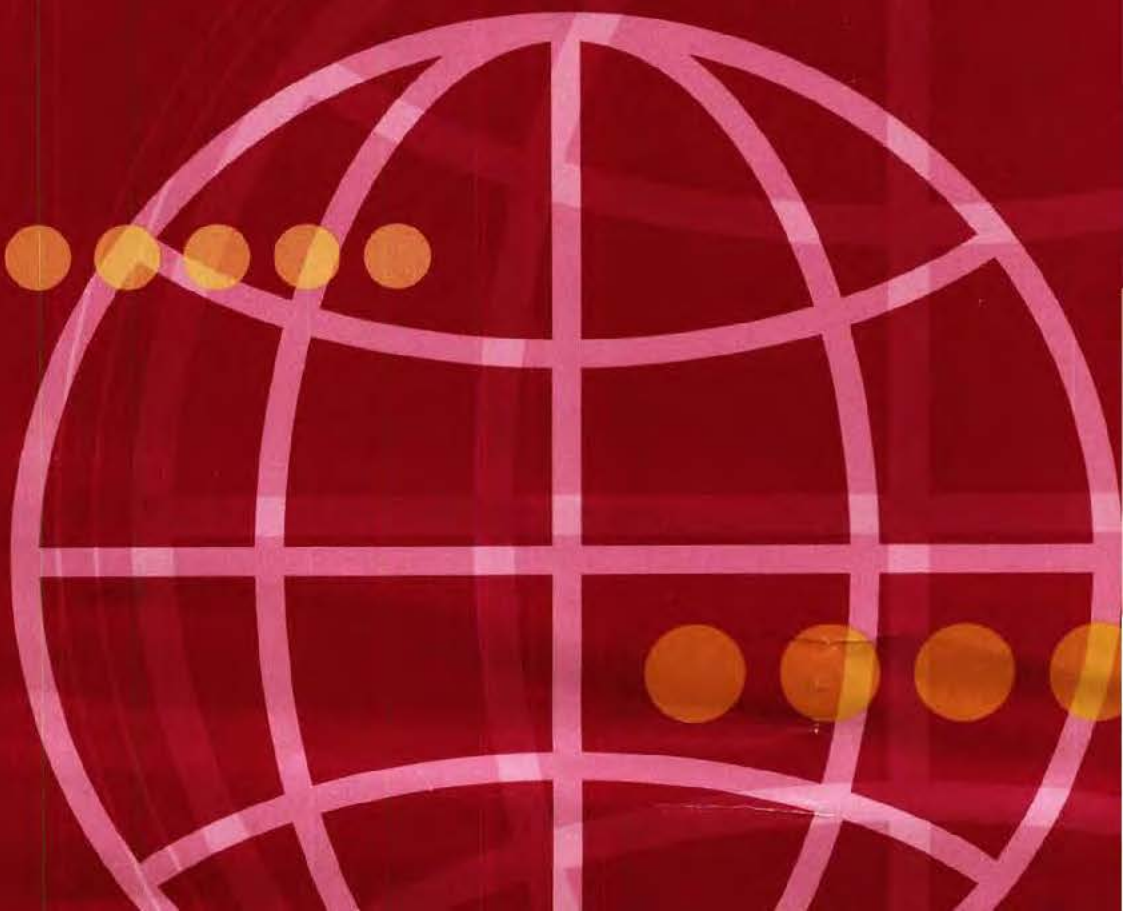


# Safeguarding U.S. Agriculture in the Global Environment





**United States  
Department of  
Agriculture**  
Animal and Plant  
Health Inspection  
Service

## Introduction

In the last two decades, nations have turned away from the protectionist practices of the past and embraced trade agreements that have changed how the world does business. Countries have widened the door to the prospects of new trade opportunities and expanded partnerships with other nations, particularly in the area of agriculture.

With this increased interest in agricultural trade comes a bigger, more visible role for the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). In the 21st century, APHIS must ensure the free flow of trade while safeguarding American agriculture against harmful foreign pests and diseases. In order to balance these risks with America's desire for a diverse array of agricultural products, APHIS must be extra vigilant in its efforts to identify potential pathways for pests and disease and base all trade decisions on sound principles of science.

APHIS' International Services, Plant Protection and Quarantine, and Veterinary Services programs are vital in protecting America's borders against agricultural threats and creating new trade opportunities for America's producers. The agency's efforts on the homefront and abroad to safeguard American agriculture ensure that U.S. consumers can continue to enjoy the tastes of America while still sampling the tastes of the world.

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# APHIS in the Global Trade Arena





# Protecting American agriculture is the basic charge of the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). APHIS has employees stationed across the country and around the world to accomplish this mission.

APHIS works to safeguard American agriculture by keeping destructive foreign pests and diseases out of the United States. Should an exotic disease threaten U.S. borders, it's APHIS' role to combat the threat and prevent an outbreak. By ensuring the health and well-being of animals and plants nationwide, APHIS helps improve agricultural productivity and competitiveness and contributes to the national economy and the public health.

APHIS' dedicated workforce strives to meet the needs of an ever-expanding customer base. We use state-of-the-art technology to keep up with trends in agriculture and international trade as well as other pertinent issues. All of our work enhances the United States' ability to buy and sell agricultural products in the international marketplace, fortifies our abundant, safe, and diverse food supply, and contributes to the health of U.S. public and private lands.

## Global Trade Agreements

Several global trade agreements help APHIS to carry out its mission, the most important of which are the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) Agreement, the successor to the General Agreement on Tariffs and Trade (GATT). Both have helped the United States become more competitive in the international trade arena, especially in the area of agriculture.

This growing interest in agricultural trade has created a more visible role for APHIS and expanded our mission to ensure that new trade opportunities benefit the United States without creating new threats from harmful exotic pests and diseases. APHIS is delegated as the primary negotiator for SPS-related trade issues. In that role, APHIS has the responsibility for regulating the importation of food and agricultural commodities into the United States as well as establishing SPS requirements that set the boundaries for safe international agricultural trade. The need for such SPS requirements is fully recognized by NAFTA and the WTO.

NAFTA, a trilateral trade pact between the United States, Canada, and Mexico, went into effect in January 1994. The GATT was established in the wake of World War II, and its successor organization, the WTO, was created in 1995 after a series of trade negotiations known as the Uruguay Round. Collectively, the WTO's more than 140 member countries account for more than 90 percent of world trade. Decisions are made based on the consensus of the entire WTO membership.

During NAFTA and WTO negotiations, countries embarked on a historic effort to reform agricultural trade. Under both agreements, countries are required to base their SPS measures on scientific evidence. In short, countries are now required to scientifically justify their reasons for impeding the free

flow of trade. With the reductions in quotas and tariffs that are a result of WTO and NAFTA, there is a greater potential for countries to use pests and diseases as artificial barriers to trade. In order to exclude agricultural products presented for importation, a country must be able to scientifically document that allowing such importation would create an unacceptable risk of introducing foreign pests or disease. To be designated as quarantine significant, a pest or disease must not exist in the importing country or be present only in a limited area that is under official control.

NAFTA and WTO requirements for risk assessments are intended to make countries' SPS regulations more transparent and scientifically based. Countries also are required to be consistent in their risk management practices. Agricultural officials cannot treat one country different from another when the importation of their goods would result in the same pest risk. It is important to note, however, that NAFTA and WTO clearly recognize the rights of countries to set their own levels of protection.

## Regionalization

In addition, the WTO and NAFTA commit countries to recognizing disease- and pest-free areas *within* a country even if a particular pest or disease exists elsewhere in the nation. This concept is perhaps the most significant policy and regulatory issue facing APHIS and our trade partners. It has, however, created new opportunities for the United States, as well as other countries that may have a pest in one region but be free of it elsewhere.

The concept of regionalization is founded on the longstanding idea that import requirements should be based on geography and science rather than on politics. The political borders between countries and delimiting states within a country are invisible; geographic boundaries, such as mountains and

rivers, are not. Pests and diseases must be able to travel in order to spread. If the path is blocked by a mountain range down the middle of a country, then the disease is naturally confined to one side of that country.

The states of Sonora and Yucatan in Mexico are prime examples. While other regions in Mexico still have outbreaks of classical swine fever (CSF), the prevalence of the disease in Sonora and Yucatan is low. Based on the principle of regionalization and a risk analysis, the United States accepts imports of fresh (chilled or frozen) pork from Sonora and Yucatan even though other regions of the country are not allowed to export pork to the United States because of the presence of CSF.

Plant health officials refer to regionalization as "area freedom." The name is different, but the results are the same. When Pennsylvania officials discovered an outbreak of plum pox in October 1999, area freedom kept the entire State, and perhaps the entire Nation, from being quarantined. Under area freedom, the disease, which infects stone fruit, resulted in a quarantine only in the Adams County, PA, area where plum pox was detected. Other major U.S. stonefruit-producing areas, such as Washington, can continue to export peaches, apricots, plums, and almonds.

Should one nation disagree with another's trade requirements, the requirements can be challenged through NAFTA and the WTO's dispute settlement processes. A disagreement arising between Mexico, Canada, or the United States could be first addressed through NAFTA. In both NAFTA and the WTO, a panel is appointed to review the situation and make a ruling. If a country fails to recognize the panel's ruling, the WTO provides a mechanism for proceeding.

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## International Standards

The WTO and NAFTA encourage countries to base their SPS regulations on international standards. Countries are required to publish proposed regulations in order to give other nations a chance to comment before the regulations go into effect. This process is intended to reduce unnecessary variance between countries' technical health standards—differences that are often the cause of trade disputes. It is a top priority of APHIS to work with our trading partners to develop internationally acceptable standards. We've already made great progress in this area with some nations, especially Canada and Mexico.

APHIS works with and recognizes a number of standards-setting organizations that help determine the rules for international trade.

### **L'Office International des Epizooties (OIE) and Animal Health**

One of the most important standards-setting organizations, Paris-based OIE has more than 150 member countries. It was started in the 1920's in response to the appearance of rinderpest in Europe from Pakistan. Each member country has one vote and one delegate. Its major functions are to collect and disseminate information on the distribution and control of animal diseases, coordinate research on contagious animal diseases, and standardize rules for international trade in animals and animal products.

OIE aims to ensure that scientifically justified measures are used to govern international trade in animals and animal products. The WTO has designated the OIE as the international forum for setting animal health standards, reporting global animal health situations and status, and presenting guidelines and recommendations on animal health issues.

## International and North American Organizations for Plant Health

The WTO recognizes the International Plant Protection Convention (IPPC) when it comes to setting plant health standards. In effect since 1952, the IPPC is a multilateral treaty that promotes "... common and effective action to prevent the spread and introduction of pests of plants and plant products and to promote measures for their control." The treaty is administered by the Food and Agriculture Organization (FAO) of the United Nations. Currently, more than 100 countries adhere to the IPPC.

In 1989, an IPPC Secretariat was created to coordinate activities for the IPPC and to support the development and administration of international phytosanitary standards. Given the importance of international standards to future agricultural trade, the technical and regulatory nature of plant health issues covered by the IPPC, and APHIS' scientific expertise in this area, APHIS has assumed the role of lead U.S. agency participating in activities of the IPPC.

The IPPC objectives are to develop international plant health standards, promote the harmonization of plant quarantine activities with emerging standards, facilitate the dissemination of phytosanitary information, support plant health assistance to developing countries, and resolve disputes.

The North American Plant Protection Organization (NAPPO)—a regional plant protection organization of the IPPC created in 1976—coordinates the efforts among Canada, the United States, and Mexico to protect their plant resources from the entry, establishment, and spread of plant pests while ensuring the free flow of trade between the three nations. APHIS employees are frequently assigned to NAPPO committees charged with reviewing technical standards or reviewing new methods for pest control.

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For example, APHIS employees worked with NAPPO to develop guidelines for the release of nonnative organisms to control weeds.

In addition to establishing plant quarantine standards, NAPPO also has developed a pest risk analysis (PRA) standard. PRAs are generally done for every agricultural commodity entering the United States. The PRA identifies foreign pests that could harm U.S. agriculture and the level of risk related to a particular commodity. By adhering to the PRA standard developed by NAPPO, the United States, Mexico, and Canada can all be assured they're using the same approach to evaluate pest risks.

### **Codex and Free Trade Areas for the Americas**

The Codex Alimentarius Commission for food safety standards is the third international standards-setting organization recognized by the WTO. Jointly managed by the World Health Organization and the FAO, Codex, established in 1963, facilitates world food trade by establishing international standards based on accepted scientific knowledge. Codex deals with subjects such as food additives, pesticide residues, and food labeling. Codex expert committees are composed of representatives from government regulatory agencies, such as USDA's Food Safety and Inspection Service, the international scientific community, and industry.

The OIE, IPPC, NAPPO, and Codex have earned prominent roles in determining the substance, direction, priorities, and outcomes of SPS requirements. Domestic groups have grown increasingly aware of these organizations and the importance of their activities, resulting in increased interest and expectations concerning the development, establishment, and amendment of international standards, particularly from the standpoint of dispute resolution.

In addition to working with such standards-setting organizations as the OIE, IPPC, and Codex, the United States is also involved in the proposed negotiation of Free Trade Areas for the Americas (FTAA). In January 1995, the United States and 33 governments from Central and South America and the Caribbean established the foundation for the FTAA, making a joint declaration of their commitment to the hemispheric integration of economics and trade by 2005. FTAA has the potential of accelerating greater intra-hemispheric trade, particularly in agriculture, given the significant role that agriculture plays in the economies of most Latin American and Caribbean countries. The FTAA initiative reflects current U.S. trade policy aimed at deepening our trade relations with newly emerging or developing economies of our hemisphere.

As a result of WTO and the pending FTAA, Latin America has evolved into an important region in terms of new markets for U.S. agricultural goods. APHIS has played an instrumental role in establishing trade relationships with these countries.



## Asia-Pacific Economic Cooperation

Another example of U.S. efforts to broaden commercial relations beyond Europe and Canada is APHIS' participation in the Asia-Pacific Economic Cooperation (APEC). APEC was established in 1989 to promote cooperation in trade and other economic issues. What started out as an organization with 12 member countries has nearly doubled in size to encompass countries as diverse as Australia, Brunei, and China. As a member of APEC, the United States attends regular meetings to discuss such issues as trade liberalization, technology transfer, investment, energy, and other topics of mutual interest. It was not until 1995, however, that APEC members agreed to address agricultural trade. At this time, a group of agricultural technical experts was formed to discuss issues, including biotechnology and quarantine and pest management.

APHIS recognizes the countries in the Pacific Rim region as strategically important agricultural markets and plays a key role in meetings of the APEC agricultural technical experts. In recent years, APHIS has worked hard to develop technical working relationships with such nations as Japan, South Korea, and China. These relationships have been instrumental in creating new markets for U.S. agricultural commodities. APHIS was successful in March 2000 with helping to open up the Chinese market to U.S. citrus. Besides being economically significant, this agreement also helps pave the way for future market opportunities.

