening tests are encouraged to identify a logical flow for early detection and confirmatory diagnostics. Projects addressing confirmatory diagnostic tests should be coordinated in advance with the appropriate PPQ programs.

Goal 3 Objectives and Strategies

Objective 1: Develop/improve all aspects of early detection technologies and resources.

Strategy 1: Support the early detection of plant pests by developing or improving survey methods, trap technologies, and lures or attractants. Examples include:

- Increase efficiency of catching target pests by developing specific traps or lures to reduce bycatch (non-target species), especially where non-target species are morphologically similar to the target pests.
- Develop traps or methods that would improve the handling and processing of survey samples, prevent specimen damage, and/or allow for easier identification of target species. This would include alternatives to sticky traps.
- Develop novel traps, lures, and/or survey strategies to detect target species more efficiently. Novel trap technologies should be cost-effective to implement and target pests of concern to PPQ (e.g., Program Pests or those on the National Priority Pest List). Specific areas of need include:
  - Traps that can record the time and date of capture, report captures remotely, and screen captures to determine target species.
  - Traps that can effectively accommodate multiple lures for multiple high priority target pests.
  - Traps that exclude or segregate non-targets from target pests.
  - Traps that can increase the rate of detection or efficiency of captures.
- Develop effective quality control standards to produce high-quality lures and/or improve lure releasing rates while maintaining efficiency.

Objective 2: Develop or improve diagnostic tests, identification resources, and taxonomic expertise for high priority plant pests.

Strategy 2: Develop, validate, or improve diagnostic methods, including molecular-based assays and other technologies, to detect and/or identify plant pests. Examples include:

- Develop novel tools or improve existing methods for screening and/or confirmatory diagnostics of plant pests. Diagnostic tools should identify pest species to a level useful to make informed decisions regarding quarantine status and response, such as:
  - In trap samples that contain large numbers of non-targets that are morphologically similar to the target pest. This is especially needed for species that must be dissected to be identified (e.g., many Lepidoptera).
  - In symptomatic host materials suspected of infection by invasive pathogens or

closely related endemic pathogens (such as peach X-disease phytoplasma). Diagnostic tests for group or genus-level detection (e.g., ELISA or lateral flow tests for phytoplasma or virus detection) are an invaluable tool for efficiently detecting pathogens and ruling out abiotic stress as a source of symptoms.

- Develop field-deployable diagnostic tools or assays that are affordable and can be performed by non-laboratory personnel with minimal training.
- Perform validation of existing diagnostics or develop resources to assist with validation efforts to improve diagnostics:
  - Expand the validation of existing diagnostic tools for plant pests of regulatory significance at higher validation tier levels (e.g., inter-laboratory validation) to ensure assay robustness when deploying across testing programs.
  - Develop and validate biological reference material, and synthetic diagnostic controls for plant pathogens to support diagnostic programs. Controls should be developed following quality control and assurance methods to track potential contamination. Coordinate efforts with appropriate PPQ programs.

Strategy 3: Perform systematic research, produce identification resources, and/or develop additional expertise and capacity to improve the identification of high priority plant pests. Examples include:

- Perform systematic research and develop electronic identification tools to allow for the identification of plant pests in poorly characterized groups and species complexes:
  - Develop electronic tools, such as interactive keys and image databases to support PPQ identifiers performing morphological identifications of plant pests.
  - Characterize unresolved species complexes that contain plant pests of regulatory significance to support identification needs for surveys and effective pest management/eradication strategies.
  - Create systematic revisions of groups that contain invasive plant pests. Revisions should provide practical data to help target and restrict potential pathways of introduction.
  - Generate high-quality sequence data for pests and closely related species from specimens that are expertly identified and will be vouchered in curated collections. Suggestions could focus on a pest genus or family, from varied geographic locations, especially for pest groups where existing molecular data is lacking.
- Develop identification resources, including interactive matrix-based taxonomic keys, to assist with the identification of quarantine pests and non-targets. Interactive taxonomic keys should provide credible information for confirmations of suspect taxa encountered in domestic surveys or during quarantine inspections. Suggestions that target a specific taxonomic group (e.g., genus, family), should clearly explain the quarantine importance of the group and why taxonomic keys are needed.
- Develop new recorded or in-person training sessions led by recognized taxonomic experts to teach identifiers how to distinguish quarantine pests from established and native species. Training should involve PPQ-approved methods and specifically address taxa on the current National Priority Pest List or a PPQ Program Pest, or the suggestion should clearly explain the importance of the work to PPQ if other pests are

targeted. Suggestions that include the production of recorded webinars that can be accessed online are encouraged. Suggestions that include a significant travel budget for participants need to justify why the training cannot be performed remotely.

Goal 3 Rationale

Early detection and accurate identification of invasive plant pests are essential for PPQ to accomplish its mission. Goal 3 supports this mission using strategies that enhance PPQ's ability to respond to invasive pests.

Developing effective and efficient surveillance tools is critical for the early detection of invasive plant pests. For example, increasing the efficiency and specificity of traps and lures results in improved screening. Novel traps and lures allow for the detection of pests that might be otherwise overlooked. Likewise, developing, optimizing, and validating molecular diagnostic tools for exotic pests and pathogens is essential for early detection programs. Increasing the availability of tools optimized for broad biosurveillance of pests can increase the likelihood of early detection and significantly impact the success of eradication and management programs.

Developing diagnostic tools in anticipation of future threats allows for a rapid response when new exotic pests are detected. Although the use of molecular diagnostics for screening and identification is increasing dramatically for all pest groups, Goal 3 continues to support development of more traditional methods and tools, such as interactive identification keys and image databases. The systematic research necessary to resolve species complexes and improve the identification of pests in these groups is also supported. Finally, Goal 3 supports capacity building for pest identification through training development by taxonomic experts that can be widely distributed to field personnel.

See **Appendix G** for specific guidance with Goal 3.

Goal 4 – Safeguard Nursery Production

This goal strives to develop management strategies for the mitigation of pests and pathogens in nursery settings and encourages the development and harmonization of standards to support systems-based approaches for nursery certification initiatives.

Goal 4 Objectives and Strategies

Objective 1: Develop science-based best management practices (BMPs) and risk mitigation practices to exclude, detect, contain, and/or control regulated pests from the nursery production chain.

