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

Plant Protection Act Section 7721

Fiscal Year 2023 Implementation Plan

Plant Pest and Disease Management and Disaster Prevention Programs

and

The National Clean Plant Network

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Introduction

Under the Plant Protection Act Section 7721 (PPA 7721), Animal and Plant Health Inspection Service (APHIS) annually makes funds available to cooperators – ranging from state governments, universities, non-profit institutions, industry, and tribal nations – to support projects that protect specialty crops, other agricultural production, nursery systems, forestry, and other natural resources from harmful and exotic plant pests and pathogens. It authorizes permanent funding for the National Clean Plant Network (NCPN) and the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP), $75 million per year starting in fiscal year (FY) 2018 and beyond, with at least $7.5 million of the funding to support NCPN annually. This funding authority is now codified in PPA 7721.

The NCPN focuses on establishing clean plant center networking, diagnostics, therapeutics, and foundation plantings. This special focus area within PPA 7721 strives to establish and support a network of clean plant centers and associated programs for a specific mission: 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. 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 nuclear stock. While this document describes the NCPN goals, objectives, and strategies, the NCPN provides an independent request for the proposal process for handling applications seeking NCPN support. Visit the NCPN website for more information and Appendix E of this document.

This document also describes goals, objectives, strategies, and rationale to focus suggestions for funding projects through the implementation of the PPDMDPP. Projects are organized around six goal areas: enhancing plant pest/disease analysis and survey; targeting domestic inspection activities at vulnerable points in the safeguarding continuum; increasing identification capacity and enhancing and strengthening pest detection technology; safeguarding nursery production; conducting outreach and education; and enhancing mitigation and rapid response capabilities.

Project suggestions for the PPDMDPP must clearly align with one of the six goal areas. Projects submitted to the incorrect goal area will not be considered for funding. Suggestions must also provide detailed information on project methodology, activities, and milestones, as well as a detailed budget that includes information on all cooperators and justification for funding.

As required by legislation, the Animal Plant Health Inspection Service (APHIS) sought input from the National Plant Board and State Departments of agriculture to implement PPA 7721. APHIS also consulted its Cooperative Agricultural Pest Survey (CAPS) cooperators, the Specialty Crop Farm Bill Alliance, industry organizations, and other governmental and non-governmental stakeholders.

PPA 7721 supports projects that strengthen pest management and eradication programs and supports the APHIS Plant Protection and Quarantine (PPQ) strategic plan. To achieve the mission, PPQ has established three strategic goals that include:

- Strengthen PPQ's pest exclusion system;

- Optimize PPQ's domestic pest management and eradication programs;
- Increase the safety of agricultural trade to expand economic opportunities in the global marketplace.

Many organizations play a crucial role in protecting our Nation's agriculture, environment, and natural resources from plant pests and disease. APHIS works closely with numerous Federal and State Governments, Tribal Nations, industries, academia, and foreign 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 the taxonomic identity of plant pests, administering cooperative agreements to cooperators to carry out pest and disease detection surveys, ensuring the timely recording and reporting of survey results, and coordinating regulatory responses to pest and disease outbreaks.

Other agencies within the United States Department of Agriculture (USDA) that partner in PPA 7721, include:

- National Institute of Food and Agriculture - 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 its Land Grant University system, may provide research to support long-term control efforts.
- Agricultural Research Service - 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 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.
- Risk Management Agency - provides guidance for documenting good farming practices and crop insurance programs.

In addition, State departments of agriculture play a critical role by carrying out pest and disease detection surveys as part of the CAPS program. States also carry out specific pest and disease detection and delimiting surveys to support control and eradication programs. States often lead specific regulatory responses to new pests in accordance with APHIS national policy, typically as a joint command with APHIS under the Incident Command System.

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

By capitalizing on APHIS' existing pest detection and response programs and national

surveillance system, the Agency will work to continually enhance communication and coordination with the States, industry, and the public. APHIS' state plant health regulatory counterparts, State departments of agriculture, Tribal representatives, industry, and other cooperators fully appreciate what it takes to eradicate, suppress, or manage a pest and disease outbreak, as they are our partners in carrying out emergency response programs. APHIS will continue to adjust to evolving plant pest and disease concerns; projects addressing pests of specialty crops will remain a high priority for the PPDMDPP.

For FY 2022, the PPA 7721 program received submissions for nearly 550 projects, requesting over $111 million in funding. Given the extremely competitive nature of the program, not all projects will receive funding. Therefore, it is critical to provide detailed information on the project methodology, activities, milestones, and budget as well as how it closely aligns with an appropriate goal area. Since 2009, APHIS has supported more than 4,800 projects and provided nearly $740 million in PPA 7721 funding. 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.

Goal Area Overview

PPA 7721 is organized into six goal areas. Each goal is described with specific objectives. In addition, there are specific implementation strategies, defined each year, that represent current thinking on specific activities aimed at meeting the objectives for each goal. Suggestions that include new and innovative strategies for meeting the objectives are encouraged.

Goal 1A – Plant Pest and Disease Analysis

This goal strives to enhance the analysis of available existing and new data to make informed decisions efficiently and effectively. This includes the development of new and innovative data analytic approaches or algorithms to improve predictive modeling and surveillance efficiency for exotic 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 and experimental work. Goal 1A could be used to specifically fund the analysis portion of multiyear surveys once the data has been collected or through leveraging or the synthesis of complementary data sets for modeling or predictive purposes.