Without the creation of the WTO and NAFTA, such trade relationships would not be possible. It's a principal role of APHIS to make sure the United States and our trading partners adhere to the SPS rules set forth by the WTO and NAFTA as well as the other relevant standards-setting organizations. While trade agreements have helped to open up new markets for the United States and other countries, APHIS must ensure that U.S. agriculture is protected in all endeavors and that agricultural imports from foreign countries do not create new pathways for pests. APHIS' role in the global marketplace will continue to increase as the United States expands current trade relationships and establishes new partnerships with developing countries.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**

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# Animal Health Programs:

## Combining Surveillance, Detection, and Response



**The Animal and Plant Health Inspection Service (APHIS) is charged with protecting American agriculture in part by setting phytosanitary and zoosanitary standards that allow trade without the threat of introducing foreign pests and diseases into the United States or pests and diseases that are indigenous in the United States into foreign countries. APHIS is divided into several program areas that focus on different aspects of this mission.**

## **Veterinary Services**

APHIS' Veterinary Services (VS) program mission is to protect and improve the health, quality, and marketability of our Nation's animals, animal products, and veterinary biologics. To accomplish this mission, VS prevents, controls, or eliminates animal diseases and monitors and promotes animal health and productivity.

The mission of VS is very important relative to U.S. agricultural exports and imports. The extent to which U.S. agricultural products can be made available in foreign markets is directly related to the certifiable health and quality of U.S. livestock and poultry.

Proving the health and quality of U.S. livestock and poultry is one of the goals of VS' National Animal Health Monitoring System (NAHMS). NAHMS does this by collecting information on the status of animal health in the United States. The program, which began in 1983, estimates the level of selected domestic diseases and also estimates producer awareness of foreign animal diseases. In addition, sera are collected and banked through NAHMS national studies and are a possible resource for determining the presence of new diseases.

VS also helps ensure the health and quality of U.S. agriculture by preventing foreign animal pests and diseases from entering and establishing themselves here. These diseases threaten the health of U.S. livestock and poultry and threaten this country's share of foreign markets due to trade restrictions that would result from having a foreign pest or disease establish itself here.

To combat this threat, APHIS inspectors at U.S. ports of entry prevent international passengers from bringing in foreign pests and diseases through inspections. Also, more than 300 APHIS veterinarians are stationed throughout the United States to investigate suspected foreign diseases that slip through this exclusion system undetected.





## Regulating Trade and Opening New Markets for U.S. Agriculture

VS' National Center for Import and Export (NCIE) develops zoosanitary protocols that allow the safe import of animals and animal products and negotiates protocols that will allow the entry of U.S. animals and animal products into foreign countries.

As with their counterparts in APHIS' Plant Protection and Quarantine unit, who deal with plant material exports, VS officials provide health certification for animals and animal products designated for export. Examinations and tests, usually done by accredited veterinarians, cover both U.S. export health requirements and the frequently complex import requirements of the receiving nation. A VS veterinarian endorses export health certificates after all tests and other requirements have been met. Then a final examination is conducted by a VS veterinarian at the port of export before the livestock or poultry leave the country.

For example, during the week of May 14, 2000, the Miami Animal Import-Export Center reported exports of 92 cattle in 1 shipment to Venezuela, 40 goats in 1 shipment to Brazil, and 5 horses in 3 shipments to Barbados, the Cayman Islands, and the United Kingdom. The Center also reported imports of 40 horses in 5 shipments from Argentina, Brazil, and Colombia. All of these animal shipments required the proper zoosanitary certifications to reach their final destination.

VS regulates the importation of animals that enter the country through land ports along the borders with Mexico and Canada and through three animal import centers located in Miami, FL, Newburgh, NY, and Los Angeles, CA. Bird imports must enter through 1 of 6 VS-operated bird quarantine centers or through 1 of 60 privately owned, VS-supervised quarantine facilities.

## Eradicating Foreign Pests and Diseases

Within 24 hours of suspicion of a foreign animal disease outbreak anywhere in the United States, a specially trained Foreign Animal Disease Diagnostician (FADD) is dispatched to collect appropriate samples for diagnosis. Depending on the findings, a specially trained Early Response Team (ERT) may be assembled to work on the issue. Initially, the team might consist of just a couple of epidemiologists but can quickly be expanded to include other FADDs, veterinary specialists, and administrative support. It's the job of the ERT to conduct an epidemiologic investigation in order to determine the source and nature of the suspected outbreak. The ERT is also responsible for taking the necessary blood, tissue, and other samples that are critical for diagnosing the suspected disease. The results of those tests determine what happens next.

In most cases, the test results are negative for a foreign animal disease, but should a major outbreak occur, APHIS has another team in place to begin controlling and eradicating the disease.

In the rare event of a serious foreign animal disease outbreak, a VS task force known as the Regional Emergency Animal Disease Eradication Organization (READEO) team can be onsite rapidly to implement the measures necessary to eradicate the disease. These task forces consist of VS employees, State veterinarians, military support personnel, industry liaisons, and representatives from other units within USDA. The last time a READEO was called into action was in 1984 to eradicate an outbreak of avian influenza.

At APHIS headquarters in Riverdale, MD, animal disease outbreaks are managed by VS' Emergency Programs (EP) staff, which was created in 1972. EP and its cooperators eradicate foreign animal diseases before they can establish themselves in American livestock.

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EP and its State and Federal cooperators eradicated avian influenza in 1984, classical swine fever (CSF) in 1978, exotic Newcastle disease in 1974, and sheep scabies in 1973. EP continues to coordinate the investigation of many suspected cases of foreign animal diseases each year.

Not every confirmed foreign animal disease, however, requires a READEO to combat the threat. Often, the cases are isolated incidents that can be quickly resolved. On March 4, 2000, VS' National Veterinary Services Laboratories (NVSL) in Ames, IA, confirmed that larvae discovered by an accredited veterinarian on an imported horse in Florida were screwworms. The United States eradicated screwworm in 1966. The horse that had screwworm was part of a shipment of 17 horses imported from Argentina several days earlier. EP swung into action, coordinating APHIS' response to this livestock threat. The horse and the premises were treated March 3. The horse received a second treatment March 6, and was declared screwworm free. No other animals were infected.

EP also provides training to Federal and State veterinarians, diagnosticians, animal health technicians, epidemiologists, port veterinarians, foreign veterinary medical officers, VS program specialists, and others whose responsibilities require knowledge of foreign animal disease diagnosis, identification, and eradication. In the event of a foreign animal disease outbreak, these trained professionals would be called upon to help prevent the spread of the disease.

Foreign animal diseases are diagnosed and researched safely at the Plum Island Animal Disease Center in New York. Plum Island's state-of-the-art biocontainment facilities, including VS' Foreign Animal Disease Diagnostic Laboratory (FADDL), allow the study and diagnosis of exotic animal diseases not found in the United States to proceed without threatening the national animal population.

FADDL also plays an important role in training private-sector and military veterinarians, USDA employees, and State and foreign veterinary officials on the most current science and disease-identification practices. Within Plum Island's biologically isolated environment, cooperators and employees are trained to recognize the signs of animal diseases such as CSF, exotic Newcastle disease, and foot-and-mouth disease (FMD).

## Eradicating Domestic Diseases

VS works to improve the health and quality of U.S. livestock and poultry, and therefore U.S. agriculture's trade position, through the eradication of domestic animal diseases. Diseases such as brucellosis, pseudorabies, bovine tuberculosis, and scrapie are targeted for elimination, and eradication efforts are well underway. Other diseases like CSF and FMD and parasites like screwworm have been eradicated, resulting in more favorable trade conditions for U.S. exports.

VS' NVSL serve as key players in disease eradication by providing diagnostic services for domestic animal diseases and some foreign animal diseases. In late 1999, NVSL personnel were instrumental in diagnosing the West Nile virus that killed seven people in New York City and made dozens ill. Horses that became sick from the virus triggered VS' involvement and NVSL's diagnoses. Currently, VS is cooperating with several States and with other Federal agencies to monitor for the West Nile virus and respond to any new outbreaks.

NVSL employees also work closely with APHIS' International Services (IS) program to provide consultation, reagents (substances used to make vaccines), and training for foreign governments.

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## Working in Foreign Countries To Protect U.S. Agriculture and Create Trade Opportunities

VS and their IS counterparts also work with foreign governments to eliminate animal diseases in other countries that threaten U.S. agriculture. For example, APHIS worked with Mexico to eliminate screwworm. Mexico was officially declared free of that pest in 1991.

APHIS also cooperates with Central American nations to eradicate screwworm from that area and ultimately to establish and maintain a permanent sterile-fly barrier at the Darien Gap between Panama and Colombia. In areas where screwworm is a problem, sterile screwworm flies are released to mate with fertile, wild flies and breed any lingering screwworm population out of existence. Additional eradication activities include the regulation of cattle movement and treatment of wounds infested by screwworms.

The Darien Gap is the narrowest geographic region in southern Panama, stretching only 102 miles. The region is mainly jungle and has no roads, but a number of rivers and trails lead to North America, so APHIS continues to monitor the borders of Panama and Colombia.

In addition, a new facility to produce sterile flies is being built in Panama to replace, by 2003, the existing one in Mexico. Locating the new facility in Panama, an area where screwworm has not been eradicated, will reduce the risk of reinfestation of the United States through accidental release of fertile flies.

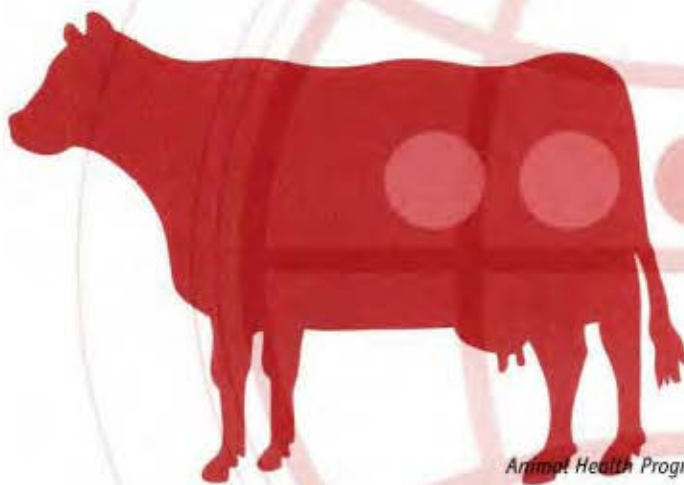
To date, Belize, Costa Rica, Guatemala, El Salvador, Honduras, and Nicaragua have been declared free of screwworm. Once the pest has been eradicated from Panama, Central America will be declared screwworm free.

VS and IS are also helping to combat CSF in the Dominican Republic and Haiti. CSF was eradicated from the United States in 1978 after a 16-year effort by the industry and State and Federal Governments. Today, only 16 other countries are free of CSF.

In the spring and summer of 1997, outbreaks of CSF were confirmed in Haiti and the Dominican Republic; both countries had eradicated the disease in the early 1980s. VS is working with IS in those countries to eliminate the disease and lessen the threat of CSF's getting into the United States.

Working with the governments of the Dominican Republic and Haiti, APHIS is planning to establish a passenger predeparture inspection program in all international airports in those countries. The belongings of passengers headed for the United States will be inspected before they leave so that any illegal agricultural products will be confiscated before they ever enter the United States.

Another disease of concern for the United States is FMD. The United States has been free of it since 1929, but FMD outbreaks in Europe and South America will continue to pose a threat to American agriculture until the disease is eradicated. Although a large portion of South America is free of FMD, the region continues to battle outbreaks of the highly contagious disease, which debilitates cloven-hooved animals, resulting in great economic losses for producers.



To protect U.S. borders, APHIS works with PANAFTOSA, a South American organization created to eradicate FMD. An IS employee is stationed in South America to develop eradication strategies and help affected countries implement those plans. APHIS contributes more than \$1 million each year to eliminate the disease in South America. Additional funding is spent on maintaining an FMD-barrier program in Panama and Colombia and managing prevention programs in Central America and Mexico.

In order to be recognized by APHIS as FMD free, a country must not discover any signs of the disease in its livestock for 1 year. During that period, countries are not allowed to use vaccinations as a means of protecting livestock against FMD.

Suriname is the only South American country that has never reported a case of FMD. French Guyana has been free of FMD without vaccination since 1953, and Guyana, since 1978. Chile has been free of FMD without vaccination since 1981.

While eradication efforts are taking place throughout South America, the continent recently experienced a setback in the fight against FMD. Argentina, Brazil, and Uruguay experienced animal-health emergencies in 2001 with FMD outbreaks confirmed in all three countries. In Argentina and Brazil, the outbreaks devastated livestock populations in regions where the disease had already been eradicated. The disease was just as devastating to Uruguay, which had been free of FMD without vaccination since 1996.

Despite these outbreaks, APHIS continues to work vigilantly in South America to eradicate FMD. Ecuador, Peru, and Bolivia have initiated FMD eradication programs but will require significant assistance from neighboring countries and international organizations to eliminate the disease. APHIS' goal is to eradicate FMD from all of South America by 2009.

Working with the other programs of APHIS, State and Federal cooperators, and foreign governments, VS ensures that American agriculture is safe from foreign animal pests and diseases and competitive in foreign markets.

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**VS and their IS counterparts also work with foreign governments to eliminate animal diseases in other countries that threaten U.S. agriculture.**



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# Plant Health Programs:

## Combining Surveillance, Detection, and Response





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In August 1999, the pink hibiscus mealybug was discovered in two communities along the United States–Mexican border. The pest had affected plants in the urban areas of Calexico and El Centro, CA.

The pink hibiscus mealybug is a serious agricultural pest that attacks more than 200 plants, including fruits, vegetables, and ornamentals. The pest sucks the juice from host plants while simultaneously injecting its saliva, which is toxic. This action leads to malformation of leaves and fruit and sometimes to the death of the plant. If it were to become established here, the pest could cause more than \$750 million in damage to U.S. agriculture annually.

The pink hibiscus mealybug is established in central and northern Africa, India, Pakistan, northern Australia, and southeastern Asia. This mealybug arrived in Grenada in 1994 and spread to 14 other Caribbean nations. In 1996, U.S. Department of Agriculture (USDA) scientists anticipated the mealybug's spreading to the continental United States and began working on a biological control program on several Caribbean islands.

The research led to the discovery of natural enemies of the mealybug: a microscopic, stingless wasp, native to China and Egypt, which lays eggs inside the body of the mealybug. The eggs hatch into maggotlike larvae that kill the mealybug by feeding on its internal organs. The wasps have successfully controlled pink hibiscus mealybug in Egypt, India, China, Australia, and Hawaii. USDA's APHIS released the wasps on St. Kitts, an effort that resulted in a 94-percent reduction of the mealybug population density in less than 2 years.

So when pink hibiscus mealybug was found in the United States in 1999, APHIS had a history of combating the pest and was prepared to release the parasitic wasps. Within 3 weeks of the first find in California, the wasps went to work fighting the pink hibiscus mealybug infestation.

The pink hibiscus mealybug project is just one example of APHIS in action. By constant surveillance and preparation, APHIS' PPQ program is ready to respond to plant pest and disease outbreaks across the United States without delay. PPQ's quick response prevents infestations from becoming large-scale problems that could affect U.S. trade and devastate U.S. agriculture.

PPQ responds to foreign pest threats by using an integrated approach that combines surveillance, detection, response, and research. By using these elements, PPQ works every day to safeguard U.S. agriculture, especially plant resources.

The integrated approach used by APHIS PPQ to combat plant pests and diseases has global benefits. U.S. trading partners can trust that they are receiving healthy, pest- and disease-free agricultural shipments, while U.S. consumers can continue to enjoy the tastes of America and the world.

