

# Safeguarding American Plant Resources

## A Stakeholder Review of the APHIS-PPQ Safeguarding System

**July 1, 1999**

**Conducted by the National Plant Board (NPB)  
at the request of the  
United States Department of Agriculture  
Animal and Plant Health Inspection Service  
Plant Protection and Quarantine  
(USDA-APHIS-PPQ)**

***SUMMARY***    *Safeguarding American Plant Resources*

The National Plant Board (NPB) is an organization of State plant regulatory agencies that provides leadership in pest prevention and management and strives to unify efforts to protect agriculture, forestry, horticulture, and the environment from harmful invasive plant pests. Through collaboration with its members, various Federal and State agencies, industry and the general public, the NPB works to ensure an abundant source of food, fiber, plants, plant products, and an economically viable agricultural industry.

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*The problem with the future is that it isn't what it used to be.* Paul Valery

A global marketplace is the future, and that future has arrived. In this marketplace, international travel and trade have not only made borders irrelevant, but also dramatically increased the risk of invasive plant pest introductions. The challenge to the United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (APHIS-PPQ) is defining its role in this environment, today and far into the future. To this end, APHIS-PPQ policies and procedures must be transformed to meet the demands of a world economy shaped by technological change, international economic integration, strategic alliances and partnerships, and domestic market maturation.

The future relevance, indeed survival, of APHIS-PPQ hinges on molding the Agency into an organization that effectively performs three important functions. First, and foremost, is the safeguarding of America's abundant plant resources from invasive plant pests. Second, is the expeditious and secure admission of an increasing volume of goods and passengers into the United States. Third, is the facilitation of agricultural trade in compliance with international obligations and standards. There is deep concern that the Agency cannot effectively execute these functions into the future without instituting profound changes.

The current safeguarding system possesses components that, with modification, can meet the demands that the global marketplace has created. Specific changes that are required and how to accomplish them are the subject of this stakeholder review of the APHIS-PPQ safeguarding system.







# Introduction

Safeguarding America's vast and important plant resources from attack by invasive plant pests requires attentiveness and swift intervention. Central to this goal is the need for a seamless process by which all safeguarding activities mesh to form a barrier to the establishment of invasive plant pests. Offshore and port of entry activities are used to prevent entry of both plant and animal pests into the country, whereas domestic programs are necessary to detect and respond to any breach of these exclusion mechanisms. A continuous flow of information about pests that threaten American plant resources from abroad and likely pathways for their entry is vital for predicting regions of the United States that are at highest risk for invasions. Identifying high-risk areas allows for funds to be directed where they can be used most efficiently to erect ex-



clusion barriers and target detection activities. A nationally coordinated surveillance program that uses suitable technology and targets high-risk areas increases the probability of detection before an infestation reaches an unmanageable size. Rapid response to eradicate invading pests significantly reduces the cost of control programs and the direct economic losses resulting from quarantine restrictions. In addition, rapid response reduces negative effects that invasive plant pests may have on endemic and indigenous species, thereby maintaining native biodiversity.

The American plant safeguarding system is focused on preventing the entry and establishment of invasive plant pests in the form of insects, plant diseases, noxious weeds, and other injurious organisms. Plant resources are defined as agricultural food and fiber crops; horticultural crops such as fruits, vegetables, nursery and floral plants; forestry resources; and natural resources including native species and ecosystems. Historically, agriculture has been viewed as the primary beneficiary of the safeguarding system, however, the economic benefits of protecting plant resources are felt much more broadly. Among the most obvious benefits are reductions in costs associated with control programs in terms of dollars spent and pesticide usage, with its associated effects on human and environmental health. Exclusion of invasive plant pests that may adversely impact natural ecosystems provides protection for native flora and fauna.

The United States Department of Agriculture, Animal and Health Plant Inspection Service, Plant Protection and Quarantine (USDA-APHIS-PPQ) is the primary Federal agency charged with overseeing the plant safeguarding system. Responsibility for preventing entry of invasive plant pests into the United States was delegated to the Agency by the United States Congress through statutory law contained in eleven separate acts. Administrative law detailed in the Code of Federal Regulations includes quarantine and inspection requirements that provide the framework for orderly movement of agricultural products, other commodities, and passengers across U.S. borders. Regulatory requirements must be supported by scientifically-based risk assessment without being overly restrictive to trade. The challenge to APHIS-PPQ lies in designing, implementing, and evaluating a safeguarding system within the framework of an ever-changing global economy.

Recent breaches of the APHIS-PPQ safeguarding system that led to entry of dangerous invasive plant pests into the U.S. have raised concerns that current organizational policies and procedures are inadequate to execute Agency functions. Multiple exotic fruit fly infestations in California and Florida, the Asian longhorn beetle entry into New York and Illinois, the introduction of the Asian gypsy moth in North Carolina and Oregon, and citrus canker infestations in Florida all serve to demonstrate the increased pressures and risks brought about through expansion of global travel and trade. The result has been a constant state of emergency for APHIS-PPQ, State plant protection agencies, and key stakeholders as they work cooperatively to manage invasive plant pests that not only place commercial plants and plant products at risk of economic damage, but also disrupt natural ecosystems.

Recognizing the need to enhance the effectiveness of current safeguarding procedures, the Agency sought input from stakeholders through a formal review process. Under a cooperative agreement with APHIS-PPQ, the National Plant Board assembled a panel of external stakeholders composed of representatives from academia, government, industry, and non-governmental organizations. The Review Panel was composed of two Chairpersons and five Committee Chairs, as well as a Project Advisor and Project Specialist. The Review Panel was assisted by thirty-three external stakeholders assigned to four committees. The APHIS-PPQ Steering Committee provided guidance, oversight, and logistical support throughout the review process.

Committee charges included, but were not limited to, answering the following queries.

### **Pest Exclusion:**

- What are the most effective activities to exclude invasive plant pests?
- What is the best way that offshore activities can maximize the efficacy of the safeguarding system?

### **Pest Detection and Response:**

- What are the most effective approaches for detection of invasive plant pests that have entered the U.S.?
- What is the most appropriate role for APHIS-PPQ and its stakeholders in managing an invasive plant pest that has entered the U.S.?

## **International Pest Information:**

■ What methods are used for gathering and disseminating information to maximize the efficacy of the safeguarding system?

■ What worldwide databases are available for identifying and determining the potential risk and impact of global threats to American plant resources?

## **Permits:**

■ How should the permit system function to ensure that the safeguarding system protects the U.S. from invasive plant pests?

■ What practical changes, if any, are needed in the permit system to ensure that the safeguarding effort protects the U.S. from plant pest invasion?

Initial committee findings and recommendations were submitted to 65 external stakeholders whose comments were considered for incorporation into the final document. The Review Panel has offered numerous recommendations intended to improve and transform the safeguarding system. The Panel will be available as needed to clarify recommendations and *support* their implementation. Budgetary concerns and unaddressed issues, which are outside the scope of this Review, will be considered during the implementation phase.