> ***Strategy 1:*** Initiatives that develop and implement the integration of BMPs, integrated pest management, and other risk mitigations to holistically exclude, detect, contain, and/or control regulated plant pests from the nursery production system.

Objective 2: Support development or improvement of nursery certification programs, including the harmonization of different certification programs (both inter- and intra-state).

> ***Strategy 2***: Initiatives that enhance the harmonization, increase the capacity to implement, and support the wide-spread adoption of certification programs.

Goal 4 Rationale

Safeguarding nursery production is the first step in an integrated pest management approach to prevent the introduction or spread of harmful pathogens and pests that cause economic loss, and to ensure the global competitiveness of specialty crop producers. This goal supports the development and implementation of science-based methods, best management practices, and systems approaches to exclude or control regulated pests from the nursery production system. The increased understanding of pests/pathogens and host materials will also help regulatory and nursery staff refine program policies, protocols, procedures, and regulations to more effectively manage or eradicate the pests/pathogens in the nursery setting.

Certification programs play a key role in safeguarding nursery production by providing a system for the production of plants free of regulated pathogens and facilitating the availability, movement and maintenance of virus-tested plants. Developing an integrated nursery certification program to facilitate safe movement of nursery stock in partnership with state regulatory officials is crucial for comprehensive pest/pathogen management strategies and programs, and production efficiencies. Nursery certification programs are intended to ensure that nurseries are:

- providing the cleanest possible environment;
- isolating the clean materials;
- and following systems approaches and best management practices to keep the plants healthy, including proper documentation, recordkeeping, auditing, and compliance.

Such certification programs will meet the mutual needs of industry, the states, and PPQ to ensure nursery production systems adequately safeguard the nursery industry from the introduction or spread of invasive pests. An effective nursery certification system will facilitate the safe domestic movement and export of planting material. The establishment of harmonized certification programs across states would reduce pest risks and the costs associated with safeguarding domestic movement of certified planting material.

Working with all stakeholders and cooperators to develop and support certification programs for the nursery industry provides vital linkages between this goal area and allied initiatives. This includes launching certification program pilots in select states, developing training modules for certification programs, and integrating with planned initiatives of the NCPN.

Goal 5 – Outreach and Education

This goal seeks to increase awareness in and knowledge of high-consequence plant pests to prevent their introduction into and/or spread throughout the United States.

Goal 5 Objectives and Strategies

Objective 1: Provide education and encourage behaviors that enhance safeguarding activities.

Strategy 1: Provide education and information to key groups, including:

- Producers/First Detectors – Conduct workshops, seminars, or training programs for farmers, growers, researchers, field workers, local and state government employees, and others in positions to detect, identify and/or respond to plant pest threats.
- Distribution Center Employees – Educate people working in/around warehouse and storage facilities, nurseries and garden centers, and other vulnerable points on how to

look for and report signs and symptoms of a plant pest or disease. Encourage implementation of best practices to enhance safeguarding of plants and plant products.

- Travelers – Inform travelers about plant pests and diseases, and steps to take to prevent their introduction or spread.
- Consumers – Inform consumers/public about plant pests and diseases and steps to take to prevent their introduction or spread.
- Youth – Inform youth about invasive plant pests and steps to take to protect agriculture and natural resources.

Objective 2: Increase the number of people actively looking for and reporting high-consequence pests at vulnerable points along high-risk pathways.

Strategy 2: Develop and implement volunteer programs to support pest detection and reporting activities.

Objective 3: Increase public awareness and support for high priority plant pest and disease eradication programs and acceptance of control efforts.

Strategy 3: Apply best practices or incorporate innovative approaches to increase public awareness, acceptance, and support of high priority plant pest and disease eradication and control efforts.

Goal 5 Rationale

Outreach and education activities support and enhance efforts to prevent the introduction and/or spread of high consequence plant pests into and throughout the United States, particularly in susceptible, high-risk areas. Suggestions should focus on activities that will result in an increased numbers of individuals looking for and reporting high consequence plant pests. Suggestions may also focus on equipping people with the knowledge to implement best practices and safeguarding activities.

Developing and delivering educational programs, engaging the public through traditional and social media, collaborating with stakeholders, developing outreach materials, and hosting and encouraging volunteer first responder programs are the cornerstones of this goal. The most successful projects are innovative and leverage best practices, often incorporate partnerships to amplify the combined impact, and leverage existing public resources to maximize efficiency.

Additional guidance:

- Include the pests and the pathways targeted in the outreach strategy.
- Identify the target audience.
- Identify whether the program is private or public, for suggestions that develop and host an educational program (e.g., webinar or classroom course).
- Consider leveraging existing public resources instead of creating all new materials. Update and localize existing outreach resources whenever possible. Be creative and practical in the approach.

Include results or metrics:

- Quantitative indicators include documenting the number of participants at an outreach event; hits on an article; outreach materials distributed; booth engagements; or digital reach.
- Qualitative indicators (e.g., behavioral change and message retention) include details about how the lesson(s) can or will be applied by the target audience, or the behavior the outreach modifies.
- Surveying attendees to measure knowledge retention/awareness or adding a question in a public reporting tool that captures how the public learned about the pest can facilitate measuring and reporting the impacts of these outreach efforts. These types of questions can be either quantitative or qualitative, depending on the analysis.

Goal 6 – Enhance Mitigation and Rapid Response

Scientific projects contain methods development or use the scientific method to evaluate a hypothesis, technical assistance, improve knowledge base, tech transfer activities, or develop and adapt existing tools and methods. Operational projects aim to use existing tools and/or approved methods for the overarching goal of containment, control, mitigation or eradication of a plant health emergency.

This goal seeks to develop pest mitigation tools and technologies and increase the knowledge base for use during pest response activities to reduce potential adverse impacts and further spread of detected pests of regulatory significance and/or economic or environmental concern. Suggestions should explain why the pest or disease, and proposed knowledge base or tool/technology, are important and what benefits the proposed work will provide.

Goal 6 also supports key areas of mitigation and response.

- It prioritizes projects with rapid timelines for ready-to-use mitigation tools and activities.
- Projects with a significant survey component must justify how the survey relates and is necessary to the mitigation activity. Surveys not in direct support of a mitigation activity should be submitted under Goal 1S.
- APHIS may fund some Goal 6 suggestions through Rapid Response.