PPQ's personnel are the vital link among the elements of PPQ's integrated approach. The unit's approximately 3,500 employees represent a wide variety of academic disciplines and are a highly educated and skilled work force. Plant pathology, entomology, botany, weed science, ecology, zoology, veterinary science, biotechnology, computer science, statistics, and management are only some of the areas PPQ employees specialize in. The majority of PPQ employees hold college degrees, and many have advanced degrees in the sciences. PPQ employees work all over the United States and in a number of other countries. Management and staff specialists work at APHIS headquarters offices in and near Washington, DC, as well as at PPQ's Center for Plant Health Science and Technology (CPHST) in Raleigh, NC. PPQ also has offices in all 50 States where personnel concentrate on local issues.

## Surveillance and Detection

One reason PPQ was ready for the pink hibiscus mealybug in California was because PPQ constantly monitored the species' progress in the Caribbean. By working together with the various governments in the Caribbean, APHIS was able to track the pest and, in turn, strategically release the parasitic wasp. APHIS uses similar approaches to guard the country's borders from pests in other areas of the world that could threaten U.S. agriculture.

Another example of international monitoring is the Moscamed program. Designed to reduce the risk of Mediterranean fruit fly (Medfly) introduction into the United States, Moscamed is a cooperative program between the governments of the United States, Mexico, and Guatemala. The program, initiated in 1977 and managed by APHIS' International Services (IS) program, works to eradicate the Medfly from Mexico and to maintain a barrier in Guatemala to halt the Medfly's northern spread.

PPQ also has programs that monitor and manage established plant pests like boll weevil and gypsy moth and certain noxious weeds of foreign origin. To monitor plant pests, PPQ works with the States in a project called the Cooperative Agricultural Pest Survey (CAPS). Survey information on insects and plant diseases is entered into a nationwide database, the National Agricultural Pest Information System (NAPIS). Information from this database can be accessed from anywhere in the country by persons with an authorized account. PPQ has also used the CAPS program to conduct ongoing surveys for foreign plant pests and diseases, such as the Asian longhorned beetle and plum pox.

By accessing NAPIS, users can retrieve the latest collected data on pests. NAPIS data can assist in pest forecasting, early pest warning, quicker and more precise delimiting efforts, and better planning of plant pest eradication or control efforts. Survey data—which can reflect the absence as well as the presence of pests—also help U.S. exports by assuring foreign countries that our commodities are free of specific pests and diseases. More than a million records are in the NAPIS database. About 200 Federal and State agencies use NAPIS. Its data can be downloaded and analyzed with geographic information systems to provide graphic representation of information.

**By constant surveillance and preparation, APHIS' PPQ program is ready to respond to plant pest and disease outbreaks across the United States without delay.**

## Response

No matter how effectively PPQ inspectors deal with incoming international passengers, mail, and cargo, occasionally an exotic pest or disease gets into the country. PPQ has the ability to take immediate action to protect U.S. plant and animal resources by first containing and if possible eradicating the pest or disease and by allaying fears of our trading partners and the public about the health of U.S. agriculture.

PPQ's Rapid Response Teams can quickly react to any outbreak of diseases or pests within the United States. When the pink hibiscus mealybug was detected in California, a Rapid Response Team was prepared to handle the situation. These groups have been mobilized on other occasions to combat costly infestations of the Asian long-horned beetle and Medfly. Rapid Response Teams also swung into action when the destructive "A" strain of citrus canker was found in Florida orange groves, plum pox was detected in Pennsylvania, and when Karnal bunt, a fungal disease of wheat, was discovered in Arizona.

These teams work in concert with local and State officials to assess the situation and develop a strategy to determine the extent of infestations and to eradicate the pest or disease. Sometimes the approach is as basic as removing the host material and trapping associated insects at the infestation site. At other times, PPQ employs more sophisticated methods like the use of federally approved pesticides in limited spray programs or the breeding and release of sterilized insects to suppress pest populations. PPQ always looks for the safest and most effective and environmentally responsible strategy in these situations.

## Methods Development

The work of the Rapid Response Teams is supported by the most recent science and research coordinated or sponsored by PPQ. Methods and policies developed for use in an emergency outbreak situation must be environmentally acceptable and in compliance with Federal, State, and local laws such as those governing pesticide use and notification to enter or treat private property. A Medfly find or outbreak of Karnal bunt has potential to excite concern among our trading partners, who need to be reassured that U.S. commodities will not introduce pests or diseases into their ecosystems. Emergency response methods must ensure continued access for U.S. agricultural exports into foreign markets.

Scientific information and results from our methods development work are gathered through CPHST. The Center, with headquarters in Raleigh, NC, serves as the umbrella organization for PPQ labs and plant protection centers and the National Biological Control Institute. The Center's multidisciplinary staff concentrates on analyzing scientific and technical elements of plant protection programs and systems and identifying needs and appropriate ways to meet present and future phytosanitary challenges. PPQ forges collaborative working partnerships with Federal and State agencies, academic institutions, and the private sector to accomplish its work.

**The work of the Rapid Response Teams is supported by the most recent science and research coordinated or sponsored by PPQ.**

PPQ carries out methods development to adapt research findings into operational program activities at 10 different field stations known as plant protection centers. These field stations are located at Edinburg, TX, Gulfport and Starkville, MS, Gainesville and Miami, FL, Waimanalo, HI, Otis Air National Guard Base (Cape Cod), MA, Phoenix, AZ, and Oxford, NC. There is one PPQ methods group working outside the country, in association with the Moscamed program in Guatemala. PPQ also works collaboratively on international research projects in China, Caribbean countries, Mexico, Canada, countries in Africa and Europe, and India. It also collaborates with international organizations such as the North American Plant Protection Organization and other cooperators or trading partners. New pest advisory groups, science panels, and other ad hoc teams are formed by CPHST to respond to new pest finds, evaluate scientific information, and coordinate large-scale or unique risk assessments.

PPQ remains vigilant in its efforts to protect U.S. agriculture against foreign pests and diseases. At ports of entry, laboratories, and out in the field, PPQ employees are hard at work every day to respond to foreign pest threats and control or eradicate existing outbreaks. By safeguarding American plant resources, PPQ touches the lives of all Americans and people around the world.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**





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**United States  
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# Trade Negotiations and Compliance





# The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works in the United States and abroad to keep agricultural pests and diseases from entering the country.

APHIS' International Services (IS) staff employs more than 300 Americans and host-country nationals in 27 foreign countries on 6 continents to safeguard U.S. plant and animal resources from foreign threats to agricultural health. IS works abroad to identify potential threats to U.S. agriculture and cooperates with foreign countries to initiate management programs that benefit foreign nations while keeping unwanted pests and diseases from crossing U.S. borders.

In addition to protecting America's borders, IS works to foster the free flow of trade and remove any sanitary and phytosanitary (SPS) barriers impeding the exportation of U.S. agricultural commodities. IS plays a major role in ensuring that U.S. agricultural exports are accessible to foreign countries and U.S. producers have global opportunities to market their goods. IS employees discuss trade requirements with foreign agricultural officials, strive to eliminate quarantine barriers for U.S. products, and explain the scientific basis for APHIS' own import requirements.

IS employees have the advantage of being able to meet with foreign agricultural officials face to face to negotiate agreements and share information that is critical to protecting existing markets and opening up new markets for trade.

## SPS Issues Management

While IS is APHIS' representative overseas, the agency is also hard at work on the home-front to help ensure the free flow of trade. Plant Protection and Quarantine's (PPQ) Phytosanitary Issues Management (PIM) team and Veterinary Services' (VS) Sanitary Issues Management (SIM) team work from APHIS' headquarters in Riverdale, MD, to negotiate trade agreements. While the SIM team concentrates on animal health issues, the PIM team focuses on plant health issues. These two groups serve as the lead negotiators on most SPS issues because they have indepth knowledge of each issue.

Made up of scientists, veterinarians, pathologists, and entomologists, the SIM and PIM teams are APHIS' technical experts on pests and diseases. Using scientific principles, the SIM and PIM teams determine whether foreign agricultural commodities are safe for import to the United States or whether they pose too great a risk. As technical experts, the SIM and PIM teams also make the case for U.S. agricultural exports, explaining to foreign officials why U.S. commodities are safe to import. It's this science-based information that helps determine the outcome of negotiations with APHIS' foreign counterparts.



Because of this important role, the SIM and PIM teams have become the bridge between U.S. industries and foreign countries. As U.S. industries turn to the international arena to expand their market opportunities, the SIM and PIM teams are responsible for ensuring that sound scientific principles are the basis for trade agreements and that politics does not stand in the way of U.S. industries looking to export their agricultural commodities.

## Trade Support Team

Essential to the success of the SIM and PIM teams is the work of APHIS' Trade Support Team (TST). The TST is APHIS' lead consultant on international standards and a support unit for SIM and PIM. Working within IS, TST personnel provide analytical and strategic guidance to help establish new markets for U.S. exports while protecting our Nation's agricultural resources. The TST was established in 1992, when the United States was in the throes of negotiating the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariffs and Trade Uruguay Round agreements, and trying to manage a growing number of SPS issues with its trading partners.

The TST's mission has changed little since its creation in 1992. The program continues to be the center for ensuring APHIS' compliance with international trade obligations. In addition, the TST tracks pending trade issues and new trade policy initiatives and works to make sure that APHIS' concern for protecting American agriculture is fully considered with each new trade-related endeavor. The TST is APHIS' primary liaison to USDA's Foreign Agricultural Service and the office of the U.S. Trade Representative. This network helps maintain a coordinated, strategic approach to resolving SPS trade-barrier issues and other trade policy challenges facing the agency.

The TST aims to increase the effectiveness of APHIS' technical trade negotiations with other countries by assisting in resolving SPS barrier situations, monitoring and analyzing the implications of emerging issues for the agency, developing strategic approaches to resolve conflict, and assisting in direct negotiations when appropriate. When it comes to opening new markets for U.S. goods and resolving issues that impede trade, the TST is another important link in the APHIS chain.

## Trade Discussions

To communicate more effectively with foreign countries, APHIS regularly sends representatives to trade discussions involving multiple countries. Known as multilaterals, these discussions may involve only countries from a certain region or may include countries from all over the globe. Bilaterals are discussions involving the United States and only one other country. The SIM and PIM teams, along with the help of IS and the TST, are instrumental in planning and coordinating many of these meetings, which give APHIS and its foreign counterparts the opportunity to discuss trade disputes, ongoing negotiations, SPS standards, and other issues related to trade. Often, these meetings rejuvenate talks that have reached a stalemate or open new lines of communication to discuss issues that cannot be worked out over the phone.

For example, during a bilateral meeting between the United States and South Africa in February 2000, an agreement was reached to allow U.S. farmers to export corn to that nation. Negotiations had stretched out for more than 5 years and could still be ongoing if not for the face-to-face meeting. The South African market is now estimated to be worth \$75 million annually for U.S. corn producers.

**IS plays a major role in ensuring that U.S. agricultural exports are accessible to foreign countries and U.S. producers have global opportunities to market their goods.**

Signing agreements is not the only reason for multilateral and bilateral meetings, however. In May 2000, the United States and Japan cosponsored a meeting of the Asia-Pacific Economic Cooperation to discuss trade issues related to Asia and the Pacific region as well as alternative quarantine treatments and postharvest handling methods. Representatives from nearly all of the 23 key Asia-Pacific economies were in attendance.

## Trade Agreements

With each trade agreement the United States signs, new market opportunities are created for U.S. producers. One of the most significant agreements signed in 2000 allows U.S. producers in four States to export citrus to China. The agreement was signed only after Chinese agricultural inspectors spent 2 weeks touring U.S. groves with APHIS officials. China's 1.3 billion people represent a huge potential market for U.S. citrus as well as other agricultural goods. In terms of financial gain, industry experts estimate that citrus exports to China could top \$500 million annually once the market becomes established.

While the Philippines represents a much smaller market, the United States also signed agreements with that country in 2000 to export grapefruit, oranges, and tangerines to the island nation. Some markets, however, start out small but then become very lucrative over time. For example, the United States continues to expand its agricultural exports to Taiwan, our fourth largest market. In 1999, the United States began exporting fresh asparagus and Alaskan carrots to Taiwan. Although the Taiwanese market for asparagus and Alaskan carrots is small, overall the United States exports more than \$1.8 billion worth of agricultural products to Taiwan annually.

Citrus remains a popular export, and U.S. grain is also in great demand worldwide. Canada is a major importer of U.S. grain, and Colombia is a major importer of U.S. rice.

APHIS' goal is to increase trade opportunities for U.S. producers in all regions of the world. While many new markets have opened in recent years, many more opportunities await, and it is the job of APHIS to resolve any technical health issues associated with the movement of agricultural commodities both into and from the United States.

## Technical Assistance

At the same time the United States is working to expand trade opportunities worldwide, APHIS also has strategic interests to make sure developing countries can learn from our agricultural health programs and successes. In March 1999, the World Trade Organization issued a report stressing the need for enhanced technical assistance and cooperation to developing countries, in particular with regard to human resource development, national capacity building, and the transfer of technology and information, especially through hands-on assistance. With regard to technical assistance, developing countries need help strengthening their plant and animal protection infrastructures, avoiding disputes, updating legislation, and planning for emergency outbreak situations.

APHIS has traveled to foreign countries, hosted foreign leaders, and participated in multilateral symposiums and consortiums designed to offer technical assistance to developing countries. The most prominent assistance has been in the areas of risk-assessment training, biotechnology regulatory and technical training, biological control workshops, SPS consultancies, and funding for foreign officials' participation in international standards-setting meetings.

**With each trade agreement the United States signs, new market opportunities are created for U.S. producers.**



APHIS has been a singular leader in providing technical assistance related to biotechnology. APHIS has delivered technical presentations and participated in various symposiums in Europe, Turkey, India, and Poland and hosted delegates from foreign countries on numerous occasions to provide a review of U.S. biotech regulatory policy and practices.

APHIS also provides technical assistance in the area of disease control. In 1999, APHIS veterinary officials traveled to Colombia to review its national animal health infrastructure and provide recommendations. APHIS has provided expertise on tuberculosis and brucellosis management to numerous foreign countries and regularly addresses nations' management concerns about foot-and-mouth disease. On the plant side, APHIS is part of the Moscamed team that is working to prevent the spread of the Mediterranean fruit fly from Central America.

## **Smuggling Interdiction and Trade Compliance**

Because foreign countries, including some U.S. trading partners, have plant and animal pests and diseases that could be harmful to U.S. agriculture, APHIS is responsible for regulating agricultural commodities brought into the United States. In response to the growing volume of smuggled agricultural products, APHIS' PPQ unit created the Smuggling Interdiction and Trade Compliance (SITC) Program. The SITC Program works closely with Federal, State, and private organizations, including several other USDA agencies. These SITC officers ensure compliance with U.S. agricultural import laws.

Complementing the work of PPQ inspectors at U.S. ports of entry, SITC officers discover and close the pathways through which prohibited commodities enter the United States. They also examine produce at U.S. markets and trace the source of any smuggled produce found there. Sometimes vendors do not even realize they are selling prohibited items. SITC officers work with vendors to explain Federal regulations and trace the pathway for the illegal importation. The individual or company responsible for importing the smuggled produce is prosecuted.

