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FY18 (Annual) Implementation Plan for
Section 10007

Plant Pest and Disease Management and
Disaster Prevention Programs including the
National Clean Plant Network

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INTRODUCTION..... 3

 Benefits to Small Producers and Distributors 4

 Partnership and Collaboration 5

 Conclusion 6

GOAL AREA GUIDANCE..... 8

 Goal 1A – Analysis 8

 Goal 1S – Survey 9

 Goal 2 – Domestic Inspection..... 15

 Goal 3 – Increase Identification Capacity and Strengthen Pest Detection Technology 16

 Goal 4 – Safeguard Nursery Production 21

 Goal 5 – Outreach and Education 24

 Goal 6 – Enhance Mitigation and Rapid Response 25

 National Clean Plant Network (NCPN)..... 27

APPENDIX 1: COOPERATIVE AGREEMENTS 30

APPENDIX 2: APHIS PPQ POLICIES 311

 Infrastructure Policy 31

 Cooperative Agreement Policy 31

 Outreach Materials Policy 322

APPENDIX 3: REFERENCES..... 33

 Authorizing Legislation 33

 Agricultural Marketing Service List of Specialty Crops 33

 APHIS Farm Bill Plant Pest and Disease Management and Disaster Prevention
 Programs Web Site 33

 www.aphis.usda.gov/farmbill 33

 Cooperative Agricultural Pest Survey Resource and Collaboration Site 33

APPENDIX 4: ALIGNMENT WITH APHIS AND PPQ STRATEGIC GOALS.... 34

Introduction

The Agriculture Act of 2014; H.R. 2642 / Pub. L. 113-79—became law in June 2014. The provision of Section 10007 (“Plant Pest and Disease Management and Disaster Prevention”) combines the legislative language (from 2008 Farm Bill Section 10202) for the National Clean Plant Network (NCPN) with the language (from 2008 Farm Bill Section 10201) for Plant Pest and Disease Management and Disaster Prevention Programs into an amendment to the Plant Protection Act. It authorizes permanent funding for both programs, giving \$62.5 million per year in Commodity Credit Corporation funding from FY 2014-FY 2017 and \$75 million per year in FY 2018 and beyond, with at least \$5 million of the funding going to NCPN annually.

This document describes Goals, Objectives and Strategies upon which to focus suggestions for funding projects through the implementation of Section 10007. 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.

An additional program, the National Clean Plant Network (NCPN), is also authorized under Section 10007, which focuses on establishing clean plant center networking, diagnostics, therapeutics, and foundation plantings. Therefore, this document also describes its Goals, Objectives, and Strategies, and provides for an independent process for handling applications seeking NCPN support.

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

Dedicating resources to strengthen pest management and eradication programs supports the APHIS Plant Protection and Quarantine (PPQ) strategic plan. To achieve the mission, PPQ has established 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.

APHIS will continue to consider stakeholder needs as we implement Section 10007 and allocate funds. As part of this effort, we have actively sought input in developing goals, objectives and strategies. We will continue to seek feedback, evaluating and adjusting the Implementation Plan as needed to reach our goals and ensure that available funding is distributed fairly, effectively, and efficiently.

Benefits to Small Producers and Distributors

All U.S. producers, small and large, will benefit from an enhanced early detection system that prevents introductions of exotic pests from becoming widespread and requiring costly control measures. Activities conducted under the following areas will specifically benefit small producers:

Enhance Plant Pest/Disease Analysis and Survey – Under this Goal, APHIS will fund surveys for multiple, high-risk pests in port environs, across pathways of introduction, and domestically in specialty crop commodities nationally. These surveys will provide protection for and help small growers and nursery owners avoid control costs through rapid and thorough detection of pests that threaten their operations. Also, under this strategy, APHIS will fund projects that compile, synthesize, or evaluate data to inform or enhance risk and pathway analysis, surveillance methodology, or resource prioritization.

Target Domestic Inspection Activities at Vulnerable Points in the Safeguarding Continuum – APHIS will support domestic inspection activities at high risk sites like warehouses and parcel facilities, increase inspections for regulated articles moving interstate, and utilize trained canine detection teams to improve detection capabilities. Developing these cooperative efforts with State agriculture regulatory agencies will help minimize impacts to producers and distributors of agricultural commodities.

Pest Identification and Detection Technology Enhancement – This goal supports the ongoing development of improvements in pest identification and detection. This includes improved identification capacity and taxonomic understanding of broadly impactful groups of organisms, taxonomic support for surveys targeting high consequence pests, and the development of pest detection technology. This goal shares the cross-goal objective of the survey goal to detect and accurately identify new pest threats faster, allowing for more timely response thus minimizing impacts to small producers.

Safeguard Nursery Production – Activities included in this strategy include developing science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain and developing and harmonizing audit-based nursery certification programs. These activities will help small producers and distributors mitigate pest risks, reduce operational costs, and enhance the value of nursery stock they produce.

Outreach and Education – Under this Goal, APHIS will work to engage the public in early detection efforts by strengthening existing volunteer networks. APHIS will also emphasize efforts that can lead to changes in behavior among the public and the regulated community that can enhance efforts to prevent the introduction or spread of high-consequence pests into and throughout the United States. Interested producers and distributors could benefit from training on recognizing and reporting exotic pests,

managing the supply chain to safeguard against pests, employing best practices for safeguarding, as well as other activities.

Enhance Mitigation Capabilities – Under this Goal, APHIS will provide technical assistance prior to, during, and immediately following the development of a plant health emergency. This will be done by supporting the development of New Pest Response Guidelines (Action Plans), the implementation of these guidelines for new pest incursions, as well as strengthening rapid response capabilities. Larger growers can sometimes “absorb” the cost of quarantine actions and loss of business. Smaller growers are often challenged to stay in business after being under quarantine for a season. These new funds will provide for and help develop small, quick, and effective mitigation options that will reduce disproportional impacts to small growers, releasing them from quarantine more quickly and allowing them to get back into production.

National Clean Plant Network – The National Clean Plant Network (NCPN) is included in the Plant Pest and Disease Management and Disaster Prevention Programs as a procedurally distinct initiative. Healthy, clean planting stock is a critical component to the cost-effective production of horticultural crops and is necessary for U.S. agriculture to remain internationally competitive and economically viable. The process of creating disease-tested planting stock subjected to appropriate therapies as necessary takes many years and can be cost-prohibitive for individual growers. Through NCPN support, clean stock plants will be both readily available and provided at low cost to recipients, who will primarily be small to mid-sized, local agricultural industries, such as family-owned plant nurseries and growers.