Transformation of APHIS-PPQ into an Agency that effectively safeguards American plant resources in a global marketplace will require profound changes. The APHIS-PPQ must address fundamental components of organizational design and leadership; risk-based management; partnership

formation; research and technology development; and information systems. The Review Panel addressed core competencies in these areas as overarching issues and as specific recommendations in the committee reports.



# Overarching Issues

## **AUTHORITIES AND OBLIGATIONS**

Responsibility for preventing entry of invasive plant pests into the United States was delegated to the United States Department of Agriculture, Animal and Health Plant Inspection Service, Plant Protection and Quarantine (USDA-APHIS-PPQ) by Congress. The APHIS-PPQ has sound legislative authority for its programs; however, this authority is fragmented into eleven separate statutes.

Because, over time, these laws were passed in response to specific plant health crises many of them are unrelated. Overlaps and gaps in this array of statutes often leave the Agency unsure of which authority to apply in any given case. Regulations enacted under these statutes, as contained in the Code of Federal Regulations, include quarantine and inspection requirements to manage transport of commodities and passengers across U.S. borders. Many of these regulations are outdated and in need of review to determine their relevance.

Pending legislation and policy initiatives, specifically, the Plant Protection Act and Executive Order 13112 on Invasive Species, could have a direct impact on safeguarding activities. The Plant Protection Act, as introduced in the 106th Congress as H.R.1504 and S.910, is a comprehensive legislative proposal developed over the last decade to eliminate authority gaps and strengthen the safeguarding system. The Executive

Order on Invasive Species (EOIS) is intended to coordinate and enhance Federal government efforts in preventing introduction of invasive species and providing for their control. The EOIS calls for the appointment of a council, chaired by the Secretaries of Agriculture, Interior and Commerce and composed of key Federal agencies charged with coordinating activities and developing an Invasive Species Management Plan. As the primary Federal agency responsible for safeguarding plant resources, APHIS programs will be fundamental to the success of the EOIS. The Plant Protection Act initiative is supportive of, and compatible with, implementation of the Executive Order on Invasive Species.

The safeguarding framework extends beyond U.S. borders through APHIS-PPQ participation in setting international plant health standards and in trade negotiations with partners worldwide. The United Nations Food and Agriculture Organization (FAO) and the World Trade Organization (WTO) are the primary sources of international agreements concerned with plant protection measures within the context of global trade. The International Plant Protection Convention (IPPC) is a multilateral treaty under the direction of the Director-General of the FAO and administered through the IPPC Secretariat within the FAO Plant Protection Service. The purpose of this treaty is to secure common and effective action to prevent the spread of plant pests and plant products and

to promote measures for pest control. The IPPC is recognized by the WTO in the Agreement on the Application of Sanitary and Phytosanitary Measures (WTO-SPS) as the source for international standards for phytosanitary measures affecting trade.

The WTO-SPS Agreement seeks to protect member countries while ensuring that safeguarding requirements do not become unjustified barriers to agricultural trade. Member countries have agreed that quarantine actions will derive from science so that the level of protection is appropriate to the risk posed. Actions must preserve safeguarding capabilities, while meeting international standards of harmonization, equivalence, and transparency. The IPPC provides a framework and forum for international cooperation and technical exchange through regional and national plant protection organizations. The North American Plant Protection Organization (NAPPO) was created under IPPC authority and formalized with a cooperative agreement between Canada, Mexico, and the United States. The objective of this regional plant protection organization is to promote cooperative efforts between member countries to prevent the entry, establishment, and spread of regulated plant pests while facilitating trade in plants, plant products, and other regulated articles. To this end, NAPPO develops and adopts regional standards for harmonization of phytosanitary measures that provide for safe movement of regulated articles into and within the NAPPO region. NAPPO supports the work of the North American Free Trade Agreement (NAFTA) and the Sanitary and Phytosanitary Measures Committee and participates in the Inter-American Coordinating Group in Plant Protection.

### **The Panel recommends that APHIS-PPQ:**

■ **Work with Congress and stakeholders toward enactment of the Plant Protection Act, as introduced in the 106th Congress as H.R. 1504 and S. 910.** This comprehensive statute will provide a clear, streamlined, and modern statutory framework, eliminate authority gaps, and facilitate the achievement of pest safeguarding goals, including enforcement and investigative authorities.

■ **Participate fully in the implementation of the Executive Order 13112 on Invasive Species.** As the primary Federal agency responsible for safeguarding plant resources, APHIS-PPQ programs will be fundamental to the success of the Executive Order on Invasive Species. The Panel recognizes that APHIS-PPQ has taken steps to assure Agency participation by formation of an Invasive Species Committee and by temporary assignment of personnel to the Department of Interior.

■ **Take a leadership role in the international plant safeguarding arena.** The Agency should set an example to the international community through a commitment to continually improve the American safeguarding system. Providing a leadership precedent for other countries includes full support and implementation of the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (WTO-SPS). The existing text of the WTO-SPS agreement represents a delicate balance of rights and obligations which, as presently interpreted, is consistent with pest safeguarding goals and a scientifically-based approach for assessing and managing pest risks. The Agency should take steps to assure that the WTO-SPS Agreement is not reopened during WTO negotiations in 1999. Leadership should also be

shown by encouraging the U.S. State Department to provide official notification to the United Nations Food and Agriculture Organization that the U.S. accepts the revised text of the International Plant Protection Convention.

## **RISK-BASED MANAGEMENT**

One of the most important emerging roles of government is the regulation of risks arising from an expanding and complex world economy. Regulatory agencies intervene in the global marketplace to protect the public from undue risks such as the entry and establishment of invasive plant pests. International trade agreements, such as the General Agreement on Tariffs and Trade-Uruguay Round, contain provisions for the use of phytosanitary standards and quarantine policies that address risks posed by international movement of plant products and their associated pest organisms. To prevent regulations from impeding international trade, they must be based on scientific principles, justified by risk assessment, and provide an appropriate level of protection. Analysis of risk must, therefore, be incorporated into all regulatory decisions and policies. Indeed, the APHIS-PPQ mandate of safeguarding plant resources from invasive plant pests can only be fulfilled if risk management expertise is resident at all levels within the Agency.

The United Nations Food and Agriculture Organization (FAO) International Plant Protection Convention (IPPC) is recognized by the World Trade Organization as the source of international standards for phytosanitary measures. In this capacity, IPPC has provided guidelines for conducting scientifically-based pest risk analyses to determine the potential for invasive plant pests to gain entry on a given plant product.

Pest risk analysis does not, and cannot, determine what constitutes an appropriate level of protection or, conversely, an acceptable level of risk. These decisions must be made and justified by each country. The challenge for regulatory agencies is to develop a methodology to adequately, consistently, and transparently assess, manage, and communicate all risk factors so that decisions are fully justified and legally defensible.