Finally, Goal 6 supports the development of New Pest Response Guidelines.

Goal 6 Objectives and Strategies

Objective 1: Develop or adapt new control technologies, tools, and treatments for use in plant pest emergencies and/or established pest programs, or increase the knowledge base to address a potential or ongoing plant pest emergency.

> ***Strategy 1:*** Increase the knowledge base and develop, promote, and implement new control technologies, tools, and treatments for use in plant health emergencies and/or established pest programs (*Scientific*).
>
> Examples include quarantine treatments, enhanced mitigation, technology transfer support, and certain stages of biocontrol stages with a deliverable within one year (e.g., complete a release permit, collect additional data for a permit, develop rearing

technology).

Biological Control Suggestion Guidance: Biological control is a long-term commitment and investment. Therefore, appropriate PPA 7721 biological control suggestions must describe short- to medium-term projects with specific goals and objectives that can be attained within the single year of the funding and cooperative agreement. Each suggestion must represent a specific aspect or activity leading to a biological control solution. Examples may include native natural enemy surveys, completion of host range testing, rearing of non-target hosts for testing, development, and approval of a first-time release permit, rearing and development of rearing systems for targets and/or hosts that produce highly fecund and healthy agents for first time releases, initial release and data collection protocols, and field establishment verification studies after first time releases.

Objective 2: Improve response options and capabilities in preparation for a potential plant pest emergency.

Strategy 2: Enhance preparation for a plant pest emergency by improving the response options and capabilities prior to the onset of a plant pest emergency (*Operational*).

Examples include the development and training of rapid response teams (i.e., ICS) and management options for key invasive pests before they arrive. Infrastructure purchases (i.e., purchase of vehicles or buildings) cannot be funded through PPA 7721.

Objective 3: Support the use of existing tools and initial response protocols for the overarching goals of containment, control, and/or eradication of plant pests.

Strategy 3: Provide initial or short-term funding to quickly implement programs that employ existing tools or approved methods and initial response protocols for the overarching goals of containment, control, or eradication immediately following the development of a plant health emergency (*Operational*).

Strategy 4: Provide technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of New Pest Response Guidelines (NPRG) and Rapid Response Action Plans for the potential introduction of exotic plant pests (*Scientific*).

Goal 6 Rationale

This goal provides funding for efforts to enhance APHIS scientific and operational plant pest mitigation activities. Upon detection and identification of a plant pest, early deployment of mitigation practices has the strongest likelihood to successfully manage threats to American agriculture. Increasing the availability of practical, readily deployable tools for exclusion, detection, and management, including assessing potential impacts of new invasive plant pests to the U.S. and developing appropriate response options, is essential for effective mitigation.

Additional Guidance

The time between the detection of an invasive pest and corresponding unified response activities is a critical window in which to limit international trade impacts, environmental damage, and economic costs.

APHIS will provide funds for emergency/rapid response activities, including:

- Travel costs associated with personnel mobilization;
- Technical working group and subject matter expert activities;
- Resource purchasing for incident activities;
- Vehicle rentals, use, and maintenance;
- Communications and outreach activities, including news and media events to alert stakeholders and the public of the pest threat;
- Program command post startup and overhead;
- Identification and diagnostic equipment and temporary personnel;
- Rapid survey and detection tools and equipment;
- Information technology equipment and support;
- Development of emergency action plans;
- Safety equipment and personnel protective devices; and
- Mitigation and containment costs.

APPENDIX A – The National Clean Plant Network (NCPN)

This special focus area within PPA 7721 supports a network of clean plant centers and allied programs to provide high quality asexually propagated plant material free of targeted plant pathogens that cause economic loss, to protect the environment and ensure the global competitiveness of specialty crop producers. Network clean plant centers conduct diagnostic and pathogen elimination services and establish foundation collections to provide pathogen-tested, clean plant materials to nurseries, growers, and to state certification programs.

The proposal process for NCPN uses a separate process from PPDMDPP. This process is detailed in the NCPN Request for Proposals that is published at the beginning of the Open Period.

NCPN Objectives

Objective 1: Network Program Operations: Optimize the production, maintenance, and distribution of clean plants.

> ***Strategy:*** Operational support of clean plant centers involved in the diagnostics, production, maintenance, and distribution of clean, disease-tested propagative plant materials for specialty crops. The network currently serves seven specialty crop groups: berries, citrus, fruit trees, grapes, hops, roses, and sweet potato. Activities supported under this strategy include:
>
> - Diagnostic testing for target pathogens in new accessions, including introductions from domestic or imported sources;
> - Pathogen elimination/therapeutics services to produce plant material free from targeted viruses or other graft-transmissible diseases;
> - Maintenance of foundation collections of clean plant accessions; and
> - Increase distribution of clean propagative material to industry.

Objective 2: Advancing Special Initiatives: Optimize the adaptation and implementation of novel technologies and new ideas while increasing the awareness of the importance, availability, and use of clean plants.

> ***Strategy:*** Advancing special initiatives to optimize clean plant center operations and use of clean plant material. Activities under this strategy include:
>
> - Implementing new technologies and information sharing to improve clean plant center operations and protect foundation collections;
> - Developing education and outreach initiatives promoting the value and use of clean plants;
> - Conducting economic studies to address impact and value of clean plant programs; and
> - Supporting improvements for quality management in center operations.

Objective 3: Governance and Networking: Optimize Network resources.

> ***Strategy:*** Optimize network resources through governance and networking. Activities under this strategy include:
>
> - Network coordination and governance among the network cooperators and research,

extension, industry, and regulatory stakeholders to more effectively accomplish the NCPN mission. This activity supports information sharing among centers and promotes collaboration and engagement in critical discussions around network/commodity topics; and

- Organizational advancement and strategic planning for the network and crop governing bodies, and clean plant centers.

NCPN Rationale

Viruses and other graft-transmissible diseases in vegetatively propagated crops can cause significant losses in yield and quality. These pathogens are often difficult to detect in propagation material and can be spread widely in nursery material. For growers, starting with healthy, disease-tested planting stock is key for preventing disease spread and crop damage.

