United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

2008 FARM BILL

Implementation Plan for Section 10201

Plant Pest and Disease Management and Disaster Prevention

NEW FARM BILL
SECTION 10201
PLANT PEST AND DISEASE MANAGEMENT
AND DISASTER PREVENTION

Introduction

This plan describes proposed strategies, goals, actions, timelines, and funding objectives to implement Section 10201 of the 2008 Farm Bill.

The Farm Bill—H.R. 6124 Food, Conservation, and Energy Act of 2008—became law in June 2008. Section 10201 ("Plant Pest and Disease Management and Disaster Prevention") directs the Secretary of Agriculture to make available Commodity Credit Corporation (CCC) funds for early plant pest detection and surveillance, for threat identification and mitigation of plant pests and diseases, and for technical assistance in the development and implementation of audit-based certification systems and nursery plant pest risk management systems. The five-year Farm Bill specifies that these funds be made available incrementally, starting with $12 million in fiscal year (FY) 2009, $45 million in FY 2010, and $50 million in FY 2011 and thereafter. This section of the Farm Bill also directs the Secretary to submit to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate a report on the action plans implemented to mitigate the threats posed by high consequence plant pests and diseases and funds spent on the action plans. The report is to be submitted no later than 1 year after the date of the enactment of this paragraph, which was enacted on June 18, 2008.

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

Now more than ever, early pest detection is important to avert significant economic and environmental damage in our country. Once a pest becomes established or spreads significantly, the cost to eradicate, suppress, or manage it can be in the millions—not to mention the cost in lost crops and damage to the ecosystem. In 1997, for example, it was estimated that introduced invasive species cost taxpayers $41 billion annually in lost production, prevention, and control expenses. In 1998, the impact due to weeds alone was estimated at about $15 billion. In 2005, some of the previous estimates were updated to $34.5 billion due to all invasive plants (cultivated or weedy) and $59.4 billion in damages caused by microbials (affecting animals and/or plants). However, when a pest or disease is detected early, plant health officials can respond rapidly to eradicate the outbreak before it has a chance to become established or spread to other areas. This results in significant cost savings, as it avoids the high costs of a long-term management program and helps maintain access to international markets for U.S. plants and plant products.

An Enhanced Approach to Pest Detection and Response

From a historical perspective, the pest detection program within APHIS is similar to Farm Bill Section 10201. The program uses a multi-pronged strategy to accomplish its mission of identifying pest threats. This includes developing and deploying scientifically sound survey protocols and pest diagnostics, conducting pest surveys, accurately identifying pests of regulatory significance, and reporting pest survey results in a timely manner. To support and facilitate exports and interstate commerce, the program also maintains nationwide survey results for pests

of regulatory significance as a means to provide direct evidence of pest-free areas in the United States.

All of these efforts involve stakeholders, the scientific community, other USDA agencies and Federal entities, State departments of agriculture, universities, and industry partners. In most cases, APHIS establishes formal partnerships with these groups through cooperative agreements administered by the CAPS program. APHIS and its State cooperators carry out surveys for high-risk pests of national and state interest through the CAPS network each year. The National Agricultural Pest Information System (NAPIS) is the database that serves as the repository of survey results conducted by the States under cooperative agreements with APHIS and is available to both Federal officials and State cooperators.

However, the current pest detection program can not fund the diversity of approaches proposed in Section 10201 without impacting the sustainability of CAPS with all 50 States and 3 Territories. First, the program does not provide for an adequate and immediately available resource base to implement rapid response to new threats. Section 10201 provides sufficient funds—and flexibility in the funding structure—over the next five years to support emergency response activities. Having the necessary resources for rapid response will position APHIS to develop a more proactive approach to plant health protection, solidifying its partnerships with the States and industry and enabling meaningful advances in our pest detection infrastructure.

APHIS believes rapid response is critical to averting plant pest-caused “disasters,” and it proposes a significant proportion of Section 10201 funding be used for this effort. Rapid response is essential for eradication and control of a plant pest or disease outbreak in order to prevent economic and or environmental harm, after an outbreak has been detected and verified. Cooperators have told APHIS they would be more willing to report a new pest because they would be more likely to benefit from a "surgical" response that is specific to a small area, is quick, and doesn't cause longer-term, deleterious local or national impacts.

Perhaps most importantly, Section 10201 will allow APHIS to bridge the gaps between a myriad of pest detection and surveillance programs and increase the diagnostic capacity for plant pests and diseases. By better integrating and coordinating Federal, State, and industry efforts on this front, APHIS can develop a more comprehensive picture of plant health in the United States based on solid, accurate data. This information will help considerably to facilitate and enhance trade opportunities for U.S. plant producers and nursery growers.

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 and departments of agriculture fully appreciate what it takes to eradicate, suppress, or manage a pest 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 10201 of the 2008 Farm Bill. In particular, the States have expressed the need to use the Farm Bill funds to support their efforts not just to discover new pests as in the current CAPS program, 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 States’ needs in mind as we implement Section 10201 and allocate funds. As part of this effort, we have actively sought our partners’ input in developing goals, objectives, strategies, milestones, and timelines. 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.

Key Strategies

This plan defines the following strategies—organized into six major areas—to integrate and coordinate plant pest and disease management and disaster prevention activities that will be funded by Section 10201 of the 2008 Farm Bill:

1) Enhance plant pest/disease analysis and survey
    a. Identify and target high-risk pest pathways,
    b. Fully fund the highest priority pest-specific surveys, and
    c. Enhance high-risk surveillance programs through State survey cooperative agreements.

2) Target domestic inspection activities at vulnerable points in the safeguarding continuum
    a. Promote and expand inland inspections of containers and mail facilities, where possible,
    b. Expand the use of canine teams for domestic survey activities,
    c. Develop, initiate, and support State in inspections for Official Control, and
    d. Promote increased levels of inspection for regulated articles for interstate movement.

3) Enhance and strengthen pest identification and technology
    a. Improve all aspects of early detection resources,
    b. Enhance pest screening expertise and taxonomic capacity,
    c. Increase the deployment of molecular diagnostic tools,
    d. Develop and implement a comprehensive traps and lures management program, and
    e. Pursue offshore initiatives to optimize early detection programs.

4) Safeguard nursery production
    a. Develop science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain, and
    b. Develop and harmonize audit-based Nursery Certification Programs

5) Conduct outreach and education to increase public understanding, acceptance, and support of plant pest and disease eradication and control efforts
    a. Expand proactive legislative and inter-governmental outreach and the systematic engagement of stakeholders and citizens in decision-making and consensus-building forums in an effort to increase public understanding, acceptance, and support of plant pest and disease eradication and control efforts,
    b. Design and implement a formal volunteer program and expand the use of the plant protection and regulatory studies curriculum in the land grant university system and other educational institutions in an effort to encourage public and stakeholder participation in pest surveillance and detection activities, and
    c. Develop and implement a national, multi-year public awareness campaign about the threat invasive species pose to agriculture and the environment in an effort to increase the likelihood that the public will adopt behaviors to help mitigate the introduction or spread of exotic pests and diseases.

6) Enhance Mitigation Capabilities
    a. Build on and improve the current mechanism to assess and decide an appropriate short term course of action to respond quickly to a new detection of a pest of potential regulatory significance,
    b. Utilize initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies,
    c. Prepare the agency and collaborative programs in the use of the Incident Command System (ICS) for plant health response activities, and
    d. Provide technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of New Pest Response Guidelines (Action Plans).

Strategies, specific actions, performance measures, and spending figures for each of these six areas are further described in the appendices to this document.

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 four areas will specifically benefit small producers:

Enhance plant pest/disease analysis and survey
Under this strategy, APHIS will fund surveys for high-risk pests such as plum pox virus and *P. ramorum.* 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.