The goal of the risk analysis process is to identify quarantine level pests based on rigorous scientific and economic analysis. Through this process potential entry routes are identified and both economic and environmental impacts are estimated. The pest risk analysis process is conducted in three phases: risk assessment, risk management, and risk communication. Risk assessment estimates the pest risk potential based on the likelihood that the organism will enter and cause harm. Risk management evaluates proposed methods to bring the risk within acceptable levels by reducing the risk potential or elevating the level of protection. Risk communication is the means for conveying risk perceptions, characterizations, and proposed management strategies to interested parties. Communication should occur simultaneously with the assessment and management phases so that the risk analysis process becomes a collaborative effort between APHIS-PPQ and its stakeholders.



The major obstacle in the pest risk analysis process is insufficient or unreliable data. Risk values used to predict pest introduction are often based on highly subjective and uncharacterized expert judgment. The APHIS-PPQ risk assessment process does not adequately describe the uncertainty present in the process, nor does it list assumptions on which subjective judgments or models are based. Many aspects of the process are overly simplistic as illustrated by impact analysis that is limited to the host proposed for entry, not the entire host range; dispersion that is based solely on geographical suitability, not demographic factors; and colonization predictions that consider commercial production areas, but not urban settings. Clearly, APHIS-PPQ cannot predict or manage risk if it is not adequately described.

**The Panel recommends that APHIS-PPQ:**

■ **Broaden the knowledge base for evaluating pest risk.** Because the major obstacle to conducting pest risk analyses is a paucity of reliable data, broadening the knowledge base is imperative. Among several means of accomplishing this are: upgrading resource lists and pest interception databases; increasing access to scientific literature; developing reciprocal agreements for information sharing among international organizations; incorporating scientific consultation into the risk assessment development process; and funding needed research, particularly on invasion biology.

■ **Continuously improve, expand, and implement its pest risk analysis process.** The quest for efficiency and transparency requires development of pest risk analysis models that incorporate and standardize levels of information needed to perform the

analysis. Models that include specific categories of pests and numerous introduction scenarios are of utmost importance. Cost/benefit analysis models should be used to incorporate social sciences and economic theory into the risk management process. Similarly, APHIS should explore models for considering non-economic impacts such as harm to native species and ecosystems. Continuous improvement of the risk analysis models will be required and staff should receive appropriate training to assure that this occurs. The Agency should participate fully in the revision of IPPC international standards for phytosanitary measures and Guidelines for Pest Risk Analysis.

■ **Encourage staff involvement in the risk analysis process.** Educating staff on the importance of risk-based decisionmaking should allow them to work more effectively with stakeholders in identifying issues, developing the period for risk assessment completion, and developing risk communication strategies. Empower risk assessment staff to assign priority to the risk analysis workload and provide freedom to assess and assign risk solely based on scientific judgment.

■ **Expand risk communication efforts.** Expansion of APHIS-PPQ risk communication, particularly with regard to stakeholder collaboration prior to rulemaking, is of particular importance. Conflicting interpretations concerning the nature and significance of risk often result in misunderstandings. Collaboration can enable informed decisionmaking by bridging knowledge gaps and by facilitating an understanding of risk perception and values.



## **LEADERSHIP/ MANAGEMENT**

Proficient execution of the APHIS-PPQ safeguarding mandate requires a well-defined mission and a practical organizational design. Defining the Agency's mission in a constantly changing global marketplace and then designing an organizational structure that allows the realization of that mission will not be an easy task.

External forces will have a profound effect on the outcome because APHIS-PPQ does not function in isolation. Indeed, the Agency operates within national and international arenas where decisions are influenced by political and economic pressures as much as they are by science.

Leadership must not only recognize the changeable nature in which the Agency operates, but also incorporate flexibility into the organization to meet the challenges that change presents.

The primary focus of APHIS-PPQ must remain the one on which it was founded, safeguarding America's plant resources from invasive pests. While not inherently conflicting, its role in trade facilitation often appears incompatible with the safeguarding function. Clarifying the respective roles of safeguarding and trade facilitation is central to improving overall operation and morale of the Agency.

The APHIS-PPQ leadership must build trust within the Agency, first by promoting stability within the leadership ranks and, then, through a commitment to value and empower employees. Only stable leadership can provide the clear direction and support that empowers employees to manage themselves in a responsible and accountable workplace. Unfortunately, reorganizations and frequent temporary duty assignments to fill leadership positions have created instability in the organization

and degraded the confidence of personnel. Stability and continuity of leadership are crucial to restoring trust in management at all levels. Once established, trust between management and employees will allow upper management to lead the overall safeguarding effort as executives and leave management of specific activities to employees. Empowering employees to make decisions appropriate to their level of expertise will enhance the ability of the Agency to deliver quality service in a timely manner.

In order for employee empowerment to be effective, personnel must be assigned to positions for which they are best suited. Frequent staff rotations, the direct result of downsizing efforts and vacant positions, have placed personnel into jobs even though they do not have necessary skills and technical training to execute required duties. Fragmentation of the Agency and deterioration of staff morale have resulted from these actions. This situation must be corrected by clearly defining duties and responsibilities of all positions and then filling them with highly qualified individuals. This, in turn, will allow management to shift responsibility to appropriate staff. Sharing responsibility allows staff to gain a degree of control over decisions in the workplace and their jobs become more fulfilling. This can be further enhanced by development programs that allow staff to continually upgrade skills so that the Agency can meet future challenges.

### **The Panel recommends that APHIS-PPQ:**

■ **Revise or clarify the Agency's mission.** Assemble a Leadership Coalition comprised of staff representing all levels of the organization. The Coalition will revise and clarify the mission and identify the organizational values associated

with this mission. This will contribute to the reconciliation of the Agency's safeguarding and trade facilitation roles. To this end, external resource persons should be employed to provide guidance to the Coalition and Agency leadership during this process. The Coalition recommendations should be circulated to all employees for comment prior to formal adoption. Stakeholders should be kept informed of the Coalition's progress.

■ **Design a practical organizational structure that reflects Leadership Coalition recommendations on the APHIS-PPQ mission.** The mission statement will provide the foundation for an organizational structure that allows the Agency to operate effectively in a global marketplace. Dynamic leadership that instills trust and empowers employees is crucial to transformation of the APHIS-PPQ organization. An agreement that embodies the shared commitment between management and employees should be developed as a symbol of this trust. This commitment agreement should contain specific management commitments to value, support and empower employees and provisions for employee responsibility and accountability.

The Agency should identify which of its activities serve the mission and which do not. This may require a movement towards decentralization and outsourcing as activities that do not directly fulfill the mission, or which cannot be effectively executed, are reassigned. In this process, steps should be taken to harmonize the Agency's import and export standards to bring both into compliance with principles of plant quarantine and international standards.

