Plant Protection and Quarantine: Helping U.S. Agriculture Thrive—Across the Country and Around the World

Animal and Plant Health Inspection Service
APHIS 81-05-022

2019 Annual Report
Plant Protection and Quarantine:
Helping U.S. Agriculture Thrive—
Across the Country and Around the World
In 2019, PPQ kept potentially damaging plant pests out of the country.

In 2019, PPQ kept potentially damaging plant pests out of the country.

In 2019, PPQ kept potentially damaging plant pests out of the country.

In 2019, PPQ kept potentially damaging plant pests out of the country.

In 2019, PPQ kept potentially damaging plant pests out of the country.

At-a-Glance
pest entry
Border Protection to take quick action to prevent shipments, allowing PPQ and U.S. Customs and were quarantine significant—found in imported goods (including household goods and vehicles), plants and bulbs from 26 countries before they shipped to the United States

In fiscal year 2019 to inspect 137,816 military and 513,157 pieces of cargo before they returned stateside

Inspected 13.6 million passengers’ bags in New York City

Received 24,525 permits for plant products, seed, and certain organisms, as well as 9,098 responses letters—also responded to 13,260

Conducted 11 of 12 exotic fruit fly outbreaks in the United States that started in 2018 and 2019

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided $6.35 million to support 27 clean plant centers in 12 States and Territories that diagnose, clean, and distribute disease-free stocks of fruit trees, grapes, hops, broccoli, citrus, sweet potatoes, and rose to growers

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated 11 of 12 exotic fruit fly outbreaks in the United States that started in 2018 and 2019

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,

Provided critical support—such as inspecting and certifying shipments, conducting technical negotiations, and providing online trade tools—to the export of U.S. plants and plant products valued at $86 billion in fiscal year 2019

Worked with international organizations and North American maritime and shipping industries to promote a container cleaning guidelines that will help prevent the spread of damaging pests

Eradicated Asian longhorned beetles from all of New York City

Reduced bee vector populations by 52 percent in the Lower Rio Grande Valley and 87 percent in Tamaulipas, Mexico, working closely with our State, industry, and Mexican government partners

Seized 4,331 prohibited agricultural items valued at over $2.3 million from retail stores,

Processed 856,527 Lacey Act declarations,
Five years ago, we challenged ourselves to find new and better ways to help U.S. agriculture thrive—across the country and around the world. We set in motion an ambitious agenda to transform the United States’ plant health safeguarding system and make agricultural trade safer. At the same time, we invested in our employees and took steps to make our organization stronger.

Since then we’ve made significant progress. We implemented risk-based sampling in our plant inspection stations and started implementing it in the maritime cargo environment, helping to focus inspections on imported shipments that are more likely to have a pest problem. We continue testing and evaluating the use of molecular diagnostics at U.S. ports of entry because of their potential to help speed the clearance of low-risk cargo and detect high-risk pests that physical inspection would miss.

Domestically, we improved the collection, management, and accessibility of quality data to strengthen policy and operational decision making. We also trained canines to find specific pests in the field, including Mexican fruit fly, plum pox virus, and coconut rhinoceros beetle. Soon, these dogs could help PPQ determine an infestation’s boundaries, identify pest-free areas, and detect traces of insect larvae or plant diseases in imported cargo and mail.

Internationally, we led the development and implementation of the International Plant Protection Convention’s global ePhyto system, which allows countries to electronically exchange fraud-resistant phytosanitary certificates at very low cost. These critical documents make trade safer by attesting that a country’s exports meet the importing country’s plant health requirements. We also worked with our Canadian partners and the maritime industry to form the North American Sea Container Initiative (NASCI), which promotes best practices for cleaning sea containers to reduce the global spread of pests.

These advancements have positioned us to realize significant results for U.S. agriculture. Working with our State and industry cooperators, we have achieved an astonishing number of plant pest and disease eradications from the United States in the last 5 years. They include plum pox virus, the world’s most devastating stone fruit disease; pink bollworm, which used to cost the U.S. cotton industry $32 million annually in control costs and yield losses; European grapevine moth, which threatened California’s $4 billion annual grape crop; and dozens of exotic fruit fly outbreaks in California, Florida, and Texas, which threatened billions of dollars’ worth of crops in those States.