Tasked with bringing smugglers to justice, SITC officers seize and destroy all prohibited materials at the lawbreaker's expense. If warranted, APHIS also pursues civil or criminal penalties. Efforts have led to grand jury indictments and Federal sentencing, hundreds of thousands of dollars in fines, and seizures of prohibited agricultural products valued at several million dollars.





**The roles and responsibilities of APHIS have multiplied in recent years along with the expansion of trade.**

Because a large volume of commodities is being smuggled into California and Florida, special State–Federal agricultural units have been established in these States. PPQ teamed with the Florida Department of Agriculture and Consumer Services to form the Florida Interdiction and Smuggling Team (FIST) and with the California Department of Food and Agriculture to form Closing the Los Angeles Area Marketplace Pathway (CLAMP). Both FIST and CLAMP have been successful in reducing the amount of agricultural goods smuggled into major international ports located in California and Florida. In 1999, CLAMP officers seized 407 agricultural imports smuggled into the United States. Officers examined all of the seized goods; 30 were found to be infested with foreign pests. Catching smuggled goods before they make their way into U.S. commerce is just one more way APHIS protects U.S. agriculture from the threat of foreign pests and diseases.

The roles and responsibilities of APHIS have multiplied in recent years along with the expansion of trade. While APHIS seeks to increase trade opportunities for U.S. producers and give more food choices to U.S. consumers, the threat of foreign pests and diseases cannot be overlooked.

Communication with foreign nations makes it easier to protect and promote American agriculture. Face-to-face multilateral meetings have become a vital part of trade negotiations. APHIS sends representatives to meetings all over the world to make sure U.S. interests are protected and sanitary and phytosanitary standards based on science are emphasized. It is these multilateral meetings that will set the stage for future trade relations and policies.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**

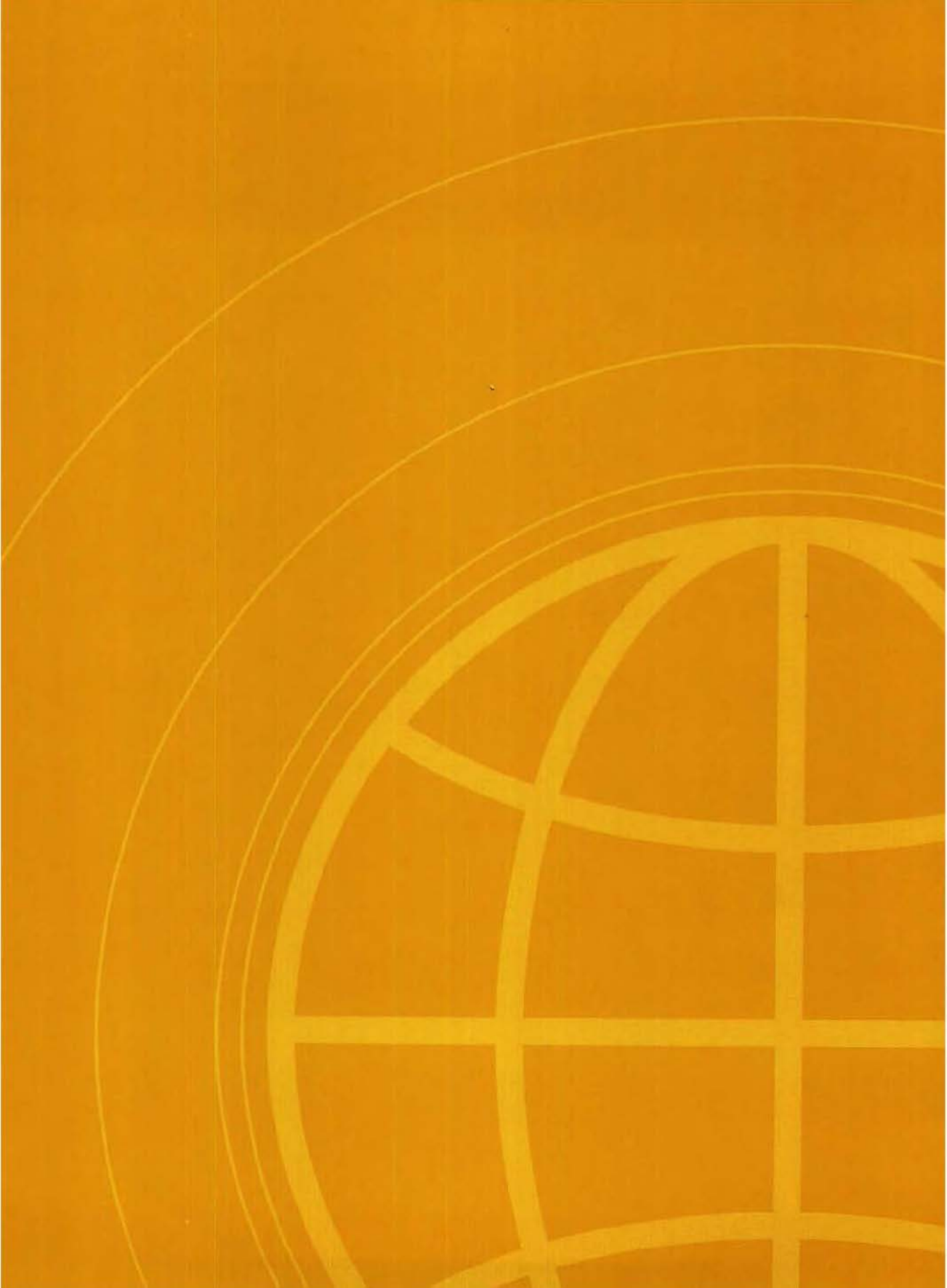
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# Future Trends in Agricultural Trade



**The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is a Government agency that moves with the times. As agricultural trends become apparent, APHIS is there to work with producers on issues such as trade, plant and animal pests, invasive species, biotechnology, and methods development for dealing with new plant and animal pests and diseases.**

APHIS scientists work with other Government agencies, industry, academia, and stakeholder groups to ensure that the agency is solving today's problems and will be positioned properly to deal with tomorrow's.

### **Invasive Species**

Over the past 200 years, several thousand foreign plant and animal species have become established in the United States. Today, about one in seven nonnative species introduced into the United States has become invasive, leading to problems that cost this country more than \$138 billion a year. Imagine what those figures will be like 1 year, 10 years, 20 years from now. As more and more countries enter the world marketplace, the United States needs to look forward in order to prevent the continued introduction of invasive species into the country.

An invasive species is an alien species whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health. Invasive plants, animals, and aquatic organisms often lessen the economic productivity and ecological integrity of U.S. agricultural and natural resources.

The most common vertebrate invasive species in the continental United States include house sparrows, European starlings, commensal rodents (roof rat, Norway rat, and house mouse), and nutria. Additionally, numerous invertebrate invasive species have also become established in the United States. Examples include zebra mussels, imported fire ants, Africanized honey bees, and many other insects. Feral animals are domesticated animals that have escaped and become wild, including their offspring born in the wild. In Hawaii and some mainland States, feral pigs, goats, and cats have severely affected natural and environmental resources.

Many harmful invasive species impair biological diversity by causing population declines, species extinctions, shifts in predator-prey dynamics, shifts in species niches, changes in habitat, and reductions in ecosystem complexity. The establishment of invasive species destroys the uniqueness of habitats, making all areas biologically alike.

In 1993, the Congressional Office of Technology Assessment reported that devastating invasions of plants, insects, aquatic invertebrates, pathogens, and other organisms have changed ecosystems and permanently diminished the biological diversity associated with them. Examples of these in the United States include melaleuca (a wetlands tree), gypsy moth, spruce bark beetle, zebra mussel, larch canker, chestnut blight, and Japanese beetle. Concern about the incursion of other harmful invasive species, such as the brown tree snake, is increasing.

Conservation experts have found that in the United States, invasive alien plant infestations cover 100 million acres and are spreading at a rate of 14 percent per year. Recent studies have also revealed that the San Francisco Bay is invaded by a new exotic species on the average of once every 12 weeks.

Naturally occurring movement of species into the United States is uncommon. Most invasive species arrive in association with human activities or transport. Species can be brought into the country and released intentionally, or their movement and release can be an unintentional byproduct of cultivation, commerce, tourism, or travel.

Many species enter the United States each year as contaminants of commodities. Agricultural produce, nursery stock, cut flowers, and timber can harbor insects, plants pathogens, slugs, and snails. Weeds continue to enter the United States as seed contaminants. Plant pathogens arrive as unintended contaminants of plant materials.

Fish and shrimp pathogens and parasites have been introduced into the United States on infected stock for aquaculture. Crates and containers can harbor snails, slugs, mollusks, beetles, and micro-organisms. Military cargo transport also brings in harmful species, such as the Asian gypsy moth and the brown tree snake. Ballast water that is released from ships as cargo is loaded or unloaded has brought in several destructive aquatic species.

A 1999 Executive Order mandated the enhancement and coordination of Federal activities to control and minimize the economic, ecological, and human health impacts caused by invasive species. That Order also established a National Invasive Species Council to oversee a management plan detailing the goals and objectives of the efforts of the involved Federal agencies. APHIS is an active participant on the Council since the basic work performed by APHIS already helps to keep pests and diseases that threaten our biological resources from being introduced into and becoming established in the United States.

Both ecosystems and the individual species within them are vulnerable to invasive pests and pathogens. APHIS is responsible for excluding and managing invasive species that can potentially affect plant and animal health, either directly or indirectly. Through its activities, APHIS protects not only agriculture but also forest, rangeland, and wetland ecosystems. APHIS works closely with USDA's Forest Service and the U.S. Department of the Interior's Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service. APHIS controls certain types of invasive species and vertebrate pests that affect native ecosystems rather than agricultural resources. Other activities focus on protecting and managing endangered species as well as migratory bird populations.

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**As more and more countries enter the world marketplace, the United States needs to look forward in order to prevent the continued introduction of invasive species into the country.**

The first and most effective means of protection is through exclusion or prevention of intentional or accidental entry of harmful invasive species. A second strategy uses tactics that include detecting, eradicating, managing, or controlling specific pests that have become established.

Endangered species also need special protection against a host of attackers. Endangered species are rescued from illegal trade at ports of entry and protected within the United States. Invasive species can be a threat to indigenous endangered species. Finally, human populations need help in coping with the needs of certain wild animals, such as migratory birds, so that human activity and wildlife can coexist.

APHIS is continuously improving techniques to prevent the accidental introduction of nonnative species into the United States while at the same time working to eradicate foreign species that have already established a foothold. While invasive species will continue to present problems into the future, APHIS scientists are also working with the agriculture seed industry to ensure that a new type of technology, biotechnology, does not.

## Biotechnology

Biotechnology allows for the production of genetically modified organisms (GMOs). A GMO is developed by altering an organism's genetic material, deoxyribonucleic acid (DNA), for the purpose of creating a better organism. As technology improves, applications for GMOs increase, and the number of GMOs being created grows more rapidly. GMOs have frequently been aimed at creating plants with pest resistance that enables growers to use less pesticides. Genetically engineered varieties exist now for almost all of the major crops. There are more than 28,000 sites throughout the United States testing GMOs. Genetic engineering is being

used in the production of pharmaceuticals, nutraceuticals ("functional foods"), gene therapy, and the development of animals and plants with borrowed genetic traits. In 1999, a third of the corn, half the soybeans, and almost 60 percent of the cotton grown in the United States were genetically engineered.

Genetically modified plants that can tolerate herbicides, resist insects or viruses, or produce modified fruit or flowers are being grown and tested. Copies of genes for these traits have been transferred to the plants by genetic engineering techniques from other unrelated plants, bacteria, or viruses. Corn plants that produce an insecticidal protein to resist European corn borers, the most serious insect threat to American corn today, and potatoes that resist both virus and insect attacks from the Colorado potato beetle are examples of recently developed transgenic plants.

APHIS regulates the field testing of genetically engineered plants by administering the Plant Protection Act. While this Act authorizes the agency to regulate the interstate movement and importation of materials with a pest risk, it also authorizes the release (for field testing) of "organisms and products altered or produced through genetic engineering, which are plant pests or which there is reason to believe are plant pests." A plant pest is a risk to other plants and agroecosystems. The term "plant pest" is generally applied to weeds, insects, and diseases but can be applied to GMOs. Applying "plant pest" to a genetically engineered plant means only that the nonpest nature of the plant has yet to be demonstrated.

Biotechnology is the cutting edge of agricultural science, and APHIS will continue to work with the industry to confirm that new products pose no plant pest risk. There is, however, a new threat or risk that APHIS hopes never to see realized: acts of bioterrorism.

**Through its activities, APHIS protects not only agriculture but also forest, rangeland, and wetland ecosystems.**



In an agricultural context, bioterrorism is the use of existing or genetically modified plant and animal diseases to attack the food supply. APHIS currently has a system in place for tracking agricultural diseases and disease vectors. Through its Plant Protection and Quarantine (PPQ) and Veterinary Services programs, APHIS emergency response teams stand ready to travel to any part of the country and work to stop a disease outbreak, natural or purposeful. In the event of a bioterrorist attack, APHIS will work with military and law enforcement agencies to contain, eradicate, and monitor the attack.

## The Race for Better Tools

When APHIS needs to examine its existing capabilities, expand its intelligence base, or develop new methods or tools for work on biotechnology, invasive species, animal diseases, or animals in the wild, it calls upon one of its several laboratories, such as the National Veterinary Services Laboratories (NVSL) in Iowa and New York or the National Wildlife Research Center (NWRC) in Colorado.

NVSL activities are administered under APHIS' Veterinary Services program. NVSL comprise three laboratories located in Ames, IA (Diagnostic Bacteriology Laboratory, Diagnostic Virology Laboratory, and Pathobiology Laboratory), and one located on Plum Island, NY (Foreign Animal Disease Diagnostic Laboratory).

Specialists at NVSL, the only Federal facility in the United States dedicated to the diagnosis of both domestic and foreign animal diseases, provide support for APHIS programs designed to protect the health of the Nation's livestock and poultry. Those programs include brucellosis, tuberculosis, animal and bird quarantine, foreign animal products importation, *Salmonella enteritidis*, animal importation, scrapie, bovine spongiform

encephalopathy surveillance, the National Animal Health Monitoring System, the National Poultry Improvement Plan, foreign animal disease diagnosticians' training, and fraudulent blood testing. In addition to diagnostic testing services, the NVSL disseminate scientific information, provide reagents to domestic clients, and offer training for APHIS employees. NVSL personnel work closely with APHIS' International Services office to provide consultation, reagents, and training for foreign governments.

Under the Wildlife Services program, the NWRC provides scientific information on wildlife, its habitat, and its relationship to agriculture and public safety. At NWRC and in the field, specialists conduct scientific inquiries into the problems of wildlife damage and look for solutions to these problems. NWRC seeks to protect wildlife from the adverse effects of human activities while also reducing the damage and hazards that wildlife cause to agriculture, forests, industry, public health and safety, and other areas of human involvement. The reconciliation of these two conflicting priorities is the challenge that the NWRC faces today.

NWRC's objective is to increase the effective methods available for wildlife damage management through (1) assessing damage and other problems caused by wildlife to agriculture, the environment, and human health and safety; (2) investigating the biology and behavior of problem animals; (3) evaluating the impact of wildlife management practices on wildlife and the environment; (4) developing and improving technology to reduce wildlife problems; (5) supporting registration of chemicals and drugs used to manage wildlife; (6) providing scientific consultation and specialized technical training; (7) transferring scientific and technical information; and (8) providing scientific guidelines on wildlife damage for use by regulatory agencies.