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 strategy, APHIS will work to engage the public in early detection efforts through, among other things, a formal volunteer program for exotic pest surveillance. Interested small producers and distributors could benefit from the training for volunteers on recognizing and reporting exotic pests.

Enhance Mitigation Capabilities
Under this strategy, APHIS will provide technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of New Pest Response Guidelines (Action Plans), 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 small, quick, and effective mitigation that will reduce disproportional impacts to small growers, releasing them from quarantine quickly and allowing them to get back into production.

APHIS will provide $100,000 of the funds under the Outreach and Education Strategy each year that funds are authorized by the Farm Bill to USDA's Cooperative State Research, Education, and Extension Service to ensure that small producers are aware of and engaged in these activities.

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 several 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 response to pest and disease outbreaks. Other agencies within USDA that also have a role include:

- Cooperative State Research, Education, and Extension Service (CSREES). CSREES 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, CSREES, 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 HSPD9. 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 and 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.

In fact, several new opportunities exist or are being developed to work with industry in finding and reporting pest and diseases new to the United Sates.

- The part of this plan addressing nursery programs is a partnership with several States, national, regional and state organizations, focused on best management practices. These

are important to place some responsibility on industry, while providing a reasonable level of Federal oversight that is not unnecessarily burdensome.

- Certain industry organizations have proposed sharing data with APHIS on pests of mutual interest. There is tremendous benefit to enhancing the export certification program in some of these cooperative efforts. For example, when seed labs are accredited and certified, the quality of certain data may be validated. With soybean rust (SBR), industry voluntarily entered their disease observations into an electronic system that APHIS had initially funded to respond to the incursion of SBR into the United States in 2004. Industry data were kept separate from other data provided by Federal or State authorities, but provided a complementary and comprehensive view to the total distribution and relevance of SBR findings over the season for the entire United States.

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 2007, the light brown apple moth was reported by a professor in Berkley, California, who found it in his backyard. Asian longhorned 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, APHSI 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. There are several challenges to engaging citizens meaningfully in this effort that APHIS will work to overcome—(1) the need to educate the public regarding the pest threats of interest, (2) the need to establish a mechanism to more formally involve the public in PPQ's activities, and (3) the need to provide and communicate to the public the venue for reporting any pests that they find.

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 and departments of agriculture fully appreciate what it takes to eradicate, suppress, or manage a pest 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 10201 of the 2008 Farm Bill. In particular, the States have expressed the need to use the Farm Bill funds to support their efforts not just to discover new pests as in the current CAPS program, 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 States' needs in mind as we implement Section 10201 and allocate funds. As part of this effort, we have actively sought our partners' input in developing goals, objectives, strategies, milestones, and timelines. 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.

Appendix 1

SECTION 10201
DRAFT of PROPOSED FUNDING DISTRIBUTION $12,000,000 AVAILABLE IN FY2009

Proposed Activity Area	
1. Enhanced Analysis & Survey	**$4,050,000**
2. Domestic Inspection	**$2,000,000**
3. Technology Enhancement	**$2,200,000**
4. Safeguarding Nursery Production	**$1,250,000**
5. Outreach and Education Programs	**$500,000**
6. Mitigation Capabilities	**$2,000,000**
TOTAL FUNDING	**$12,000,000***

*Please note that, as authorized by Section 103 of the American Recovery and Reinvestment Act of 2009, in FY 2009 and FY 2010 funds provided by the Food, Conservation, and Energy Act of 2008 are available to cover salaries and related administrative expenses, including technical assistance, associated with the implementation of the program. APHIS will use 10 percent of the funds to cover the costs associated with implementing cooperative agreements, contracts, procurement actions, and auditing functions. The funds will also support certain program delivery functions such as field-level program oversight. Funds used by cooperators may also cover administrative costs, pursuant to the guidance issued in OMB Circulars A-87 and A-122.

BUDGET PLANS - FUTURE YEARS

The budgets for future years will be determined as strategies are implemented and benchmarks achieved based on performance measures established for each major activity area. Each year, PPQ will convene a planning and prioritizing meeting during the summer to identify and establish priorities among the proposed activities, including a suggested level of funding for each activity area. Key stakeholders with representatives from industry, Specialty Crop Farm Bill Alliance, the NPB, the National Clean Plant Network, PPQ, and other Federal partners (i.e., CSREES) will participate in this planning meeting. This group will review the results achieved and identify emerging issues and pest threats to establish a proposed slate of activities for each of the major activity areas for the upcoming fiscal year.

It is anticipated that the percentage of funding increases for each activity area may increase (to the FY 2011 level at $50M) as follows:

1. Enhanced Analysis & Survey	**33%**
2. Domestic Inspection	**10%**
3. Technology Enhancement	**18.5%**
4. Safeguarding Nursery Production	**8.5%**
5. Outreach and education programs	**4.4%**
6. Enhance Mitigation Capabilities	**25.6%**

The funding for each activity area would be as follows:

Strategy	FY09	FY10	FY11	FY12	FY13
1. Enhanced Analysis & Survey	$4,050,000	$14,250,000	$16,500,00	$16,500,000	$16,500,00
2. Domestic Inspection	$2,000,000	$4,500,000	$5,000,000	$5,000,000	$5,000,000
3. Technology Enhancement	$2,200,000	$8,425,000	$9,250,000	$9,250,000	$9,250,000
4. Safeguarding Nursery Production	$1,250,000	$3,825,000	$4,250,000	$4,250,000	$4,250,000
5. Outreach and Education Programs	$500,000	$2,000,000	$2,200,000	$2,200,000	$2,200,000
6. Enhance Mitigation Capabilities	$2,000,000	$12,000,000	$12,800,000	$12,800,000	$12,800,000
TOTAL	$12,000,000	$45,000,000	$50,000,000	$50,000,000	$50,000,000

Appendix 2

SUMMARY OF PERFORMANCE MEASURES

Overarching Goal: To protect the health and value of U.S. agriculture and natural resources.

Long-term, Outcome Performance Measure: Value of damages prevented through early detection efforts.

Key Strategy I. Enhance Analysis and Survey
To enhance the gathering and analysis of all available data to efficiently and effectively make informed decisions and to deploy resources to detect pests as early as possible.

Performance Milestone

- Development of a high-level, on-line decision support tool for targeting areas for survey by January 2010.

Key Strategy II: Target Domestic Inspection Activities
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.

Performance Milestone

- Identify major commercial distribution locations that receive imported products in the 15 highest-risk States by January 2010. (High-risk States will be determined through evaluating the commodities produced and resources present, as well as the pathways, including ports of entry and volume of imports, in each State.)

Performance Measures

- Percent of major commercial distribution locations inspected each year.
- Number of canine teams trained for domestic inspection activities

Key Strategy III: Enhance Pest Identification and Technology
To develop, provide training, and deploy survey procedures and tools that will improve our ability to rapidly detect and accurately identify pests of regulatory significance.

Performance Measure

- Percent of traps, lures, and other high quality survey supplies delivered to project survey sites within expected timeframes.

Key Strategy IV: Safeguard Nursery Production
Goal I: 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.

Performance Measure

- Percent of nurseries per region that produce *Phytophthora ramorum* host material that are contacted and engaged in the process of standardizing best management practices.

Goal II: To develop and harmonize audit-based Nursery Certification Programs.

Performance Milestone

- Establishment of an audit-based nursery certification program.

Performance Measure

- Percent of nurseries certified under the audit-based nursery certification program.

Key Strategy V: Conduct Education and Outreach

Goal I: To increase public understanding, acceptance, and support of plant pest and disease eradication and control efforts.

Performance Measure

- To be determined.

Goal II: To encourage public and stakeholder participation in pest surveillance and detection activities, and instill public confidence in PPQ' programs.

Performance Measure

- Number of volunteers trained.

Goal III: To increase the likelihood that the public will adopt behaviors to help mitigate the introduction or spread of exotic pests/diseases.

Performance Measure

- To be determined.