■ **Create a learning environment**

**within the Agency.** Providing opportunities for employees to upgrade skills and technology training will enhance the current and future productivity of the Agency. Staff development programs should focus on employee training and education to develop skills related directly to accomplishing the Agency's mission.

■ **Use the APHIS-PPQ workforce vision to guide personnel decisions.** The workforce vision includes goals to improve hiring practices, match staff skills with position descriptions, discover leadership potential for succession planning, foster workforce diversity, and to reduce overtime by assigning officers and technicians appropriately. Strategic hiring and succession planning may require going outside the Agency for qualified persons. Expanded use of intern programs and the Inter-Governmental Personnel Act may provide additional sources and opportunities for management to find and evaluate potential permanent employees. Partnership with the union to develop a strategy for staffing flexibility is recommended.

## **STAKEHOLDER COLLABORATION**

Agency stakeholders are groups or individuals with an interest in the safeguarding of American plant resources. Direct stakeholders include other Federal agencies, national plant protection organizations, State plant protection agencies, academia, forestry, industry, and non-governmental organizations. In reality, all of society benefits from the exclusion of invasive plant pests and must bear the consequences of introductions. These consequences may take the form of direct economic costs such as the tax burden for management programs and increased costs of food and other plant products, or indirect costs like the reduced recreational values of public and private lands.

In a climate of change and uncertainty, the success of the safeguarding system will depend on the commitment and participation of all of its stakeholders. Educating stakeholders on the value and necessity of the plant safeguarding system will encourage their participation. Forging lines of communication in the decision making process will facilitate partnership through trust and mutual respect. As partners in the safeguarding system, stakeholders must honor the risk assessment process and work cooperatively to improve it when necessary. The APHIS-PPQ must, in turn, act responsibly, decisively, and consistently in dealing with stakeholders.

**The Panel recommends that APHIS-PPQ:**

■ **Establish a stakeholder registry to facilitate communication.**

Communication with interested parties before and during critical decision making is necessary if the risk analysis process is to be a collaborative effort. The establishment of a stakeholder registry that is open to any organization or interest group in the U.S. would facilitate communication with interested parties.

Establishing a process and criteria for assigning “routine” or “non-routine” status to decisions subject to rule-making and a process for stakeholder collaboration under each would provide clear guidelines for stakeholder participation. Electronic notification and Internet postings would be used to notify and seek input from stakeholder registry participants on policy options and “non-routine” decisions, prior to initiating rule-making.

■ **Strengthen and expand collaborative efforts with key stakeholders.**

The National Plant Board makes a significant contribution toward mu-

tual responsibilities associated with the detection and management of invasive pests. Establishing a support mechanism to facilitate interaction and support between APHIS-PPQ and the National Plant Board will ensure that this input continues. The resource commitment necessary to establish and maintain this structure should be shared between APHIS-PPQ and the National Plant Board under a cost-share formula.

■ **Encourage stakeholder involvement in detection activities.**

Stakeholder involvement in identifying and reporting pests would benefit the Agency by providing a greater “field” presence. This would increase the probability that an introduction could be detected and eradicated at the earliest possible time.

## **BUDGET AND RESOURCE ALLOCATION**

Safeguarding American plant resources from the increased risk of invasive plant pest entry and establishment requires not only a well-defined mission and organizational design, but also the funds to implement essential activities. Historically, APHIS-PPQ resources were provided in line item program funding under strict control by the legislative and executive branches. These funds were appropriated on an annual basis and funds that were not obligated in that fiscal year were lost to the Agency. Recently, Congress designated certain line items, e.g., for grasshopper control and boll weevil eradication, as no-year funds so that balances could remain available to the Agency until spent, and made Commodity Credit Corporation funds available for emergency eradication programs upon authorization of the Secretary of Agriculture.

Financial processes for APHIS-PPQ

were drastically altered when the Agency was authorized to collect user fees to fund Agricultural Quarantine Inspection (AQI) activities. User fees, based on an estimated cost for the service provided, were deposited into a dedicated account to be spent on these services. Congress kept strict control over user fee spending authority by making expenditures subject to annual appropriations.

Unfortunately, annual appropriations were insufficient to conduct needed exclusion activities and unappropriated user fees accumulated in a no-year reserve account. To address this problem, modification of the spending authority was made to allow the Agency full, direct access to AQI user fee collections exceeding \$100 million. However, Congressional appropriations for AQI user fee funding have fallen short of this amount, once again leaving a funding shortfall. After FY2002, the Agency will have full, unlimited, direct access to all AQI user fee collections without further appropriation or approval, that is, unless Congress modifies access to this fund.

APHIS-PPQ line item funding has experienced a downward trend in the recent past. For example, domestic programs and Methods Development have experienced steady decreases in their funding base even as numerous emergency actions have put new demands on these units. Obtaining additional funds through the traditional Federal budget process is unlikely within the current budget reduction framework. The Agency must, therefore, institute dramatic improvements in resource use through improved management and by pursuing supplemental funds for targeted purposes. This is especially important to gaining support from stakeholders for new or redirected funding. The APHIS-PPQ should collaborate with other Federal and State agencies to strengthen safeguarding activities such as pest detec-

tion and emergency response. The Executive Order on Invasive Species provides an opportunity for enhanced safeguarding efforts by coordinating complementary capabilities, assets, and experiences of Federal agencies. Similarly, APHIS-PPQ could benefit from alliances with foreign plant protection agencies to delineate international resources and approaches to addressing regional safeguarding concerns.

### **The Panel recommends that APHIS-PPQ:**

■ **Base resource allocations on risk evaluations.** Information derived from pest risk analyses should be used to revise funding and staffing allocation guidelines. Focusing resources on the development of exclusion, detection, and response technology for invasive plant pests that have a high probability of entering the U.S. would allow for early detection and rapid response. In addition, the identification of high-risk pathways will allow the Agency to conduct appropriate exclusion and detection activities. Targeting high-risk, sentinel areas will produce the greatest impact per dollar invested.

■ **Advocate establishment of a no-year fund, to be replenished year to year, to fund emergency eradication efforts.** Adequate baseline funding is critical for the implementation of effective response to invasive plant pest incursions. It is impossible to predict the number, location and time of detection events, so that availability of Federal contingency funds is necessary to ensure an immediate response. This fund would be accessed at the discretion of the Secretary of Agriculture, given sufficient scientific basis for an achievable outcome. This fund would need to be adequately capitalized, and APHIS should be provided investment authority to properly maintain it.

■ **Expand collection of user fees to support service delivery.**

Agricultural Quarantine Inspection (AQI) user fees currently cannot be used for invasive plant pest detection outside of ports of entry environs. In many cases the threat of invasive plant pest introductions extends well beyond the initial entry point. This is especially true in the case of cargo containers that are devanned at remote final destinations. There is no AQI user fee on cargo containers and no authority to apply such a fee to invasive plant pest detection. Cost recovery or outsourcing of activities that do not make a direct contribution to the safeguarding mission may provide a means of generating funds or reducing expenditures.