Partnership and Collaboration

Many organizations play a crucial role in protecting the Nation’s agriculture, environment, and natural resources from plant pests and disease. APHIS’ Plant Protection and Quarantine program (PPQ) works closely with numerous Federal, State, industry, academic, and foreign entities to develop and implement scientifically-sound approaches to pest detection, surveillance, and eradication. APHIS is responsible for coordinating the identification and prioritization of pest threats of national interest, identifying survey protocols, prescribing pest diagnostic procedures, confirming the taxonomic identity of plant pests, administering cooperative agreements to States 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 USDA that also have a role include:

- National Institute of Food and Agriculture (NIFA). 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 its Land Grant University system, may provide research to support long-term control efforts.
- Agricultural Research Service (ARS). 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 (HSPD9) – Defense of United States Agriculture and Food. ARS also serves as a technical liaison to the Environmental Protection Agency (EPA) on pesticide issues via their Office of Pest Management Policy.

- U.S. Forest Service (FS). FS manages pests (including survey activity) in national forests, and coordinates similar efforts with the state and private foresters.
- Risk Management Agency (RMA). RMA provides guidance for documenting good farming practices and crop insurance programs.

State departments of agriculture play a critical role by carrying out pest and disease detection surveys as part of the Cooperative Agricultural Pest Survey 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 PPQ under the Incident Command System.

Expanded and enhanced partnerships with plant industries and academia has created new 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 PPQ, remains the catalyst for continued success. PPQ's partnerships will be essential to the success of actions identified in this plan, as well as future strategies.

The general public also plays an essential role in protecting U.S. plant and agricultural health. In many respects the public is already involved in pest detection – a number of pests of regulatory significance have been found and reported by members of the public. However, their involvement is more serendipitous than planned. In 2014, the spotted lantern fly was reported by a Fish and Game employee in Pennsylvania, who found it in his backyard. Also, in 2007, the light brown apple moth was reported by a professor in Berkley, California, who found it in his backyard. Asian long horned beetle was reported by a woman in Massachusetts, who found the pest while hiking. Given the large number of pests and the inherent difficulty of detecting and knowing the significance of any new or exotic plant pest, APHIS can benefit from an increase in the number of “eyes on the ground” to look for these unusual plant pests should they be introduced into the United States.

Conclusion

By capitalizing on APHIS' existing pest detection program and surveillance system, the agency will work to establish an unprecedented level of communication and coordination with the States, industry, and the public. APHIS' State plant health regulatory counterparts, 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.

While our partners actively support the survey activity to detect pests of national importance, they also want flexibility in determining how to use Federal funds provided through Section 10007 of the 2014 Farm Bill. In particular, Stakeholders have expressed the need to use the Farm Bill funds to support their efforts not just to discover new pests, but to mitigate pests offshore and pathways of introduction, prepare for the potential introduction of certain pests, and rapidly and effectively respond to introductions when they occur.

APHIS will continue to keep the Stakeholder needs in mind as we implement Section 10007 and allocate funds. As part of this effort, we have actively sought our partners' input in developing goals, objectives, strategies and rationale, and performance measures. We will continue to seek their feedback, evaluating and adjusting the business plan as needed to reach our goals and ensure that available funding is distributed fairly, effectively, and efficiently.

Goal Area Guidance

Section 10007 is organized into goal areas. Each goal is described and to further support those that have suggestions to address the goal, there are objectives. There are also more specific implementation strategies defined each year that represent current thinking on specific activities aimed at meeting the objectives described for each goal. Suggestions that include new and innovative strategies to meeting the objectives are also encouraged.

Goal 1A – Analysis

This goal strives to enhance the gathering and analysis of all available data to efficiently and effectively make informed decisions. This includes the development of new and innovative approaches in using data to improve predictive modeling and surveillance efforts for exotic species.

Goal 1A Objectives

Objective 1	Identify risk factors and high-risk pathways through analysis of available data.
Objective 2	Develop risk based models and decision support tools to reduce the arrival and establishment of exotic 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 arrive or be able to establish and spread.

Strategy 2: Development or application of decision support tools using data from various sources, for targeting high risk areas for surveillance.

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

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

Strategy 5: Identify and use off-shore and domestic data sources based upon applicability, utility, data quantity, quality, and spatial and temporal resolution in order to efficiently inform decision support tools that will identify and analyze risk pathways.

Goal 1A Rationale

There is a continual need to identify plant pest threats with the increase in trade and domestic commodity flow. The use of robust analytical tools will help APHIS and its cooperators better utilize resources to target high risk pathways and prevent pest entry,

more adequately prepare for the potential introduction of high-risk pests, and allocate survey resources more strategically to discover small infestations so that rapid response can effectively eliminate those incursions.

Goal 1S – Survey

This goal provides funding to enhance APHIS' pest surveillance mission by deploying resources in the most efficient and effective manner to ensure the early detection of exotic plant pests before they become established and cause extensive damage to commercial and non-commercial resources. The value of early pest detection is in reducing losses that could result from widespread pest damage and/or the cost of mitigation. Through its monitoring and surveillance activities, APHIS' pest surveillance mission offers an essential safeguard that complements offshore preclearance and port of entry activities. A primary tool of the program is the Cooperative Agricultural Pest Survey (CAPS) Program that provides the infrastructure and a mechanism for funding Tribal and State partners in conducting pest surveys. The existence of APHIS' pest surveillance mission helps ensure U.S. trading partners that specific agricultural production areas and Tribal Nations and States are free of plant pests that may be of concern, thereby preserving export markets for many commercial commodities.

The purpose of these guidelines is to provide pest surveillance direction for the Farm Bill-funded surveys that are part of the APHIS mission. At both the national and local-levels, an organized effort to engage industry early in the survey-planning process is recommended. This is necessary as the pest surveillance strategy continues to stress bundled surveys that target multiple pests based on commodities, taxa, environments and habitats, industries and businesses, and the continuum along pest introduction pathways.

The hosts, commodities, industries, and businesses impacted by pests span the country nationally, and it is appropriate to address the risks from an agro-ecosystem perspective. APHIS believes the commodity/ecosystem approach will provide a holistic framework for prevention, preparedness, response, and recovery from invasive pests of regulatory significance. APHIS realizes the value of engaging stakeholders throughout this continuum, especially when communicating about pest risks, jointly setting survey priorities, and leveraging resources across organizational boundaries. Open dialogue at the national and state level with industry and other stakeholders is of vital importance for the success of APHIS' pest surveillance mission.

*Note that canine activities related to domestic survey/pest detection activities may be appropriate under Goal 1 Survey.

Goal 1S Objectives

Objective 1	Fund national priority pest surveys in support of specialty crops, trade, and regulatory activities.
Objective 2	Target multiple, high priority pests for survey along national, regional, and local high-risk pathways.

Goal 1S Strategies

Strategy 1: Fund National Priority Surveys with broad participation by the tribes and states that target multiple, high priority exotic pests, specialty crop commodities, and high risk pathways for entry of exotic pests into the United States. Proposed surveys should be important to cooperators for biological, agricultural, environmental, and/or economic reasons, and have quarantine significance.