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**APHIS is continuously improving techniques to prevent the accidental introduction of nonnative species into the United States while at the same time working to eradicate foreign species that have already established a foothold.**

The Center evaluates damage situations and develops methods and tools to reduce or eliminate damage and resolve land-use conflicts. NWRC scientists study birds, mammalian predators, rodents, and other wildlife that cause serious but localized damage problems. The Center designs studies to ensure that the methods developed to alleviate animal damage are biologically sound, effective, safe, economical, and acceptable to the public.

NWRC scientists produce the appropriate methods, technology, and materials for reducing damage caused by animals. Through the publication of results and the exchange of technical information, the Center provides valuable data and expertise to the public and the scientific community. APHIS' PPQ unit also conducts methods-development and intelligence-gathering activities for its work in protecting plant health.

Methods and policies developed for use in an emergency outbreak situation by USDA's rapid response teams must be environmentally acceptable and in compliance with Federal, State, and local laws such as those governing pesticide use and notification to enter or treat private property. A Mediterranean fruit-fly find or outbreak of Karnal bunt has potential to excite concern among our trading partners, who need to be reassured that U.S. commodities will not introduce pests or diseases into their ecosystems. Emergency response methods must bring our exports into compliance with international standards as established by the World Trade Organization and trade pacts such as the North American Free Trade Agreement.

APHIS-PPQ carries out methods development to translate research findings into operational program activities at 10 different field stations known as plant protection centers. These field stations are located at Edinburg, TX, Gulfport and Starkville, MS,

Gainesville and Miami, FL, Waimanalo, HI, Otis Air National Guard Base (Cape Cod), MA, Phoenix, AZ, and Oxford, NC. There is one PPQ methods group working outside the country, in Guatemala. PPQ also works collaboratively on international projects with organizations like the North American Plant Pest Organization and other cooperators or trade partners. Pest advisory groups, science panels, and other ad hoc advisory and regulatory organizations are formed by PPQ to respond to new pest finds, evaluate current pest programs, and deal with other phytosanitary issues.

Other scientific information and methods development work is done through PPQ's Center for Plant Health Science and Technology. The Center, with headquarters in Raleigh, NC, serves as the umbrella organization for PPQ labs and the National Biological Control Institute. The Center's multidisciplinary staff concentrates on analyzing scientific and technical elements of plant protection programs and systems and identifying needs and appropriate ways to meet present and future phytosanitary challenges. PPQ forges collaborative working partnerships with Federal and State agencies, academic institutions, and the private sector to accomplish its work.

Through its development of new methods, tools, and intelligence, APHIS continues to look toward the future. Invasive species, biotechnology, and a number of other trends point the way toward the agriculture of tomorrow. APHIS intends to be there, on the forefront, ready to serve stakeholders in an ever-changing world.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**

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# Federal Agency Cooperation in World Trade Activities



**While the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) plays a significant role in world trade, it is only one of many organizations that does so. APHIS works with other agencies both inside and outside of USDA on international trade issues, such as marketing, transportation, animal and plant health policy, food safety, and agricultural trade policy.**

### **The Agricultural Marketing Service**

USDA's Agricultural Marketing Service (AMS) plays a large role in agriculture both at home and abroad. AMS includes six commodity divisions—Cotton, Dairy, Fruit and Vegetable, Livestock and Seed, Poultry, and Tobacco. The divisions employ specialists who provide standardization, grading, and market news services for those commodities. AMS enforces such Federal laws as the Perishable Agricultural Commodities Act and the Federal Seed Act. AMS commodity divisions also oversee marketing agreements and orders, administer research and promotion programs, and purchase commodities for Federal food programs like the National School Lunch, Summer Camp, and School Breakfast Programs; the Nutrition Program for the Elderly; and the Commodity Supplemental Food Program.

The Science and Technology Division of AMS provides centralized scientific support to AMS programs, including laboratory analyses, laboratory quality assurance, coordination of scientific research conducted by others for AMS, and statistical and mathematical consulting services. In addition, the Division's Plant Variety Protection unit issues certificates of protection for new varieties of sexually reproduced plants. The Division also collects and analyzes data about pesticide residue levels in agricultural commodities. The Division administers the Pesticide Recordkeeping Program, which requires all certified private applicators of federally restricted-use pesticides to maintain records of all applications. The records are put into a database to help analyze agricultural pesticide use.

The Transportation and Marketing Division brings together a unique combination of traffic managers, engineers, rural policy analysts, international trade specialists, and agricultural marketing specialists to help solve problems of U.S. and world agricultural transportation. This division works to ensure that there is an efficient transportation system for rural America that begins at the farm gate and moves agricultural and other rural products over the Nation's highways, railroads, airports, and waterways and into the domestic and international marketplace. The Division supplies research and technical information to producers, producer groups, shippers, exporters, rural communities, carriers, government agencies, and universities.

APHIS works closely with AMS on commodity and trade issues. And APHIS and AMS scientists work together and share information on a number of national agricultural issues.



## The Foreign Agricultural Service

The Foreign Agricultural Service (FAS) is the “State Department” of the agriculture world. FAS maintains offices around the globe and has primary responsibility for these USDA overseas programs: market development, international trade agreement negotiations, and the collection of statistics and market information. FAS also administers USDA’s export credit guarantee and food aid programs and helps increase income and food availability in developing nations by mobilizing expertise for agriculturally led economic growth. FAS enhances U.S. agriculture’s competitiveness by providing linkages to world resources and international organizations and building a spirit of cooperation. FAS represents the world’s largest agricultural export country through its network of agricultural counselors, attachés, and trade officers stationed overseas and its analysts, marketing specialists, and negotiators located in Washington, DC.

The FAS attaché service has 105 professional agricultural economists and marketing specialists stationed in 64 posts covering 129 countries. Reports coming into Washington from these in-country experts are the basis for FAS world commodity market and trade information and publications. Attaché reports review changes in policies affecting U.S. agricultural exports, assess U.S. export marketing opportunities, monitor important weather-related developments, and respond to the daily informational needs of those who plan, initiate, monitor, and evaluate U.S. food and agricultural programs and policies.

In addition to data-gathering by attachés, FAS also maintains a worldwide agricultural information and reporting system through U.S. agricultural industries, remote sensing systems, and other sources. FAS uses this information to prepare production forecasts and assess export marketing opportunities, as well as to track changes in policies affecting U.S. agricultural exports and imports. Analyzing production and trade, personnel

in the Washington office prepare production forecasts and assess export marketing opportunities, as well as track changes in policies affecting U.S. agricultural exports and imports. These analyses are used by policy-makers, program administrators, producers, and exporters.

FAS programs help U.S. exporters develop and maintain markets overseas for hundreds of food and agricultural products ranging from bulk commodities to brand-name grocery items. Promotional activities are carried out chiefly in cooperation with nonprofit agricultural trade associations and cooperatives that agree to plan, manage, and contribute staff resources and funds to support these activities. The largest FAS promotional programs are the Foreign Market Development Cooperator Program and the Market Access Program.

Additionally, FAS sponsors U.S. participation in several major trade shows and a number of single-industry exhibitions overseas each year. Trade offices in 15 key market countries function as service centers for U.S. exporters and foreign buyers seeking market information. U.S. agricultural trade offices and attaché offices provide foreign buyers with up-to-the-minute communication with potential suppliers in the United States. FAS Trade Office personnel also assist U.S. exporters in launching products in overseas markets characterized by different food preferences, social customs, and marketing systems.

FAS coordinates and directs USDA’s responsibilities in international trade agreement programs and negotiations, working closely with the office of the U.S. Trade Representative (USTR) in this effort. International trade policy experts within FAS help identify—and work to reduce—foreign trade barriers and practices that discourage the export of U.S. agricultural products. As the United States’ information clearinghouse for World Trade Organization (WTO) sanitary and phytosanitary issues and technical

**APHIS works closely with AMS on commodity and trade issues. And APHIS and AMS scientists work together and share information on a number of national agricultural issues.**



barriers to trade, FAS serves as the official conduit for notifications and comments about these measures. U.S. agricultural exports are subject to import duties and non-tariff trade restrictions. Trade information sent to Washington from FAS personnel overseas is used to map strategies for improving market access, pursuing U.S. rights under trade agreements, and developing programs and policies to make U.S. farm products more competitive.

APHIS works closely with FAS on trade issues. APHIS Plant Protection and Quarantine (PPQ) and Veterinary Services personnel closely monitor imports to the United States and designate disease- and pest-free status to all foreign countries that wish to trade with America.

### **Food Safety and Inspection Service**

While FAS works to ensure U.S. agricultural strength around the world, USDA's Food Safety and Inspection Service (FSIS) works alongside APHIS and has the primary responsibility to keep America's domestic and imported meat and poultry free of disease. The USDA grading scale and stamp are marks of excellence worldwide.

FSIS is the public health agency in USDA, protecting consumers by ensuring that meat and poultry products are safe, wholesome, and accurately labeled. FSIS regulates meat and poultry products, which account for a third of consumer spending for food and carry an annual retail value of \$120 billion. FSIS regulates all raw beef, pork, lamb, chicken, and turkey, as well as approximately 250,000 different processed meat and poultry products, including hams, sausage, soups, stews, pizzas, and frozen dinners (any product that contains 2 percent or more cooked poultry or 3 percent or more raw meat). Consumers purchase these products packaged with 500,000 different USDA-approved labels.

Under the Federal Meat Inspection Act and the Poultry Products Inspection Act, FSIS inspects all meat and poultry sold in interstate and foreign commerce, including imported products. About 7,400 Federal inspectors oversee meat and poultry processing in some 6,200 plants. Inspectors check animals before and after slaughter, visually examining more than 6 billion poultry carcasses and 125 million livestock carcasses, including beef, pork, and lamb, each year. FSIS personnel prevent diseased animals from entering the food supply and examine carcasses for visible defects that can affect safety and quality. FSIS also inspects products during processing, handling, and packaging to ensure that they are safe and truthfully labeled.

FSIS sets standards for a range of activities associated with the production of meat and poultry products. For instance, the agency evaluates and sets standards for food ingredients, additives, and compounds used to prepare and package meat and poultry products. All plant facilities and equipment must adhere to FSIS standards and be approved before they can be used. The agency sets labeling standards and approves labels for meat and poultry products. FSIS also sets standards for certain slaughter and processing activities, such as plant sanitation and thermal processing.

FSIS develops and improves analytical procedures for detecting microbiological and chemical adulterants and infectious and toxic agents in meat and poultry products. The agency also develops new methods of inspection to better protect the public health, evaluating the effectiveness of its programs through systematic and special reviews. It responds to residue and other contamination incidents and, when appropriate, seeks voluntary recall of products by firms. FSIS and APHIS also work together on animal disease issues. APHIS often shares its expertise with FSIS on zoonotic and phyto-sanitary issues.

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FSIS is pursuing a broad and long-term science-based strategy to improve the safety of meat and poultry products and to better protect public health. FSIS is undertaking a farm-to-table approach by improving the safety of meat and poultry at each step in the food production, processing, distribution, and marketing chain. These steps are designed to focus more attention on the risk of microbial contamination, the Nation's most significant food safety problem. The agency's goal is to reduce contamination as much as possible by setting public health-oriented standards for pathogenic microorganisms, building the principle of prevention into the production and inspection processes, and fostering the development and use of new technology.

In addition to a number of inplant improvements, FSIS is working closely with the Food and Drug Administration (FDA) to ensure food safety at the retail level and to establish Federal standards for the safe handling of food during transportation, distribution, and storage.

## Food and Drug Administration

FDA, an agency of the U.S. Department of Health and Human Services, is responsible for ensuring that foods are safe, wholesome, and sanitary. Products regulated by FDA that are made in other countries but sold here must meet the same standards as foods, drugs, cosmetics, and medical devices manufactured domestically.

The rapidly increasing activity of international and other organizations in developing product and process standards and the rise in number of imports of FDA-regulated products into the United States have helped to focus the agency's attention on its international role. FDA can better fulfill its mandate to protect and promote the public health by collaborating and cooperating with its foreign regulatory counterparts and international standards setting organizations to

facilitate the compliance by imported products with FDA standards. Given the increase in imports, FDA is continually seeking ways to enhance the efficiency and effectiveness of its international inspection, technical cooperation, and standardization efforts.

By clearly explaining to all nations and firms that import FDA-regulated products into the United States their requirements, FDA facilitates the importation of products that meet these requirements and discourages the admittance of those that do not. FDA helps foreign and domestic manufacturers understand how to comply with FDA's guidelines for Current Good Manufacturing Practice, Good Clinical Practice, and Good Laboratory Practice, and Procedures for the Safe and Sanitary Processing and Importing of Fish and Fishery Products, and other regulations.

International activities take place in virtually every part of the agency. Most FDA centers and offices have established contact points dedicated to enhancing FDA interactions with foreign governments, industry, and international organizations.

## U.S. Fish and Wildlife Service

Another Federal agency that works with international trade issues, frequently in conjunction with APHIS, is the U.S. Fish and Wildlife Service (FWS). FWS, which is a part of the U.S. Department of the Interior, is the principal Federal agency responsible for conserving, protecting, and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people. The Service manages 520 National Wildlife Refuges on 93 million acres and thousands of small wetlands and other special management areas. FWS also operates 66 national fish hatcheries, 64 fishery resource offices, and 78 ecological services field stations.

**It takes a team of dedicated Federal agencies, of which APHIS is a part, to keep America competitive in the international trade arena.**

Among its key functions, the Service enforces Federal wildlife laws, protects endangered species, manages migratory birds, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their international conservation efforts. It also oversees the Federal aid program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to State fish and wildlife agencies.

In enforcing the provisions of the 1975 Convention on International Trade in Endangered Species of Flora and Fauna (CITES), FWS works to protect threatened species from all international commercial trade and determine if species that are not threatened could become so if they continue to be unregulated. FWS also lists currently protected U.S. native species of animals and plants.

APHIS works closely with FWS on a number of issues. FWS coordinates with APHIS Animal Care on animal welfare issues, with Wildlife Services on issues involving migratory birds and threatened and endangered species, with Veterinary Services on smuggled birds and animal disease issues, and with PPQ on CITES-listed endangered plant species.

**FWS coordinates with APHIS Animal Care on animal welfare issues, with Wildlife Services on issues involving migratory birds and threatened and endangered species...**

## United States Trade Representative

Probably the best known Federal entity working on trade issues is the office of the USTR. It is responsible for developing and coordinating America's foreign trade, commodity, and direct investment policy.

The USTR provides trade policy leadership and negotiating expertise in several areas, including export expansion policy, industrial and services trade policy, international commodity agreements and policy, bilateral and multilateral trade and investment issues, trade-related intellectual property protection issues, import policy, trade, commodity, and direct investment matters dealt with by international institutions such as the Organization for Economic Cooperation and Development, the United Nations Conference on Trade and Development, and all dealings with the WTO.

The issue of international trade is very large and very complicated. Federal offices work together with each other and, oftentimes, with State, local, and private interests to ensure that America continues to be an economic force in the world. There is no single office that handles all trade-related matters, even specialized trade such as agriculture. It takes a team of dedicated Federal agencies, of which APHIS is a part, to keep America competitive in the international trade arena.

