



Plant Protection Act Section 7721

Fiscal Year 2024 Implementation Plan

Plant Pest and Disease Management and Disaster
Prevention Programs

and

The National Clean Plant Network

Contents

Introduction	3
Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP) Overview	3
Goal Area Overview.....	6
Goal 1A – Plant Pest and Disease Analysis.....	6
Goal 1S – Plant Pest and Disease Survey	7
Goal 2 – Domestic Inspection.....	11
Goal 3 – Increase Identification Capacity and Strengthen Pest Detection Technology	12
Goal 4 – Safeguard Nursery Production	14
Goal 5 – Outreach and Education	16
Goal 6 – Enhance Mitigation and Rapid Response	17
APPENDICES - SPECIFIC GOAL GUIDANCE	20
APPENDIX A – Specific guidance Goal 1 Survey	20
APPENDIX B – Specific guidance for Goal 3: Increase Identification Capacity and Strengthen Pest Detection Technologies and Resources	23
APPENDIX C – Specific guidance for Goal 4: Safeguarding Nursery Production	26
APPENDIX D – Specific guidance for Goal 5: Outreach and Education	27
APPENDIX E – The National Clean Plant Network (NCPN)	28

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](#), nursery systems, forestry, and other agricultural production systems and 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, with at least \$7.5 million of the funding to support NCPN annually.

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 nursery 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.

Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP) Overview

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, APHIS seeks input from the National Plant Board and state departments of agriculture to implement PPA 7721. APHIS also consults 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:

- Strengthen PPQ's Safeguarding Continuum;
- Advance Scientific Solutions to Support Plant Health;
- Improve the Effectiveness of Plant Pest and Disease Programs.

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 agencies, 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 with 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 U.S. Department of Agriculture (USDA) that partner in PPA 7721, include:

- 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 research to support long-term control efforts.
- 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.

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, sometimes as a joint command with APHIS under the Incident Command System (ICS).

APHIS will set aside up to \$4 million in Plant Protection Act Section 7721 funding to support Tribes, Tribal organizations and universities as well as other minority-affiliated organizations.

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, 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.

By capitalizing on APHIS' existing pest detection and response programs and national surveillance system, the Agency will 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 2023, the PPA 7721 program received submissions for more than 490 projects, requesting over \$103 million in funding. PPDMDPP alone received more than 460 submissions totaling more than \$94 million in funding during the seven-week open period last summer. 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 5,170 projects and provided nearly \$809 million in funding through this program. 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

Goal 1A strives to enhance the analysis of available data to make informed decisions efficiently and effectively. This includes development of new and innovative data analytic approaches or algorithms to improve predictive modeling and surveillance efficiency for exotic 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

Objective 1: Identify risk factors for high-risk pests and high-risk pathways through analysis of available 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 invasive 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 optimize decision making.

Strategy 5: Identify and use appropriate offshore, port of entry, and domestic datasets for analyzing pathways for risk of 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 use resources to meet agricultural safeguarding goals. Analytical tools 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 and/or reduce plant pest incursions.

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 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 CAPS Program) or surveys supporting domestic program pests. This is necessary as APHIS' pest surveillance mission 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 listed below under 'Survey Strategy'.

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

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 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 to survey for Siberian silk moth, black fir sawyer, and hemlock wooly adelgid under a Forest Pest Survey, 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);
- More than 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 National Priority Pest. This suggestion can be submitted as a Cooperator 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
- Palm Survey
- Pathway 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 Pests Survey
- Vegetable Crops Pest Survey

II. Pest Program Surveys

Pest Program Surveys are surveys associated with specific 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

Table 1 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 to best allocate the total funding across suggestions for that program.

Table 1: Goal 1S Pest Program Surveys

Names of Pest Program Survey	Proposed FY 24 Total
Program Pest - Box Tree Moth Survey	\$147,000
Program Pest - Cucumber Green Mottle Mosaic Virus Survey	\$50,000
Program Pest - Exotic Fruit Fly Survey	\$5,500,000
Program Pest - Khapra Beetle Survey	\$15,000
Program Pest - National Honey Bee Pests and Diseases Survey	\$1,600,000
Program Pest - Pale Cyst Nematode / Golden Nematode Survey	\$312,022
Program Pest - <i>Phytophthora ramorum</i> Nursery Survey	\$300,000
Program Pest - Spotted Lanternfly Survey	\$30,000

*Additionally, up to \$700,000 may be requested for support of the Survey Supplies Procurement Program.

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

III. Cooperator Surveys

Cooperator Surveys are for pests not regulated nationally 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 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 additional 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).