The National Clean Plant Network was established to ensure that plant propagation material is clean and available, and to protect U.S. specialty crops from the spread of economically harmful plant diseases. The NCPN ensures the global competitiveness of U.S. specialty crop producers by creating high standards for clean plant programs. The purpose of the network is to provide diagnostic and pathogen elimination services to produce clean propagative plant material and to maintain blocks of pathogen-tested plant material in sites located throughout the United States.

APPENDIX B – Submitting a PPDMDPP Suggestion

Below are questions that will be asked as part of the suggestion submission process in ServiceNow. This information will assist submitters in preparing and submitting PPDMDPP suggestions. Submitters may find it helpful to prepare answers to these questions prior to beginning the suggestion submission process.

Information in this appendix is not exhaustive. Additional information for developing and submitting a suggestion is available in guidance documents and by participating in the Help Webinars that will be offered in June and July 2025. Refer to the PPDMDPP website for these guidance documents and webinar dates.

Fields to complete when submitting a suggestion:

1. Suggestion Title
2. Submitter contact information (Name, email, phone, address, city, state or territory, zip code, cooperator organization, cooperator type)
    a. If the submitter is not a cooperator, but instead is submitting on behalf of a cooperator, select 'Submitted on behalf of another' and fill in the anticipated cooperator's contact information
3. Goal area under which the suggestions is being submitted
4. Goal area strategy to which this suggestion applies (can select more than one)
5. Indicate whether the suggestion includes a Federal Program Pest, National Priority Pest, specialty crop pest, or other pest
6. Indicate what specialty crop or commodity the suggestion impacts
7. Select applicable PPA 7721 attributes
8. Indicate if the project will involve the development or extensive modification of a software application, database, or other technology component
    a. If yes, briefly describe the software application, database, or technology component
9. Select which state or territory the projected work will benefit
10. Budget – enter the total budgeted amount for the project
11. All goals—EXCEPT Goal 1S—Attach the completed budget template
    a. If a Goal 1S Suggestion – Upload the Goal 1 Survey or Diagnostic Laboratory template
12. Are there additional cooperators that will be receiving funding through cooperative agreements directly with USDA? Do not include contractual participants here
    a. If yes, provide the cooperator organization, cooperator state, cooperator budget amount, and cooperator level for each cooperator
13. Are there additional participants (i.e., collaborators) on this suggestion that are not receiving funds but will have an active role in achieving project success?
    a. If yes, provide the participant organization and state
14. Was this suggestion provided PPA 7721 funding in previous years?
    a. If yes, upload a narrative report to explain project progress to date
    b. List all previous years for which funding was provided

    i. If funded by PPA 7721 since FY 22, select the suggestion number from the most recently funded prior fiscal year
15. Provide an abstract for the suggestion
16. Describe the purpose of the suggestion
17. Provide the technical approach for the suggestion
18. Provide specific information and/or examples of relevant pest performance
19. Milestones – Outline the timeline of the project and indicate when each activity is expected to occur

APPENDIX C – Pest Program Priorities

PPQ cross functional working groups have identified program priorities that fit within the PPA 7721 framework. Submitters may consider how their suggestion meets a priority listed below. Alignment with PPQ priorities, including program priorities, is one consideration in the review process. However, alignment with a program priority does not guarantee funding, and the list below is not exhaustive. Additionally, PPA 7721 continues to support new and innovative ideas and approaches, including projects not found on this list.

Agricultural Detector Canine Utilization

- Develop canine training aids for use when the pest organism is not present in a given area for training/testing, including but not limited to target pest volatiles, polymer odor capture and release (POCR) films, etc.
- Increase capacity with successful canine projects/developing more detector canines; cross train existing canine teams for multiple pests/targets; and establish canine teams in states addressing pathways and pests of state and PPQ concern.
- Develop spotted lanternfly canine standardized proficiency/certification.
- Provide domestic detector dog training and certifications.

Asian Longhorn Beetle

- Develop and provide public outreach in program areas, targeted to the communities in the eradication and quarantine areas.
- Develop and provide public outreach in non-program areas, outside of regulated areas.
- Determine host tree locations through deployment and/or field testing of Unmanned Aerial Systems (UAS) and remote sensing systems in quarantine areas.
- Develop and integrate ALB risk model and spread tracking tool from U.S. Forest Service to the ALB program for risk analysis, survey progression planning, and enhancing ALB program management capabilities to more efficiently meet eradication priorities.

Box Tree Moth (BTM)

- Conduct BTM surveys in boxwood producing states.
- Develop alternate BTM traps for use where standard approved traps pose a risk to the bycatch of endangered insect species in areas where boxwood production occur and/or alternatives to the use of the killing agent Vaportape II (DDVP) where it is restricted.
- Develop and provide education materials and information to boxwood producers and staff to employ best pest management practices and integrated pest management approaches, and to enhance safeguarding and prevent the spread of BTM.
- Develop, improve, or test best management practices and integrated pest management approaches to exclude, contain, and control BTM in boxwood production settings.
- Develop and implement new control technologies, tools, and treatments to support management and mitigation of BTM and enhance preparation for boxwood production areas at risk from BTM using existing tools and response protocols.

Citrus Health Response

- Improve sampling strategies for asymptomatic pathogens of regulatory concern.

- Develop strategies to protect citrus from exposure to regulated pests.
- Develop strategies (e.g., improved labeling, outreach) to raise awareness and reduce the illegal movement of regulated citrus articles (e.g., citrus fruit, citrus nursery stock).
- Conduct citrus surveys for regulated pests of concern in non-commercial citrus producing areas where there has been a recent expansion in citrus production.
- Develop a decision support tool that characterizes the level of risk for Federally regulated citrus pests across the citrus producing areas of the United States by leveraging available or obtaining new information such as results of survey activities, distance from host material, etc.
- Determine the relative contribution of citrus greening-infected tree removal and Asian citrus psyllid control on the rate of disease spread.

Cotton Jassid

- Develop strategies for mitigation and limiting spread of *A. biguttula* present in nurseries, especially on hibiscus.
- Develop treatment options for reducing effects and controlling established *A. biguttula* such as biocontrol, pesticides, etc.
- Conduct surveys outside of known range of *A. biguttula* on susceptible crops such as cotton, eggplant, okra and sunflower to assess extent of its distribution.
- Assess level of crop damage in areas where *A. biguttula* is known to occur to understand impacts.
- Develop or improve methods for early detection of *A. biguttula* in very small numbers including lures, species-specific traps, and molecular detection.