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# Protecting Plant Health in a Global Environment



**The Plant Protection and Quarantine (PPQ) program in the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) touches the lives of all Americans by ensuring the availability of domestic and imported foods in the marketplace, creating new trade opportunities for agricultural exports, and contributing to the health of U.S. public and private lands.**

PPQ takes a lead role for APHIS in plant health issues as specialists in the safe movement of agricultural products around the world. PPQ also joins with other APHIS programs, USDA agencies, and Federal partners to mitigate the introductions of, and adverse impacts caused by, invasive species—plants and animals from abroad that threaten our ecosystems.

PPQ's activities can be grouped into three broad categories: safeguarding plant and animal resources from foreign pests and diseases, managing plant pests to protect plant resources, and working to enhance the free flow of trade by removing phytosanitary and technical barriers. Specific actions in support of these categories include animal and plant pest exclusion, smuggling interdiction, trade compliance, pest monitoring, risk analysis, and areawide pest management, including response to emergency situations.

### **Agricultural Quarantine and Inspection**

PPQ's Agricultural Quarantine and Inspection (AQI) program is designed to prevent the introduction of harmful plant and animal pests and diseases, such as noxious weeds, insects, plant pathogens, and parasites, into the United States. These pests and diseases could threaten the abundance and variety of the U.S. food supply, damage our natural resources, and cost American taxpayers hundreds of millions of dollars for higher priced food and fiber products as well as the cost of control and eradication programs.

PPQ officers and technicians inspect passenger baggage, mail, ship and airline stores or food supplies, and vehicles and cargo in the Federal Inspection Services area at U.S. ports of entry. In Hawaii and Puerto Rico, and in some Caribbean countries, passengers undergo predeparture inspection before leaving for the U.S. mainland. PPQ inspectors look for prohibited agricultural products



and associated materials that could serve as pathways for the introduction of invasive pests. These products are forbidden entry into the United States or are allowed in only under very specific conditions. Every year, PPQ port personnel intercept tens of thousands of insects and tons of agricultural contraband and associated material that could contain microscopic plant and animal pests and diseases.

PPQ employs more than 120 x ray machines and detector dog teams at more than 20 airports and 3 land-border ports to increase the efficiency of passenger baggage inspections. The dog teams, USDA's Beagle Brigade, work primarily at international airports and selected post offices for baggage and package inspection. The beagles' average success rate in finding concealed, regulated items is 90 percent. Beagle Brigade teams and PPQ officers have also become goodwill ambassadors for USDA, making speeches and giving demonstrations at schools, fairs, and other public events.

PPQ cooperates with the U.S. Department of the Interior in carrying out provisions of the Endangered Species Act that forbid the import or export of endangered plant species. PPQ officers at ports of entry are trained to identify these plant species and take appropriate action.

PPQ officers also inspect and sample seed imported from foreign countries to ensure that it is accurately labeled and free of noxious weeds. International garbage and ship and airline stores must be inspected as well, to ensure that they are treated with special care and according to regulations so no plant or animal pests and diseases accidentally enter the United States. PPQ also inspects and supervises the cleaning of all military equipment and troop supplies when the U.S. military returns from missions out of the country. (The household goods of military and civilian personnel moving back stateside are also subject to inspection.)

All prohibited items seized from inspections are examined, rendered harmless, and disposed of by incineration, grinding, or burial. Large shipments of agricultural goods found to be ineligible for entry may be subject to treatment, returned to the country of origin, or turned over to PPQ officers for destruction. At large airports like John F. Kennedy International Airport in New York, seaports like Miami, and land-border ports like San Ysidro, CA, PPQ operates around the clock. Congress has authorized PPQ to collect user fees to cover the costs of providing certain services under the AQI program.

## Phytosanitary Issues Management

While safeguarding American agriculture, it is also the goal of PPQ to ensure the free flow of agricultural trade between the United States and other nations. PPQ's Phytosanitary Issues Management (PIM) team has primary responsibility for planning, coordinating, and helping to resolve phytosanitary and biotechnology issues that impede trade. This work is accomplished through developing and harmonizing international standards, agency policies, and foreign and domestic quarantines that deal with the movement of plants, plant products, and soil. The PIM staff also makes science-based risk-management decisions on petitions from foreign trade partners who want to export regulated articles to the United States.

The PIM team is the primary USDA resource for addressing science-based phytosanitary concerns affecting agricultural trade. The PIM staff provides authoritative technical expertise for interpreting the intent and applicability of plant health requirements. Such interpretations are provided in response to inquiries from Federal, State, international, and territorial officials, private industry, and the public. In addition, PIM employees consult and advise U.S. agricultural attachés and plant protection officials

**Every year, PPQ port personnel intercept tens of thousands of insects and tons of agricultural contraband and associated material that could contain microscopic plant and animal pests and diseases.**

of foreign countries on issues of foreign plant quarantine laws and regulations. The team is instrumental in resolving questions that could lead to misunderstandings or ambiguity. Members of the PIM team often travel to foreign countries to resolve trade disputes or clarify regulations that could impact market opportunities for U.S. exports. It's also the job of the PIM team to provide leadership on biotechnology standards development and international harmonizations of plant biotechnology regulatory issues that affect trade.

By ensuring appropriate U.S. representation and participation in regional and global phytosanitary organizations and in the development of policies and standards, the PIM team is protecting the future of U.S. agriculture and promoting new opportunities for trade.

## Preclearance

Preclearance is one way in which APHIS is working to build bridges with foreign countries to bring new and healthy plants and plant products to the United States. Preclearance is the inspection and treatment of foreign agricultural commodities prior to export to prevent harmful exotic pests and diseases from being transported to the United States. The goal of preclearance programs is to intercept these destructive pests in their native land, thereby avoiding costly eradication programs at the destination point. In addition, preclearance programs expedite the clearance process, are cost effective for exporters, and reduce the workload at ports of entry.

APHIS operates permanent preclearance programs in South America, Europe, Asia, Africa, and the Caribbean. Chile lays claim to the world's largest preclearance program, followed by Mexico and the Netherlands. Worldwide, APHIS oversees the preclearance of more than 150 agricultural commodities. Produce as diverse as tulip bulbs and mangoes are inspected and/or treated under this initiative. Highly skilled employees from PPQ and APHIS' International Services unit are detailed to some international locations year-round and to others just during harvest and shipping seasons. These workers certify that commodities are pest and disease free on the basis of inspection and/or treatment prior to arrival in the United States.

The type of preclearance program established in each country depends on the commodities that will be exported to the United States, as well as pest and disease concerns associated with the commodity. Some agricultural commodities require only inspection prior to export to the United States. Other commodities, however, require treatment before they can be cleared for entry into the United States. The most common types of preclearance treatment include hot-water immersion, cold treatment, and fumigation. All are effective in killing different pests and diseases.

Hot-water treatment involves submerging fruit in hot water for varying lengths of time and is effective in killing fruit-fly larvae. Cold treatment often lasts several days and uses near-freezing temperatures to kill quarantine pests. Cold treatment often occurs while the agricultural commodity is already on its way to the United States. For fumigation, commodities are placed in an enclosed area and treated with chemicals. The chemical used depends on the commodity and the quarantine pest of concern.

**Preclearance is one way in which APHIS is working to build bridges with foreign countries to bring new and healthy plants and plant products to the United States.**

## Risk Analysis

Before any new agricultural commodity can be allowed into the United States, a pest risk analysis (PRA) must be completed. Growth in international trade brings with it the possibility that harmful nonindigenous organisms or invasive species could be introduced into the United States, resulting in negative consequences for producers and consumers. PRAs help to identify and quantify the risk a specific commodity presents.

The objective of the PRA process is to provide a reasonable estimation of the overall risk presented by specific nonindigenous organisms or by nonindigenous organisms associated with specific pathways or certain commodities, such as fruits, vegetables, and nursery stock. While a specific agricultural commodity may present some risks, the PRA also identifies ways to mitigate those risks. For example, the United States imports mangoes from Mexico even though a PRA identified certain regions of that country that are inhabited by the Mexican fruit fly. To mitigate the risk of importing Mexican fruit flies along with mango shipments, all mangoes must be hot-water treated in Mexico to kill any fruit-fly larvae.

In the past, with reference to certain organisms, agricultural import decisions were based on a stated policy of “zero risk.” This idea, underpinned by the scientific tools and concepts of the time, resulted in very restrictive quarantine measures. This approach was taken because there were few alternatives: technology was not as advanced as it is today, and the mechanisms of pest disease transmission were not as well understood as they are now. Thus, quarantine officials took a conservative approach in forbidding the entry of many products into the United States.

With the increasing sophistication of modern risk analysis, regulators can now assemble and analyze pest information in a more thorough, consistent, and transparent manner. Still, countries must protect against foreign pests and diseases. While some agricultural commodities need only be inspected prior to shipment and upon arrival, PRAs often recommend some type of treatment to protect U.S. agriculture from foreign pests and disease. As mentioned earlier, the United States allows imports of mangoes from Mexico but only after they are hot-water dipped to ensure that all fruit-fly larvae are killed. Similarly, the United States allows imports of clementines from Spain, but first they must be cold treated to ward off any agricultural pests.



## Environmental Analyses

Any time APHIS changes its regulations to allow previously prohibited items entry into the United States, an environmental assessment (EA) is required. An EA is a concise public document that provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). EAs are done whether PPQ is planning to build a new facility or allow the importation of a new plant that could transport dangerous foreign pests. If a proposed action is not likely to cause any significant impact, then a FONSI may be prepared. If the action could have a potentially significant impact, then PPQ must prepare an EIS before the proposed regulation can be finalized.

An EIS is a detailed statement on the environmental impact of the proposed action, any adverse environmental effects that cannot be avoided should the proposal be implemented, alternatives to the proposed action, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources that would be involved in the proposed action, should it be implemented.

Once completed, an EIS may result in changes to a proposed regulation. The environmental impact of such plant pests as the gypsy moth and fruit flies has been studied in EISs painstakingly put together by PPQ. In the case of fruit flies, an infestation in the United States could cause millions of dollars' worth of damage to citrus. While imported citrus from regions like South America is popular in the United States, many safe guards have been implemented to keep fruit flies out.

## Importing Agricultural Commodities

Over the years, Americans have come to count on a diverse array of agricultural products for their dinner table. To satisfy the ever-changing tastes of Americans, the United States imports commodities from around the globe. Local stores now carry everything from Mexican artichokes to Italian zucchini. PPQ strives to ensure that these imported products are pest and disease free. PPQ does this by (1) regulating the importation of agricultural products, (2) inspecting admissible products, and (3) making sure that treatments are administered to targeted products before they are released into the domestic market.

Importers must obtain import permits for many, but not all, commodities before the goods can begin their trip to the United States. Importers must also obtain phytosanitary certificates for certain commodities before they can be brought to the United States. These certificates verify that the quarantine officials of the exporting country have examined the agricultural commodities for pests and found them to be disease free.

PPQ's permit unit provides information to potential importers on permit requirements and processes applications for permits. Importers can now apply for fruit and vegetable permits and animal products permits completely online. Users can also print out the application and mail the completed form to PPQ's permit unit. If an application does not fall within APHIS' authority, the permit unit will try to find out where the applicant can get more information. The permit unit manages a high volume of requests and interprets the constantly changing import regulations for myriad plants and plant products.

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To save importers time and streamline the application process, PPQ now allows importers to apply for fruit and vegetable permits online. Importers can access the Import Authorization System at <https://Web01.aphis.usda.gov/IAS.nsf/Mainform?OpenForm>. Not only does the site allow importers to fill out a permit application online, but importers can also track the status of a pending application or amend a current application. Although importers still must apply for soil and other plant permits through the mail, the agency is developing interactive forms that will enable importers to apply for all permits entirely online.

In some cases, however, no acceptable quarantine measures have been proven to mitigate the pest risk associated with a foreign commodity. These commodities are not allowed into the United States. Other agricultural commodities are restricted because of their status as endangered species.

### **Convention on International Trade in Endangered Species**

Many plants and animals whose populations are threatened in the wild are protected by the Convention on International Trade in Endangered Species (CITES). The purpose of this treaty is to regulate the commercial trade of endangered and threatened plants and animals and monitor trade involving species that may become extinct in the near future. More than 123 countries, including the United States, have endorsed this treaty. CITES representatives work to preserve thousands of plants, mammals, birds, reptiles, amphibians, and fish that have been traded commercially without oversight in the past. Representatives convene at least once every 2 or 3 years to evaluate the state of the world's wildlife. Participating countries enforce the treaty's provisions and impose penalties upon individuals caught smuggling plants and other wildlife protected under the provision.

PPQ enforces the plant provisions of CITES and inspects all plants and plant products presented for importation at any of its 15 designated plant inspection stations located nationwide, or at other inspection ports approved by the U.S. Department of the Interior. If plants protected by CITES arrive at an APHIS plant inspection station without the appropriate documents or the plants do not match the documentation accompanying them, the APHIS inspector seizes the plants immediately. PPQ offers seized plants back to their country of origin at that country's expense or places the plants in one of the many designated "rescue centers" in this country, where they may be displayed for the public to enjoy.

### **Plant Inspection Stations**

Funneling all plants and plant products through designated inspection stations helps mitigate the risk of introducing foreign pests and disease. The stations create a safe environment in which to inspect such commodities before they are released from the port. Highly trained PPQ officers in the fields of entomology, botany, and plant pathology work at these stations and have the qualifications to identify any exotic pests and diseases accurately and dispose of them safely so they cannot pose a threat to American agriculture.

These plant inspection stations are located at Nogales, AZ, New Orleans, LA, San Juan, PR, San Francisco, San Ysidro, and Los Angeles, CA, Miami and Orlando, FL, Los Indios, El Paso, and Houston, TX, Honolulu, HI, John F. Kennedy International Airport, NY, Seattle, WA, and Linden, NJ.

**To assure foreign countries of the quality of U.S. agricultural exports, PPQ provides documentation that U.S. plants and plant products meet the plant quarantine import requirements of foreign countries.**

**With the availability of such extensive export information, U.S. exporters usually run into few complications with trade.**

To assure foreign countries of the quality of U.S. agricultural exports, PPQ provides documentation that U.S. plants and plant products meet the plant quarantine import requirements of foreign countries. This assurance takes the form of a phytosanitary certificate, issued by PPQ or its State cooperators. PPQ assists American farmers and exporters by providing phytosanitary inspection and certification for plants and plant products being shipped to foreign countries. As a service, PPQ will provide phytosanitary certificates to exporters when required by a foreign country. These phytosanitary certificates verify that the products have been inspected and are pest and disease free.

PPQ issues two kinds of phytosanitary certificates: those for domestic plants and plant products and those for foreign plants and plant products offered for reexport.

Under direction from Congress, PPQ charges a user fee for issuing phytosanitary certificates. These fees cover the costs of providing certification services, and exporters must pay at the time the certificate is issued.

Because of the sheer quantity of certificates that PPQ issues—paperwork for more than 300,000 shipments each year—and because countries have vastly different entry requirements for agricultural products, PPQ developed a database to track the phytosanitary requirements for each country. This database, called EXCERPT, allows PPQ officers, State and county officials, and members of the agricultural industry to access export information. If a U.S. exporter wants to send flour to Mexico, for example, accessing the EXCERPT database will reveal that a U.S. phytosanitary certificate and a Mexican import permit are both required before the flour leaves this country. The same exporter can also find out that there is no specific certification needed to ship fruit for consumption to Hong Kong.