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 inspections 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. 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 additional 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, bacteria, fungi, nematodes, phytoplasmas, viroids, and viruses. Submissions to this goal should be finite, short to medium-term projects that enhance the safeguarding 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 to produce 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's pest detection activities, 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 within this goal, under a different strategy. Outreach focused efforts should be submitted under PPA 7721 Goal 5.

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 or improve and/or validate existing tools for screening and/or confirmatory diagnostics of pests on USDA priority pest lists and those listed in additional Goal 3 guidance.
- Develop field-deployable diagnostic tools to support the exclusion of invasive pests.
- Expand the validation of 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 plant pests of regulatory significance 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 six 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 using 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. 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. 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 are of high quality. Early detection programs rely on expertly developed traps and lures. Developing, optimizing, and validating new molecular diagnostic tools for exotic pathogens is essential for early detection programs. Increasing the tools optimized for broad bio-surveillance of pests or targeted species/groups can increase the likelihood of early detection with impact on the success of eradication and management programs.

Developing 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's pest detection activities, 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 additional 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 explore the development of best management practices (BMPs), integrated pest management, and other risk mitigations to exclude, contain, and control regulated plant pests from the nursery production system.

Strategy 2: Systems Approaches to Nursery Certification Programs: Initiatives that directly address and inform the process of inspecting, auditing, and certifying the production of nursery stock. Certification programs provide high-quality asexually propagated and propagative plant materials free of targeted plant pathogens and pests that cause economic loss and ensure the global competitiveness of specialty crop producers. Initiatives for enhanced harmonization and integration of nursery certification programs guarantee healthy plant stock, meet international standards, and sustain valuable commodities.

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 and the movement of nursery stock, and implementing effective protocols to eradicate certain pests and pathogens of concern in nursery settings, such as *Phytophthora 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. This makes it possible to obtain a more complete knowledge and understanding of the pests/pathogens present, and for evaluation of potential pathways for the movement of these organisms within and among nurseries. The increased understanding of pests/pathogens and host materials would 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.

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 additional 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

This goal 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 programs 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 should 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.

Accomplishment Report

If funding was provided previously, the opportunity for additional 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.

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

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

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 and response; however, this is not a goal for long-term, basic research and development projects; multi-year projects may be considered based on objectives and must be submitted annually for consideration of continued funding. Projects with a significant survey component must justify how the survey relates and is necessary to the mitigation activity. Surveys not in support of a mitigation activity should be submitted to Goal 1S.

PPQ may consider funding some Goal 6 suggestions through Rapid Response.

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 include quarantine treatments, enhanced mitigation, and certain stages of biological control where there's a clear deliverable within one year (e.g., complete a release permit, collect additional data for a permit, develop rearing technology).

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 (i.e., ICS) and offshore approaches to developing management options for key invasive pests before they arrive. Infrastructure purchases (i.e., purchase of vehicles or buildings) cannot be funded through PPA 7721.

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 using several current programs within PPQ, including the New Pest Advisory Group, North American Plant Protection Organization 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.

Enhanced mitigation suggestions should focus on the development and implementation of practical, readily deployable tools for plant pest exclusion, detection, and management, including assessing the potential impact of new invasive plant pests to the United States and developing appropriate response options.

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.

Biological Control Suggestion Note: To ensure environmental safety, biological control is a long term, deliberate commitment and investment. Therefore, appropriate PPA 7721 biological control suggestions must describe 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.

Accomplishment Report

If funding was provided previously, the opportunity for additional 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.

APPENDICES - SPECIFIC GOAL GUIDANCE

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 not fall 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 for Goal 1S. 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 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).

Outreach

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. 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 may be submitted to other goal areas, including Goal 5. Goal 1S will not support these efforts.

Past Performance

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

Pest Management Programs

Goal 1S supports surveillance and early detection in the areas described above. States with active management of pests such as spotted lanternfly or fruit flies should look to other goal areas to support treatment work. States who have not yet detected these pests must combine these pests into a multi-pest survey (such 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 to another Goal team for review, and the suggestion will not be reviewed or funded.

Federally Recognized State Managed Programs (FRSMP)

Cooperators seeking support for FRSMP should consider submitting a suggestion through the National Priority Surveys. FRSMP pests are not National Priority Pests. However, if allium leaf miner is desired to be surveyed, adding two additional pests from the National Priority Pest List would qualify the survey as a National Priority Survey. This would provide the suggestion with the most optimal level of consideration. It's important that the narrative regarding trade is completed and clearly relates to support for the 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, except for the National Honey Bee Pests and Diseases Survey, must be submitted to Goal 1S using the Goal 1S Suggestion Template. The template is an Excel file and can be found on the [Plant Pest and Disease Management and Disaster Prevention Program Website](#). The template provides a 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 narrative questions 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 on the financial forms. Additional worksheets can be added to accommodate multiple cooperators.