Key Strategy VI: Enhance Mitigation Efforts

To provide an unencumbered mechanism to determine the most suitable response and deploy resources quickly to mitigate potential economic and environmental damage and further spread of a detected pest of regulatory significance when deemed appropriate.

Performance measure

- Percent increase in the number of participants exercised in PPQ's national preparedness training program.

Appendix 3

GOALS FOR THE RESOURCING AND IMPLEMENTATION OF FARM BILL SECTION 10201 FY 2009-2013

I. ENHANCE ANALYSIS AND SURVEY

GOAL: To enhance the gathering and analysis of all available data to efficiently and effectively make informed decisions and to deploy resources to detect pests as early as possible.

Performance Milestone:

- Development of a high level on-line decision support tool, using data from various sources, for targeting high risk areas for survey by January 2010. (The program also will begin testing the new tool through pilot surveillance programs in high-risk States in 2009.)

This component of the plan will enhance pest detection survey activity in three ways:

1. Identify and target high-risk pest pathways,
2. Fully fund the highest priority pest-specific surveys, and
3. Enhance high-risk surveillance programs through State survey cooperative agreements.

Strategy 1. Identify and target high-risk pest pathways.
Evaluate and mitigate high-risk pathways from ports-of-entry in those States that are high-risk for exotic pests and disease introductions. Provide PPQ staff and stakeholders with detailed, field-level risk analyses for creating targeted surveys. This may include the development or application of online tool(s) that allow APHIS personnel and cooperators to make intelligent, timely choices as to the allocation of material and human resources for the highest risk pests, pathways, and points of entry or distribution.

Rationale: There is continual increased need to identify pest threats with increased trade and changes in transportation from the port to destination. The use of robust analytical tools will help APHIS and its cooperators to better target resources to directly mitigate these high-risk pathways and prevent pest introductions, more adequately prepare for the potential introduction of high-risk pests, and allocate scarce survey resources more strategically to discover small infestations so that rapid response will effectively mitigate those incursions. A pathway approach will identify high-risk States.

Strategy 2. Fully fund the highest priority pest-specific surveys.
Fully fund viable/specific local and national detection surveys to mitigate or manage immediate pest threats (i.e., plum pox virus [PPV] in Pennsylvania, New York, and Michigan) and expand survey efforts for high-risk, economically significant pests and diseases (i.e., *Phytophthora ramorum*, false codling moth, and others). Note: Specific/target surveys will change from year to year to meet ever-changing pest and disease risks.

Rationale: This goal will address the most significant pests for which a robust national detection program is necessary to retain and expand our export markets. It will provide funds for PPV survey in 32 States and for P. ramorum *in 25 States. This is necessary to demonstrate the absence of a pest, or "pest free areas," for export certification purposes. It will also assure the*

current pest infestations, such as PPV, will be contained and possibly eradicated. This will, in turn, protect the stone fruit industry in other States (i.e., Georgia and California), where there could be severe economic consequences should PPV spread to those areas.

Strategy 3. Enhance high-risk surveillance programs through State survey cooperative agreements.
Implement a targeted high-risk surveillance and mitigation program in the highest risk States through Farm Bill cooperative agreements. In each State, APHIS will identify highest risk pests and pathways through the risk analysis system described above and from the Offshore Pest Information Program.

Rationale: High-risk States require adequate funding to cover infrastructure, as well as actual survey activities. Rising costs have eroded the States' ability to cover the increasing demands to survey for new pests and continue to survey for exotic pests that remain of national concern. Numerous discussions with extension, academia, and industry will be necessary at the State level so that efforts are well coordinated. The CAPS program provides the ideal mechanism to rapidly provide funds to high-risk States to plan and conduct work as soon as the survey season begins; knowing the funding level as far in advance as possible is desirable.

SUMMARY OF ACTIONS

Action	Target
Strategy 1: Identify and target high-risk pest pathways.	
Develop or apply on-line decision support tools for providing PPQ staff and stakeholders with detailed, field-level risk analyses for creating targeted surveys at the state level.	FY 2009
Access and build data-sharing protocols to incorporate PPQ, multi-agency, and commercial data for risk analysis.	FY 2009-2010
Conduct scientific and technical 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 under uncertainty.	FY 2010-2013
Identify and improve the most critical off-shore and domestic data sources based upon applicability, utility, data quantity, quality, and spatial and temporal resolution in order to efficiently allocate resources to mitigate risk pathways.	FY 2010-2013
Strategy 2: Fully fund the highest priority pest-specific surveys.	
Fully fund viable/specific local and national detection surveys to mitigate or manage	FY 2009 – 2013

immediate pest threats.	
Strategy 3: Enhance high-risk surveillance programs through State survey cooperative agreements.	
Develop an on-line survey and mitigation manual that will include survey methodologies, resources for pest identification and diagnostics, pest data sheets, and standard operating procedures that will be used by field personnel in APHIS, other federal agencies, universities, industry partners, and State departments of agriculture.	FY 2009
Establish a pilot surveillance and mitigation program in several of the highest risk States in order to validate newly developed protocols before they are deployed.	FY 2009
Provide funds to coordinate the pilot surveillance and mitigation program's implementation across regions and States. The coordination will help establish standards for data collection, analysis, and mitigation.	FY 2010-2013
Develop and implement performance measures to evaluate the efficacy of the survey and mitigation program (e.g., cost/benefit). Evaluate the success of the pilot program, including feedback from users, stakeholders, and researchers.	FY 2010-2013
Expand the pilot program to other high-risk States.	FY 2011-2013
Work with APHIS' Professional Development Center to create curricula for training pest survey specialists and other PPQ staff to implement the survey and mitigation program, including the development of Web-based training in order to reach more people and to provide ready access to refresher courses.	FY 2011-2013

II. Target Domestic Inspection Activities

GOAL: 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.

Performance Milestone:

- Identify major commercial distribution locations that receive imported products in the 15 highest-risk States by January 2010. (High-risk States will be determined through evaluating the commodities produced and resources present, as well as the pathways, including ports of entry and volume of imports, in each State.)

Performance Measures:

- Percent of major commercial distribution locations that are inspected each year.
- Number of canine teams trained for domestic inspection activities.

Strategy 1. Promote and expand inland inspections of containers and mail facilities, where possible.
One way to efficiently allocate resources towards this end is to identify commercial facilities that would be "choke points" and increase inspectional efforts at the Hawaii and Puerto Rico mail facilities. Specific locations would be targeted for inspection in order for States to find prohibited and/or pest-contaminated material and prevent its further distribution.

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.

Strategy 2. Expand the use of canine teams for domestic survey detection activities.
Since 1984, APHIS has trained and utilized canines in Agriculture Quarantine Inspection (AQI) activities to detect high-risk agriculture items entering our country from foreign nations. APHIS would like to enhance States' efforts to mitigate pests that escape undetected through ports-of-entry of deploying canine teams at strategic locations within the States or at interstate borders and, in some cases, in tactical situations where potentially deliberate introductions of illegal goods have occurred.

Rationale: Canine teams have demonstrated their effectiveness at ports-of-entry and in California and Florida in domestic applications. This strategy would provide the 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.

Strategy 3. Develop, initiate, and support States in inspections for Official Control.
As the procedures and strategies for Official Control by States are developed, facilitate delivery of a system to enhance States' inspection activities under Official Control.

Rationale: PPQ is developing procedures to recognize certain pests as quarantine pests of limited distribution within the United States. Official Control will provide protection from the introduction of quarantine pests of limited distribution in international commerce from proceeding to protected States, which themselves take action to prevent the spread of those pests in domestic trade. In order to be effective in enforcement, States will need standard inspection guidelines and a system for tracking and reporting inspections.

Strategy 4. Promote increased levels of inspection for regulated articles for interstate movement. Increase the number and quality of State inspections of facilities under Compliance Agreements to handle regulated articles. Develop audit standards for these Compliance Agreements.