■ **Plan for strategic application of Agricultural Quarantine Inspection User Fee revenues.**

Normal discretionary spending limitations do not favor initiatives necessary to facilitate major program changes. Application of new baggage and truck x-ray technology would improve invasive plant pest exclusion activities while expediting passenger and cargo movement and reducing staffing requirements. This is a legitimate investment of user fees, including any account reserves that become available in FY2003. Strategic planning is required immediately to gain support for critical program investments in new technology.

■ **Pursue an increase in civil penalties for quarantine violations.**

Penalties for quarantine violations should be increased and consistently assessed if they are to be a deterrent to illegal activities that may lead to introduction of invasive plant pests. Funds generated from penalties should be used to support activities aimed at reducing quarantine violations, e.g., public education programs and technology development.

## **RESEARCH AND TECHNOLOGY DEVELOPMENT**

Successful safeguarding of American plant resources requires application of appropriate technology for exclusion, detection, and response activities. Recognizing the need to strategically address plant pest issues, the Agency established the Center for Plant Health Science and Technology. One goal of the Center is coordination of Methods Development laboratories to identify appropriate methods and technology for safeguarding activities. The APHIS-PPQ Methods Development Unit must have strong scientific and technical staff that possess expertise for critical review of scientific literature and application of technology to solve real problems. The housing of this expertise within the Agency would be beneficial to both the Agency and State cooperators.

When appropriate technology is unavailable, APHIS-PPQ must provide it through resident expertise or collaborative efforts. While it is not the responsibility of APHIS-PPQ to conduct basic research, the Agency does have a duty to recognize and apply technological advances. This includes appropriate quality control parameters to assure that methods are effective and employed correctly. The USDA Agricultural Research Service (USDA-ARS) is responsible for basic research directed toward safeguarding technology. However, APHIS and ARS have not cooperated on development of a comprehensive plan for safeguarding activities. Their interaction appears to be one of competition, not collaboration, and results in little effective communication between the agencies. Methods development expertise from USDA-ARS, previously housed at APHIS-PPQ locations, has been withdrawn or reassigned. This has reduced interaction between APHIS-PPQ and USDA-ARS and been detrimental

to new technology development. Applied research initiatives identified by the Agency are unlikely to be met by external research organizations unless funds are provided through cooperative agreements or research grants.

**The Panel recommends that APHIS-PPQ:**

■ **Establish a mechanism for determining research priorities.** Utilize the Center for Plant Health Science and Technology and the National Invasive Plant Pest Detection and Response Coordinator, recommended within the Detection and Response Report, to determine research priorities. This process should be a collaborative effort among agencies within USDA, other Federal agencies, academic institutions, and industry research organizations and include representatives from the regional detection and response committees, International Services, and APHIS management staff. This research prioritization committee should determine specific technology needs and determine the best course of action to meet those needs.

■ **Form stronger partnerships with external research agencies to meet technology needs.** Encourage USDA-ARS, through administrative channels, to conduct research that meets the practical needs of APHIS-PPQ. Among several proposed mechanisms to accomplish this are: facilitate communication by establishing an APHIS-PPQ liaison to USDA-ARS; relocate USDA-ARS and Forest Service researchers to APHIS-PPQ; include a USDA-ARS representative on the Board of Directors of the Center for Plant Health Science and Technology; and establish cooperative arrangements with USDA-ARS staff to conduct the required research. The Agency should participate in international technology development pro-

grams as a means of encouraging international cooperation and information sharing.

■ **Provide adequate funding resources for technology development.** The APHIS-PPQ and State plant protection agencies cannot exclude, detect, or control invasive plant pests without the proper tools. In a time when pest pressures demand more effective and efficient technology, the Methods Development Unit must receive adequate operating funds. To this end, funding levels and resource allocations to Methods Development should be increased so that staff can put useable tools into the hands of action agencies. The Agency should implement a strategy in line with industry standards of allocating a budget percentage to Research and Technology Development. Methods development for programs at ports of entry or de-vanning sites could be funded from user fees on cargo and containers.



## **PUBLIC INFORMATION AND EDUCATION**

Widespread public acceptance of plant safeguarding activities is dependent on understanding their importance in protecting our natural resources. Educating the public is an important mechanism for gaining the support necessary to conduct successful pest

exclusion and response programs. The traveling public must be educated about requirements for bringing plants and foodstuffs into the U.S. More importantly, travelers must be made aware of the economic and environmental risks associated with violations of those rules. Most travelers believe they are carrying a harmless memento of their vacation and are shocked to discover that those beautiful plants harbor a potentially destructive pest. Few people realize the devastating consequences of introducing invasive plant pests along with their souvenirs. The APHIS-PPQ “Don’t Pack a Pest” message is very effective in communicating these risks, but wider distribution is needed to meet the growing number of international travelers.

Public information campaigns are a critically important part of emergency response programs. Explaining the nature of the problem and the need for eradication to the public sector can be an effective way to gain support, or, at least, minimize opposition, for these efforts. Collaboration of APHIS-PPQ with State plant protection officials and stakeholders will help emphasize that the costs of invasive plant pest introductions impact them as well as the agricultural industry. Previous collaborative efforts of this type have been effective in targeting messages and delivering them to the appropriate audiences. The Executive Order on Invasive Species provides an opportunity to involve additional organizations to present a united message on the potential dangers of invasive plant pests.

**The Panel recommends that APHIS-PPQ:**

■ **Develop programs to educate the public on the dangers of importing invasive plant pests.** Education programs should be multifaceted so that they can reach the maximum number

of people and are specifically designed for target audiences. Classroom curriculum programs that involve the pest risk message and eradication information are methods for reaching students and, through them, their parents. A national symbol for pest and disease exclusion activities, similar to Smokey the Bear, would further emphasize this message. Public awareness programs that focus on pest exclusion efforts, such as “Don’t Pack a Pest”, target the traveling public.

■ **Develop public information programs for safeguarding activities.** The APHIS-PPQ public affairs effort currently in place to respond to emergency situations and eradication programs serves an important role in the safeguarding system. Public information efforts should, however, be extended to detection programs, permitting requirements, and the availability of international information systems.

■ **Establish a national public education committee.** The national public education committee would include representatives from State government, industry, and non-governmental organizations. This committee would act in an advisory capacity to assist APHIS public affairs staff in crafting public education and information campaigns. Professional public relations firms with experience in crisis management programs should be employed to assist in the development of campaigns for controversial programs such as eradication efforts and weed control.