Strategy 2: Fund to the extent possible surveys aimed at filling gaps in our knowledge about the distribution of a PPQ Program pest, according to the objectives of the specific PPQ Pest Program. These surveys focus on specific pests based upon pest biology, risk, pathways of dissemination, and objectives of the specific pest program. Note: Target surveys will change from year to year to meet ever-changing pest and disease risks.

Goal 1S Rationale

High-risk locations require adequate funding to cover survey activity expenses. Section 10007 will provide funds to help meet the increasing demands to survey for exotic pests that are of national concern, as well as new pests. 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 becomes established or spreads significantly, the mitigation costs can reach millions of dollars, in addition to lost farm revenues and damage to ecosystems. These surveys also are necessary to demonstrate the absence of a pest, or “pest free areas,” for export certification purposes in order to retain and expand our export markets.

Survey Strategy

For FY18, surveys under Goal 1S will be divided into three overarching implementation strategies: I. National Priority Surveys; II. Pest Program Surveys; and III. Cooperator or Other Surveys. This distinction will facilitate the review process and reporting.

I. National Priority Surveys: National Priority Surveys are those surveys that are national in scope with broad participation by the tribes and states, and target high priority exotic pests, commodities, and high risk pathways for entry of exotic pests into the United States. The focus of these surveys is on detecting pests in areas where their presence (or absence) is unknown by focusing on the host(s) and/or environment of given pests, or on location-specific criteria, particularly in situations where a high-risk

location has evidence of risk from prior emergency actions against certain types of facilities or operations.

The emphasis is on multi-pest surveys and will follow the survey guidelines as specified in the Cooperative Agricultural Pest Survey (CAPS) [2018 National Pest Surveillance Guidelines](#). The survey must concentrate on multiple, high priority pests and efficiency of survey within the taxa listed. For all surveys, the [Approved Methods for Pest Surveillance](#) will be the required survey methodology, if available. Multiple-pest surveys will be rated higher than single-pest surveys.

National Priority Surveys may consist of 1) traditional commodity-based and similarly-formatted surveys (e.g., Stone Fruit and Asian Defoliating Moths Surveys) prepared by CPHST as presented in past years (designated Designed Surveys), and/or 2) unique bundled surveys developed by the tribes and states (designated Bundled Surveys).

1. Designed Surveys: Included in this category are the traditional commodity-based surveys and those surveys not necessarily based on commodities, but have been prepared by CPHST and have the same format for surveying for multiple pests within an environmental niche, business model, or taxonomic group, e.g., Enhanced Port Environs Surveys. The intent of these surveys is to detect pests not known to be present in those areas of the nation where a particular commodity is grown, in a particular environment or habitat, or associated with various business models. The goal of pest surveillance is to conduct national surveys and obtain a national dataset for exotic pests in commodities, habitats, and businesses of national importance. The following are appropriate for conducting a Commodity-based Designed Survey in 2018.

Commodity-Based Surveys:

- [Grape](#) – commodity-based survey for multiple pests - inclusion of *Lobesia botrana* (European grapevine moth) is recommended
- [Palm](#) – commodity-based survey for multiple pests
- [Solanaceous Crops](#) – commodity-based (tomato and pepper) survey for multiple pests – inclusion of *Tuta absoluta* (Tomato leaf miner) is recommended where the appropriate environment exists
- [Stone Fruit](#) – commodity-based survey for multiple pests – inclusion of Plum Pox Virus (PPV) is recommended

Enhanced Port Environs Surveys

The Enhanced Port Environs Surveys are targeted pathway surveys to be conducted primarily along the pathway continuum from the immediate port environment and surrounding areas to inland locations. The focus should be on high risk areas, such as container yards, rail yards, and warehouses, and be based on known risk factors. Of particular importance are those yards receiving containers from high-risk countries or from areas that are currently under treatment in the U.S. The primary objective of this effort is to monitor high-risk seaports, mills, rail yards, and other hot zones for exotic wood boring insects, Asian defoliators, and other pests that may be introduced into the United States through commerce, particularly in and near port areas receiving cargo

shipments from Asia and other inland locations with demonstrated risk factors. The following are appropriate for conducting an Enhanced Port Environs-based Designed Survey in 2018.

- [Asian Defoliating Moths](#) – taxon-based survey for multiple pests
- [Cyst Nematodes](#) – taxon-based survey for multiple pests
- [Exotic Woodborers and Bark Beetles](#) – taxon-based survey for multiple pests
- [Mollusks](#) – taxon-based survey for multiple pests

2. **Bundled Surveys:** The intent of the Bundled Surveys is to give the partners the flexibility to design their own surveys, within certain parameters. The survey must concentrate on multiple, high priority pests and efficiency of survey in specialty crops. A tribe or state may create a bundled survey that is based on a common factor, such as site, habitat, environment, business, etc., that makes biological, environmental, and/or economic sense in that particular location. The survey must include pests from the Priority Pest List ([Priority Pest List - Commodity](#) and/or [Priority Pest List - Economic and Environmental](#)). Pests of importance to a tribe or state not on the Priority Pest List, but in common with the other pests, may be included in the bundled survey. An example of a Bundled Survey is a Nursery or Orchard Survey with a selection of several pests from the Priority Pest List that are important to the tribe or state, with perhaps a pest or two not on the Priority Pest List, but of local importance. The challenge is for tribes and states to decide what works best for the agriculture and environment in their particular location. The survey effort for pests added by the tribe or state (including diagnostics, trapping supplies, etc.) must be less than half of the cost of this particular survey. Surveys for pests that are established, endemic, native, or indigenous in that state for the purpose of management will not be allowed. Surveys that a tribe or state may choose to conduct for pests of regulatory significance within their location should bundle these pests with national Priority Pests in Bundled Surveys. The following are appropriate for conducting a Bundled Survey in 2018.

- **Orchard** – commodity-based (Apple and Pear) survey for multiple pests
- Other specialty crop commodity surveys are also appropriate for Farm Bill funding, such as Fruit Crops, Tree Fruits, Small Berries, Vegetable Crops, and Greenhouse and Nursery Crops

Based on the guidance given above and past history, the following surveys are prioritized for 2018 funding.

- **Asian Defoliator Survey**
- **Cyst Nematode Survey**
- **EWB/BB - Forest Pests**
- **Grape Commodity Survey**
- **Nursery and Ornamental Survey**
- **Palm Commodity Survey**
- **Orchard / Apple / Tree Fruit Survey**

- **Pathway Survey for Pests of Multiple Agricultural Systems**
- **Small Fruit / Mixed Berry Commodity Survey**
- **Solanaceous/Tomato Commodity Survey**
- **Stone Fruit Commodity Survey**
- **Terrestrial Mollusk Survey**

II. PPQ Pest Program Surveys: PPQ Pest Program Surveys are those surveys that support an ongoing PPQ pest program for detection or regulatory reasons. These surveys should be strategic, and aimed at filling gaps in our knowledge about the distribution of a pest, according to the objectives of the specific pest program. These surveys may focus on specific states, environments, habitats, or quarantine regulations, and be based upon pest risk, pathways of dissemination, and objectives of the specific pest program. **States interested in funding for these surveys should contact the National Policy and/or Operation Manager for details and/or follow published directions for participating in these surveys.** These surveys should follow the guidelines published for the specific pest program. The following examples are appropriate for conducting a PPQ Pest Program Survey in 2018.