Goal 1A Objectives

Objective 1: Identify risk factors and high-risk pathways through analysis of available existing data.

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

Goal 1A Strategies

Strategy 1: Better define biotic and abiotic variables, detect patterns, and test hypotheses that improve the understanding of where an exotic pest may enter, establish and spread.

Strategy 2: Development or application of decision support algorithms, approaches, or tools integrating data from various sources for prioritizing areas for surveillance.

Strategy 3: Develop and implement data-sharing protocols to incorporate PPQ, multi-agency, and commercial data for analysis.

Strategy 4: Conduct evaluation of analytical and resource allocation techniques to find more efficient ways to optimize decision making, and to improve our ability to make optimal choices.

Strategy 5: Identify and use offshore and domestic data sources based upon applicability, utility, data quantity, quality, and spatial and temporal resolution to efficiently inform decision support tools that will identify and analyze risk pathways for pest introductions.

Goal 1A Rationale

There is a critical need to identify plant pest threats with the increase in passenger travel, trade, and domestic commodity flow. The use of robust advanced analytical algorithms, approaches, or tools will help APHIS and our cooperators better utilize resources to meet the agricultural safeguarding goals. The analytical tool will help to target high-risk pathways to prevent pest entry and prepare for the potential establishment of high-risk pests. They will also help to allocate survey resources

more strategically and better understand invasion biology infestations so that rapid response can effectively respond and or reduce plant pest incursions.

Goal 1S – Plant Pest and Disease Survey

This goal provides funding to enhance APHIS' pest surveillance mission and ensure the early detection of exotic plant pests. The value of early pest detection is in reducing losses from widespread pest damage and/or the cost of mitigation. APHIS' plant pest surveillance mission offers an essential safeguard that complements offshore preclearance and port of entry activities.

The purpose of this goal area is to ensure there is alignment between Goal 1S surveys and other pest surveillance surveys (for example, the Cooperative Agricultural Pest Survey Program) or surveys supporting domestic program pests. This is necessary as the pest surveillance strategy continues to stress surveys that target multiple pests based on commodities, taxa, environments and habitats, industries and businesses,and the continuum along pest introduction pathways. Goal 1S seeks an open dialogue with all stakeholders, through the suggestion process, to improve APHIS' plant pest surveillance mission.

Goal 1S Objectives

Objective 1: Conduct national priority pest surveys in support of all agriculture crops, specialty crops, trade, and identified program surveys.

Objective 2: Target multiple high-risk pathways for exotic pest introduction across the United States.

Goal 1S Strategies

Strategy 1: Conduct national priority surveys that target multiple pathways for exotic pest introductions across the United States, with broad participation by states, universities, and tribes.

Strategy 2: Support PPQ's pest program surveys to increase knowledge about the distribution of pests.

Goal 1S Rationale

Survey activities in high-risk locations require adequate funding. Goal 1S provides funds to help meet the increasing demands of surveying for exotic 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. Once a pest spreads, mitigation costs can reach millions of dollars, in addition to lost farm revenues and damage to ecosystems. Survey results can support export certification and retain or expand U.S. export markets.

Survey Strategy

For FY 2023, 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 are surveys that primarily target pests on the National Priority Pest List. The 2023 National Priority Pest List is available on the CAPS Resource and Collaboration website. The host matrix presents National Priority Pests and their associated hosts. The survey suggestion must include multiple pests and identify the survey name from the acceptable list in section II. Pest Program Surveys. The survey name must align with the intended host(s) or habitat. For example, a survey happening in berry should be selected as berries. Suggestions seeking funding as a National Priority Survey must:

- Align with one of the approved survey names in the bulleted list in Section II. Pest Program Surveys.
- Include multiple pests.
- Ensure over 60% of the pests in the survey are National Priority Pests.
- Align with the Host Matrix.

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

- Targets two National Priority Pests (Siberian silk moth and black fir sawyer);
- Includes one pest of state concern (hemlock wooly adelgid);
- 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.

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 NationalPriority Pest. This suggestion can be submitted as a Cooperator Survey.

II. Pest Program Surveys

Pest Program Surveys are surveys associated with identified PPQ domestic programs and primarily support the program's detection surveys. Survey methods for Pest Program Surveys must:

- Follow the program's guidance for survey
- Clearly be associated with survey
- Not support treatment or post treatment activities

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
- Palm Survey
- Pathway Survey for Pests of Multiple 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 Pests Survey
- Vegetable Crops Pest Survey

Table 1-Goal 1S below provides the Pest Programs and available estimated total funding level for each program. The PPQ cross functional working group for each program will make recommendations on how best to allocate the total funding across suggestions for that program.

Table 1 - Goal 1S	
Names of Pest Program Survey	Proposed 2023 Total
Program Pest - Box Tree Moth Survey	$270,000
Program Pest - Cucumber Green Mottle Mosaic Virus Survey	$50,000
Program Pest – Exotic Fruit Fly Survey	$5,500,000
Program Pest – Khapra Beetle Survey	$42,000
Program Pest - National Honeybee Pests and Diseases Survey	$1,235,000
Program Pest - Program: Pale Cyst Nematode / Golden Nematode Survey	$302,022
Program Pest - Phytophthora ramorum Nursery Survey	$300,000
Program Pest - Spotted Lanternfly Survey	$40,123

Note: these dollar amounts are not guaranteed as funding priorities could shift to accommodate response to a new emergency pest.