# SECTION II

# PEST EXCLUSION

# COMMITTEE

Trade expansion and technological advances in transportation that actually facilitate successful invasive plant pest entry and establishment will likely continue to accelerate. Despite increases in resources and staffing, the current system is unable to cope with the increasing frequency of introductions and resulting economic damage. Impacts include increased costs of production, reduced market access and retention, perceptions of poor product quality due to concerns over pest damage and pesticide residues, and natural resource disruption. A new approach to exclusion is needed, one that fosters development of strategies that will continue to prevent the entry of invasive plant pests in harmony with international trade obligations and opportunities, while recognizing that a healthy agricultural system is dependent on a healthy environment and natural resource base.

Based on the best available data from agricultural quarantine inspection monitoring (AQIM) and other survey data, the pest invasion potential appears to move from greatest to least in the following order: smuggled products, air cargo, reefer cargo, passenger baggage, and private air and sea craft. It is clear that while port of entry inspection must continue to play an important role, the historic view that this activity can function as the focal point for exclusion must be abandoned. A new risk based management strategy that requires compliance and mitigation of pest risk at origin and an indirect, informed compliance approach at ports of entry

coupled with expanded inspection at destination can both reduce risk and enable expedited entry. Adequate port of entry inspection will require increased and expanded use of technology. APHIS-PPQ must increasingly focus on identifying new pest pathways and developing appropriate interdiction strategies. Agricultural Quarantine Inspection (AQI) and domestic program staff must be cross-trained to facilitate inspections at destination.

There is a need to modernize and harmonize APHIS plant quarantines and associated regulations to assure their adequacy to effectively address current and emerging invasive plant pest introduction pressures and to assure adherence to international obligations. One of the more important disparities under current regulations is that propagative plant materials are presumed safe unless found otherwise and listed as prohibited or restricted in the regulation. Fruits and vegetables, though presumed safer, *a priori*, are treated under the more restrictive approach of presumption of hazard, and thus are prohibited, unless found to be safe. Recent revisions to the International Plant Protection Convention provide for the development of regulations targeting serious, but non-quarantine, pests under certain circumstances (see regulated non-quarantine pest definition in Glossary).

Pest risk mitigation, pre-clearance, and certification at the point of origin, i.e., offshore, are the most viable

approaches to pest exclusion and mitigation. Necessary and associated activities include the identification of invasive plant pest and disease threats, development of preventative and control measures, and directed research. These activities also provide a means of identifying potential high risks so that appropriate preparedness and response strategies can be developed in case of, or in advance of, an invasive pest introduction. The U.S. needs to pursue harmonization of its plant quarantines and other mitigation strategies with both Canada, Mexico, and the Caribbean Basin and develop a regional approach to pest exclusion. The historical open-door policy between the U.S and Canada is obsolete as evidenced by numerous documented introductions of invasive plant pest species and host material from Canada into the U.S.



APHIS, in addition to its quarantine enforcement duties, performs various services for both importers and exporters. These include development of

risk analyses, post-entry quarantine, export certification, and treatment to meet entry requirements at the port of entry. These and other services provide a direct benefit to the industry by facilitating both import and export trade opportunities and are given high

priority by APHIS-PPQ to the detriment of quarantine enforcement duties. Port of entry staffing regulations, policies and guidelines need revision to allow for staff assignment based on risk and workload to enable program efficiencies.

**The Committee's highest priority recommendations are that APHIS-PPQ:**

**■ Coordinate stakeholders to vigorously support the Plant Protection Act; then review and revise its quarantine regulations accordingly.**

Passage of this legislation will enable the Agency to review each of its quarantines and other applicable regulations for conformance with the Plant Protection Act and adherence to international standards for quarantine regulations.

**■ Revise the user fee regulation (7 CFR 354) to adequately fund APHIS inspection and enforcement responsibilities.** Responsibility for quarantine compliance should rest with the industry and private sector that directly responsible for potential pest introductions.

**■ Accelerate pest exclusion and mitigation, including population suppression programs, pre-clearance and certification at point of origin and adopt equivalent perimeter safeguards with Canada, Mexico, and the Caribbean Basin.** Exclusion of invasive plant pests will require expanded use of pest suppression efforts in areas particularly vulnerable to invasion, such as southern California and Florida in collaboration with other national plant protection organizations and industry. Either adopt "perimeter" safeguards or strengthen and expand pest exclusion activities to adequately staff U.S. ports of entry.

■ **Develop a strategic plan and fund its smuggling interdiction efforts.**

Multi-agency team initiatives are currently under development but lack clear direction and dedicated funding.

■ **Prohibit the entry, transit, and export of plants and plant products not in compliance with U.S. entry requirements until and unless measures to mitigate the associated risk are developed and implemented.**

The safeguarding regulation (7 CFR 352) provides broad authority to issue permits and prescribe safeguards at ports of entry for transit shipment of uncertifiable products, but there are no provisions to refuse issuance of a transit permit if the pest risk appears too high.

■ **Implement and adapt applicable technologies to facilitate inspection and entry.**

Examples include use of smart x-ray equipment, optical scanners, bar codes, etc.

■ **Recover costs for service functions and development of risk assessments.**

There are several functions performed by APHIS for which benefits accrue narrowly. The user, not the Agency, should finance these service functions. Examples are certain trade activities, export certification, post-entry quarantine, port of entry treatment supervision, and development of export programs and risk assessments for import permit evaluation.

■ **Revise port of entry staffing regulations, policies and guidelines to assign staff based on risk and workload.**

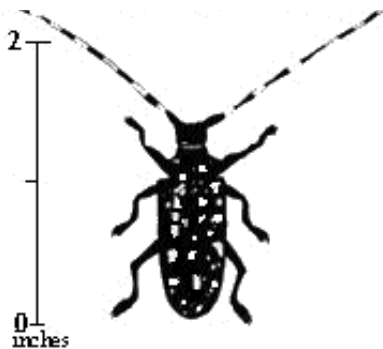
Currently, staffing is allocated based on obsolete formulas. In addition, there is no policy or guideline to staff ports of entry during peak entry hours. The workload at many major ports is continuous, that is, 24 hours/day.



## SECTION III

# PEST DETECTION AND RESPONSE COMMITTEE

Safeguarding is a shared responsibility among Federal and State governments, industry, and the general public. Coordination of safeguarding activities resides with Federal agencies, although participation at all levels must be encouraged to ensure early detection of, and prompt response to, the entry and establishment of invasive plant pests. Effective emergency response is essential to contain and eliminate pest introductions with minimal financial and environmental costs. The APHIS-PPQ is charged with protecting commercial crops and native ecosystems from damage caused by invasive plant pests as well as certification of export commodities. Trade is facilitated by survey and control of invasive plant pests in order to meet phytosanitary standards for export. These roles are not inherently conflicting or mutually exclusive. Indeed, proper attention to the regulatory role results in automatic fulfillment of the enhanced export function through the ability to certify products for shipment. Through these actions, U.S. agricultural products may avoid trade restrictions, while producers remain competitive in the global marketplace.