The EXCERPT database also lists the status of endangered plant species, commodities that are not eligible to be exported to specific countries, and any changes in other countries' entry requirements. EXCERPT identifies ports that are authorized to certify for export those endangered and threatened plants protected by CITES. For example, PPQ officials at San Francisco, a CITES-approved port, can certify endangered cacti for export.

With the availability of such extensive export information, U.S. exporters usually run into few complications with trade. However, in cases where U.S. goods arrive at a foreign nation and are denied entry, PPQ will try to negotiate with foreign plant health authorities on behalf of the U.S. exporter.

## Biotechnology

PPQ also provides certain services that deal with biotechnology. U.S. scientists use agricultural biotechnology together with a variety of laboratory techniques, such as genetic engineering, to improve plants, animals, and micro-organisms. Since 1987, APHIS' role in agricultural biotechnology has been to manage and oversee regulations to ensure the safe and rapid deployment of the products of biotechnology. Under PPQ's effective regulations and practical guidelines, private-sector firms can safely test genetically engineered organisms outside the physical containment of the laboratory. PPQ officials issue permits or acknowledge notification for the importation, interstate movement, or field testing of genetically engineered plants, micro-organisms, and invertebrates that are developed using components from plant-pathogenic material.

Federal biotechnology regulations also provide for an exemption process once it has been established that a genetically engineered product does not present a plant pest risk. Under this process, applicants can petition PPQ for a determination of nonregulated status for specific genetically engineered products. Some examples of deregulated crops include five tomato types modified for delayed ripening; five cotton types, one modified for insect resistance and four for herbicide tolerance; two soybean types modified for herbicide tolerance; and six corn types, three modified for herbicide tolerance and three for insect resistance.

PPQ biotechnology personnel meet with regulatory officials from other nations on a regular basis to foster the harmonization of trade regulations. These discussions help ensure that requirements imposed by other countries are as consistent as possible with U.S. requirements and that our trading partners are kept informed of regulatory developments affecting biotechnology.

As agricultural trade continues to expand, the work of PPQ inspires much-needed trust from foreign countries that they are receiving healthy, pest- and disease-free agricultural shipments. Moreover, efforts on the homefront to protect American agriculture ensure that U.S. consumers can continue to enjoy the tastes of America while still sampling the tastes of the world. PPQ touches the lives of all Americans by safeguarding American agriculture, fighting invasive species, and supporting the free flow of trade in the global marketplace.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**

**As agricultural trade continues to expand, the work of PPQ inspires much-needed trust from foreign countries that they are receiving healthy, pest- and disease-free agricultural shipments.**

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**United States  
Department of  
Agriculture**  
Animal and Plant  
Health Inspection  
Service

Miscellaneous  
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# Glossary



**Agricultural Marketing Service (AMS):**

The U.S. Department of Agriculture (USDA) agency that provides standardization, grading, and market news services for certain commodities, such as fruits, vegetables, livestock, poultry, and seed.

**Agricultural Quarantine and Inspection (AQI):** An Animal and Plant Health

Inspection Service (APHIS) safeguarding program designed to prevent the introduction of harmful plant and animal pests and diseases, such as noxious weeds, insects, fungi, and parasites, into the United States.

**Animal and Plant Health Inspection Service (APHIS):** The USDA agency that protects

American agriculture by providing leadership in ensuring the health and care of animals and plants.

**Area freedom:** An international trade policy that allows distinct areas within a country or region that are free of a specified plant pest or disease to export related commodities even if the rest of the country remains quarantined.

**Asia–Pacific Economic Cooperation (APEC):**

An international organization established in 1989 to promote open trade and economic cooperation in the Pacific Rim.

**Asian longhorned beetle (*Anoplophora***

**glabripennis):** A destructive insect pest that kills hardwood trees. The beetle bores into healthy hardwoods, feeds on living tree tissue during the fall and winter, and emerges through a hole about the size of a dime during the spring. The boring eventually kills the tree.

**Biological control:** Control methods that use predators, parasites, and pathogens—instead of chemicals or cultural practices—to combat plant pests.

**Biotechnology:** The application of biological science to manipulate deoxyribonucleic acid (DNA) to improve old organisms or create new ones, such as plants with better disease resistance, crop yield, and nutrition.

**Bioterrorism:** The use of living agents, such as a manmade or natural disease pathogens, to attack people, animals, and plants.

**Bluetongue:** A serious viral disease in animals characterized by swelling and sloughing, especially about the mouth and tongue.

**Boll weevil (*Anthonomus grandis***

**Boheman):** A serious insect pest that feeds on cotton. APHIS has been working to eradicate this pest from the United States since 1978.

**Botany:** The study of plants.

**Center for Veterinary Biologics (CVB):** This APHIS Veterinary Services unit implements the provisions of the Virus–Serum–Toxin Act to assure that pure, safe, potent, and effective veterinary biologics are available for the diagnosis, prevention, and treatment of animal diseases. CVB is located in Ames, IA.

**Citrus canker:** A highly contagious disease of citrus caused by the bacterium *Xanthomonas axonopodis* pathovar *citri*. This bacterium causes dieback, defoliation, severely blemished fruit, reduced fruit quality, and premature fruit drop.

**Classical swine fever (CSF):** A highly contagious, deadly disease of swine, also known as hog cholera.

**Closing the Los Angeles Area Marketplace Pathway (CLAMP):** A program created to reduce the amount of agricultural goods smuggled into major international ports located in California.



**Codex Alimentarius Commission (Codex):**

A subsidiary of the United Nations' Food and Agriculture Organization created to facilitate world food trade by establishing international standards based on accepted scientific knowledge.

**Contagious equine metritis (CEM):**

A transmissible, exotic, venereal disease of horses, commonly associated with infertility.

**Convention on International Trade in Endangered Species of Flora and Fauna (CITES):**

A treaty that regulates the international commercial trade of endangered and threatened plants and animals, and products derived from them, and monitors trade involving species that may become extinct in the near future.

**Cooperative Agricultural Pest Survey**

**(CAPS):** A program through which the Federal Government works with States to conduct ongoing surveys for foreign plant pests and diseases. Information collected in the surveys is maintained in a nationwide database.

**Ecology:** The study of the relationships between organisms and their environments.

**Emergency Management Operations Center**

**(EMOC):** The APHIS facility used to manage pest and disease outbreaks from the Riverdale, MD, headquarters.

**Emergency Programs (EP):** The APHIS Veterinary Services staff that manages foreign animal disease outbreaks.

**Entomology:** The study of insects.

**Environmental assessment (EA):** A concise public document that provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement.

**Environmental impact statement (EIS):**

A detailed statement discussing the potential impact a proposed action may have on the environment. The EIS details any adverse environmental effects that cannot be avoided should the proposal be implemented and any alternatives to the proposed action.

**EXCERPT:** A database maintained by APHIS and Purdue University that allows Plant Protection and Quarantine officers, State and county officials, and members of the agricultural industry to access export information.

**Florida Interdiction and Smuggling Team**

**(FIST):** A program created to reduce the amount of agricultural goods smuggled into major international ports in Florida.

**Food and Agriculture Organization (FAO):**

A subsidiary of the United Nations that works to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the conditions of rural populations. FAO achieves this through providing development assistance, information and support services, advice to governments, and a forum for international cooperation.

**Food and Drug Administration (FDA):**

A Department of Health and Human Services agency that sets Federal standards and regulations for the safety and effectiveness of foods, drugs, medical devices, cosmetics, and products (like microwaves) that emit radiation. FDA also regulates feed and drugs for pets and farm animals.

**Food Safety and Inspection Service (FSIS):**

The USDA agency that ensures commercially supplied meat, poultry, and egg products are safe, wholesome, and correctly labeled and packaged.

**Foot-and-mouth disease (FMD):** A highly contagious and economically devastating disease of cattle and swine characterized by fever and blisterlike lesions on the tongue and lips, in the mouth, on the teats, and in between the claws.

**Foreign Agricultural Service (FAS):** USDA's lead agency for international activities, including trade negotiations, promotion of U.S. agricultural products abroad, and the collection of statistics and market information.

**Foreign Animal Disease Diagnostic Laboratory (FADDL):** This Veterinary Services laboratory is used for the diagnosis and study of foreign animal diseases. FADDL is located on Plum Island, NY.

**Free Trade Areas for the Americas (FTAA):** An agreement signed by the United States and 33 leaders from Central and South America and the Caribbean that makes a joint declaration of their commitment to hemispheric economic and trade integration by 2005.

**General Agreement on Tariffs and Trade (GATT):** A multilateral agreement, established in the wake of World War II, that laid down rules for international trade.

**Genetically modified organism (GMO):** A living organism that has been altered by manipulating its deoxyribonucleic acid (DNA) for the purpose of improving an old organism or creating a new one.

**Gypsy moth (*Lymantria dispar*):** A devastating insect pest that feeds on leaf foliage. There are two strains of this moth, the European and the Asian. Both are very destructive and can cause great damage to ecosystems within the United States by defoliating thousands of acres of forests.

**Harmonization:** Establishment, recognition, and application of phytosanitary measures by different countries based on common standards.

**International Plant Protection Convention (IPPC):** A subsidiary of the United Nations Food and Agriculture Organization focused on preventing the spread of plant-borne diseases and pests and developing science-based plant quarantine requirements for international trade.

**International Regulation Retrieval System (IRRS):** A database maintained by Veterinary Services that lists the animal health requirements of foreign countries.

**International Services (IS):** The division of APHIS that works outside the United States to keep agricultural pests and diseases from entering the country, to facilitate agricultural exports, and to bring agricultural trade into harmony with agricultural health worldwide.

**Invasive species:** Animals, plants, and pathogens non-native to a country or region that threaten native forms of life in that region.

**Karnal bunt:** A disease of wheat caused by the fungus *Tilletia indica* Mitra, also known as *Neovossia indica*. The disease reduces crop yield and reduces the marketability of the grain.

**Mediterranean fruit fly (Medfly) (*Ceratitis capitata*):** A destructive insect pest that feeds on many fruits, including citrus. The female Medfly attacks ripening fruit, piercing the soft skin and laying eggs in the puncture. The eggs hatch into larvae, which feed inside the fruit pulp.

**Moscamed:** Cooperative program between the governments of the United States, Mexico, and Guatemala. The program works to eradicate the Mediterranean fruit fly from Mexico and to maintain a barrier in Guatemala to halt the pest's northern spread.

**Multilateral:** Trade discussion involving multiple countries that provides a forum to discuss ongoing negotiations, trade disputes, phytosanitary standards, and other issues related to trade.

**National Agricultural Pest Information System (NAPIS):** A database that holds survey information collected in the CAPS program. Information in this database can be accessed from anywhere in the country by authorized users.

**National Animal Health Monitoring System (NAHMS):** A Veterinary Services program started in 1983 to gather information on the state of animal health in the United States.

**National Center for Import and Export (NCIE):** A Veterinary Services staff that develops zoosanitary protocols that allow the safe import of animals and animal products. This staff also negotiates protocols that will allow the entry of U.S. agricultural products into foreign countries.

**National Veterinary Services Laboratories (NVSL):** The only Federal facility in the United States engaged in the diagnosis of animal diseases, both domestic and foreign. NVSL also provide consultation, reagents, and training for foreign governments. NVSL's facilities are located in Ames, IA, and Plum Island, NY.

**North American Free Trade Agreement (NAFTA):** A multilateral trade pact between the United States, Canada, and Mexico that went into effect in January 1994.

**North American Plant Protection Organization (NAPPO):** A regional plant-health organization created in 1976 to share information and cooperate in advancing common regional goals.

**Noxious weed:** A nonindigenous weed species that can upset the balance among native plant species within natural and agricultural ecosystems.

**Office International des Epizooties (OIE):** The world's oldest international veterinary organization, formed in 1924 to develop and maintain a worldwide animal disease reporting network and to facilitate world trade by minimizing the risk of spreading livestock diseases.

**PANAFTOSA:** An organization of South American countries created to eradicate foot-and-mouth disease from the continent.

**Pest risk analysis (PRA):** The process of evaluating biological and other scientific and economic evidence to determine whether a pest should be regulated and the strength of any phytosanitary measures to be taken against it.

**Phytosanitary:** Pertaining to plant health.

**Phytosanitary certificate:** A document required to accompany certain agricultural exports that is issued by Federal, State, or county officials and verifies the shipment is free from quarantined plant pests and pathogens.

**Phytosanitary Issues Management (PIM) Team:** An APHIS team that has the primary responsibility for planning, coordinating, and helping to resolve phytosanitary and biological issues that impede trade.

**Phytosanitary measure:** Any legislation, regulation, or official procedure intended to prevent the introduction and/or spread of plant pests.

**Pink hibiscus mealybug (*Maconellicoccus hirsutus* Green):** A serious agricultural pest that attacks more than 200 varieties of plants. The pest sucks the juice from the host plants while injecting toxic saliva. This action can lead to the death of a plant.

**Plant pathology:** The study of plant diseases.



**Plant Protection and Quarantine (PPQ):**

The division of APHIS charged with protecting the Nation's agricultural resources from the spread of plant pests and diseases.

**Preclearance:** The inspection and treatment of foreign agricultural commodities prior to their export to the United States to prevent harmful exotic pests and diseases from being transported here.

**Quarantine pest:** A pest of potential economic importance to an area but not yet present there, or present but not widely distributed and being officially controlled.

**Regional Emergency Animal Disease**

**Eradication Organization (READEO):** A task force consisting of Veterinary Services employees, State veterinarians, military support personnel, industry liaisons, and representatives from other units within USDA. This task force is specially trained to handle outbreaks of foreign animal diseases.

**Regionalization:** An international trade policy that allows distinct areas within a country or region that are free of a specified animal disease to export related commodities even if the rest of the country remains quarantined.

**Smuggling Interdiction and Trade**

**Compliance (SITC):** A program created by APHIS' Plant Protection and Quarantine in response to the growing volume of smuggled agricultural products. Operating at a number of national ports, the program ensures compliance with U.S. agricultural import laws.

**Trade Support Team (TST):** A unit of APHIS' International Services that provides analytic and strategic guidance to help establish new markets for U.S. exports while protecting the United States' agricultural resources.

**U.S. Fish and Wildlife Service (FWS):** The Department of the Interior agency responsible for conserving, protecting, and enhancing fish, wildlife, plants, and their habitats.

**U.S. Trade Representative (USTR):** The official who leads U.S. delegations in negotiating trade agreements and resolving trade disputes.

**Veterinary biologics:** Vaccines, bacterins, diagnostics, etc., used to prevent, treat, or diagnose animal diseases. These products generally work through an immunological method or process.

**Veterinary Services (VS):** The division of APHIS whose mission is to protect and improve the health, quality, and marketability of our Nation's animals, animal products, and veterinary biologics.

**World Trade Organization (WTO):** An entity created to establish and arbitrate the rules of trade between nations. It acts as an impartial body for settling disputes. It was formed in 1995 as a successor to the General Agreement on Tariffs and Trade.