III. Cooperator Surveys

Cooperator Surveys are for pests not regulated nationally and surveys for pests in a specific commodity could support 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 multi-pest nut pest survey, coffee pest survey, and weed surveys on tribal lands.

Accomplishment Report and/or Update Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. The Survey Accomplishment Report Template (found on the current National Pest Surveillance Guidelines page) should be used when reporting survey accomplishments. If work is not completed, please provide an update on the status of the project.

See Appendix A 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 that result from the movement of products and commodities potentially carrying pests of regulatory significance.

Goal 2 Objectives

- ***Objective 1:*** Promote and expand inland inspections of containers and mail facilities, where possible.

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

- ***Objective 3:*** Promote increased levels of inspection for regulated articles for interstate movement.

Goal 2 Strategies

Strategy 1: Follow-up inspections conducted by cooperating regulatory agencies in states receiving international and interstate regulated cargos that present a risk of moving plant pests to include the development of inspection techniques.

Strategy 2: Emphasize new capacities of agriculture detection canine teams in support of destination inspections. Inspections would include parcel facilities and containers and support Destination Inspection for cooperators.

Note: Canine activities related to domestic survey/pest detection activities are found under Goal 1S.

Strategy 3: Emphasize inspection activities for regulated articles moving internationally or interstate.

Strategy 4: Develop the analytical capacity to identify/design workable programs and the operational mechanisms to effectively implement them, including processes for inspection.

Goal 2 Rationale

To mitigate pests more effectively, it is necessary to detect pests and prohibited items that may have escaped undetected through ports of entry at the second line of defense. Additionally, mail facilities, along with express carrier hubs, could potentially be the most active pathway for internet commerce. These activities can be applied to the illegal movement of domestic quarantine products.

Canine teams have demonstrated their effectiveness at ports of entry and in domestic inspections in California and Florida. This tactic provides States with an additional line of defense to prevent the introduction and interstate movement of harmful plant pests. The 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 at destination will increase the level of protection against introduced pests and increase the effectiveness of completing inspections and audits.

Accomplishment Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project.

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 in any taxonomic group, including, but not limited to, arthropods, nematodes, bacteria, fungi, nematodes, phytoplasmas, viroids, and viruses. Submissions to this goal should be finite, short to medium-term projects that enhance the protection of U.S. agriculture and/or facilitate trade. Multi-year suggestions must have discrete deliverables for each year of the project, and suggesters should be aware that receiving funding for a multi-year suggestion does not guarantee or imply funding for subsequent years. This goal also supports regional screening centers at universities, State departments of agriculture, and other institutions that provide preliminary identification support for plant pest surveys.

Goal 3 Objectives

- ***Objective 1:*** Improve all aspects of early detection technologies and resources.

- ***Objective 2:*** Develop or improve diagnostic tests and identification tools and methods for species in a wide range of taxonomic groups containing high priority pests.

Goal 3 Strategies

Strategy 1: Develop and improve traps and lures by:

- Increasing efficiency of catching target species, i.e., by developing specific traps or lures to reduce bycatch (non-target species), thereby reducing trap screening efforts.
- Improving ease of removing target species for identification (e.g., alternatives for sticky traps for Lepidoptera).
- Developing novel traps, lures, and survey strategies to detect target species more efficiently.
- Developing effective quality control standards for the production of traps and lures used at the field level.

Strategy 2: Identify the taxonomic expertise and capacity to augment preliminary identification needs for plant pest surveys and provide cost-efficient identification centers that accept and process survey samples from other states.

- Develop cooperative agreements and fund institutions with expertise in systematics and taxonomy to process and identify samples from PPA 7721 Goal 1S, PPQ Pest Detection, and CAPS surveys.
- Expand taxonomic expertise to facilitate early recognition of target pests and prevent the introduction of unanticipated exotic species.
- Screening center 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 addressed in separate suggestions.

Strategy 3: Develop, validate, transfer, and increase the deployment of appropriate diagnostic tools, including nucleic acid-based tools or other technologies, to detect and/or identify specific plant pests:

- Develop novel tools, improve or validate existing tools for screening and/or confirming pests on USDA priority pest lists and those listed in additional Goal 3 guidance.
- Develop diagnostic tools to support the exclusion of invasive pests.
- Validate existing diagnostic tools for plant pests of regulatory significance at higher validation tier levels to ensure assay robustness when deploying across testing programs nationally.
- Develop tools, such as interactive keys and image databases, to allow for the identification of taxa in poorly characterized groups. Systematic research may be included to resolve complicated taxonomic issues.
- Characterize unresolved species complexes that contain targeted plant pests to support identification needs for surveys and effective pest management/eradication strategies.
- Generate high-quality sequence data for organisms in groups that contain high impact plant pests. Develop sequence databases using specimens from varied geographic localities that are expertly identified and maintained in major collections. PPQ makes sequence data publicly available within 6 months following the end of the one-year PPA 7721 project funding cycle.