Increase accessibility into Compliance Agreement inspection information by PPQ and State cooperators. Increase the inspection of commodities that move under Certificates and Limited Permits at points of origin and destination.

Rationale: 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.

SUMMARY OF ACTIONS

Action	Target
Strategy 1. Promote and expand States' inland inspections of containers and mail facilities, where possible.	
Identify major commercial distribution locations in the United States where imported products are sent. Identify major domestic hubs of express carrier companies and domestic air cargo facilities.	FY 2009
Initiate communications with CBP, States, and other applicable organizations regarding proposed inspection initiatives.	FY 2009
Establish mechanism(s) to provide feedback on findings of new pests in products cleared by CBP at ports of entry, to CBP and other organizations as needed.	FY 2009
Initiate R&D project to identify new technologies that will facilitate more efficient and/or effective inspections of cargo and carriers of cargo at inland locations and hubs. Test new technologies as developed.	FY 2009

Conduct inspections of arriving commercial containers with imported products at major domestic distribution locations, as approved by the company or distribution center. Utilize canine teams.	FY 2010
Conduct inspections at express carrier domestic hubs and domestic air cargo locations. Utilize canine teams.	FY 2010
Continue supporting the States' interstate checkpoint inspections and promote the need for these activities in other States.	FY 2010
Ensure feedback mechanism(s) on findings of new pests in products cleared by CBP at ports of entry, to CBP and others is in place and functional.	FY 2010
Test and acquire identified new technologies to detect prohibited products as well as pests of regulatory significance.	FY 2010-2013
Continue inspections of major commercial U.S. distribution locations as applicable. Continue inspections at express carrier domestic hubs and domestic air cargo locations. Conduct analysis on the first year results of the inspections at major U.S. distribution locations and interstate checkpoints. Based on findings, incorporate pertinent information into CBP training.	FY 2011
Continue inspections of major commercial U.S. distribution locations as applicable. Continue inspections at express carrier domestic hubs, air cargo facilities and interstate checkpoints. Conduct analysis on the first year results from the express carrier hub and air cargo facility inspections.	FY 2012
Evaluate the effectiveness of the inspections and overall feedback process.	FY 2013

Strategy 2. Expand the use of State canine teams for domestic survey detection activities.	
Support and expand the State departments' of agriculture and State counties' canine inspection programs. *Partner with State departments of agriculture and various State county departments of agriculture* *Outcome: Ability to deploy canine teams in more areas that are identified as high risk. Data from intercepted items and pests used for risk assessment efforts.*	FY 2009 – 2013
Design and develop standard Canine Operations Manual. *Partner with State departments of agriculture and various State county departments of agriculture* *Outcome: Maintain standardization in growing program with multiple agencies and widely dispersed participants.*	FY 2009-2013
Conduct annual certifications of canine handlers to ensure teams are operating at an acceptable proficiency rate. *Partner with State departments of agriculture and various State county departments of agriculture* *Outcome: Statewide canine program operating at agreed upon proficiency level.*	FY 2009-2013
Improve the States' canine inspection programs by training existing county canine handlers to work in additional application pathways. This may include domestic air and land border applications. *Partner with State departments of agriculture and various State county departments of agriculture* *Outcome: Second line of defense from interstate movement of harmful plant pests. Increased*	FY 2010-2013

public awareness of Agriculture mission.	
Explore other areas of the United States with demonstrated risk and feasible locations where canine teams can be effective in domestic inspection activities. *Partner with NPB members.* *Outcome: Ability to deploy canine teams in more areas that are identified as high risk. Data from intercepted items and pests used for risk assessment efforts.*	FY 2010 – 2013
Strategy 3. Develop, initiate and support states in inspections for Official Control.	
Complete strategies for CBP enforcement and State inspection as official control procedures are finalized.	FY 2009
Continue development of inspections guidelines by States.	FY 2010
States are effectively utilizing Official Control to protect their area or other States for pests not regulated by the CFR or a Federal Order.	FY 2011-2013
Strategy 4. Promote increased levels of State inspection for regulated articles for interstate movement.	
Audit standards completed for facilities under Compliance Agreements. Increase number and quality of State inspections of facilities at origin.	FY 2009
Increase accessibility to Compliance Agreement inspection information by PPQ and State cooperators in order to improve communication and coordination between PPQ and State cooperators, resulting in quicker response to violations.	FY 2010
Increase numbers of State inspections of regulated commodities at origin and at destination with information shared between PPQ and State cooperators via Compliance Agreements in order to detect violations quicker.	FY 2010

Further increase the number of State inspections of facilities and regulated commodities at origin and destination. Audit program is leading to increased compliance of facilities. Fewer infractions are being found during interstate inspections and at destination.	FY 2011-2013

III. ENHANCE PEST IDENTIFICATION AND TECHNOLOGY

GOAL: To develop, provide training, and deploy survey procedures and tools that will improve our ability to rapidly detect and accurately identify pests of regulatory significance.

Performance Measure:

- Percent of traps, lures, and other high quality survey supplies delivered to project survey sites within expected timeframes.

Strategy 1. Improve all aspects of early detection resources, including improving traps/lures and expanding their availability, developing novel approaches to survey for exotic pests, stockpiling supplies for rapid deployment, and developing new diagnostic techniques.

Keys to this strategy include:

1) Develop and improve traps and lures in terms of efficiency of catching targets (e.g., more specific traps to reduce screening time) and ease of removing targets for identification (e.g., find alternatives for sticky traps for trapping Lepidoptera).

2) Employ a system that procures and inventories traps and lures in advance of time needed in the field.

3) Develop novel traps, lures, and survey strategies, including detector canines, to more efficiently detect target pests.

4) Educate cooperators on the most efficient and effective trap and lure combinations for target pests. Standardize methodology nationally.

5) Develop and apply quality control standards to traps and lures used at the field level.

6) Design and develop electronic commodity-based identification tools (i.e., pests, diseases, weeds, disorders of a commodity) that complement and provide field detection support for CAPS commodity reference and survey guidelines publications to increase accurate and timely identification of pests.

7) Develop state-of-the-art digital image-based identification capability. Based on analysis of need and image resources, design and develop a resource that allows users to filter, sort, group, and resize images to greatly facilitate field identification of reportable and actionable pests by recognition.

Rationale: 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. Developing survey tools in anticipation of future threats allows for rapid response when new exotics are detected. When more effective diagnostic tools are made available to survey staffs in the field, State and national PPQ identification experts can more efficiently identify known exotics and have more time to focus on new threats that require a more in-depth level of expertise.

Strategy 2. Enhance pest screening expertise and taxonomic capacity.

Keys to this strategy include:

1) Develop the expertise and capacity to identify a greater variety of plant pests to

a. accept and screen a greater volume and variety of survey samples from States,
b. train and certify field personnel for detecting specific threatening pests,
c. provide screening aids, specimens, and tools for first detectors and cooperating land grant universities, State departments of agriculture, industry, and other Federal and State agencies,
d. employ standardized pest identification procedures including procedures for communicating results, and
e. oversee increased associated field infrastructure and agreements, thereby providing more timely and accurate identifications for pest detection activities.

2) Develop cooperative agreements capitalizing on the taxonomic expertise at other institutions (i.e., land grant universities and State departments of agriculture) to augment national identification needs for surveys and function as regional taxonomic screening centers that accept and process survey samples from neighboring States.

3) Develop, validate, and transfer diagnostic methods to cooperators. Accreditation and certification would be necessary to transfer the technology to non-PPQ entities, so that the knowledge, tools, and appropriate authority levels are shared beyond PPQ.

Rationale: The PPQ National Identification Service's (NIS) network of national specialists forms a virtual laboratory to meet many of the needs envisioned since the 1999 Safeguarding Review. There is an obvious 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 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.