In addition, we declared the tree-killing Asian longhorned beetle eradicated from all areas of New York City and parts of Ohio.

On the trade side, our work has supported U.S. agricultural exports valued at $137 billion annually on average between 2015 and 2019. For example, in 2019 we opened the market for U.S. blueberries to Vietnam with an estimated value of $10 million upon maturity; in 2018, corn to Myanmar with an estimated value of $6 million; and in 2017, U.S. rice (estimated market of $40 million) and California strawberries (estimated market of $10 million) to China. Over the last 5 years, APHIS and cooperators issued over 880,000 phytosanitary certificates annually on average for U.S. plant and plant product exports. We negotiated with foreign governments to release more than 1,400 U.S.-origin plant and plant product shipments worth nearly $300 million that were held at ports abroad due to paperwork issues or plant health concerns. And, we worked with 182 International Plant Protection Convention members to adopt 47 new international standards and protocols that facilitate safe agricultural trade.

I am pleased to share these and many other achievements in the pages of this report.

I am also excited to work with all of you—our employees, partners, and stakeholders—as we look to the future and challenge ourselves again to find even more ways to help U.S. agriculture thrive—across the country and around the world.

Sincerely,

Osama El-Lissy
Deputy Administrator
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
We safeguard U.S. agriculture and natural resources against the entry, establishment, and spread of economically and environmentally significant pests and facilitate the safe trade of agricultural products.
Strengthening Pest Exclusion

To protect American farms and forests from harmful plant pests and foreign animal diseases, PPQ has created a system of safeguards that begins overseas in other countries, continues through U.S. ports of entry, and extends across the Nation. It’s called the Safeguarding Continuum. Along the continuum, PPQ experts assess risks associated with pests that hitchhike on and in the agricultural products we import and take action to protect U.S. agriculture and natural resources while keeping international trade and travel moving.

In our 2014 to 2019 Strategic Plan, we established two objectives for strengthening safeguarding along this continuum. The first: to address risks at the first opportunity—when the likelihood of pest exclusion is greatest. The second: to make better use of the information we collect at each point along the continuum to target and reduce threats to U.S. agricultural and natural resources.

Throughout 2019, we made significant progress in three strategic initiatives we introduced in 2018. These initiatives help us use available resources in a way that maximizes risk management all along the Safeguarding Continuum. They include developing an offshore greenhouse certification program to minimize the risks associated with the high volumes of plant cuttings that enter our country every day, implementing risk-based sampling to maximize the effectiveness of our port-of-entry inspections, and moving closer to operational use of molecular diagnostics at our ports of entry to detect high-risk pests that physical inspections would miss.

Taking the Fight Offshore

One of the most effective ways to ensure the safe movement of commodities and other products into the United States is to address pest threats where they originate. When we take action to prevent or deal with pests in imported goods before they reach our shores, we significantly increase our ability to protect the health and marketability of our Nation’s agricultural and natural resources.

Pre-Clearing Commodity and Military Shipments

In 2019, our commodity preclearance program spanned 26 countries and covered 72 different types of commodities. Through this program, we inspected and pre-cleared 2 billion pounds of fresh fruits and vegetables and more than 1 billion plants and bulbs. This work not only ensures the safety of imported commodities, but also benefits importers whose inspected, pre-cleared, and certified products may pass through U.S. ports of entry without delay.

To help the U.S. military prevent the spread of foreign animal diseases and plant pests, we worked with the U.S. Department of Defense to inspect military equipment, cargo, and household goods returning stateside. This included inspecting 1,775,850 military passengers, 495,516 packages of personal goods (including household goods and vehicles), and 53,317 pieces of cargo in fiscal year 2019 before they returned stateside, facilitating military readiness by speeding the safe entry of these items into the United States.