Strategy 4: Enhance the expertise and capacity to identify a greater variety of plant pests by:

- Developing new recorded or in-person training sessions, including regional or multi-state led by recognized experts to provide the best methods for distinguishing exotic pests from established and native species. Training should specifically address taxa on current USDA priority pest lists.

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 through a combination of strategies that greatly enhance PPQ's ability to respond to exotic pests.

Developing effective and efficient survey tools is critical for the early detection of invasive pests. 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. Applying quality control standards to traps and lures ensures that PPQ obtains effective products for the detection of exotic pests and ensures that data collected from surveys of are high quality. Early detection programs rely on expertly developed traps and lures.

Providing taxonomic expertise to screen and identify survey samples is another critical component of early detection. Regional screening centers are needed to process, screen, and provide preliminary identification for trap samples obtained through domestic surveys. These services support PPA 7721 Goal 1S, PPQ Pest Detection, and CAPS surveys, which generate thousands of trap samples annually.

Developing diagnostic tools in anticipation of future threats allows for rapid response when

new exotic pests are detected. Although the use of molecular diagnostics is increasing dramatically for all pest groups, Goal 3 also supports the development of more traditional methods and tools, such as interactive identification keys and image databases. Systematic research necessary to resolve species complexes and improve the identification of pests in these groups is also supported. Molecular diagnostic development includes the production of detection and identification assays as well as the generation of high-quality molecular data for groups that contain important pests.

Diagnostics support also includes the improvement of identification skills through training that is conducted by experts in a particular group. Training can be in-person or remote and targeted at screening or preliminary identification of USDA priority pests and frequently encountered non-targets.

Accomplishment Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project.

See Appendix B 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 audit-based nursery certification initiatives.

Goal 4 Objectives

- ***Objective 1:*** Develop science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain.

- ***Objective 2:*** To develop and nationally harmonize audit-based nursery certification programs, including the harmonization of different certification programs (both inter- and intra-state), audit and inspection training for cooperators, and program launching.

Goal 4 Strategies

Strategy 1: Systems Approaches for Nursery Production: Initiatives that specifically explore the role of certain pests within nursery production systems. The system approach is to develop science-based best management practices (BMPs) and risk mitigation practices to exclude, contain, and control regulated plant pests from the nursery production system.

Strategy 2: Systems Approaches to Nursery Certification Programs and Specialty Crop Pilot Studies: Nursery Certification Programs. initiatives that directly address and inform the process of inspecting, auditing, and certifying the production of nursery stock. Initiatives for enhanced harmonization and integration of nursery certification programs will improve the cleanliness and health of domestically produced nursery stock, facilitate the domestic and international movement of nursery stock, and safeguard the nursery industry from the introduction and spread of exotic pests. This strategy also includes efforts directed towards the development and harmonization of certification programs for asexually propagated plant material. The certification programs provide high-quality asexually propagated plant materials free of targeted plant pathogens and pests that cause economic loss and ensure the global competitiveness of specialty crop producers.

Goal 4 Rationale

The establishment and operation of functional experimental nurseries and research studies to develop BMPs to exclude, contain, and eradicate pests/pathogens in the nursery environment are critical. The ability to regulate nurseries, the movement of nursery stock, and implement effective protocols to eradicate certain pests and pathogens of concern in nursery settings such as *P. ramorum* and other pests/pathogens of concern is a major challenge. The lack of large-scale research on such pests and pathogens in a nursery environment compromises the program's degree of success in nursery certification and pest/pathogen eradication in nurseries. Fully functioning experimental nurseries within pest/pathogen infested areas will allow research to be conducted in a controlled environment as a means of obtaining more complete knowledge and understanding of the pests/pathogens and evaluation of potential pathways for the movement of these organisms within and among nurseries and inform end users. The increased understanding of pests/pathogens and

host materials would help regulatory and nursery staff to refine program policies, protocols, procedures, and regulations to more effectively manage or eradicate the pests/pathogens in the nursery setting.

Expanding experimental nurseries for researching pests and pathogens of quarantine significance that are present in select States and threaten other States as well is important to expanding the nursery safeguarding continuum. Established nurseries can be efficiently adapted in part to support research to better understand organisms, hosts, and controls and thereby support the refinement of program policies, procedures, and regulations. Given its infrastructure and focus, such experimental nurseries provide an ideal location to conduct experiments on targeted and other nursery plant pests and pathogens.

Accomplishment Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project.

See Appendix C for Specific guidance with Goal 4.

Goal 5 – Outreach and Education

Goal 5 seeks to increase awareness and knowledge to prevent the introduction or spread of high consequence* pests into and throughout the United States, through high-risk pathways, particularly in high-risk** areas.

Goal 5 Objectives

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

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

- ***Objective 3:*** Increase public acceptance and support of APHIS high priority plant pest and disease eradication and increase acceptance of control efforts.

Goal 5 Strategies

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, and others who are in a position to detect, identify and/or respond to pest threats (especially tribal, underserved, minority, and specialty crop producers).
- Distribution Center Employees - Encourage people who work in/around warehouse and storage facilities, nursery and garden centers, and other vulnerable points to look for and report signs of a pest or disease, employ best practices, and manage supply chains to enhance safeguarding.
- Travelers - Inform travelers about pests and diseases and the steps they can take to prevent their introduction or spread.
- Consumers - Inform consumers about pests and diseases and the steps they can take to prevent their introduction or spread.
- Youth - Inform youth about invasive pests and the steps to protect agriculture and natural resources.