**Zoology:** The study of animals.

**Zoosanitary:** Pertaining to animal health.



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**United States  
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# Contact Information





**For more information about the programs of the Animal and Plant Health Inspection Service (APHIS), please get in touch with the appropriate staff or contact point listed below. You can also access the APHIS Web site at <http://www.aphis.usda.gov>**

Agricultural Quarantine and Inspection,  
port operations staff  
(301) 734–8295

Animal and bird exports  
National Center for Import and Export  
(NCIE), export staff  
(301) 734–8364

Animal and bird imports  
NCIE, import staff  
(301) 734–8364

Animal product exports  
NCIE, export staff  
(301) 734–3277

Animal product imports  
NCIE, import staff  
(301) 734–3277

Biotechnology  
Senior Operations Officer  
(301) 734–5940

Center for Plant Health Science and  
Technology  
(919) 513–2662

Center for Veterinary Biologics  
(301) 734–8245  
(515) 232–5785

Centers for Epidemiology and Animal  
Health  
(970) 490–8100

Environmental assessments  
Deputy Director of Environmental Services  
(301) 734–8565

Foreign Animal Disease Diagnostic  
Laboratory  
(631) 323–3200

International Regulation Retrieval System  
NCIE, export staff  
(301) 734–8364

International Services  
(301) 734–7550

Invasive species and pest management  
(301) 734–8247

Legislative and Public Affairs  
Public Affairs staff  
(301) 734–7799

National Animal Health Monitoring System  
Staff Leader  
(970) 490–7937

National Biological Control Institute  
(301) 734–4329

National Veterinary Services Laboratories  
Director  
(515) 663–7301

Pest risk assessments  
Team Leader  
(301) 734–8896

Plant exports  
Phytosanitary Issues Management (PIM)  
Team, export staff  
(301) 734–8537

Plant inspection stations, Convention on  
International Trade in Endangered Species  
(CITES)  
Senior Staff Officer  
(301) 734–7839

Plant imports  
PIM, import staff  
(301) 734–6799

Plant permits  
Branch Chief  
(301) 734–8896

Plant Protection and Quarantine  
(301) 734–8262

Preclearance  
Director of Preclearance Program  
(301) 734–8295

Regionalization, Veterinary Services, NCIE  
(301) 734–8364

International Services  
Trade Support Team  
Director  
(202) 720–7677

Veterinary Services, Emergency Programs  
(301) 734–8073

**You can also find helpful information on  
trade-related issues from the following  
Federal agencies:**

Agricultural Marketing Service  
Director, Public Affairs  
(202) 720–8998  
<http://www.ams.usda.gov>

U.S. Fish and Wildlife Service  
Chief of Media Services  
(202) 208–5634  
<http://www.fws.gov>

Food and Drug Administration  
Associate Commissioner of Public Affairs  
(301) 827–6250  
<http://www.fda.gov>

Food Safety and Inspection Service  
Director, Public Affairs  
(202) 690–1233  
<http://www.fsis.usda.gov>

Foreign Agricultural Service  
Director, Public Affairs  
(202) 720–7115  
<http://www.fas.usda.gov>

U.S. Trade Representative (USTR)  
Assistant USTR for Public Affairs  
(202) 395–3230  
<http://www.ustr.gov>

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# Protecting Animal Health in a Global Environment



# Today's global marketplace means greater access than ever before to agricultural commodities from around the world, but it also requires greater vigilance to ensure that imports and exports comply with international standards for trade.

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to maintain clear rules for trade involving animals and animal products arriving in and leaving the United States. The international credibility of APHIS' Veterinary Services (VS) unit is a key factor in sustaining favorable trade status for U.S. animal exports.

Through its various programs, centers, and laboratories, VS ensures the integrity of all animal imports and exports, whether the commodity at hand is a live animal, an animal product or byproduct, or a veterinary biologic. This diligence helps protect the United States against foreign animal diseases that could compromise the health and marketability of U.S. livestock. VS also helps reassure our trading partners that U.S. agricultural exports comply with their animal and animal product health standards and regulations.

## Regionalization

A major new focus in the animal health trade arena is the concept of regionalization. Under this concept, APHIS will consider the importation of a commodity from a specific region of a country even though other parts of that country may be affected by an animal disease that does not exist in the United States. Before any decision is made, however, APHIS carefully assesses the risk associated with the disease and the boundaries between disease-free and disease-affected areas of a country to determine the safety and feasibility of allowing imports from a specified area.

An example of regionalization is the U.S. recognition of African swine fever-free regions in Italy. While Italy is not completely free of the disease, agriculture officials there presented APHIS with information including surveillance data, which was reviewed by APHIS specialists. A risk assessment conducted by APHIS personnel supported the conclusion that Italy, except for the island of Sardinia, was free of African swine fever and can without significant risk export swine and pork products to the United States.

## Negotiating Agreements

The negotiations required to establish such technical agreements as those needed to apply the concept of regionalization are worked out with the assistance of VS' Sanitary Issues Management (SIM) staff. This team negotiates both import and export agreements that ensure the free flow of agricultural trade between the United States and other nations. The SIM staff has the primary responsibility for planning, coordinating, and helping to resolve animal health issues that impede trade. To make such agreements possible, SIM works to harmonize international standards, agency policies, and foreign and domestic quarantines that deal with the movement of animals and animal products and byproducts. The SIM team also makes science-based risk-management decisions on





petitions from foreign trading partners who want to export regulated articles to the United States.

The SIM staff is the primary USDA source for addressing science-based animal health concerns affecting agricultural trade. First and foremost, the SIM staff is concerned with safeguarding American agriculture. With that in mind, the team provides authoritative technical expertise for interpreting the intent and applicability of animal health requirements. Such interpretations are provided in response to inquiries from Federal, State, international, and territorial officials, private industry, and the public. In addition, SIM employees consult and advise U.S. agricultural attachés and animal health officials of foreign countries on issues of foreign animal quarantine laws and regulations. The team is instrumental in resolving questions that could lead to misunderstandings or ambiguity. Members of the SIM staff often travel to foreign countries to resolve trade disputes or clarify regulations that could affect market opportunities for U.S. exports.

By ensuring appropriate U.S. representation and participation in regional and global animal health organizations and in the development of policies and standards, the SIM team is protecting the future of U.S. agriculture and promoting new opportunities for trade.

## Setting Standards for International Trade

In order to ensure that international animal health standards represent the interests and concerns of the United States, VS plays an active role in meetings of the Office International des Epizooties (OIE), a 155-member-country standards-setting organization. OIE works continuously to update old standards in the International Animal Health Code. Each member country has an opportunity to comment on the updated drafts, and VS takes this responsibility seriously. By sending the proposals out to experts

throughout the United States, VS ensures that new animal health standards are fair and scientifically justified. If U.S. experts disagree with a proposed standard, VS then has the opportunity to send alternative language to OIE and explain why the United States disagrees with the position.

While OIE is not obligated to make changes suggested by member countries, each country does have a chance to vote on the proposals at the organization's annual meeting. VS is focused on building coalitions with countries such as Canada, Mexico, Australia, and New Zealand in order to strengthen the United States' position and move OIE away from traditionally Eurocentric positions.

These new international standards will shape the future of animal trade, and it is important that the United States have a strong voice in the organization. In addition to updating animal health standards, OIE sets international standards for handling diagnostic tests and vaccines as well as fish health.

While working to establish and test international standards and regulations, VS also focuses on maintaining a safeguarding system for U.S. animal and animal product and byproduct imports and exports.

## VS' Partner in Protection

With the help of APHIS' Agricultural Quarantine and Inspection program (AQI) in the Plant Protection and Quarantine (PPQ) unit, VS oversees and implements the importation of animals and animal products and byproducts. Through their stringent import procedures, VS and PPQ work to prevent foreign animal diseases from entering the country. The close proximity of some foreign animal diseases to the United States highlights the importance of APHIS' import procedures.

**Members of the SIM staff often travel to foreign countries to resolve trade disputes or clarify regulations that could affect market opportunities for U.S. exports.**

For instance, classical swine fever (hog cholera) has been diagnosed in Haiti and the Dominican Republic. In April 2000, the United States and the Dominican Republic signed a cooperative agreement that initiates a passenger predeparture inspection program in order to decrease the risk of pork products possibly infected with classical swine fever virus entering the United States.

Such nearby threats to our animal health pose a serious problem, but threats traveling across the ocean can be just as dangerous. For instance, between 1997 and 1999, contagious equine metritis was detected in several horses imported from overseas while the animals were being held in quarantine at U.S. ports of entry. In each instance, the individual animal had been certified as free of that disease prior to shipment.

These threats to U.S. animal health, whether coming from nearby or faraway areas, cause personnel from VS and PPQ to be especially vigilant in their work. Together they make sure animals and animal products and byproducts entering the United States do not pose a significant risk of spreading foreign animal diseases. AQI personnel inspect incoming baggage at ports of entry and confiscate any prohibited products. PPQ inspectors also enlist the aid of the Beagle Brigade, dogs specially trained to detect various prohibited agricultural products, including meats and animal products.

## Establishing Import Rules

Rules regarding the importation of animals and animal products and byproducts already established by VS and other international standards-setting organizations are enforced through the AQI program and VS' National Center for Import and Export (NCIE). NCIE bases these regulations on scientific findings of risk. While VS allows the importation of a variety of animals and animal products and byproducts from around the world, some commodities are not even considered for

import because the disease risk associated with the product is too great. For example, the United States does not allow the importation of ruminants or ruminant products from the European Union because of the threat of bovine spongiform encephalopathy, also called mad cow disease.

Strict rules have been established to ensure that animals and animal products and byproducts that are allowed for importation to the United States meet VS' requirements. All live animals and poultry must be accompanied by a health certificate issued by an official of the exporting country. Imports of livestock and poultry must also be quarantined and thoroughly inspected at an animal import center to confirm they are disease free.

APHIS also regulates the importation of veterinary biologics, such as vaccines, bacterins, diagnostics, etc., that are used to prevent, treat, or diagnose animal disease. VS' Center for Veterinary Biologics ensures that all veterinary biologics produced in, or imported into, the United States are pure, safe, potent, and effective. Foreign manufacturers may only export such biologics to the United States by permit.

To save importers time and streamline the application process, VS now allows importers to apply for animal product permits online. Importers can access the Import Authorization System at [http://www.aphis.usda.gov/NCIE/fac\\_imp.html](http://www.aphis.usda.gov/NCIE/fac_imp.html). Not only does the site allow importers to fill out a permit application online, but importers can also track the status of a pending application or amend a current application. Although importers still must apply for live animal permits and veterinary biologics permits by printing out a copy of their filled-in application forms and mailing them to VS, the agency is developing interactive forms that will enable importers to do all their permits entirely online.

**The close proximity of some foreign animal diseases to the United States highlights the importance of APHIS' import procedures.**



## Protecting America's Exports

While border inspection and participation in international standards-setting organizations pay huge dividends in keeping disease out and allowing our producers to raise animals in a disease-free environment, these efforts, along with emergency preparedness and surveillance activities, also enable the United States to capitalize on world export markets. APHIS is in the forefront in facilitating the export of live animals and germplasm due to the agency's ability to confidently certify the United States' animal health status to foreign trading partners.

To maintain the world's confidence in the integrity of the health of U.S. animals and animal products, VS ensures that livestock headed to other countries meets the standards required by those nations. Physical examinations and blood tests—usually done by USDA-accredited veterinarians—cover both U.S. export requirements and the frequently complex requirements of the receiving nation. A VS veterinarian endorses export health certificates only after all tests and other requirements have been met. Then a final examination is conducted by a VS veterinarian at the port of export before the livestock or poultry leave the country.

NCIE works closely with exporters who engage in trade with foreign nations. The International Regulation Retrieval System, a database maintained by VS, lists the animal health requirements of other countries. Both exporters and veterinarians can access this retrieval system on the Internet.

Exporters realize that, if the United States were to become known for harboring a foreign animal disease, other countries would be hesitant to accept U.S. commodities. That could be disastrous for the U.S. export industry, and efforts are in place to protect the integrity of U.S. exports. VS' National Animal Health Monitoring System (NAHMS) collects information on the status of animal health in the United States. The program, which began

in 1983, estimates the level of selected domestic diseases and also estimates producer awareness of foreign animal diseases. In addition, serums are collected and banked through NAHMS as a possible resource for determining the presence of new diseases. Additional efforts are being made to strengthen the systematic monitoring of animal diseases at the State level. State veterinarians already voluntarily submit monthly reports to OIE on the presence or absence of clinical diseases in their States, and then OIE informs governments worldwide on the existence of animal diseases.

In order to monitor an illness, however, one must first be able to identify its origin. The National Veterinary Services Laboratories (NVSL), with locations in Ames, IA, and Plum Island, NY, are especially valuable in this regard. For instance, in the fall of 1999, a mysterious illness appeared in birds, horses, and humans in upstate New York. Working with laboratory personnel from the Centers for Disease Control and Prevention, personnel at NVSL quickly isolated the cause of the illness, which was soon identified as West Nile virus. This was the first appearance of West Nile virus in the Western Hemisphere.



**Safeguarding American agriculture is a responsibility that requires constant diligence in order to maintain trade markets for animal exports and ensure that animal imports are disease free.**

If the United States ever has an outbreak of a foreign animal disease, VS stands ready to contain or eradicate the disease immediately. This readiness allows trade to continue with minimal interruptions and provides insurance for farmers and producers that dreaded animal diseases will not become established in this country. With its state-of-the-art Emergency Management Operations Center at its headquarters in Riverdale, VS can coordinate efforts to manage disease outbreaks all over the United States. VS also conducts test exercises regularly to practice its response techniques. In the rare event of a serious foreign animal disease outbreak, a VS task force known as the Regional Emergency Animal Disease Eradication Organization (READEO) team can be onsite rapidly to implement the measures necessary to contain the disease. The last time a READEO was called into action was in 1983 to eradicate an outbreak of avian influenza.

### **CITES-Protected Animals and Birds**

In addition to their other duties, APHIS employees cooperate with the Department of the Interior's U.S. Fish and Wildlife Service (FWS) in honoring the Convention on International Trade in Endangered Species in Flora and Fauna (CITES). CITES is a protective treaty that regulates the commercial trade of endangered plants and animals and monitors trade involving species threatened with extinction in the near future. More than 123 countries, including the United States, have endorsed this treaty.

Although FWS is responsible for overseeing all aspects of CITES within the United States, wildlife officials consult with APHIS to ensure that exotic animal species entering the country under CITES meet animal quarantine requirements so that these animals will not introduce pests and diseases that could endanger animal health of the livestock industries of the United States. When U.S. zoos apply to FWS for CITES permits to import protected animals, FWS verifies with APHIS that these facilities are in compliance with the Animal Welfare Act. APHIS inspectors at ports of entry are also trained to identify CITES-protected species and to notify the Department of the Interior if these species are found during inspection.

Safeguarding American agriculture is a responsibility that requires constant diligence in order to maintain trade markets for animal exports and ensure that animal imports are disease free. VS never lets its guard down in the fight against foreign animal diseases. At ports of entry, APHIS headquarters, VS laboratories, and field offices across the Nation, veterinarians are working to ensure that domestic livestock is protected against disease and that all trade policies are in the best interest of U.S. producers and continue to safeguard American agriculture. After all, tomorrow's animal health depends on today's activities.

**For more information about APHIS programs, visit the APHIS homepage at <http://www.aphis.usda.gov>**

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