Cooperative arrangements with various institutions and agencies have already strengthened PPQ's ability to meet the taxonomic challenges of processing large numbers of survey samples efficiently. This is not intended to duplicate ongoing activities with the National Plant Diagnostic Network (NPDN). Examples include arrangements with the NPDN and Carnegie Museum of Natural History. Additional similar arrangements with other institutions will benefit PPQ's ability to capitalize on existing regional expertise and strengthen our relationships with States and universities, while providing more timely accurate identifications. A pilot program with a university in the southeastern United States will assist us in evaluating how this arrangement with a university might work. Additionally, two State departments of agriculture in the western United States are interested in such an arrangement.

Strategy 3. Increase the deployment of molecular diagnostic tools where needed for specific plant diseases and invertebrate pest identifications and determinations of pest point of origin by increasing resources towards the current levels of:

- method validations and operational deployments,
- laboratory accreditation,
- hands-on biochemical and molecular diagnostic laboratory training, and
- development of scientific expertise for the performance of molecular diagnostic analysis and confirmation of pest organisms.

Rationale: The need to use molecular and biochemical technologies for the diagnostics of plant pests is rapidly increasing for screening and confirmation purposes. These technologies are required for pests that are difficult to identify visually and are now often expected when confirmation of high-consequence pests occur, even if other taxonomic means are sufficient for

this purpose. These technologies can also be used to determine information about pests that can mitigate risk while not impeding open trade. The effective deployment of these technologies requires more resources to complement the current development of new tools and technologies for molecular and biochemical diagnostics of pests. Additional resources for the efficient deployment of diagnostic capacity and expertise will occur by conducting hands-on biochemical and molecular diagnostics laboratory training provided to scientists participating in regulatory diagnostic programs, including laboratories within PPQ, NPDN, State departments of agriculture, and foreign plant protection organizations. Finally, the deployment of diagnostic technologies out of the Center for Plant Health Science and Technology (CPHST) laboratories to PPQ and the public through commercial entities that can provide mass production with the required quality control emplacements on the products allows efficient use of these technologies for agricultural safeguarding purposes.

Strategy 4. Develop and implement a comprehensive Traps & Lures Management Program that will be held accountable for the procurement and delivery of quality survey supplies to PPQ field personnel and State cooperators in a timely manner.

Keys to this strategy include:

1) Establish a National Traps & Lures (T&L) Program to oversee and be held accountable for all aspects of the ordering, procurement, quality control and quality assurance, and delivery of survey supplies from the National level, including a National T&L Committee to provide direction and facilitate communications within the survey community.

2) Review the funding mechanism for trap and lure supplies and adjust as allowed by regulations. Conduct an audit of the accounting practices used in the program and implement recommendations in order to improve the reliability and efficiency of trap and lure procurements.

3) Fund a suitable inventory of traps, lures, and other survey supplies to be stored at the warehouse in Mission, TX, to guard against being caught short during emergencies.

4) Develop, implement, and maintain a new web-based storefront for ordering supplies and tracking orders through shipment. Essentially, running the T&L Program is akin to running a small business, with the same needs as tracking orders and inventory, procurement of supplies, and timely shipping of products. It needs to be more user-friendly, flexible and responsive to procure needed survey supplies and to streamline inventory and ordering system to maintain adequate supplies for the field.

5) Place or re-assign procurement personnel dedicated to the T&L Program in Mission, TX, and Minneapolis, MN. This will strengthen the system and facilitate communications.

6) Implement and integrate into the procurement process a quality control and quality assurance program to ensure the use of high-quality, effective materials in the field.

<u>Rationale</u>: At present, the key personnel, offices, functions, and other components of the T&L program are physically widely distributed. There is no overarching coordination, oversight, or direction. Accountability is limited to individual offices and supervisors, and not to the Program. Without intervention, problems will continue to arise year after year. Immediate and long-term solutions are needed if the program is to remain viable. The overall budget for trap and lure supplies comprise approximately two percent of the total budget of all the programs conducting surveys. However, if this two percent fails, then the remaining 98 percent of the program's

efforts fail significantly. The availability of appropriate survey supplies when needed is critical to the APHIS mission.

Strategy 5. Pursue offshore initiatives to optimize early detection programs.
Key components of this strategy include:

1) Apply sophisticated pest prioritization methods to analyze, determine, and rank offshore pest threats to target offshore surveillance (i.e., via the Offshore Pest Information Program, OPIP) and to alert CBP to look for the highest risk pests.

2) Work with partners to conduct offshore surveys as appropriate. Share distribution and pathway information to enhance the development of appropriate safeguarding strategies at the U.S. border and domestically.

3) Develop an expatriate plant inspection program to monitor pests that attack U.S. plant germplasm abroad (similar to New Zealand's project).

4) With cooperators, conduct methods development activities on emerging pest threats abroad to develop survey and control technologies, including biocontrol, that may be applied to the United States should they become necessary.

Rationale: To improve early pest detection programs and avoid costly emergency programs, APHIS needs to conduct appropriate pest detection activities offshore, before pests become established in the United States. By doing so, the agency can (1) develop survey methods and control technologies for exotic pests by working with them where they live offshore; (2) determine pest distributions, host ranges, and mechanisms for spread; (3) enlist the cooperation of other countries in pest surveys and reporting; and (4) improve pest prediction capability by monitoring U.S. germplasm abroad to discover pests, particularly those that are not problematic on local flora.

SUMMARY OF ACTIONS

Action	Target
Strategy 1. Improve all aspects of early detection resources.	
Develop new and improve existing traps and lures to more efficiently and effectively trap for insects (e.g., find an alternative for sticky traps for Lepidoptera).	FY 2009-2013
Improve trap and lure inventory system to be able to respond to emergency requests.	FY 2009-2010
Utilize emerging technology to develop and deploy more effective survey tools, including canines and so called "smart traps."	FY 2009-2013
Educate survey staff on how to properly use traps and lures.	FY 2009-2013

Develop and implement a quality assurance and quality control program for traps and lures at the field level to ensure that they are being used properly.	FY 2009-2013
Develop and validate molecular diagnostic tools for insect and disease identification.	FY 2009-2013
Strategy 2. Enhance pest screening expertise and taxonomic capacity.	
Develop a plan to address the resources and solutions for fully supporting plant pest screening and taxonomic identifications.	FY 2009-2010
Fund Mississippi State University, Washington State Department of Agriculture, and Oregon Department of Agriculture to service survey samples from neighboring States.	FY 2009-2010
Provide funds to augment plant pest screening and taxonomic identifications.	FY 2009-2013
Develop cooperative relationships with additional institutions with regional expertise in pest screening for surveys.	FY 2009-2013
Strategy 3. Increase the deployment of molecular diagnostic tools.	
Increase funds for molecular diagnostics methods development, training, accreditation, testing, and making tools operational for plant pests that require it.	FY 2009-2013
Strategically locate laboratory equipment for hands-on training of biochemical and molecular diagnostics to scientists within PPQ, NPDN, State departments of agriculture, and foreign plant protection organizations.	FY 2009-2010
Enhance training sessions currently conducted in the CPHST Beltsville Lab and develop training capacity for arthropod molecular diagnostics with dedicated staffing and resources, deployed in the future to the training facility area of the new PPQ Molecular Diagnostics Facility once occupied in 2011.	FY 2009-2013
Develop, adapt, validate, and transfer technologies for rapid and accurate molecular and biochemical diagnostics to: field or offshore deployment, in foreign germplasm introduction services, at ports-of-entry and	FY 2009-2013