Strategy 2: Apply best practices and approaches that have proven successful, or incorporate promising innovation in thinking or approach, to increase public acceptance and support of APHIS high priority plant pest and disease eradication and control efforts.

Strategy 3: Develop and implement volunteer programs to support pest detection.

Goal 5 Rationale

Outreach and education projects should support and enhance efforts to prevent the introduction or spread of high consequence pests into and throughout the United States, particularly in susceptible high-risk areas. Projects will increase the number of people looking for and reporting high consequence pests at vulnerable points along high-risk pathways. The projects should also educate people to strengthen the safeguarding system.

* https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/The-Threat

**https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/How-They-Spread

Accomplishment Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project.

See Appendix D for Specific guidance with Goal 5.

Goal 6 – Enhance Mitigation and Rapid Response

This goal strives to develop pest mitigation tools and technologies to be used during pest response activities to reduce potential adverse impacts and further spread of detected pests of regulatory significance and/or of economic or environmental concern. Goal 6 supports key areas of mitigation; however, this is not a goal for long-term basic research and development projects. Projects with a significant survey component must justify how the survey relates and is necessary to the mitigation activity or should be submited to Goal 1.

Goal 6 Objectives

- ***Objective 1:*** Develop or adapt new control technologies, tools, and treatments for use in plant health emergencies.

- ***Objective 2:*** Improve the knowledge base, response options, and capabilities prior to the onset of a plant health emergency.

- ***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.

Goal 6 Strategies

Strategy 1: Develop, promote, and implement new control technologies, tools, and treatments for use in plant health emergencies and/or established pest programs. Examples of this Goal 6 strategy include quarantine treatments, enhanced mitigation, and certain stages of biological control where there's a clear deliverable within one year (complete a release permit, collect additional data for a permit, to develop rearing tech).

Strategy 2: Enhance preparation for a plant pest emergency by improving the knowledge base, response options, and capabilities prior to the onset of a plant pest emergency. Examples include the development and training of rapid response teams (Incident Command System) and offshore approaches to developing management options for key invasive pests before they arrive.

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

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.

Goal 6 Rationale

When a new pest is reported, APHIS and the States establish survey, control, and regulatory activities to manage and/or eradicate the pest outbreak. In preparation for these plant pest introductions before they reach the United States, APHIS and States identify high-risk pest threats utilizing several current programs within PPQ, including the New Pest Advisory

Group (NPAG), North American Plant Protection Organization (NAPPO) Pest Alerts, scientific journals, and communications. Technical plant pest information is gathered to develop mitigation activities in the form of an NPRG, balanced between operational feasibility, scientific objectivity, and environmental consideration.

Emergency Response

The time between the detection of an exotic 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 the initial response protocols of survey, regulatory, and control activities, including:

- travel costs associated with personnel mobilization;
- technical working group and subject matter expert activities;
- resource purchasing for incident activities;
- vehicle 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.

Accomplishment Report

If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project.

APPENDIX A- Specific guidance Goal 1 Survey

Pathway Approach to Survey

The pathway approach to survey is based on identifying areas that are at the highest risk for pest introductions. Suggestions can use the appropriate section in the suggestion to describe pathway risks. 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 the highest 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.

By contrast, a survey that seeks to monitor a pest population after a control treatment has been applied would notfall into this goal area. Suggestions that involve a treatment must be submitted to other goal areas.

Randomized surveys that inundate or blanket an area with trapping are also not recommended forthis goal area. Suggestions are expected to have some level of consideration for targeting of likely introductions.

Survey Methods

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

Past Performance

Goal 1S uses past performance as an evaluation criterion; therefore, suggestions should include a narrative discussing past performance. Submitters should include narratives describingaccomplishments and outcomes of previous suggestions or related work. While not required in the template or required to submit a suggestion, this information should be attached in Metastorm.

Pest Management Programs

Goal 1S supports surveillance and early detection in the areas described above. States with activemanagement of pests such as Spotted Lanternfly, Fruit Flies, or European Cherry Fruit Fly should look to other goal areas to support treatment work. States who have not yet detected thesepests must combine one of these pests into a multi-pest survey (as part of a Grape or Orchard Survey, for example). Additionally, if a suggester chooses to submit a single-pest survey for an ongoing emergency program to Goal 1S, per the PPA 7721 cross functional working group (CFWG), the suggestion will not be transferred by the CFWG to

another Goal team for review, and the suggestionwill not be reviewed or funded.

Federally Recognized State Managed Programs (FRSMP)
Cooperators seeking support for FRSMP should consider submitting a suggestion through the Priority Pest Surveys. FRSMP pests are not National Priority Pests. For example, if allium leaf miner is desired to be surveyed, two additional pests from the National Priority Pest List would need to be included to qualify for a National Priority Survey. This would provide the suggestionwith the most optimal level of consideration. It's important that the narrative regarding trade is completed and clearly relates to support for FRSMP survey. Items like border station and regulatory control are not appropriate for this goal area; only surveys will be considered.