- **Citrus Pest Survey**
- **Honey Bees Survey**
- ***Phytophthora ramorum* Nursery Survey**
- **Khapra Beetle Survey**
- **Walnut Twig Beetle / Thousand Cankers Survey**

III. Cooperator and Other Surveys: Cooperator and Other Surveys are those surveys that do not fit into the above categories. These surveys are usually limited to individual states or tribal lands, and address a pest of state or tribal concern. These surveys usually are rated lower than the other surveys mentioned above due to the emphasis on one pest or pests that are not widely regulated, either nationally or on a state-by-state basis. Surveys for pests in a local commodity for export or trade purposes may fit in this category. Only a handful of these surveys are funded in any one year as the main focus of Goal 1 Survey funding is on National Priority Surveys. Some examples of Cooperator Surveys that may be funded in FY18 include: Nut Pest Survey, Coffee Pest Survey, and Weed Surveys on Tribal Lands.

Pathway Approach to Survey

When planning surveys, the tribes and states are encouraged to use a pathway approach when deciding on pests and locations to survey. Potential partners should plan to survey where the risk is highest. 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, and to successfully provide early detection of these pests. This concept can be combined with any survey using sound analytical tools, known risk sites, past history of pest detections in an area, and other avenues of information. It is understood that risk factors can be examined along a “risk continuum” beginning at offshore sites (points of origin) to points of

potential establishment (commodity production areas, natural lands), and numerous risk points in between (wholesale distribution centers, nurseries, intermodal sites, rail yards, etc.). The identification of risk points and development of targeted surveys will maintain the focus of the survey program on our top commodities at risk and the high priority pests. Surveys for multiple, high priority pests along known pathways will be rated higher than single pest surveys or surveys where no high priority pests are targeted or no pathway approach is indicated. A blanket approach to survey is not recommended.

Data Management

Data from all National Priority Surveys under Goal 1 Survey must be entered into the [National Agricultural Pest Information System](#) (NAPIS). Data from PPQ Pest Program Surveys will follow the direction of the specific pest program managers. Given the diversity of survey programs supported through the FB Section 10007 program, the Farm Bill Management Team relies on the direction of the various programs' cross functional teams to provide the direction on what data management requirements exist for each program. Cooperator Surveys not covered by a specific pest program must enter data into NAPIS. The NAPIS database includes data 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](#).

Farm Bill Survey Summary Form

All Goal 1 Survey projects must complete the 2018 [Farm Bill Survey Summary Form](#) online on the [CAPS Resource & Collaboration](#) site (login needed to access the Survey Summary Form). The online Survey Summary Form should be completed when the work plans are submitted to the SPHD's office. No work plans will be reviewed or approved without a completed online Survey Summary Form. Each state has a State Survey Coordinator (SSC) position who is responsible for gathering and completing the Survey Summary Form for the Farm Bill Goal 1 Surveys for their state. Once the Survey Summary Form is completed, the state PPQ office will review the form prior to review by the National Operations Manager(s). Do not submit an electronic copy of the Summary Form with the work plans. The cooperator's data will be available to Field Operations online. Cooperators will not be able to access other cooperator's information. The template for Farm Bill work and financial plans can be found on the Farm Bill page of the CAPS website.

Negative Data

The documentation of negative data is extremely important and valuable. Negative data from national surveys targeting high priority pests support trade and exports, and benefit American agriculture. Goal 1 surveys strive to insure that all negative data is valid, and results from active survey efforts. Goal 1 surveys must use the guidelines the CAPS program developed to assist in data entry of valid negative data. Data entry will be checked and validated against the approved survey method for each pest on the [Priority Pest List](#). Data not conforming to the approved method will not be accepted into the database. Additional guidance for data entry is given in the CAPS National Pest

Surveillance Guidelines and the associated [Resources](#) on the CAPS site. All positive records should be at the species level.

Survey Supplies

Survey supplies (traps, lures, and accessories) for National Surveys funded under the Farm Bill will be provided by PPQ through separate Farm Bill funding. The timeframe for ordering these supplies will be communicated at a later date. Questions should be directed towards the Survey Supply Procurement Program (SSPP) National Policy Manager.

Accomplishment Report

The opportunity for any future Farm Bill funding for survey projects is contingent upon the completion of prior year's survey accomplishment reports. APHIS encourages cooperators to use the Survey Accomplishment Report Template when reporting survey accomplishments. This is a requirement for CAPS surveys; therefore, APHIS believes the template is familiar to many cooperators and will provide consistent reports nationwide. The Farm Bill version of the reporting template can be found on the FY18 Farm Bill page of the CAPS Resource & Collaboration website.

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 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 that canine activities related to domestic survey/pest detection activities are found under Goal 1 Survey.

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.

G2 Rationale

In order to mitigate pests more effectively, it is necessary to detect pests and prohibited items that may have escaped undetected through ports-of-entry at a 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 California and Florida in domestic applications. 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 agriculture items and pests in domestic activities can improve States’ risk assessment efforts. Interceptions at the domestic level can also provide valuable information to first port-of-entry operations managers.

A number of 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 in completing inspections and audits.

Goal 3 – Increase Identification Capacity and Strengthen Pest Detection Technology

This goal strives to develop, provide technology transfer training for, and deploy survey procedures and tools that will improve our ability to rapidly detect and accurately identify pests of regulatory significance.

Goal 3 Objectives

Objective 1	Improve all aspects of early detection technologies and resources.
Objective 2	Develop or improve detection tests and identification capacity 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 targets (e.g. more specific traps to reduce screening time)

- Improving ease of removing targets for identification (e.g. alternative for sticky traps for Lepidoptera)
- Developing novel traps, lures and survey strategies to more efficiently detect target pests
- Developing and applying quality control standards to traps and lures used at the field level.

Strategy 2: Develop the expertise and capacity to identify a greater variety of plant pests by:

- Providing a framework to allow acceptance and screening of a greater volume and variety of survey samples from States.
- Developing cooperative agreements capitalizing on the expertise in systematics and taxonomy at other institutions (i.e., land grant universities and State departments of agriculture) to augment national identification needs for surveys and function as regional screening centers that accept and process survey samples from neighboring States.
- Developing interactive taxonomic keys for pests groups of importance and performing the underlying systematic research to support the development of these keys.
- Characterizing unresolved species complexes to support identification needs for surveys and effective pest management/eradication strategies.
- Collecting sequence data for plant pests (pathogens and invertebrates) with representatives in groups that represent potential high impact pests. Develop appropriate and high quality sequence data for national targets from various known geographic localities using specimens that are expertly identified and confirmed and maintained in collections.
- Providing reference specimens and tools for first detectors and cooperating land grant universities, State departments of agriculture, industry, and other Federal and State agencies.
- Developing recorded, or delivering live training sessions by recognized experts to assist taxonomists/identifiers in distinguishing exotic pests from established and native species.
- Providing regional multi-state coordinated training on taxonomy, screening, and non-target recognition for pest surveys tailored for survey personnel.