Asian longhorned beetle.

**The Committee's highest priority recommendations are that APHIS-PPQ:**

■ **Assume a leadership role in coordinating invasive plant pest detection and response activities on a national level.** A critical need exists for a comprehensive invasive plant pest detection system in the U.S. and for coordinated pest response activities. Establishing a nationally coordinated pest detection system and response plan that are administered under supervision of a National Invasive Plant Pest Coordinator will address these needs. In addition, a three-tiered committee system at the state, regional and national levels will review detection and response guidelines and set priorities. The National Coordinator will be responsible for setting and implementing survey and detection activities, chair the National Invasive Plant Pest Committee, and serve as a permanent member of the Standing Committee on the Collection and Use of Intelligence on Exotic Pests. The National Coordinator will cooperate with the Director of the Methods Development Unit to recommend development of detection and response tools, including allocation of funds for research and development needs, and supervise the PPQ-ARS liaison for methods development. The National Coordinator will be responsible for instituting formal reviews of management programs, including quality control and assurance, every three years and the emergency programs manual on an annual basis.

**■ Restructure the funding base for detection and response activities.**

New and innovative funding mechanisms for invasive plant pest detection and response activities are needed. Additional funds would be used to broaden the scope of detection activities, allow rapid response to invasive plant pest entry, and ensure that appropriate technology is employed in both cases. Possible mechanisms include expanding authority for collection and expenditure of user fees, state cost-sharing, and greater industry involvement. Under current regulations, Agricultural Quarantine Inspection (AQI) user fees cannot be expended for invasive plant pest detection and response activities outside the scope of the port of entry. In many cases invasive plant pest introductions at remote locations are a direct result of movement of cargo or people from the ports of entry. This is strong justification to expand the use of AQI user fees to form a national detection network and to address emergency invasive plant pest response activities with emphasis on high-risk areas where cargo containers are de-vanned. Of utmost importance is the development of a \$50 million, no-year, contingency account for emergency invasive plant pest response activities. The availability of these funds from AQI user fees or other sources, would alleviate funding problems which invariably occur during the initial stages of emergency programs. Valuable time is lost as funding mechanisms are delineated and the result is often a missed opportunity to apply control measures before pest populations increase in size or spread beyond the point of entry.

**■ Establish the National Invasive Plant Pest Laboratory and National Invasive Plant Pest Database within the National Invasive Plant Pest Information Center, to facilitate rapid response to the entry of invasive plant pests into the United**

**States.** The National Invasive Plant Pest Laboratory (NIPP LAB) is envisioned as a “virtual” clearinghouse for identification of invasive plant pests. By acting as a national clearinghouse, the NIPP LAB will maintain control of, and have access to, information on all invasive plant pest incursions through its final identifications role. Identification procedures can be improved by expanding the video identification of invasive plant pests to cover all ports and by contracting with external specialists to provide their services in confirming identification of species which are not readily categorized by APHIS-PPQ staff.

Establish the National Invasive Plant Pest Database (NIPP BASE) as an integral function of the National Invasive Plant Pest Information Center. The goal of the NIPP BASE is to provide a comprehensive and timely reporting mechanism for invasive plant pests in the United States. The NIPP BASE will function as an information hub by coordinating data on all invasive plant pests identified by the National Invasive Plant Pest Laboratory, port of entry staff, cooperators on retainer, and external experts. The database will list all pertinent information on the invasive plant pests, be Internet accessible, include links to other databases, and possess a notification list to inform regulatory officials and stakeholders of new invasive plant pest introductions in their regions.

## SECTION IV

# INTERNATIONAL PEST INFORMATION COMMITTEE

The availability of information directly relevant to APHIS-PPQ functions is critical to the safeguarding system. Reliable information is needed for conducting pest risk assessments, processing importation permits, operating quarantines, and mitigating offshore pest risks.

**The Committee's highest priority recommendations are that APHIS-PPQ:**

■ **Assume a leadership role in international pest information processing.** The APHIS-PPQ should appoint an International Pest Information Officer and a Standing Committee on the Collection and Use of Intelligence on Exotic Pests to lead in the development of global programs to obtain essential information on foreign invasive species, and to assure that such information is used appropriately throughout APHIS-PPQ.

■ **Support taxonomic services within the Agency and in the scientific community at large.** The APHIS-PPQ should upgrade its capabilities to identify harmful species and should give special attention to the professional development and advancement of capable identifiers and taxonomists. Moreover, APHIS-PPQ should broaden and intensify its involvement of the taxonomic community both in the U.S. and abroad.

■ **Facilitate information gathering and dissemination capabilities within the Agency.** The APHIS should decentralize its Information

Technology group to programmatic areas, with management by the end-user groups. The latter, as well as external stakeholders in IT processes must be included in the planning, coordination and concurrent use of multiple databases. Purely technological roles, such as Internet access, network management, and PC maintenance should be out-sourced. The APHIS-PPQ should extensively adopt Web-based information technologies in developing a system for managing the acquisition, analysis, dissemination, archiving, and retrieval of information relevant to exotic pests.







# PERMITS COMMITTEE

The permit system allows private individuals, as well as employees of companies, academic institutions or government agencies to import pest species. Permits allow movement of live pests or regulated commodities such as plants, plant products, soil, fruits, and vegetables into the United States from foreign countries or interstate transport. Permit applications received by the Permit Unit of APHIS-PPQ are carefully reviewed to determine necessary precautions in transporting the requested material. The permit is issued with specific conditions deemed necessary to meet safeguarding requirements. This permit must accompany the material during shipment. When the material reaches the port of entry, the APHIS-PPQ officer reviews the shipment for compliance with the permit conditions and inspects the material as appropriate. Permit violation or detection of an invasive plant pest may result in seizure, treatment, entry refusal, or imposition of civil penalties.

**The Committee's highest priority recommendations are that APHIS-PPQ:**

■ **Improve communications among entities participating in the permit process.** One serious weakness of the permit system is the lack of an electronic database to enable communication between headquarters, ports, states and other cooperating agencies. Poor communication leads to inconsistent enforcement and inadequate monitoring of regulatory compliance. Limited access to databases hinders

setting of priorities for inspecting permitted shipments based on the level of risk they pose and for interception of permit violations.

■ **Develop a list of restricted invasive plant species.** In addition to invasive plant species listed under the Noxious Weed Act, these would be restricted through permit requirements. It is also important that plant seeds be placed on the restricted list because of seed-borne pathogens and other invasive exotic pests. This pathway for introduction of invasive pest organisms is not currently addressed.

■ **Develop a strategic plan for uniform implementation of the permit process.** It is imperative that the Permit Unit develop a strategic plan to ensure uniformity in executing its duties. Operational guidelines for stakeholders are needed to facilitate understanding between the Permit Unit and external stakeholders.