Cucumber Green Mottle Mosaic Virus (CGMMV)

- Conduct CGMMV detection surveys.
- Conduct hold and abatement verification surveys for cucurbit production in infested fields.
- Develop seed treatments to eliminate/deactivate the virus while retaining seed viability.

Fruit Fly

- Develop new male-only fruit fly strains to improve Sterile Insect Technique programs using CRISPR technology.
- Improve and/or develop traps and lures for attracting fruit flies of concern, specifically for *Anastrepha ludens*, female *Bactrocera* spp., and female *Ceratitis capitata*.
- Improve pre-harvest treatments and control methods by developing alternative control tools (e.g., male annihilation technique, biocontrol, biopesticides, etc.) and exploring new chemistries and insecticide rotations.
- Improve domestic post-harvest treatment options to facilitate the movement of host commodities from core areas of fruit fly quarantines, maintaining efficacy while reducing damage and impacts on shelf life.
- Develop methods and technologies to improve identification and mitigation of potential fruit fly pathways, improve accuracy of point of origin analyses and reduce identification time.

- Improve operational efficiencies through increased automation of fruit fly trapping, rearing, and release procedures.

Japanese Beetle (JB)

- Identify/develop novel methods for controlling JB, especially in areas at risk to rapidly transport outbreak populations of JB located near air cargo shipping hubs.
- Develop or improve JB traps and lures that reduce the risk/incidence of bee by-catch.
- Conduct projects to assist in establishing the JB biocontrol pathogen, *Ovavesicula popilliae*, to new sites and/or provide testing of samples to confirm the pathogen is present/established.
- Complete host specificity testing for *O. popilliae* on closely-related scarab beetle surrogates to ensure that the JB biocontrol pathogen will not negatively impact listed (threatened and endangered) species (i.e., Casey's June beetle (*Dinacoma caseyi*) and Mount Hermon June beetle (*Polyphylla barbata*).

Karnal Bunt

- Evaluate Karnal bunt-resistance in varieties of wheat, durum wheat, and triticale.
- Identify and validate methyl bromide alternatives.
- Develop biopesticide(s) for treatment of Karnal bunt.

Mollusk

- Conduct exclusion, delimitation, mitigation, and eradication for invasive mollusk (snail and slug) infestations of federal concern including but not limited to giant African snail, vineyard snail, *Arion* (ARVC complex)*, Acusta* spp., and *Monacha* spp.
- Develop new mitigation tools or best management practices for snails/slugs, including nuisance species.
- Develop diagnostic tools/resolve taxonomic issues for problematic groups of snails/slugs.

Nematodes, Golden (GN) and Pale Cyst (PCN)

- Conduct deregulation and enhanced regulatory activities of GN in infested fields.
- Conduct research for development of GN and PCN resistant potatoes, including novel genetic sources of plant resistance to potato cyst nematodes.
- Conduct GN and PCN surveys in multiple states.
- Identify weed hosts of GN.
- Identify and isolate the genetic defenses of plants known to be immune to potato cyst nematodes, for transfer into potato cultivars suitable for production in the Northwest United States.
- Elucidate pathotypes of potato cyst nematodes through evaluation of their genetic variability and differentiate populations of potato cyst nematodes based on differences in virulence/avirulence.

Old World Bollworm (OWB)

- Determine the impact of introgressed pesticide resistant genes on native *Helicoverpa* under current control measures.

- Develop methods to mitigate problems caused by introgressed pesticide resistant genes in native *Helicoverpa*.
- Develop a pheromone to attract OWB while repelling native non-targets and/or pollinator bycatch.
- Develop techniques to monitor *Helicoverpa* for evidence of additional regions of genomic introgression.

Pest Identification

- Support Cooperative Agricultural Pest Survey (CAPS) and PPA 7721surveys by providing screening and identification services for Coleopteran, Hemipteran, Hymenopteran, Lepidopteran, Orthopteran, wood-boring, and other pests.
- Develop screening job aids and taxonomic identification aids for National Priority Pest surveys.
- Build capacity for providing molecular preliminary screening services for CAPS and PPA 7721 survey pests.

Phytophthora austrocedri

- Determine host range of *P. austrocedri*.
- Identification of best management practices and control strategies to reduce the impacts of *Phytophthora* spp. on nurseries and reduce spread.
- Develop improved sampling and assay processing for woody canker pathogens to reduce costs of sampling.

Phytophthora ramorum

- Improve risk modeling of *P. ramorum* in extreme environmental conditions.
- Develop effective *P. ramorum* mitigations with low off-target effects, across environments.
- Determine the impacts of various *P. ramorum* genotypes.
- Identify impacts of *P. ramorum* genotypes on host susceptibility.

Plum Pox Virus (PPV)

- Conduct PPV detection surveys in previously infested and uninfested areas.

Pollinator Health

- Conduct *Tropilaelaps* research including but not limited to lifecycle, development, transmissions, management, and control.
- Research focused on non-*Varroa* transmission pathways for pathogens.
- Research of novel pests and pathogens impacting pollinator health.
- Yellow-legged hornet research including but not limited to lifecycle, foraging habits, and control.

Potato wart

- Conduct potato wart trace surveys as necessary.
- Identify and validate alternatives to methyl bromide.

Ralstonia

- Conduct *Ralstonia solanacearum* detection surveys.
- Develop improved rapid screening tools specific to *R. solanacearum* race 3 biovar 2.
- Develop improved sampling strategies for asymptomatic greenhouse plants affected by *R. solanacearum* race 3 biovar 2.
- Develop antibacterial or biological control treatments to prevent infections of plants by *R. solanacearum* race 3 biovar 2.

Regulatory Framework for Seed Health (ReFreSH)

- Research efficacy of a seed treatment(s) to eliminate seed-transmitted or seed-borne pathogens, such as fungi, bacteria, viroids, and viruses.
- Quantify the impact of agronomic practices or seed processing methods toward eliminating or reducing the prevalence of pathogens (seed-borne or seed-transmitted) or other plant pests affecting seeds.

Shot Hole Borers (SHB)

- Conduct biological control research and host specificity testing of SHB parasitoids.