plant introduction stations, and to PPQ designated confirmatory labs.	
Use CRADAs to bring detection, identification, and diagnostic technologies and tools out of CPHST laboratories to PPQ and the public through commercial entities that can mass produce and quality control and quality assure the products for large-scale use.	FY 2009-2013
Strategy 4. Develop and implement a comprehensive Traps & Lures Management Program.	
Establish a National Traps & Lures Program.	FY 2009-2013
Review funding and conduct audits.	FY 2009-2010
Increase inventory.	FY 2009-2013
Develop and maintain a Web-based storefront for management of orders and inventory.	FY 2009-2010 – development FY 2010-2013 – maintenance
Assign procurement personnel dedicated to the T&L Program at critical locations.	FY 2009-2013
Establish a QA and QC program.	FY 2009-2013
Strategy 5. Pursue offshore initiatives to optimize early detection programs.	
Generate ranked lists of pests of national significance for the CAPS program each year.	FY 2009-2013
Generate ranked lists of pests of interest and concern for offshore surveillance (i.e., OPIS) in FY 2010 and FY 2013.	FY 2010, 2013
Initiate and expand expatriate plant monitoring program to identify harmful organisms (e.g., insects, nematodes, and pathogens) in order to make predictions about the potential threats these organisms have to the U.S. Partner with ARS in foreign germplasm research trials to obtain some of this data.	FY 2010-2013
Prioritize the need for field-testing methods for detecting pests, which can only be conducted offshore where the pests occur.	FY 2009
Conduct methods development on identified priority pests.	FY 2009-2013

Conduct offshore surveys with cooperators. Include areas of major international shipping traffic, (e.g., the Panama Canal).	FY 2009-2013

IV. Safeguard Nursery Production

GOAL I: 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.

Performance Measure:

- Percent of nurseries per region that produce *Phytophthora ramorum* host material that are contacted and engaged in the process of standardizing BMPs.

Strategy 1. Establish and operate functional experimental nursery for *Phytophthora ramorum* in California and conduct research studies to develop BMPs to exclude, contain, and eradicate the pathogen in the nursery environment.

Rationale: The ability to regulate nurseries, the movement of nursery stock, and implement effective protocols to eradicate P. ramorum *in the nursery setting is a major challenge. The lack of large-scale research on* P. ramorum *in a nursery environment compromises the program's degree of success in nursery certification and* P. ramorum *eradication in nurseries. A fully functioning experimental nursery within a* P. ramorum *infested county will allow research to be conducted as a means of obtaining more complete knowledge and understanding of the disease causal organism, and evaluation of potential pathways for the movement of the pathogen. The increased understanding of this organism and its host materials would help the program staff to refine program policies, protocols, procedures and regulations to more effectively manage or eradicate the disease in the nursery setting.*

Strategy 2. Expand *P. ramorum* experimental nursery for conducting research on other nursery pathogens of quarantine significance that are present in California and threaten other States as well.

Rationale: Critical biological characteristics, host interactions, and control techniques are not known for other regulated plant pest organisms. The 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, the P. ramorum experimental nursery provides an ideal location to conduct experiments on other nursery plant pathogens (e.g., gladiolus rust [Uromyces transversalis]) or other pest organisms of quarantine concern that are present in California.

SUMMARY OF ACTIONS (GOAL I)

Action	Target
Develop science-based BMPs and risk mitigation practices to exclude, contain, and control plant pathogens from the nursery production chain.	
Establish operational nursery including the development of infrastructure, and recruitment of personnel in California (funding through CDFA).	FY 2009-2010

Identify research priorities to address the BMPs for control and containment of *P. ramorum* and conduct research in collaboration with CDFA, ODA, and universities.	FY 2009
Conduct research to address the BMPs, control and containment of *P. ramorum*.	FY 2009-2013
Conduct analysis of research data and transfer technologies researched and developed in the form of written SOPs to industry through APHIS.	FY 2010-2013
Expand and identify other pathogens and pests of regulatory concern to the industry to make use of the research nursery.*	FY 2011
Conduct research to address the BMPs, control, and containment of other identified plant pathogens or other quarantine pests. Analyze data and transfer technology in the form of written SOPs to industry through APHIS.	FY 2011-2013
Develop a model nursery to be used for hands-on training of inspection and compliance audits in support of certification programs.	FY 2011

*The pathogen to be researched should be present in CA and require minimal containment (e.g. greenhouse). Building a biosecure containment facility on this site to continue research on regulatory plant pests not present in the state is not an economically viable or environmentally secure option.

GOAL II: To develop and harmonize audit-based Nursery Certification Programs (including the harmonization of different certification programs, audit and inspection training for cooperators, and launching).

Performance Milestone:

- Establishment of nursery certification program.

Performance Measure:

- Percent of nurseries that are certified under the audit-based nursery certification program (to be implemented once certification program is in place).

Strategy 1. Develop a harmonized and integrated nursery certification program to facilitate exports and the domestic movement of nursery stock in partnership with State regulatory officials. This includes the greenhouse and National Clean Plant Network 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 through a memorandum of understanding (MOU) to adopt and implement national 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.

Rationale: Such a certification program will meet the mutual needs of industry 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.

Strategy 2. Develop and deliver the training to the cooperators, providing material and technical assistance in developing the quality operational manual for small-scale nurseries. APHIS proposes to develop 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 experimental nursery for *P. ramorum* and certified motherblocks will be used as a classroom for training. In partnership with academic institutions, outreach and education will be provided to nurserymen, growers through media, publications, and growers meetings. In addition, through State cooperators, PDC will develop technical assistance programs to help small-scale nurseries to develop a quality manual enabling them to participate in the certification programs.

Rationale: 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. Outreach activities to the growers and nursery owners on the importance of clean planting material ultimately increase the demand for the material and makes the industry more sustainable.

Strategy 3. Work with all stakeholders and cooperators to launch and support the certification program for the nursery industry. 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 10201 of the 2008 Farm Bill. The commodity-based clean plant networks for grape and fruit trees are currently formed to provide certified planting materials to the nurseries and growers under State certification programs. APHIS expects that this nursery certification program will be expanded significantly as resources become available during FY 2010. 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.

Rationale: 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.

SUMMARY OF ACTIONS (GOAL II)

Action	Target
Strategy 1. Develop and harmonize audit-based Nursery Certification Programs.	
Develop training module for nursery and greenhouse certification programs through PDC.	FY 2009
Launch audit-based nursery and greenhouse certification programs in select States.	FY 2010-2013
Harmonize State nursery stock certification programs for specialty crops (targeted commodities—grapes and fruit trees) in CA, OR, WA, ID, MI, OH, NY, PA, MD, VI, TN, SC, MO, and TX.	FY 2009
Establish production nursery blocks in NCPN centers under State certification programs and launch certification programs.	FY 2010-2013
Conduct the training for audits of certification programs and accreditation of certification personnel through PDC.	FY 2010-2013

V. Conduct Education and Outreach

GOAL I: To increase public understanding, acceptance, and support of plant pest and disease eradication and control efforts.

Performance Measure (to be determined).

Rationale: Public interest in PPQ regulatory activities is wide and varied. Typically, interest comes from individuals and communities affected by the regulatory activities undertaken to control or eradicate a plant pest infestation or disease (i.e., light brown apple moth (LBAM) in California, emerald ash borer (EAB) in upper mid-west, Huanglongbing (HLB, or citrus greening) in the southeast, Asian longhorned beetle (ALB) in the northeast, etc.). Questions regarding the nature of regulatory actions traditionally undertaken to combat plant pests and diseases, coupled with increasing concerns over the safety of specific tools and treatment options, have led members of the interested public to not only question how eradication and control efforts are deployed, but also, in some cases, whether they are needed at all.

Strategy 1. Expand ongoing, proactive outreach efforts to Congress and elected officials to inform them of PPQ's extensive role in regulating plant pests and noxious weeds and the agency's role (in partnership with CBP) in protecting U.S. borders. Educate delegations either affected by or at-risk of being affected by plant pest infestations and diseases about the environmental and economic impacts (actual/potential) of pests/diseases of regulatory significance and the efforts to prevent, eradicate, or control them.