■ **Adopt new technology to improve the efficiency of the permit process.** The present Permit Unit staff can be utilized more efficiently by developing an electronic or "paperless" system. Such a system would expedite the issuance of permits and improve efficiency of the Permit Unit. Additionally, providing for compliance agreements or memoranda of understanding with industry, research, and educational institutions could significantly reduce the number of permits issued. Permits for interstate movement of

plant pests could also be significantly reduced for common or indigenous pests, except for those under quarantine.

New technologies need to be developed and incorporated into the permit system inspection and monitoring programs to improve effectiveness, reduce costs and provide for better utilization of personnel.



# SECTION VI

# IMPLEMENTATION AND ACCOUNTABILITY

The Review Panel has attempted to describe the status of the system for safeguarding of American plant resources. The foundation of this system is solidly in place within the APHIS-PPQ organization. The recommendations of the Review Panel are numerous and offer specific actions for facilitating evolution of the Agency to meet the challenges presented by the ever-changing global marketplace. This report is just the beginning of a long and arduous process. Designing approaches to implement the roughly 300 recommendations made by the Review Panel must be a collaborative effort based upon endorsement by APHIS-PPQ personnel and communication with external stakeholders. Organizational change and growth will be realized only with full participation by all interested parties. Everyone must be willing to set aside narrow, short-term agendas, and nurture growth of the Agency through successful implementation.

■ **The Panel asks APHIS management to lead and to trust.**

Leadership must commit focus and resources to the process, appoint a broad-based Agency guiding coalition, empower that coalition, and support it fully. In return, management will benefit from a highly motivated work force interested in mission-oriented solutions rather than protecting the status quo.

■ **The Panel asks APHIS field staff to accept some personal sacrifice for the long-term survival and good of the Agency and the safeguarding mission.** In return, field staff should

expect greater job satisfaction from working for an organization that values their contributions, and listens to their ideas. They will benefit from an organization that provides training, professional development, and the tools and technology to do their jobs well. They will enjoy greater local control over program and budget management.

■ **The Panel asks APHIS program staff to be open to new, more collaborative approaches to risk analysis and other functions that support the safeguarding mission.**

In return, they will benefit from greater confidence in Agency decisions, less political interference in those decisions, and the professional growth that results from regular interaction with leading scientists and other outside experts in relevant fields.

■ **The Panel seeks for state cooperators, principally the Plant Boards, the opportunity for greater participation in APHIS decision making.**

In exchange for a greater voice, state cooperators must commit to building, maintaining, and implementing consensus among their peers.

■ **The Panel seeks for other external stakeholders—notably industry and other special interest groups—the opportunity to participate, that is, to receive information and offer input on APHIS safeguarding decisions early and meaningfully.** In exchange, external stakeholders must

commit to becoming informed beyond their focused interests. They must commit to work within the process to support APHIS in carrying out its primary mission—plant resource safeguarding—in a complementary fashion with its other critical supporting roles to facilitate trade and expedite the movement of passengers and products.

■ **The Panel envisions for *all of society* an abundant and safe food, plant and plant product supply system, a more productive economy and a healthier environment.**

The groundwork for the implementation process will be laid by an Implementation Panel of APHIS-PPQ personnel and external stakeholders. To ensure continuity, the APHIS-PPQ Steering Committee and the Review Panel will form the core of the Panel. In addition, the Review Panel requests that the APHIS Steering Committee form the nucleus of the APHIS-PPQ guiding coalition. The Implementation Panel will be responsible for clarifying recommendations in order to help APHIS set priorities, formulate objectives and timelines for implementing specific recommendations, and document progress towards these goals. Progress will be the shared responsibility of the Implementation Panel and APHIS-PPQ management. A guiding coalition will be assembled to work closely with the APHIS-PPQ management and the Implementation Panel to ensure that progress is sustained. The APHIS-PPQ Executive Team must develop a budget that provides the guiding coalition with adequate resources to perform this function.

As primary stakeholders, the National Plant Board and National Association of State Departments of Agriculture (NASDA) will play a critical role in the implementation process. These groups will assist in legislative initia-

tives and other activities requiring focused Congressional involvement. The Review Panel requests that APHIS-PPQ present an implementation plan for discussion at the National Plant Board and NASDA meetings in August and September, respectively. The Implementation Panel looks forward to assisting as needed toward the development of this implementation plan. A *legacy document* highlighting findings, conclusions, and progress towards achieving the implementation plan is envisioned at the end of the two-year implementation phase.

This Review would not have been possible without the determination and perseverance of the Review Team and the APHIS-PPQ Steering Committee. Together with the Implementation Panel, they have vowed to make a good Agency even better.

## SECTION VII

# THE REVIEW MEMBERS

### **SAFEGUARDING AMERICAN PLANT RESOURCES** *A Stakeholder Review of the APHIS- PPQ Safeguarding System*

#### **THE REVIEW PANEL**

**Ted A. Batkin, Co-Chair**  
Citrus Research Board

**Craig J. Regelbrugge, Co-Chair**  
American Nursery & Landscape  
Association

**B. Glen Lee, Project Advisor**  
USDA (retired)

**Mary Megan Quinlan, Project Specialist**  
interconnect

#### **Committee Chairs**

#### **THE COMMITTEES**

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**Dorthea Zadig, Chair**  
California Department of Food &  
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**Tom Sim**  
Kansas Department of Agriculture,  
National Plant Board Liaison

**Andrew Bishop**  
Yoder Bros.

**Jeff Eisenberg**  
The Nature Conservancy, Inc.

**Richard Kinney**  
Florida Citrus Packers

**Joe Knapp**  
University of Florida, Cooperative  
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**Howard M. Singletary**  
North Carolina Department of Agriculture  
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**William Wallner**  
USDA - Forest Service

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**Thomas Hofacker**  
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**Robert Mungari**

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& Markets

**Kenneth Rauscher**

Michigan Department of Agriculture

***International Pest Information  
Committee***

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**Bill Callison**

California Department of Food &  
Agriculture, National Plant Board Liaison

**Perry L. Adkisson**

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**Wayne N. Dixon**

Florida Department of Agriculture &  
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**Denis McGee**

Iowa State University

**Joe Morse**

University of California, Riverside

**James F. Quinn**

University of California, Davis

**Sarah Reichard**

University of Washington

**Ron Stinner**

North Carolina State University

**Anne Vidaver**

University of Nebraska

***Permits Committee***

**William W. Metterhouse, Chair**

National Plant Board Liaison to the  
National Association of State Departments  
of Agriculture

**William F. Gimpel**

Maryland Department of Agriculture,  
National Plant Board Liaison

**Lynnell Brandt**

Brandt's Fruit Tree Inc.

**Harold Browning**

Lake Alfred Citrus Research Center

**Barbara Hass**

California Department of Food &  
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