Submitting Goal 1S Suggestions
Suggestions must be submitted to Goal 1S using the Goal 1S Suggestion Template. The template is an Excel file and can be found on the PPA Goal Website. The template providesa single form for all Goal 1S suggestions to use and includes a financial section as well. All information submitted to a suggestion will be considered by the review team. There are also narrativequestions in the Goal 1S template. These sections are required, and failure to complete the response will negatively impact your overall suggestion rating. Contractual costs must be shown onthe financial forms. Additional worksheets can be added to accommodate multiple contractors being added.

Accomplishment Report
If funding was provided previously, the opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the associated accomplishment report. If work is not completed, please provide an update on the status of the project. The Survey Accomplishment Report Template (found on the current National Pest Surveillance Guidelines page) should beused when reporting survey accomplishments.

Funded Suggestions
When the FY2023 Spending Plan is announced, specific instructions will be provided for using the Online Work Plan Interface.

PPA 7721 Survey Summary Form
All funded Goal 1S projects must complete the 2023 PPA 7721 Survey Summary Form online on the CAPS Resource and Collaboration site. All funded projects need to be captured inthe Survey Summary Form, even those excused from using the Online Work Plan Interface.

Data Management
National Priority Surveys will use the National Agricultural Pest Information System (NAPIS) and other survey types will follow program guidance if available. The NAPIS database includesdata validation rules ensuring the Approved Methods for Pest Surveillance are adhered to.

Additional information on approved survey methods can be found on the CAPS Resource and Collaboration website. Suggestions seeking funding from Strategy 2, Pest Program Surveys, should seek data requirements from the respective program contacts.

Survey Supplies

Survey supplies (traps, lures, and accessories) for National Priority Pests funded by PPA 7721 will be provided by PPQ through separate PPA 7721 funding. The timeframe for ordering thesesupplies will be communicated later. 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 B- Specific guidance Goal 3: Increase Identification Capacity and Strengthen Pest Detection technologies and resources

Detection tools and methods should be designed for economy, efficiency, ease of use, and deployment at scale. High priority pests for consideration include those found on the CAPS Pest List, the Prioritized Offshore Pest List (POPL), and other USDA priority pest lists.

Examples include:

- Survey tool improvements: Screening and diagnostic-friendly traps and collection methods that facilitate handling and processing of survey samples, prevent specimen damage, and/or preserve the condition of specimens.
- Trap design experiments that improve the efficacy of diagnostic-friendly traps for survey targets in the pests' native range (i.e., reducing the number of morphologically similar non-targets that are trapped).
- Novel trap technologies: Research toward the development of insect traps that can increase the rate of detection or increase the efficiency of surveys or identification of targets. Suggestions should focus on specific priority pests. Areas of need include:
    - Automated 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 based on behavior, size, etc.
- Develop/optimize attractants and traps for the following survey targets:
    - 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
- Detection assays: Affordable, accurate biochemical or molecular assays for detecting and identifying USDA priority pests:
    - In trap samples that contain large numbers of non-targets that are morphologically similar to the target pest. This is especially problematic for species that must be dissected to be identified (e.g., many Lepidoptera).
    - In symptomatic host materials suspected of infection by pathogens on priority pest lists or closely related endemic pathogens (such as Peach X disease phytoplasma). Field-level or screening diagnostic tests for group or genus-level detection (for example, ELISA or lateral flow tests for phytoplasma or virus detection) are an invaluable tool for efficiently identifying pathogens and ruling out abiotic stress as a source of symptoms.
    - 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.
- The proposed diagnostic tools 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.

- Interlaboratory validation of existing diagnostic tools to generate data on assay or process reproducibility, robustness, and accuracy that will support effective deployment of these tools nationally. Develop efficient nucleic acid extraction tools for the high throughput processing of samples or field-level tools for quick processing of samples prior to diagnostics testing.

Capacity building for identification and improvements to diagnostic technologies
Capacity building includes enhancements to training, specimen collections, diagnostic tools, and methods (morphological and molecular), as well as enhancements to infrastructure that improve the diagnostic capability for screening, identification, and throughput of survey samples.

Examples include:

- Develop the expertise and capacity to identify a greater variety of plant pests.
  - Recorded training sessions: Taxonomic training led by recognized experts is needed to teach taxonomists/identifiers how to distinguish quarantine pests from established and native species. Suggestions that include the production of recorded webinars and/or videotaped training that are accessed from the internet are encouraged. The needs include pests in the following groups: wood-boring beetles, adult and immature Lepidoptera, mollusks, nematodes, and fungal pathogens of quarantine importance.
  - Interactive taxonomic keys: Develop interactive matrix-based taxonomic keys using well-illustrated morphological characters from specimens that have been expertly identified. Interactive taxonomic keys should provide credible information for confirmations of suspect taxa on USDA priority pest lists or those encountered during quarantine inspections.
  - Taxonomic support for states conducting pest surveys where large numbers of non-target or native insects are mixed with target pests and taxonomic expertise or capacity in the state of origin is limited.
- Develop, validate, transfer, and deploy molecular diagnostic tools where logistically and economically practical for national survey targets and other priority pests. Molecular methods are not available for many pests, or existing methods need refinement and validation by PPQ. Research would include developing and validating:
  - Field-level or intermediate screening tests for group or genus-level detection (e.g., ELISA or immunostrip tests for phytoplasma or virus detection).
  - Screening tests for genus and species-level detection and identification.
  - Confirmatory tests for species, strain, or pathovar identification.
- Targets for molecular diagnostics could include arthropods, nematodes, bacteria, fungi, phytoplasmas, viroids, and viruses. Arthropods, phytoplasmas, viroids, and viruses should be identifiable at the genus and species levels.
- Plant pathogen targets with diagnostic needs include:
  - Anguinidae (Nematoda): *Ditylenchus gigas* – molecular diagnostic methods
  - Ascomycota (Fungi): *Raffaelea quercivora* – molecular diagnostic methods
  - Basidiomycota (Fungi): *Cronartium flaccidum* – molecular diagnostic methods
  - *Candidatus* phytoplasma species – increased capacity to ID 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