Strategy 3: Develop, validate, transfer, and increase the deployment of diagnostic tools, including DNA-based tools or other technologies where needed to detect specific plant diseases and invertebrates, for example:

- Developing molecular tools or validation of existing tools for screening and/or confirming CAPS national survey target pests.
- Developing diagnostic tools to support the exclusion of invasive species in order to restrict pathways of introduction.
- Coordinating with systematic researchers to develop tools based on systematic research to resolve the relationship between taxa in poorly characterized groups.

Goal 3 Rationale

Developing survey tools in anticipation of future threats allows for rapid response when new exotics are detected. Applying quality control standards to traps and lures ensures that 1) PPQ receives effective products for the detection of exotic pests; and 2) PPQ can be assured that data collected from surveys is of high quality. Distributing the most effective survey tools available to the States in a timely manner increases the likelihood of the early detection of exotic pests before they become established and create significant economic or environmental damage.

The PPQ National Identification Service's (NIS) network of national specialists forms a virtual laboratory to support National pest identification needs. There may still be a gap in the States' and PPQ's ability to efficiently process large numbers of survey samples and a need to increase the level of taxonomic and identification capability in the field. Another important part of this responsibility is to provide coordination of existing and future regional centers housed at other institutions, universities, and State departments of agriculture performing similar functions. Combining molecular tools with an increased knowledge of the relationships between taxa in groups that may contain high impact pests and have not been studied in depth will help develop robust tests to screen, detect and confirm pests. In order to efficiently detect and identify pests found in survey activities, PPQ should be proactive in the development of accurate detection tools, based on the most current understanding of the systematics of the organisms to be detected.

Additional Goal 3 Guidance

Detection Technologies and Resources:

Detection technologies include developing, testing, comparing, and transferring plant pest detection technologies for program implementation, as well as the development of novel and improvement of existing survey tools such as traps and lures. High priority pests for consideration include those found on the OPIS A list and/or the CAPS Priority Pest Lists.

Examples include but are not limited to:

- *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 condition of specimens.
 - Efficacy comparisons of hot-melt sticky traps of various manufacturers against traditional sticky traps for pests on the Cooperative Agriculture Pest Survey (CAPS) national survey target lists (the priority pests lists are found at http://caps.ceris.purdue.edu/pest_lists)
 - Trap design experiments which verify efficacy of diagnostic-friendly traps for CAPS targets in the pests' native range.

- *Novel trap technologies:* Research toward the development of insect traps that can increase the rate of detection or increase efficiency of surveys or identification of targets. 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 can use portable USB remote imaging technology for specimen screening from surveys.
 - Traps that exclude or segregate non-targets based on behavior, size, etc.
- *Develop/ optimize attractants and traps for CAPS targets:* The following CAPS national survey targets (and potential targets) currently have only visual survey methods or existing available pheromones need refinement. The goal is to identify the most effective attractant or trap for each target species; therefore, efficacy trials in the target's native range are essential. Research would include:
 - Developing potential attractants and traps,
 - Testing the potential attractants and traps in the target pests' native range.

Targets are listed by family.

- Buprestidae: *Agrilus biguttatus*
 - Cerambycidae: *Aeolesthes sarta*, *Anoplophora chinensis*, *Anoplophora glabripennis*, *Aromia bungii*, *Batocera horsfieldi*, *Callidiellum villosulum*, *Chlorophorus* genus, *Chlorophorus annularis*, *Chlorophorus strobilicola*, *Monochamus galloprovincialis*, *Psacotheta hilaris*, *Semanotus sinoauster*, *Trichoferus campestris*, *Xylotrechus* genus, *Xylotrechus altaicus*, *Xylotrechus antilope*, *Xylotrechus arvicola*, *Xylotrechus namanganensis*, *Xylotrechus rusticus*, and other cerambycids of quarantine importance.
 - Curculionidae: *Dendroctonus micans*, *Pissodes castaneus*, *Scolytus intricatus*, and *Tomicus minor*.
 - Lasiocampidae: *Dendrolimus superans*, *D. sibericus*, *D. punctatus*, and *D. pini*.
 - Erebididae: *Eudocima phalonia*.
 - Siricidae: *Tremex fuscicornis*
 - Scolytinae: *Euwallacea fornicatus*.
 - Yponomeutidae: *Argyresthia pruniella*.
 - Scutelleridae: *Eurygaster integriceps*.
- *Detection assays:* Affordable biochemical or molecular assays for detecting CAPS insect targets in trap samples comprised of numerous, similar but native pests (e.g., *Autographa gamma* in pheromone trap samples). Currently, for some targets, large numbers of U.S. native non-target moths fill up traps, and moth genitalia dissection is necessary for morphological identification. The proposed diagnostic tool must be valid for the target species against related species and able to be used in large composite samples and high through-put with demonstrated sensitivity and practical implementation for survey programs.
 - *Pheromone improvements:* Refine pheromone specificity to eliminate or drastically reduce non-target moths attracted: *Autographa gamma* (not attract

other native or established *Autographa* spp., *Rhachiplusia ou*, *Chrysodeixis includens*, and *Trichoplusia ni*), etc.

- *Identify pest threats to U.S. germplasm:* Develop an expatriate plant inspection program to monitor pests that attack U.S. plant germplasm abroad.

Capacity building for Identification and improvements to Diagnostic Technologies:

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

Examples include but are not limited to:

- 1) Develop the expertise and capacity to identify a greater variety of plant pests.
 - *Recorded training sessions:* Thorough family and species level taxonomic training given by recognized experts is needed for taxonomists/identifiers for exotic quarantine pests to distinguish from established and native species. Encouragement for submissions that include production of recorded webinars and/or video-taped training that can be posted and web-accessed. The needs include, but are not limited to, pests in the following groups: Coleoptera woodborer adults, Lepidoptera adults and larvae, mollusks, nematodes, and fungal pathogens of quarantine importance.
 - Regional multi-state coordinated training on taxonomy, screening, and non-target recognition for pest surveys tailored for survey personnel.
 - *Interactive taxonomic keys:* Develop interactive taxonomic keys, using well-illustrated morphological and molecular characters, where available, that are capable of providing credible information for confirmations of suspect CAPS national survey targets. Focusing on key plant pathogens and insect groups of quarantine importance will provide the most useful tools for identifiers.
 - Retention and stabilization of identification centers that provide consistent high quality taxonomic services that support USDA's national biological surveillance programs while providing training and work opportunities to students and future experts taxonomists.