Strategy 2. Initiate efforts in affected or at-risk areas to systematically engage citizens in public decision-making and consensus-building forums in an effort to include public and stakeholder input when developing regulatory policy and program delivery strategies.

Strategy 3. Enhance ongoing pest/disease information campaigns by creating and maintaining a highly visible, centralized, and coordinated web site and portal that offers timely, standardized information about plant pests/diseases of regulatory significance.

Strategy 4. Evaluate opportunities in affected or at-risk areas to use social media to support strategic public communications.

SUMMARY OF ACTIONS (GOAL I)

Action	Target
Strategy 1. Expand ongoing outreach efforts to Congress and elected officials to inform them of PPQ's extensive role in regulating plant pests and noxious weeds and the agency's role (in partnership with CBP) in protecting U.S. borders. Educate delegations either affected by or at-risk of being affected by plant pest infestations and diseases about the environmental and economic impacts (actual/potential) of pests and diseases of regulatory significance and the efforts to prevent, eradicate, or control them.	
Explore PPQ's current regulatory authorities and, as needed, present legislative solutions to Congress to enhance PPQ's authorities	FY 2009 – 2013

Arrange opportunities for PPQ to brief congressional delegations on activities undertaken by the program in various States.	FY 2009 – 2013
Enhance and expand relationships with congressional affairs staffs in stakeholder organizations.	FY 2009 – 2013
Evaluate opportunities to invite congressional staffs on field trips to increase awareness and knowledge of PPQ regulatory activities.	FY 2009 – 2013
Strategy 2. Initiate efforts in affected or at-risk areas to systematically engage citizens in public decision-making and consensus-building forums in an effort to include public and stakeholder input when developing regulatory policy and program delivery strategies.	
Identify affected or at-risk areas and prioritize order of engagement.	FY 2009
Develop a plan to engage stakeholders and the public in priority areas in listening, public deliberation sessions, or working groups.	FY 2009
Conduct listening sessions or convene working groups to discuss policy/program delivery in their area.	FY 2010
Synthesize outputs of listening sessions and work groups into series of recommended PPQ policy actions.	FY 2010
PPQ analysis of recommendations and development of response/intended actions document. Document communication to all stakeholders.	FY 2011
Implementation of actions selected by PPQ.	FY 2011 – 2013
Continued dialogue/updates with listening session/work group participants on PPQ actions on issue.	FY 2010 – 2013
Strategy 3. Enhance ongoing pest and disease information campaigns by creating and maintaining a highly visible, centralized, and coordinated Web site and portal that offers timely, standardized information about plant pests and diseases of regulatory significance.	
Conduct audit of existing pest and disease information currently offered via the APHIS Web site.	FY 2009

Design and deploy Web site and portal for information about plant pests and disease of regulatory significance.	FY 2009
Maintain and enhance Web site and portal as needed.	FY 2010 – 2013
Develop cooperative agreements with universities to maximize the use of the internet to address incorrect or misleading program specific information.	FY 2009-2013
Strategy 4. Evaluate opportunities both nationally and in affected or at-risk areas to use social media to support strategic public communications about pest and disease eradication and control programs.	
Develop strategy to utilize social media to support public communications around pest and disease eradication efforts –at the national level to support an ongoing debate about the need for nature of regulatory actions undertaken to address pests and diseases of regulatory concern and at the community level to provide a forum for the active sharing of information about specific regulatory actions deployed in affected and at-risk areas. Identify resources necessary to deploy social media strategies.	FY 2009
Deploy social media strategies as needed to support public communications.	FY 2010 – 2013

GOAL II: To encourage public and stakeholder participation in pest surveillance and detection activities and instill public confidence in PPQ' programs.

Performance Measure:

- Number of volunteers trained.

Rationale: In partnership with the States, PPQ conducts extensive surveillance activities in an effort to detect the presence of exotic plant pests and diseases that pose a threat to U.S. agriculture and the environment. Occasionally, though, some pests elude detection and are discovered, not by State or Federal agencies, but by average citizens (e.g., LBAM, ALB). Similarly, university researchers may discover a new pest of significance, but not report their findings until they are able to publish their research in a scientific journal (sometimes a year after the discovery). By proactively engaging and educating key audience groups (university researchers, students and faculty of land grant universities, extension agents, master gardeners, etc.) about pests of concern and the urgent need to report such findings (and to whom), PPQ would significantly expand its surveillance and detection efforts.

Strategy 1. 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 educational institutions.

Strategy 2. Develop and implement a formal volunteer program to support the Cooperative Agricultural Pest Survey.

Strategy 3. Develop and promote a single, national mechanism (e.g., hotline and web site) to simplify and streamline the reporting of suspected pests and diseases and ensure that reports are funneled to the appropriate authorities.

Strategy 4. Conduct outreach to key stakeholder groups (e.g., scientific societies) to reinforce the importance of active reporting of suspected pests and diseases.

SUMMARY OF ACTIONS (for Goal II)

Action	Target
Strategy 1. 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 educational institutions.	
Assemble additional instructional materials and expand use of curriculum in four additional universities.	FY 2009
Promote availability of curriculum to educational institutions, particularly land grant universities (1890s/1994s) and Hispanic serving institutions.	FY 2009 – 2013
Develop and implement an internship program to promote knowledge about career opportunities in plant protection and provide hands-on experience.	FY 2009 – 2013
Strategy 2. Develop and implement a formal volunteer program to support the Cooperative Agricultural Pest Survey.	
Develop a comprehensive inventory of surveillance activities conducted through CAPS that involve public participation in reporting potentially new findings of specific pests. Examine volunteer programs from other natural resource agencies to determine best practices.	FY 2009

Develop a plan outlining the organizational and operational details required for utilizing volunteers to support and augment ongoing CAPS activities—including potential roles of volunteers, recruitment strategies, organization and management, information management, and implementation strategies.	FY 2009
Implement and manage volunteer program.	FY 2010 - 2013
Strategy 3. Develop and promote a single, national mechanism (e.g., hotline and/or Web site) to simplify/streamline the reporting of suspected pests and diseases and ensure that reports are funneled to the appropriate authorities.	
Evaluate opportunities and challenges associated with implementing a national hotline number and a micro site that would allow online reporting of suspected pest detections (resources, staffing, maintenance, etc.)	FY 2009
Establish a national toll-free hotline number that auto directs callers to the appropriate authority in their State.	FY 2009
Actively publicize number by including on all written, printed, and electronic materials.	FY 2009 – 2013
Strategy 4. Conduct outreach to key stakeholder groups (e.g., scientific societies) to reinforce the importance of active reporting of suspected pests and diseases.	
Evaluate and identify list of target groups that are most likely to undertake the active reporting role and influence peers to do the same.	FY 2009
Arrange opportunities to brief stakeholder groups to increase awareness of PPQ's regulatory activities and the need for rapid reporting of new pest findings.	FY 2009 – 2013

GOAL III: To increase the likelihood that the public will adopt behaviors to help mitigate the introduction or spread of exotic pests/diseases.

Rationale: The United States enjoys a safe and abundant food supply, a strong agriculture sector, and a healthy environment. Few people would think that the simple act of taking firewood to your family cabin by the lake or buying an orange jasmine plant online for your garden or bringing specialty foods home from a visit to another country could possibly have a devastating affect on agriculture or the environment. Yet, any one of these acts could introduce or spread exotic pests and diseases throughout our country. Currently, APHIS has several State and region-

specific social marketing efforts aimed at educating citizens in areas that are either affected or at-risk for certain pests and diseases (ALB, EAB, etc.) about the behaviors they should adopt or avoid to help minimize the introduction or spread of those exotic pests and diseases. Additionally, for many years, APHIS also carried out the Agricultural Quarantine Inspection campaign to educate travelers about the threat foreign pests and diseases pose to U.S. agriculture. And while these efforts have been and continue to be successful, they are limited by their scope and often singular focus, thus creating varying levels of awareness across the nation about the threat of exotic pests and diseases and the role each person has in protecting agriculture and the environment.