In 2019, we inspected and pre-cleared 4 billion pounds of fresh fruits and vegetables and more than 1 billion plants and bulbs from 26 countries before they shipped to the United States.
Expanding Offshore Certification

PPQ’s voluntary offshore treatment and production facilities stop high-demand, large-volume commodities to the United States, such as ornamental, medicinal, and tropical, as they are at the port of origin to mainland agriculture. To prevent their spread, PPQ inspected nearly 1.6 million passenger bags before they left Hawaii and Puerto Rico in 2019. Inspecting 294,683 prohibited agricultural products and 1,985 quarantine pests. We also conducted 99,131 inspections and 5,575 treatments of agricultural commodities that shipped from Hawaii and Puerto Rico to the mainland. This work safeguards mainland agriculture while facilitating interstate trade and travel.

In total, PPQ inspectors at our 16 plant inspection stations cleared 21,270 shipments containing more than 1.3 billion cuttings and nearly half of all plants sold in U.S. retail stores. In 2019, PPQ concluded a 2-year trial program for exporting pest-free cuttings. During the trial program, PPQ personnel at the Miami and Newark stations cleared 74 shipments containing 7 million cuttings from certified and non-certified facilities to prevent pest action now. Throughout the last 2 months of the program, certified facilities consistently averaged 90 percent compliance, and several facilities repeatedly achieved 100 percent compliance. Based on this data, PPQ will formally establish the program in 2020.

Facilitating Safe Trade and Travel Between Hawai’i, Puerto Rico and the Mainland

Through the Greater Caribbean Safeguarding Initiative, PPQ has partnered with 15 Caribbean countries to prevent the introduction and spread of high-risk plant pests, including exotic fruit flies and the tomato leafminer (Tuta absoluta). We supported plant quarantine training and pest surveys, shared scientific and technical expertise, assisted with emergency response and preparedness, and cooperated on pest surveillance for these priority plant pests to provide an early-warning system to protect U.S. citrus, stone fruits, vegetables, and other specialty crops. In 2019, PPQ and cooperating countries increased surveillance for these priority plant pests, including exotic fruit flies and the tomato leafminer. We supported plant quarantine training and pest surveys, shared scientific and technical expertise, assisted with emergency response and preparedness, and cooperated on pest surveillance for these priority plant pests to provide an early-warning system to protect U.S. citrus, stone fruits, vegetables, and other specialty crops. In 2019, PPQ and cooperating countries increased surveillance for these priority plant pests, including exotic fruit flies and the tomato leafminer.

In 2019, we continued to work with countries around the world to stop the spread of damaging plant pests, including exotic fruit flies and the tomato leafminer. As a result of our technical coordination with the governments of Canada, Japan, China, and Korea, we expect 2019 data to be similar to 2018 for most ports, when we set an all-time high for Far East-origin vessels complying with the certification requirements—exceeding 92 percent. Several of the larger ports—Los Angeles, CA; Newark, NJ; New York City/Newark, NJ—all exceeded 94 percent compliance in New York City/Newark at over 90 percent.

PPQ continued collaborating with regional partner organizations and stakeholders throughout the Caribbean to prevent the introduction and spread of high-risk plant pests, including exotic fruit flies and the tomato leafminer. To ensure these pests do not spread to mainland agriculture while facilitating interstate trade and travel, we helped importers to send pest-free cuttings.

In 2019, we continued to work with countries around the world to stop the spread of damaging plant pests, including exotic fruit flies and the tomato leafminer. We supported plant quarantine training and pest surveys, shared scientific and technical expertise, assisted with emergency response and preparedness, and cooperated on pest surveillance for these priority plant pests to provide an early-warning system to protect U.S. citrus, stone fruits, vegetables, and other specialty crops. In 2019, PPQ and cooperating countries increased surveillance for these priority plant pests, including exotic fruit flies and the tomato leafminer.

Zeruing On Higher Risk Shipments at Ports of Entry

PPQ requires panting, compliance checks, and crippling edge tools and technologies that allow us and our U.S. and Canadian partners to rapidly detect and address plant pests and disease. For example, PPQ and our CBP and State partners use a handheld thermal camera to efficiently detect and address plant pests and disease entering from foreign shipments and passenger bags. We are also refining our ability to use the pest interception data we collect during port-of-entry inspections to better predict and reduce pest threats approaching our shores.

Through the Greater Caribbean Safeguarding Initiative, PPQ has partnered with 15 Caribbean countries to implement the Don’t Pack a Pest traveler information campaign. This effort raises awareness about the importance of declaring agricultural items when traveling between the United States and the Caribbean. It is the only private sector initiative of its kind to protect U.S. crops from non-native pests and diseases. In 2019, we expanded public outreach to travelers moving between the United States and the Caribbean.