- Insect targets with diagnostic needs include:
  - Crambidae: *Ostrinia furnacalis* – identification methods
  - Pseudococcidae: *Rastrococcus iceryoides* – identification methods
  - Pseudococcidae: *Rastrococcus invadens* – identification methods

- Systematic research to support the exclusion of invasive species:
  - Create systematic revisions of groups that contain invasive plant pests. Revisions should provide practical data to help target and restrict potential pathways of introduction.
  - Clarify the systematics of invasive pests in unresolved species complexes to support identification, detection, and effective management.
- Produce databases of DNA sequence data for groups of quarantine pests:
  - 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, especially for pest groups where existing molecular data are lacking.

APPENDIX C-Specific guidance Goal 4: Safeguarding Nursery Production

Developing an audit-based, harmonized, and integrated nursery certification program to facilitate exports and the domestic movement of nursery stock in partnership with State regulatory officials is crucial for comprehensive pest/pathogen management strategies and program and production efficiencies. This includes the greenhouse and nursery certification programs. The nursery certification program has several components that include providing the cleanest possible environment; isolating the clean materials; and following systems approaches and BMPs to keep the plants healthy, documentation, recordkeeping, audit, and compliance. APHIS will partner with States and industry to adopt and implement standards for certification of greenhouses and registered nursery blocks producing nursery stock. Ultimately, the certification programs will be harmonized with NAPPO and International Plant Protection Convention guidelines. 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 of exotic pests. An effective nursery certification system will facilitate the safe domestic movement of planting material and increase exports. The establishment of a standardized or harmonized certification program would facilitate the domestic movement of certified planting material and reduce the costs. This would allow for certain States with no nursery industry to participate without any financial burden, while still ensuring the growers in the State(s) are provided with clean material.

Developing and delivering training to the cooperators and providing material and technical assistance in developing the quality operational manual for small-scale nurseries is instrumental in advancing safeguarding nursery programs. APHIS has developed and delivers a training module through the Agency's Professional Development Center (PDC) for audit-based certification programs for Federal and other cooperators. This training will be provided at regular intervals and measures will be in place to ensure the accreditation and certification of the trainees. The development of staff with adequate audit training would partially offset the cost of inspections in audit-based certification programs. It would provide incentives for the smaller nurseries to participate.

Working with all stakeholders and cooperators to launch and support the certification program for the nursery industry provides vital linkages between this goal area and allied initiatives. This initiative includes launching audit-based certification program pilots in select states, developing the training module for audit-based certification programs, and integrating with planned initiatives of the NCPN. The specialty crop based clean plant networks for select crops such as fruit trees, grapes, and berries are currently formed or are forming to provide certified planting materials to the nurseries and growers under State certification programs. The ultimate objective is to develop a "value added certified identity" to the planting material for acceptance by the trading partners. Procedures will be in place for audit, non-compliance, and mitigation. The certification programs provide high-quality asexually propagated plant materials free of targeted plant pathogens and pests that cause economic loss and ensure the global competitiveness of specialty crop producers. The development of a certified tag would facilitate safe domestic movement of planting material, increase grower's confidence in the program, and promote exports.

APPENDIX D- Specific guidance Goal 5: Outreach and Education

Developing and delivering educational programs, engaging the public through traditional and social media, collaborating with cooperators, 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. In your project design, it is essential to outline the strategy/process of your project, what you are trying to achieve, the milestones you are going to meet along a specific timeline, and the results you aim to achieve. Describe how you plan to measure success quantitively (e.g., the number of people you engaged in person or through digital media efforts) and qualitatively. Define how you measure an engagement and the impact.

Examples include:

- An in-person engagement could include an introduction of the agency/purpose, a localized fact about an invasive pest, and handing out collateral with local reporting information about the pest. Surveying attendees annually to measure knowledge retention/awareness can also demonstrate year to year impact. Adding a question in a public reporting tool that captures how they learned about the pest can also help your team measure and report the impact of your outreach efforts.
- Knowing the number of event attendees at a given outreach event is a qualitative metric, but less insightful than how many defined, quality engagements you captured at your booth. Capturing the number of people who accurately reported an invasive pest because of your outreach campaign is an example of a quality metric that demonstrates a high return on investment (ROI).
- If you are submitting a project to develop and host an educational program, such as a webinar or classroom course, identify the audience and whether the program is free and available to the public.
- If public resources for your program exist, consider leveraging them over creating all new materials. Update and localize existing outreach resources whenever possible. Be creative and practical in your approach.
- Detail who will attend and benefit from the program and how the lessons can or will be applied. Quantitative indicators such as the number of booth engagements or digital reach—and qualitative indicators, such as behavioral change and message retention—are important to include in your strategies for measuring your project's success and impact.