Strategy 1. Develop and implement a single, coordinated, national, multi-year public awareness/social marketing initiative to educate the public about the unintended consequences often associated with common behaviors (moving firewood, shipping citrus, traveling internationally, etc.) in an effort to create a sense of personal relevance/responsibility and motivate the public to take steps to minimize the accidental introduction/spread of invasive species/exotic pests and disease.

SUMMARY OF ACTIONS (for Goal III)

Action	Target
Strategy 1. Develop and implement a single, coordinated, national, multi-year public awareness and social marketing initiative to educate the public about the unintended consequences of their actions in an effort to minimize the accidental introduction or spread of invasive species/exotic pests and diseases.	
Identify and evaluate the effectiveness of all previous and ongoing APHIS, State, Industry public education and outreach efforts on invasive species and exotic pests and diseases and in an effort to build on effective initiatives already in place.	FY 2009
Conduct preliminary audience research to establish baseline levels of knowledge, awareness, attitude, and behavior attributes.	FY 2009
Evaluate communications channels and determine high-value opportunities (radio, TV, internet – including social media, other – schools).	FY 2009
Leverage existing partnerships and establish network of Federal, State, industry, university, non-government organization partners (community outreach program) to assist with and carry out education and outreach efforts to public at State, local, and community levels.	FY 2009

Develop campaign brand and core set of messages and information materials (includes Web site)	FY 2009
Conduct annual community outreach partner meeting with partner network; equip partners with messages and materials	FY 2010 – 2013
Maintain partner network (may include portal/collaboration site, monthly conference call/webinar meetings, etc.).	FY 2010-2013
Implement advertising, public relations, media relations, and social media tactics outlined in national integrated communications strategy.	FY 2010-2013
Print and produce information materials.	FY 2010-2013
Maintain Web site.	FY 2010-2013

VI. Enhance Mitigation Capabilities

GOAL: To provide an unencumbered mechanism to determine the most suitable mitigation measures and deploy resources quickly to reduce potential economic and environmental damage and further spread of a detected pest of regulatory significance when deemed appropriate.

Performance Measures:

- Percent increase in the number of participants exercised in PPQs national preparedness training program.

The title of Section 10201 is "PLANT PEST AND DISEASE MANAGEMENT AND DISASTER PREVENTION." Accordingly, a plan to implement this Section must provide flexibility to fund mitigation efforts in order to prevent [plant pest] disasters. In recent discussions with the Specialty Crops Farm Bill Alliance, the National Plant Board, and other stakeholders, who apparently supported this effort for the last six years, it became clear their intent was to provide flexibility to enhance mitigation capabilities and avert large and often late (biologically speaking) requests for emergency funding from CCC. Their goal was to be able to rapidly respond to new pests when outbreaks are manageable. All six elements of the implementation plan, when conducted in a collaborative environment with stakeholders, will lead to lower-cost, more rapid responses to new pests.

Mitigation is an integral part of every plant protection and quarantine program whether the Secretary of Agriculture has declared an emergency or not. Activities such as increasing survey trap densities are an important aspect of rapid response in the case of an exotic fruit fly detection and infestation. This mitigation function is carried out routinely in almost every fiscal year.

PPQ carries out mitigation activities on a daily basis, such as implementing immediate trace back and trace forward initiatives when Smuggling Interdiction and Trade Compliance (SITC) personnel find illegal agriculture products in the market place. Rapid response includes the safeguarding, seizure, and destruction of prohibited products and product recalls.

As a part of rapid response, PPQ routinely issues Emergency Action Notifications and destruction orders. APHIS PPQ's authority to carry out the range of mitigation activities exists as an inherent part of the consolidated Plant Protection Act.

The only reason that the existing basic pest detection program did not carry out a robust agenda of mitigation initiatives was that the basic program never had adequate funding to support them.

The only mitigation function that PPQ does not have routine authority to carry out is pay compensation.

Strategy 1. Build on and improve the current mechanism to assess and decide an appropriate short term course of action to respond quickly to a new detection of a pest of potential regulatory significance.

Rationale: PPQ needs to carefully look at multiple criteria to determine the best use of resources to respond or not to an ever increasing number of new detections of plant pests

including establishing a clear set of parameters of the response until a longer-term and/or multi-state program is designed, funded and implemented.

Strategy 2. Utilize PPQ initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies. Promote the use of the Incident Command System (ICS) as a unified strategy between cooperating agencies in response to plant health emergencies.

Rationale: The time between the detection of an exotic pest and the 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*
- *Mitigation and containment costs*

The 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

Strategy 3. To prepare the agency and collaborative programs in the use of the ICS for plant health response activities by reaching risk-based target levels of capability with the development of a multi-year training schedule.

Rationale: 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. Funding for the building block approach provides for focused improvement in response activities, including survey and detection, regulatory and control methodologies of plant pest emergency responses. In addition, the funding will allow HSEEP qualified personnel within PPQ to assist in plant health emergency start up by mentoring Command and General staff.

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. The New Pest Advisory

Group (NPAG) works with interested and involved parties, surveys the literature, gathers expert opinion, and makes recommendations that are in the best interest of safeguarding American plant resources. Only the PPQ Deputy Administrator (DA) can accept and put the recommendations into effect. NPAG recommendations may be one of the following: collect additional information before a decision can be made to address the new pest; conduct a survey to assess the pest's geographic range, host range, or damage; develop methods to detect, identify, control, or eradicate the pest; recommend no action; recommend an action to eradicate the pest, to quarantine the infected or infested area, to evaluate biological or chemical control for pest management, to prepare and distribute educational information to the public, or to recommend that PPQ refer options and actions to other institutions, such as affected States or industries.

Rationale: An average of 30 new exotic plant pests are introduced to the United States each year. 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.

SUMMARY OF ACTIONS

Action	Target
Strategy 1. Build on and improve the current mechanism to assess and decide an appropriate short-term course of action to respond quickly to a new detection of a pest of potential regulatory significance.	
Work with the NPAG, that engages scientists worldwide, State departments of agriculture, and other federal agencies to obtain the most recent information, and develop a process to address emergency response activity to be funded by Section 10102.	FY 2009
Create a decision-making framework that takes into account the wide number of factors (scientific, economic, social, environment, etc.) that need to be considered when making decisions regarding the appropriate response to a pest.	FY 2009
Communicate decision-making framework and the parameters of rapid response to be funded by Section 10102.	FY 2009
Strategy 2. Utilize PPQ initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies. Promote the use of the ICS as a unified strategy between cooperating agencies in response to plant health emergencies.	
Fund plant health emergency response activities according to initial response protocols.	FY 2009-2013
Perform After Action Conference on bi-yearly basis to	FY 2011, 2013

ensure response efforts are improving.	
Strategy 3. To prepare the agency and collaborative programs in the use of the ICS for plant health response activities by reaching risk-based target levels of capability with the development of a multi-year training schedule.	
Establish Plant Health Exercise Building Team.	FY 2009
Develop capability and objective list for PPQ program trainings based on after action reports of plant health responses and improvement requests.	FY 2009, 2011, 2013
HSEEP qualified personnel will actively mentor command and general staff on plant health emergencies to ensure training and ICS protocols are followed.	FY 2009-2013
Expand improvement planning with capability based schedule and ICS testing, training, and exercise program.	FY 2009-2013
Strategy 4. Provide technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of NPRG for the potential introduction of exotic plant pests.	
Conduct assessment of high-risk pests.	FY 2009
Communicate to stakeholders available NPRGs.	FY 2009-2010
Disseminate to stakeholders available NPRGs.	FY 2009-2013
Benchmark use of NPRGs against actual field use.	FY 2009-2013
Conduct needs assessment of NPRGs with each State based on a commodity.	FY 2011-2013