Accomplishment Report

If funding was provided previously, the opportunity for additional 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 [PPA 7721 Goal 1 Survey page](#)) should be used when reporting survey accomplishments.

Funded Suggestions

When the FY 2024 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, except for the National Honey Bee Pests and Diseases Survey, must complete the 2024 PPA 7721 Survey Summary Form online on the [CAPS Resource and Collaboration site](#). All funded projects need to be captured in the 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) or collect and store data per program-specific Domestic Data Improvement Initiative guidance. Other survey types will follow program guidance if available. The NAPIS database includes data validation rules ensuring adherence to the Approved Methods for Pest Surveillance.

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 these supplies 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 for 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. National priority pests for consideration include those found on the [National Priority Pest List](#) 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: Development of insect traps that can increase the rate of detection or increase the efficiency of surveys or identification of targets. Novel trap technologies must be easy to implement and assist with current surveying efforts for priority pests. Suggestions should focus on specific National Priority Pests and other USDA priority pest lists. 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, 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
- 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 detecting 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. Projects

addressing confirmatory diagnostic tests should be coordinated in advance with the appropriate PPQ-programs.

- 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 accuracy, reproducibility, and robustness 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.
- Development and validation of biological reference material, and synthetic diagnostic controls for exotic pathogens to support diagnostic programs. Controls should be developed following quality control and assurance methods to track potential contamination.

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, immunostrip, or recombinase polymerase amplification (RPA) tests for virus detection).
 - Screening tests for genus and species-level detection and identification.
 - Confirmatory tests for species, strain, or pathovar identification.

- Develop improved nucleic acid extraction methods for high-throughput processing of samples from various hosts to support the molecular detection of pathogens.
- Molecular diagnostics techniques targeting arthropods, bacteria, fungi, nematodes, phytoplasmas, viroids, and viruses. Arthropods, phytoplasmas, viroids, and viruses should be identifiable at the genus and species levels.
- 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.

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
- *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 (*i.e.*, vegetables and row crops).

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

- Crambidae: *Ostrinia furnacalis* – identification methods
- Pseudococcidae: *Rastrococcus iceryoides* – identification methods
- Pseudococcidae: *Rastrococcus invadens* – identification methods

APPENDIX C – Specific guidance for 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 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 BMPs to keep the plants healthy, including proper documentation, recordkeeping, auditing, and compliance.

APHIS will partner with states and industry to adopt and implement standards for certification of greenhouses and registered nursery blocks that produce 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 or spread of exotic pests. An effective nursery certification system will facilitate the safe domestic movement of planting material and exports. The establishment of a harmonized certification program across states would reduce pest risks and costs associated with safeguarding domestic movement of certified planting 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 PPQ'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 certification programs 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 training modules 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 for 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 the project design, it is essential to outline the strategy/process to be used in the project, the desired goal(s) of the project, the milestones to be met in a specified timeline, and the results or impacts of specific goal outcomes. Projects should contain a description of quantitative (e.g., the number of people that were engaged in person or through digital media efforts) and qualitative measures of success. A definition of how impact is measured should also be included.

Examples include:

- An in-person engagement could include information about a pest problem and distribution of educational materials with local reporting information. Surveying attendees annually to measure knowledge retention/awareness can demonstrate year-to-year impact.
- 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.
- Knowing the number of event attendees at a given outreach event is a quantitative metric, but less insightful than how many defined, quality engagements are captured. Capturing the number of people who accurately reported an invasive pest because of an outreach campaign is an example of a quantitative metric that demonstrates a high return on investment (ROI).

Additional guidance:

- Include the pests and pathways targeted in the outreach strategy.
- When 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 a program exist, consider leveraging them instead of creating all new materials. Update and localize existing outreach resources whenever possible. Be creative and practical in the approach.
- Provide details about 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 strategies for measuring a project’s success and impact.

APPENDIX E – 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 plant materials to nurseries, growers, and to state certification programs.

NCPN Objectives

Objective 1: Network Program 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, availability, and use of clean plants.

Objective 3: Governance and Networking: Optimize Network resources.

NCPN Strategies

Strategy 1: 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.
- Increase and distribution of clean propagative material to industry.

Strategy 2. 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.
- Education and outreach initiatives to communicate value and promote use of clean plants.
- Economic studies to show impact and communicate value of clean plant programs.
- Support for quality management in center operations.

Strategy 3: 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.
- 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. 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.