APPENDIX E- The National Clean Plant Network (NCPN)

This special focus area within PPA 7721 strives to establish and support a network of clean plant centers and associated programs for a specific mission: 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. 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 nuclear stock.

NCPN Objectives

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

- ***Objective 2:*** Advancing Special Initiatives: Optimize the adaptation and implementation of novel technologies and new ideas while increasing the awareness of the importance of using clean plants.

- ***Objective 3:*** Governance and Networking: Optimize Network resources.

NCPN Strategies

Strategy 1: The NCPN will seek, maintain, and enhance a network of facilities and expertise for testing and providing therapy for selections of specialty crops based on climatic suitability, current infrastructure and expertise, regional needs, and disease and insect pest safety standards. The NCPN will also establish foundations of plant material that test negative for pathogens in accordance with accepted standards.

- The NCPN will implement existing research to advance rapid, accurate testing techniques to meet the needs of regulators and the industry.
- The NCPN will use the best available methods to release pathogen tested planting material in a safe and timely fashion.
- The NCPN will use reasonable methods to obtain desired accessions from reliable sources both within and outside the network.
- The NCPN will maintain foundations in accordance with accepted standards.
- The NCPN will establish and facilitate working relationships with and among appropriate entities that certify plants for planting.

Strategy 2: The NCPN will establish special initiatives that serve in support of the governance, networking, and operations of the program.

- The NCPN will maintain foundations in accordance with accepted standards. The NCPN will establish and facilitate working relationships with and among appropriate entities that certify plants for planting. The NCPN will establish programs supporting Network strategic and other planning, organizational advancement, education/outreach/extension initiatives, quality management, and information exchanges.

Strategy 3: The NCPN will develop and implement a management governance structure.

- The governance system will insure the continual, unimpeded flow of information among the network members to facilitate the accomplishment of the NCPN mission.

NCPN Rationale

NCPN is established out of a sense that there is a crucial need to support clean plant centers engaged in some of the classical and advanced clean plant operations and service work needed by industry and being led by those centers. These activities, as supported by PPA 7721, have become 'core' to the purpose and priorities of NCPN, including:

- Supporting importation or **introduction** of plant material into quarantine or otherwise into the program with the express and immediate purpose of establishing clean nuclear stock.
- Conducting **diagnostics** of program plant material for purposes of ascertaining pathogen status and possible needs for further action.
- Engaging in **therapeutics** to clean up plant materials as requested by industry.
- Supporting clean plant **foundations** to house nuclear stock**.**

Additionally, as the network took shape and advanced, stakeholders further discussed the needs, interests, and boundaries of NCPN. It became evident that other components were crucial for good program management and to ensure for the success, viability, and advancement of this initiative. These included:

- Governance: Networking, Communications, Consultations, and Meetings, Planning, and Policies
- Strategic and Other Planning: Developing short- and long-term program and clean plant center plans
- Operations and Service Activities: Establishment and of Advancement Advancing Means, Methods, and Technologies
- Education: Outreach, Extension, and Communications with industry and other interested parties
- Economics: Studies serving NCPN communications with industry regarding the importance and value of using clean plant material
- Foundations and Germplasm Collections: Support for Clean-Up of Valuable Collections as Requested by Industry and advancing such collections to foundation standards; including novel approaches to securing and maintaining nuclear stock.
- Staffing and Facilities Support: Personnel, Facilities Refurbishment, Equipment, and Supplies
- Process Improvements: Quality Management and Quality Controls, and Quality Training
- Resources Management: Grantsmanship, Program Reviews, and Critical and Emerging Issues Management, and Strategic and Business Planning External Linkages: Connecting NCPN to Related Initiatives or Programs Impacting NCPN such as other Plant Protection Act, Section 7721 Farm Bill 2014 Section 10007 initiatives, including the Safeguarding Nursery Production program and the Enhancing and Strengthening Pest Detection and Identification program

To accomplish its mission, NCPN engages in a series of activities, including the following:

- Creating National and Commodity-Based Clean Plant Network Governing Bodies and Working Groups.
- Developing Consultative and Communications Procedures with stakeholders.
- Pursuing Strategic and Business Plans and other guidance and opinions.

- Needs driven Priority Setting with commodity-based specialty crop partners.
- Supporting a network of Facilities and Expertise for pathogen testing, therapy, and associated research, methods development, risk management, quality management, education, and outreach.
- Establishing Foundation Clean Stock plantings and provide material to nurseries and growers within prescribed nursery certification programs and otherwise as requested.
- Improving the National Plant Germplasm System by testing and for the purpose of cleaning plant material for industry.
- Setting Diagnostic and other Guidelines and National Standards for use within the Network and in support of the NCPN Quality Management initiative.
- Conducting Research and Methods Development to support the diagnostics and therapeutics aspects of clean plant programs.
- Advocating for industry-driven Best Management Practices in support of clean plant networks.
- Pursuing Special Initiatives in support of the Governance, Networking, and Operational needs of the program.
- Organizing and delivering Education, Extension, and Outreach programs as well as Economic Studies.
- Coordinating and sharing the use of scarce Resources to support commodity-based clean plant networks.

Accomplishment Report

The opportunity for any future PPA 7721 funding for projects is contingent upon the completion of the prior year's accomplishment reports. If work is not completed, please provide an update on the status of the project.