Spongy Moth and Flighted Spongy Moth

- Build capacity to conduct preliminary molecular diagnostics for *Lymantria dispar dispar*, *L. d. asiatica*, *L. d. japonica*, and *L. umbrosa* (following approved diagnostic protocols).
- Improve, enhance, and provide outreach to the public and moving companies to reduce the spread of spongy moth on regulated articles, including outdoor household articles.
- Conduct spongy moth early detection and precision delimitation surveys outside of the quarantine area to bundle with Asian defoliator priority pest surveys in spongy moth high-risk pathways and areas at risk of establishment.
- Conduct Asian defoliator early detection and precision delimitation surveys in known high-risk pathways and areas at risk of establishment.
- Conduct eradication activities of confirmed spongy moth detections outside of the quarantine area and/or flighted spongy moth complex incursions detected anywhere domestically in the U.S.

Spotted Lanternfly (SLF) - For additional details, review APHIS' SLF 5-Year Strategy for Fiscal Years 2024-2028

- Develop, refine, and analyze efficacy of sustainable control measures for SLF and/or Tree of Heaven, including but not limited to biological control agents, non-chemical treatments, and alternative management strategies for various environments.
- Improve detection and monitoring methods including but not limited to optimizing trap and lure/attraction technology, refining survey protocols, and exploring AI-powered, spectral, and molecular detection tools.
- Develop and improve predictive models and data-driven strategies to optimize survey efforts, improve resource allocation, enhance early detection surveillance, and identify high-risk pathways.

- Evaluate impacts of SLF on growth of grapes and other economically important plants and crops (e.g., hops, basil, citrus, avocado, almond, corn, soybean) and the quality of associated products.
- Investigate SLF behavior, movement, and population dynamics to improve forecasting and management.
- Support priority surveys and treatments targeting specialty crops, high-risk pathways, and areas of long-range dispersal of SLF.

Tomato Brown Rugose Fruit Virus (ToBRFV)

- Develop novel, validated cleaning and disinfection protocols for greenhouses, screenhouses and hoop houses.
- Develop seed treatments to deactivate/eliminate the virus while retaining seed viability.
- Determine the biological relevance of low-level detections of ToBRFV.

Witchweed

- Conduct research on witchweed (*Striga asiatica*) including, but not limited to, seedbank longevity, detection, and treatment.
- Identify and develop new methods that can potentially speed the eradication of witchweed from infested and quarantined fields.

APPENDIX D – Use of Funds

This guidance describes allowable and unallowable expenses that can be funded through the Plant Protection Act Section 7721 Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP).

Allowable Costs

Allowable costs must be reasonable, allocable, and necessary for project completion. When identifying the resources needed, the suggester must comply with Federal policy and should include the following details.

Personnel: The total compensation per individual employee must be reasonable for the work performed. Salary and wages for non-APHIS personnel who are essential to complete the activities described in the suggestion are allowable. Salary and wages for APHIS personnel are only allowable for Limited Appointment and Term employees.

Fringe Benefits: List the benefits rate. This percentage is determined by the cooperator. Benefits may include health and life insurance, unemployment insurance, worker's compensation, retirement, social security, pensions, etc.

Travel: Funds may be requested for field work, training, attendance of meetings and conferences, and other travel costs associated with the proposed work. Federal per diem rates should be used. Federal per diem rates can be found on GSA. Reference 2 CFR Part 200.474.

- Local travel: Identify any local travel to project work sites as outlined in proposed activities. Indicate, by position type, who will be traveling, total projected mileage, and rate per mile. Include number of days and per diem rates for extended or overnight travel. Indicate the number of trips per day/week/month, as appropriate.
- Out of State travel: Identify the number of travelers, meeting/conference/training title, and destination. Provide the cost of transportation, lodging, subsistence and related items, number of days, rate per day, and the total. Registration fees should be included in the "Other" category.
- Foreign travel: Identify any travel outside of Canada and the United States and its territories and possessions.
- Conference travel: Describe how conference travel directly contributes to the project objectives. Inclusion of funding for travel in an approved cooperative agreement does not supersede the need for any cooperator, including federal staff, to follow all applicable internal guidance and processes for requesting travel approval.

Per diem for overnight travel is allowable up to the approved federal per diem rate for that location. Reimbursement will not be made for any incurred per diem expenses above the federal per diem rate.

Equipment: The federal definition of equipment is tangible personal property (including information technology systems) having a useful life of more than one (1) year and a unit value of $10,000 or more. Provide a description of the equipment to be purchased or leased, including unit cost, and total purchase or leasing costs. The purpose of each equipment item

and how it will benefit or be used for the project must be provided in the suggestion.

- APHIS may request the return of equipment over $10,000 at the completion of the cooperative agreement.
- Maintenance contracts and reasonable repair expenses for equipment specific to the cooperative agreement may be covered.

Supplies: Provide a general description of the supplies required to perform the proposed activities. Provide an itemized breakdown of the types of supplies and total estimated cost per type.

Contractual: Applicants must describe what the subaward/contract will accomplish. Applicants should include the total contract cost, by contractor or subrecipient, in the project budget. Provide a separate budget with cost breakdowns for each contractor or subrecipient, for all applicable cost categories and totals.

Contractual expenses are not those expenses typically paid with an invoice. Expenses paid by invoice should be reported in the equipment and supplies section.

Other: Identify and justify any direct costs which were not itemized elsewhere, such as conference registration fees, communications, printing, publication charges, computer time or usage, laboratory testing, etc.

Information Technology: Suggestions that include a cumulative request for Information Technology of $25,000 or more require additional USDA IT review. Information Technology is any equipment, interconnected system(s), or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by an Agency. The term "information technology" includes, but is not limited to, computers, network and ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources. Refer to 2 CFR Part 200.1 for additional information.

Outreach Materials: Program funds may be used for outreach materials as needed, to complete approved projects that support the program priorities. This may include developing, distributing, and delivering educational materials or content such as training curricula, videos, websites, pamphlets, fliers, fact sheets, publications, and other print and media. A suggester who receives funding for a project that includes the production, purchase, or distribution of materials is not obligated to put the USDA logo on the materials they produce or purchase under a cooperative agreement. However, APHIS has the option of reviewing all materials to be produced and may request acknowledgement of funding from the USDA APHIS PPA 7721 program if we determine it is in our collective best interest. Refer to the General Terms and Conditions for APHIS Cooperative Agreements Grants, Publications and Audiovisuals article for additional information.