The development of screening aids for pest groups on the CAPS target lists and other priority pests identified by PPQ. These should be image-based documents that can be posted for screeners to distinguish target genera from similar native or widely distributed look-a-like species typically found in survey samples. These aids should include external morphological characteristics of the pest clearly depicted. See examples at: http://caps.ceris.purdue.edu/screening_aids.

- 2) Develop, validate, transfer, and increase the deployment of molecular diagnostic tools where needed for the detection of specific plant pathogens and invertebrate pests by increasing resources for:
- *Molecular tool development/validation for CAPS national survey target pests and other priority pests for PPQ:* These could include, but are not limited to, phytoplasmas at species/strain level, viruses and viroids at the genus and species level (specifically *Tobamovirus Cucumber green mottle mosaic virus*, *Tospovirus Groundnut bud necrosis virus* and torradoviruses), *Erwinia pyrifoliae*, *Magnaporthe oryzae/grisea* at the strain level (specifically the wheat blast strain), *Cronartium flaccidum*, *Raffaelea quercivora*, and other fungi in groups that contain species of quarantine importance, and nematodes of quarantine importance including *Bursaphelenchus cocophilus*.
 - *Systematic clarification to support the exclusion of invasive species:* Develop clarification of the systematics of invasive species such as tephritid fruit flies. This would help support development of specific detection tests to help target and restrict pathways of introduction. Clarification of the systematics of these taxa can characterize unresolved species complexes in support of diagnostic needs for surveys and effective pest management/eradication strategies.
 - *Sequencing data for quarantine-important groups of pests and pathogens:* Produce and obtain high-quality sequencing data for organisms and closely related species on the CAPS target list or other federally actionable pests including specimens from various known geographic localities that are expertly identified and confirmed, and will be maintained in curated collections. This work would focus on a pest genus or family, especially pest groups where current molecular data is lacking or scant.
 - *Field-level diagnostic methods:* Field-level or intermediate screener diagnostic methods for CAPS national survey target pathogens at group or genus level (e.g., ELISA/immunostrip for phytoplasma or virus detection), and for *Rathayibacter* sp. to screen suspect galls from rye grass in potential domestic surveys for *R. toxicus*.

Goal 4 – Safeguard Nursery Production

This goal strives to develop management strategies for the mitigation of pests and pathogens in nursery settings while also encouraging 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.
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Objective 2	To develop and harmonize audit-based Nursery Certification Programs, including the harmonization of different certification programs, audit and inspection training for cooperators, and program launching.
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Goal 4 Strategies

Strategy 1: System Approaches for Nursery Production: Those initiatives that specifically explore the role of certain pests within nursery production systems. The strategy 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.

Some of the projects funded in FY17 include:

- National Ornamentals Research Site at Dominican University of California to develop *Phytophthora. ramorum* management methods
- Best Management Practices for Control of Bacterial Gall on Loropetalum (*Pseudomonas savastanoi*), Year 2
- The effect of potting medium type and moisture, isolate and soil microorganisms on infection by *Phytophthora tentaculata*

Strategy 2: Systems Approaches to Nursery Certification Programs and Specialty Crop Pilot Studies: Nursery Certification Programs for high value genera that we are or may be certifying. This includes those initiatives that directly address and inform the process of inspecting, auditing and certifying the production of nursery stock. Enhanced harmonization and integration of nursery certification programs will enhance the cleanliness and health of domestically produced nursery stock, facilitate domestic and international movement of nursery stock, and safeguard the nursery industry from the introduction 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.

Some of the projects funded in FY17 include:

- National Harmonized Systems Approach to Nursery Certification
- Harmonizing Grapevine Nursery Stock Certification Programs in the Northwest

Goal 4 Rationale

The establishment and operation of functional experimental nurseries and conduct research studies to develop BMPs to exclude, contain, and eradicate pests/pathogens in the nursery environment is 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. A fully functioning experimental nurseries within pest/pathogen infested areas will allow research to be conducted 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 to end users. The increased understanding of pests/pathogens and host materials would help the program 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 conducting research on 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. Critical biological characteristics, host interactions, and control techniques are often not well known for regulated plant pest organisms. Established nursery 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.

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 cost 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 proposes to 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 North American Plant Protection Organization 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. 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, 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. Conducting outreach activities to the growers and nursery owners on the importance of clean planting material ultimately increase the demand for the material and make the industry more sustainable.

Working with all stakeholders and cooperators to launch and support the certification program for the nursery industry provides for 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 National Clean Plant Network (NCPN), as outlined under Section 10007 of the 2014 Farm Bill. 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. Development of a certified tag would facilitate safe domestic movement of planting material, increase grower’s confidence in the program, and promote exports.

Goal 5 – Outreach and Education

The primary goal of outreach and education activities is to prevent the introduction or spread of high-consequence pests into and throughout the United States, 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 control efforts.

Goal 5 Strategies

Strategy 1: Provide education and information to key audience 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 we all can take to protect agriculture and natural resources.

Strategy 2: Promote and expand the use of the APHIS PPQ Plant Biosecurity Curriculum in an effort to build an educational foundation for plant protection and biosecurity and regulatory studies in cooperation with University/College level educational institutions to meet future State, Tribal and Federal resource needs.

Strategy 3: 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 4: 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. They will increase the number of people actively looking for and reporting high-consequence pests at vulnerable points along high-risk pathways. In addition, these projects should help educate people to strengthen the safeguarding system by teaching them what they can do to help.

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 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 for this Goal 6 strategy include quarantine treatments and biological control.

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. For example the development and training of rapid response teams (ICS), development of New Pest Response Guidelines 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 responses 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) 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 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 NPAG, OPIS reports, NAPPO Pest Alerts, journals, and communications. Technical plant pest information is gathered to develop mitigation activities in the form of a NPRG, balanced between operational feasibility, scientific objectivity, and environmental consideration.

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 public of pest threat; Program command post startup and overhead; Identification and diagnostic equipment and personnel; Rapid survey and detection tools and equipment; Information technology equipment and support; Development of action plans; Safety equipment and personnel protective devices; and Mitigation and containment costs.

The Incident Command System (ICS), a management tool to provide cooperating agencies a unified structure in an emergency, should be encouraged during the initial

stages of an emergency. Funding should occur to properly fill required Command and General Staff positions with qualified personnel, ensuring travel costs are covered at the beginning phase of an emergency. APHIS will promote the completion of After Action Reports and conferences to identify the major strengths of the initial response protocols and the primary areas for improvement.

Following the national guidance within the Homeland Security Exercise and Evaluation Program (HSEEP), PPQ’s preparedness activities will be achievable by measuring readiness and directing resources to those areas of greatest risk and greatest need. Utilizing a building block approach to exercise training and scheduling, a clearly identified improvement planning process will enhance response activities within the agency, among stakeholders, and throughout industry for a rapid mitigation of plant pest introductions. A building block approach provides for focused improvement in response activities, including survey and detection, regulatory and control methodologies of plant pest emergency responses.