Unallowable Costs

The items below will not be funded through PPA 7721 Cooperative Agreements.

- Costs incurred prior to the effective date of the agreement (unless a pre-award has been signed);
- Purchase of vehicles;
- Construction of a new building or facility, or the acquisition or expansion of an existing building or facility, including site grading, improvement, and architect fees;
- Land acquisition;
- Thank-you materials, incentives to encourage participation, or similar costs unallowable by OMB cost principles;
- Bonuses or commissions;
- Fundraising;
- Meeting, conference, symposia, or workshop honoraria which is payment to individuals or guests other than for documented professional services; and
- Compensation of Federal Employees. Salary payments, consulting fees, or other remuneration of full-time Federal employees are unallowable costs. Temporary duty assignment (TDY) and limited appointment (LA) costs are allowable

Indirect Costs

PPA 7721 cooperative agreements are limited to an eligible applicant's assessment of indirect costs to no more than 15 percent of the project's total costs or the application of their negotiated indirect cost rate agreement (NICRA), whichever is less. This limit also applies to sub-applicants (subawards). If you are submitting a proposal for PPA 7721 funding and requesting indirect costs, please calculate your indirect costs based on the following information.

Indirect cost equals the total federal award (i.e., direct costs + indirect costs), multiplied by 15%. The simplest way to calculate the indirect costs is to multiply the total direct costs (i.e., the sum of all personnel, fringe benefits, travel, equipment, supplies, and miscellaneous costs) by 17.647%.

Example:

Direct costs for a project = $35,000
$35,000 x .17647 = $6,176

Direct cost	$35,000
Indirect cost	+ $ 6,176
Total federal award	= $41,176

APPENDIX E – Specific Guidance for Goal 1S: Survey

Survey Names for National Priority Surveys:

Asian Defoliator Survey
Berry Pest Survey
Citrus Commodity Survey
Corn Commodity Survey
Cotton Commodity Survey
Cyst Nematode Survey
Exotic Buprestid (Cerceris) Survey
Exotic Wood Borer/Bark Beetle Survey
Field Crops Pest Survey
Forest Pest Survey
Fruit Crops Pest Survey
Grape Commodity Survey
Greenhouse Crops Pest Survey
Legume Pest Survey
Mollusk Survey
Nursery and Ornamental Survey
Nut Pest Survey
Oak Commodity Survey
Orchard Commodity Survey
Other Specialty Crop Survey
Palm Survey
Pathways Survey-Multiple Agricultural Systems
Pathway Survey-Non-Agricultural Systems
Pine Commodity Survey
Rice Pest Survey
Small Fruit Pest Survey
Small Grains Commodity Survey
Solanaceous Commodity Survey
Soybean Commodity Survey
Stone Fruit Commodity Survey
Tree Nursery Pest Survey
Tropical Hosts Pest Survey
Vegetable Crops Pest Survey
Walnut Twig Beetle/Thousand Canker Disease Survey

Recognized Federal Programs or Program Pests

Asian citrus psyllid
Asian longhorned beetle
Biological Control
Black stem rust
Boll weevil (*Anthonomas grandis*)
Box tree moth
Cactus moth (South American)
Canine/Detector dog
Chrysanthemum white rust
Citrus black spot
Citrus canker
Citrus leprosis
Citrus yellow vein clearing (CYVCV)
Coconut rhinoceros beetle
Cogongrass
Cucumber green mottle mosaic (CGMMV)
Emerald ash borer
European cherry fruit fly
European grapevine moth
European larch canker
Flighted spongy moth
Fruit flies (Tephritidae)
Giant African snail
Glassy-winged sharpshooter
Golden or pale cyst nematode
Grasshopper or Mormon cricket
Huanglongbing/Citrus greening
Imported fire ant
Japanese beetle
Karnal bunt
Khapra beetle
Light brown apple moth
Mollusks
Navel orangeworm
Old World bollworm
Phytophthora ramorum
Pink bollworm
Plum pox (PPV)
Pollinator Health/Bee Pests
Potato wart *Ralstonia solanacearum* Race 3 biovar 2
Roseau cane scale
Shot hole borers
Spongy moth
Spotted lanternfly
Sweet orange scab
Thousand cankers disease
Tomato brown rugose fruit (ToBRFV)
Witchweed

Survey Supplies
Survey supplies (traps, lures, and accessories) for PPA 7721 funded suggestions targeting National Priority Pests will be provided by PPQ through separate PPA 7721 funding; individual suggestions should not include these items in the submitted budget. The timeframe for ordering these supplies will be communicated at a later date. Questions should be directed to the Survey Supply Procurement Program (SSPP) National Policy Manager. For non-priority pests, states should request funding for traps, lures, or survey kits in their suggestion and final work plans.

APPENDIX F – Specific Guidance for Goal 2: Domestic Inspection

Goal 2 targets domestic inspection activities at vulnerable points in the safeguarding continuum resulting from movement of products and commodities potentially carrying pests of regulatory significance. This goal does not cover survey work. Survey work is covered in Goal 1S.

There are specific requirements for canine teams utilized for domestic inspection activities:

Utilization and Training:
Detector canines must at minimum follow the industry standard of two hours of utilization per workday and eight hours of detection training every two weeks.

Requirements:
The USDA APHIS cooperator will implement a multipart action plan consisting of the following elements:

- Take possession of the canines from the USDA/National Detector Dog Training Center and maintain the canines, if applicable.
- Establish and maintain kennels for program canines.
- Care of the canines including grooming, exercising, bathing, and healthcare.
- Provide appropriate training for the canine, canine handler, and personnel for all activities associated with the detector canine program. Canines will be certified annually for pest detection accuracy, and the certification will be documented for each canine in the program.
- On a monthly basis, determine accuracy of each canine by reviewing data entered by handlers.
- Work with each canine team to achieve a minimum of 80% accuracy in alerting.
- Develop, collect, and maintain program data and information in support of program activities and provide to USDA APHIS monthly. The information collected will at a minimum include:
    - **General Information:** Canine name, microchip number, canine date of birth, canine handler, duty station, agency, and kennel address.
    - **Canine Utilization:** Date of inspection, location of inspection, application, search time, total responses, positive responses, false positives, if applicable U.S. Parcel Service (USPS) class of mail, labeled per USPS regulation, quarantine pest genus and species, regulated pest status, package origin, and follow up actions.
    - **Canine Training:** Date, location, application, search time, responses, positive responses, false responses, and number of targets planted.
    - **Canine Health:** Date monthly preventatives given, feeding amount, number of vet visits, date of visit, reason for visit, duty status of canine, weekly canine weight, and date kennel sanitized.
    - **Exercise Log:** Date, exercise activity, and duration.
    - **Daily Health Check:** Canine name, handler name, Monday date, eyes, ears, nose, mouth teeth, body extremities, coat, genitalia, stool, weight, feed amount, attitude, and temperature.

- **Monthly Kennel Inspection:** Grounds, cleanliness of kennel, structural soundness, food preparation area, name of kennel, handler, and date of inspection.

The cooperator must also provide USDA APHIS data through semiannual and annual reports.

Health and Wellness Standards:
Cooperator will acknowledge by signature on the agreement indicating they have local policy in place that covers the 18 subject areas as identified by GAO Statement of Facts: Review of Federal Working Dogs (104489) listed below.

Issue	
Abuse and neglect	Processes describing how to prevent, identify, report, investigate, and sanction suspected abuse and neglect of working dogs.
Emergency care	Processes describing how working dogs are to receive emergency medical care, either by a veterinarian or a trained handler.
Euthanasia	Processes describing when euthanasia is permissible, decision-making processes, and specifying those officials with decision-making authority.
Exercise	Processes describing sufficient exercise for working dogs appropriate to weight and breed, or specific regimens (possibly in consultation with a veterinarian).
Food and water	Processes describing how working dogs are to be fed and watered, including timing of feeding, type and amount of food, specific regimens (possibly developed in consultation with a veterinarian).
Grooming	Processes describing the handler's responsibilities or practices for grooming the working dog.
Health and welfare training	Processes describing the training related to the health and welfare of the dog that handlers should receive.
Housing	Processes describing how the working dog is to be housed (either at a handler's home or a kennel), standards for housing, and contingencies when usual housing is unavailable.
Medical needs after retirement	Processes describing who has responsibility for addressing the medical needs of working dogs after they retire.
Medical records	Processes describing the requirements and practices for keeping and storing working dog medical records.
Medication	Processes describing how to provide medication for working dogs, including requirements for frequency or types of medication and instructions for administering medication and safe storage of medication.
Procurement	Processes describing the requirements an agency has for procuring its working

Issue	
	dogs, including sourcing, providers, preferred breeds, selection criteria, health and temperament testing, and identification of responsible officials.
Rest and length of on-duty time	Processes describing the requirements an agency has for giving the working dog rest and off duty time, including length of shifts, timing of breaks, and rest requirements.
Retirement	Processes describing the criteria for retiring a working dog and systems for determining who may adopt a retired working dog.
Routine veterinary care	Processes describing how frequently to take working dogs in for routine veterinary care, issues addressed at periodic visits, and identification of officials responsible for ensuring routine care takes place.
Routine welfare evaluations	Processes describing the checks for health and wellbeing carried out by a handler daily or at regular intervals and specifics of conducting a check.
Sanitation	Processes describing the sanitation requirements for housing, vehicles, food, or water.
Transportation	Processes describing the characteristics of vehicles used to transport canines, including provisions for transporting dogs in heat or cold, frequency of checks on dogs in vehicles, and practices for air travel.

APPENDIX G – Specific Guidance for Goal 3: Increase Identification Capacity and Strengthen Pest Detection Technologies and Resources

Appendix G includes pests where PPQ has determined development is needed for survey methods, molecular diagnostics, or general identification methods. Goal 3 suggestions can address other pests, including those found on the National Priority Pest List or not currently on any list. However, suggestions addressing taxa that are not well-known pests should clearly explain why the pests are important to PPQ, and why the suggestion should be funded.

Develop/optimize attractants and traps for the following survey targets, such as:

- Curculionidae*: Acanthotomicus suncei* – lure development
- Scutelleridae: *Eurygaster integriceps* – survey method improvement
- Crambidae: *Maruca vitrata* – lure development
- Pseudococcidae: *Rastrococcus iceryoides* – trap and lure development
- Pseudococcidae: *Rastrococcus invadens* – trap and lure development
- Delphacidae: *Sogatella furcifera* – trap and lure development
- Tephritidae: *Anastrepha ludens* – attractants development
- Cicadellidae: *Amrasca biguttula* – attractants development, survey method improvement
- Lepidoptera (any target pest) – attractants and traps that eliminate or reduce bee bycatch in bucket traps

Plant pathogen targets with diagnostic needs include, but is not limited to:

- Anguinidae (Nematoda): *Ditylenchus gigas* – molecular diagnostic methods
- Ascomycota (Fungi): *Raffaelea quercivora* – molecular diagnostic methods
- Basidiomycota (Fungi): *Cronartium flaccidum* – molecular diagnostic methods
- Oomycota – *Peronosclerospora maydis* - molecular diagnostic methods
- *Candidatus* Phytoplasma species – increased capacity to identify phytoplasmas to species level; need more information about endemic phytoplasmas and the hosts they infect; improved molecular diagnostic methods to differentiate them from exotic phytoplasmas
- *Fijivirus Fiji disease virus* (Virus) – molecular diagnostic methods
- Seed-transmitted and seed-borne viruses – improved seed homogenization methods for high-throughput processing of emerging viruses on economically important hosts (e.g. vegetables and row crops).

Insect targets with diagnostic needs include, but is not limited to:

- Crambidae: *Ostrinia furnacalis* – identification methods
- Elachistidae: *Stenoma catenifer* – taxonomic research to resolve species complex
- Laelapidae: *Tropilaelaps* spp. – identification methods
- Pseudococcidae: *Rastrococcus iceryoides* – identification methods
- Pseudococcidae: *Rastrococcus invadens* – identification methods
- Tortricidae: *Crocidosema aporema* – taxonomic research to resolve species complex
- Tortricidae: *Gymnandrosoma aurantianum* – identification methods