National Clean Plant Network (NCPN)

This special focus area within the Farm Bill strives to establish and support a network of clean plant centers and associated programs for a specific mission provide high quality asexually propagated plant material tested for targeted plant pathogens and pests 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 and growers.

NCPN Objectives

Objective 1	<u>Governance and Structure:</u> Enable the interaction among industry, research, extension, and regulatory communities to determine the resources and structure needed to ensure a viable and fully functioning clean plant system.
Objective 2	<u>Operations:</u> Provide rapid and safe introduction, diagnostics, therapeutics, maintenance in foundations, and release of selections from foreign and domestic sources for commercial development and other purposes.
Objective 3	<u>Management:</u> Pursue advances in clean plant program needs; including planning, outreach, information, standards, quality control, and related matters.

NCPN Strategies

Strategy 1: 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.

Strategy 2: 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 3:

The NCPN will pursue advances in clean plant program and center management designed to improve services to industry and other users of clean plants, to strengthen the program as a network, increase the effectiveness of clean plant centers.

- The NCPN will advance initiatives in program and center planning, education/outreach to customers, information management, program standards, and quality.

NCPN Rationale

NCPN is established out 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 the Farm Bill 2014, 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.
- 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**.

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, Meetings, Planning, and Policies

- Operations and Service Activities
 - Establishment and of Advancement Means, Methods, and Technologies
- Education
 - Outreach, Extension, Communications, and Economics
- Germplasm Collections
 - Support for Clean-Up of Valuable Collections as Requested by Industry
- Staffing and Facilities Support
 - Personnel, Refurbishment, Equipment, and Supplies
- Process Improvements
 - Quality Management and Quality Controls; including Information Management
- 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 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 guidances 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, education, and outreach.
- Establishing Foundation Clean Stock plantings and provide material to nurseries and growers within prescribed nursery certification programs.
- Improving the National Plant Germplasm System by testing and cleaning plant material for industry
- Setting Diagnostic Guidelines and National Standards.
- Conducting Research and Methods Development to support clean plant programs.
- Advocating for industry-driven Best Management Practices in support of clean plant networks.
- Organizing and deliver Education, Extension, and Outreach programs.
- Coordinating and share the use of scarce Resources to support commodity-based clean plant networks.

Appendix 1: Cooperative Agreements

All cooperative agreements are administered through PPQ's three (3) Core Functional Areas (CFAs) Policy Management (PM), Science & Technology (S&T), and Field Operations (FO), and are the means by which funds are provided to each cooperator. Once an approved spending plan is announced and funds are obligated, cooperators will be contacted by APHIS personnel who will provide additional guidance and coordination on submitting detailed work and financial plans. The use of a standardized templates for both detailed work and financial plans and periodic accomplishment reports for Farm Bill funded projects is required for all Farm Bill Section 10007 agreements and can be found posted on the Farm Bill page of the [CAPS Resource and Collaboration](#) site.

Note that a synopsis of all grants and agreements provided to a cooperator by the Federal government, including APHIS, are now posted on the Internet (www.USAspending.gov). This was a requirement of the Federal Funding Accountability and Transparency Act of 2006 (FFATA). Likewise, APHIS is required to report accomplishments via "performance measures" in Farm Bill. Cooperators will be provided guidance on the means to adhere to this level of transparency.

The overall annual process involved with implementation is lengthy. It includes publishing annual guidelines; a 4-6 week open period to receive suggestions; a robust review and evaluation process leading to an approved project list/spending plan, establishing cooperative agreements, conducting the proposed activities as outlined in the detailed work plans; analyzing the data collected; writing periodic/annual reports; and evaluating the accomplishments of program objectives.

Any project that is awarded Farm Bill Section 10007 funding in the annual Spending Plan is not guaranteed to receive funds until a project work and financial plan is approved by APHIS and a cooperative agreement is subsequently finalized so funds can be obligated.

The National Clean Plant Network (NCPN) Goal Area Coordinator manages a 'Request for Applications (RFA)' process independent of the other Farm Bill goal areas process for seeking funding suggestions. NCPN issues its RFA annually through Grants.gov, a Federally sponsored grants and agreements website designed to advertise the availability of Federal funding opportunities and to facilitate the application process, including Federal financial assistance application forms and proposal submissions.

The NCPN RFA is issued in Grants.gov and communicated by other means through the network simultaneously to the process used by other Goal Areas of Farm Bill 2014, Section 10007.

Appendix 2: APHIS PPQ Policies

Infrastructure Policy

- Funding is not be used for purchasing vehicles; however, lease and vehicle fuel and routine maintenance is allowed.
- Sec 10007 funding is not to be used for any new construction.
- Sec 10007 funds are not to be used to support APHIS PPQ permanent positions.
- Sec 10007 funds can be used to support seasonal and/or temporary employee salaries under emergency response situations (i.e., responding to or directly supporting a plant health emergency), but only with a prior review by the FBM and approval from the PPQ Deputy Administrator and or PPQ Management Team.
- Overtime expenses for permanent employees are acceptable under certain emergency response situations.
- Under certain emergency response conditions, with prior review by the FBM and approval from the PPQ Deputy Administrator or PPQ Management Team, an expectation can be made for funding permanent employee salaries while they are on temporary duty assignments.
- USDA is an equal opportunity provider and employer. To file a complaint of discrimination, write: USDA, Office of the Assistant Secretary for Civil Rights, Office of Adjudication, 1400 Independence Ave., SW, Washington, DC 20250-9410 or call (866) 632-9992 (Toll-free Customer Service), (800) 877-8339 (Local or Federal relay), (866) 377-8642 (Relay voice users).

Information Technology Policy

- Sec 10007 funding should not, in most cases, be used to develop IT applications, systems, etc. that have not been previously approved by APHIS-PPQ.
- Special exception to this policy can be requested with compelling justification to be reviewed by the FBM and approved by BISSM leaders and the PPQ Deputy Administrator or PPQ Management Team; additionally, requests to use Farm Bill funding for IT projects must also be approved by the PPQ IT Governance Board.

Cooperative Agreement Policy

- The 2014 Farm Bill restricts indirect costs charged against a cooperative agreement under Section 10007 to be the lesser of 15% of the total Federal funds provided under the cooperative agreement or the indirect cost rate applicable to the recipient as established by law (this is the Negotiated Indirect Cost Rate or NICRA).
- Those submitting suggestions must have prior concurrence from all other cooperators who are listed that would participate in activities if funded.
- Indicate group suggestions. A group suggestion lists cooperators who would work under separate budgets that would require a separate cooperative agreement

with APHIS. The separate budgets will be included with the suggestion submission.

- For the NCPN goal area, please refer to a current Request for Applications (RFA) for similar instructions regarding group proposals.

Outreach Materials Policy

A cooperator who received funding for a project that includes the production, purchase or distribution of materials is not obligated to put the USDA logo on the materials they produce or purchase under a cooperative agreement. However, APHIS has the option of reviewing all materials to be produced or purchased and request that the USDA name and logo appear on those items if we determine it is in our collective best interest.

Furthermore, there is a White House policy that discourages federal agencies from purchasing giveaways. This does not necessarily apply to our cooperators but we advise them to be aware of the limitations indicated in that policy. They should make their purchases in a manner that upholds the spirit of that policy. Specifically:

- The item is the most cost effective way to carry out the agency's function/mission.
- The item(s) will not be used as gifts and souvenirs.
- The items shall be imprinted with the organization name/logo and contact information (e.g., phone number, email address).

Appendix 3: References

Authorizing Legislation

Agricultural Act of 2014, Section 10007

Sec. 10007. Consolidation of plant pest and disease management and disaster prevention programs.

Full bill found here: <http://www.gpo.gov/fdsys/pkg/PLAW-113publ79/html/PLAW-113publ79.htm>

The Food, Conservation and Energy Act of 2008,

Sec. 10201. Plant pest and disease management and disaster prevention.
Sec. 10202. National Clean Plant Network.

Full bill found here: <http://www.gpo.gov/fdsys/pkg/PLAW-110publ234/html/PLAW-110publ234.htm>

Agricultural Marketing Service List of Specialty Crops

<http://www.ams.usda.gov/AMSV1.0/scbgpdefinitions>

APHIS Farm Bill Plant Pest and Disease Management and Disaster Prevention Programs Web Site

www.aphis.usda.gov/farmbill

Cooperative Agricultural Pest Survey Resource and Collaboration Site

<https://caps.ceris.purdue.edu/farmbill/2014>

Appendix 4: Alignment with APHIS and PPQ Strategic Goals

Farm Bill Section 10007 supports the APHIS and PPQ missions to safeguard the health and value of American agriculture and natural resources, and to facilitate safe trade of agricultural products. The APHIS 2015-2019 Strategic Plan contains seven goals; four of these apply to PPQ's Strategic Plan and align with Farm Bill Section 10007's goal areas.

APHIS 2015-2019 Strategic Goals that apply to PPQ's Strategic Goals and align with Farm Bill Section 10007 Goal areas:

- **APHIS Goal 1:** Prevent the entry and spread of agricultural pests and diseases
- **APHIS Goal 3:** Protect forests, urban landscapes, rangelands and other natural resources, as well as private working lands from harmful pests and diseases
- **APHIS Goal 5:** Ensure safe trade of agricultural products, creating export opportunities for U.S. producers
- **APHIS Goal 6:** Protect the health of U.S. agricultural resources, including addressing zoonotic disease issues and incidences, by implementing surveillance, preparedness and response, and control programs

PPQ 2015-2019 Strategic Goals that align with Farm Bill Section 10007 Goal areas:

- **PPQ Goal 1:** Strengthen PPQ's pest exclusion system
- **PPQ Goal 2:** Optimize PPQ's domestic pest management and eradication programs
- **PPQ Goal 3:** Reduce pest risks to facilitate the global trade of agricultural products

The tables below highlight each of the four APHIS Strategic Goals that apply to PPQ. Within each table, PPQ's Strategic Goals are shown next to Farm Bill Section 10007 goal areas, and check marks indicate the alignment of Farm Bill 10007 goal areas with the PPQ Strategic Goal and APHIS' Strategic Goal.

APHIS Strategic Goal 1: Prevent the entry and spread of agricultural pests and diseases										
Plant Protection and Quarantine Strategic Goals	Farm Bill Goals	GOAL 1A: Analysis	GOAL 1S: Survey	GOAL 2: Domestic Inspection	GOAL 3: Pest Identification and Technology	GOAL 4: Nursery Certification	GOAL 5: Outreach and Education	GOAL 6: Pest Mitigation	National Clean Plant Network (NCPN)	
	PPQ Goal 1: Strengthen PPQ's pest exclusion system			✓					✓	✓
	PPQ Goal 2: Optimize PPQ's domestic pest management and eradication programs	✓	✓		✓			✓	✓	✓
	PPQ Goal 3: Reduce pest risks to facilitate the global trade of agricultural products	✓	✓	✓	✓	✓	✓	✓	✓	✓

APHIS Strategic Goal 3: Protect forests, urban landscapes, rangelands and other natural resources, as well as private working lands from harmful pests and diseases										
Plant Protection and Quarantine Strategic Goals	Farm Bill Goals	GOAL 1A: Analysis	GOAL 1S: Survey	GOAL 2: Domestic Inspection	GOAL 3: Pest Identification and Technology	GOAL 4: Nursery Certification	GOAL 5: Outreach and Education	GOAL 6: Pest Mitigation	National Clean Plant Network (NCPN)	
	PPQ Goal 1: Strengthen PPQ's pest exclusion system			✓	✓			✓	✓	✓
	PPQ Goal 2: Optimize PPQ's domestic pest management and eradication programs	✓	✓		✓	✓		✓	✓	✓
	PPQ Goal 3: Reduce pest risks to facilitate the global trade of agricultural products	✓	✓	✓			✓	✓	✓	✓

APHIS Strategic Goal 5: <i>Ensure the safe trade of agricultural products, creating export opportunities for U.S. Producers.</i>										
Plant Protection and Quarantine Strategic Goals	Farm Bill Goals	GOAL 1A: Analysis	GOAL 1S: Survey	GOAL 2: Domestic Inspection	GOAL 3: Pest Identification and Technology	GOAL 4: Nursery Certification	GOAL 5: Outreach and Education	GOAL 6: Pest Mitigation	National Clean Plant Network (NCPN)	
	PPQ Goal 1: Strengthen PPQ's pest exclusion system	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PPQ Goal 2: Optimize PPQ's domestic pest management and eradication programs	✓	✓			✓		✓	✓	✓
	PPQ Goal 3: Reduce pest risks to facilitate the global trade of agricultural	✓	✓	✓	✓	✓	✓	✓	✓	✓

APHIS Strategic Goal 6: <i>Protect the health of U.S. agricultural resources, including addressing zoonotic disease issues and incidences, by implementing surveillance, preparedness and response, and control programs</i>										
Plant Protection and Quarantine Strategic Goals	Farm Bill Goals	GOAL 1A: Analysis	GOAL 1S: Survey	GOAL 2: Domestic Inspection	GOAL 3: Pest Identification and Technology	GOAL 4: Nursery Certification	GOAL 5: Outreach and Education	GOAL 6: Pest Mitigation	National Clean Plant Network (NCPN)	
	PPQ Goal 1: Strengthen PPQ's pest exclusion system	✓	✓	✓					✓	✓
	PPQ Goal 2: Optimize PPQ's domestic pest management and eradication programs					✓	✓	✓	✓	✓
	PPQ Goal 3: Reduce pest risks to facilitate the global trade of agricultural									✓