By raising awareness about plant pests among travelers, PPQ and our partners can thwart the introduction of high-risk pests. The Don’t Pack a Pest campaign is one that applies quantitative methods—such as network analysis, information theory, data mining, statistics, optimization—on pest threat levels to predict future scenarios or devise patterns that would be otherwise intractable. These methods will help us anticipate, prepare for, and when possible, stop future pest incursions. To realize this capability, PPQ created an Advanced Analytics Team in 2019.

The analytics team will continuously scan and analyze the complex and ever-changing phytosanitary landscape in which we operate. They will use advanced quantitative methods to help us better predict future pest trends in high-risk ports and regions. As part of this work, the analytics team will help us anticipate, prepare for, and when possible, stop future pest incursions. To realize this capability, PPQ created an Advanced Analytics Team in 2019.

Establishing an Advanced Analytics Team

As part of our daily work, PPQ and our CBP and State partners collect a tremendous amount of pest interception and pest survey data. PPQ is maximizing that data’s value by embracing advanced analytics, a new area that applies quantitative methods—such as network analysis, information theory, data mining, statistics, optimization—to predict future scenarios or devise patterns that would be otherwise intractable. These methods will help us anticipate, prepare for, and when possible, stop future pest incursions. To realize this capability, PPQ created an Advanced Analytics Team in 2019.

The analytics team will continuously scan and analyze the complex and ever-changing phytosanitary landscape in which we operate. They will use advanced quantitative methods to help us better predict future pest trends in high-risk ports and regions.

Expanding Offshore Certification

PPQ’unsurpassed experience and production facilities stop high-demand, large-volume commodities to the United States, such as ornamental, medicinal, and tropical, as they are at the port of origin to mainland agriculture. To prevent their spread, PPQ inspected nearly 1.6 million passenger bags before they left Hawaii and Puerto Rico in 2019. Inspecting 294,683 prohibited agricultural products and 1,985 quarantine pests. We also conducted 99,131 inspections and 5,575 treatments of agricultural commodities that shipped from Hawaii and Puerto Rico to the mainland. This work safeguards mainland agriculture while facilitating interstate trade and travel.

In total, PPQ inspectors at our 16 plant inspection stations cleared 21,270 shipments containing more than 1.3 billion cuttings and nearly half of all plants sold in U.S. retail stores. In 2019, PPQ concluded a 2-year trial program for exporting pest-free cuttings. During the trial program, PPQ personnel at the Miami and Newark stations cleared 74 shipments containing 7 million cuttings from certified and non-certified facilities to prevent pest action now. Throughout the last 2 months of the program, certified facilities consistently averaged 90 percent compliance, and several facilities repeatedly achieved 100 percent compliance. Based on this data, PPQ will formally establish the program in 2020.

Facilitating Safe Trade and Travel Between Hawai’i, Puerto Rico and the Mainland

Through the Greater Caribbean Safeguarding Initiative, PPQ has partnered with 15 Caribbean countries to implement the Don’t Pack a Pest traveler information campaign. This effort raises awareness about the importance of declaring agricultural items when traveling between the United States and the Caribbean. It is the only private sector initiative of its kind to protect U.S. crops from non-native pests and diseases. In 2019, we expanded public outreach to travelers moving between the United States and the Caribbean.

By raising awareness about plant pests among travelers, PPQ and our partners can thwart the introduction of high-risk pests. The Don’t Pack a Pest campaign is one that applies quantitative methods—such as network analysis, information theory, data mining, statistics, optimization—to predict future scenarios or devise patterns that would be otherwise intractable. These methods will help us anticipate, prepare for, and when possible, stop future pest incursions. To realize this capability, PPQ created an Advanced Analytics Team in 2019.

The analytics team will continuously scan and analyze the complex and ever-changing phytosanitary landscape in which we operate. They will use advanced quantitative methods to help us better predict future pest trends in high-risk ports and regions.

Establishing an Advanced Analytics Team

As part of our daily work, PPQ and our CBP and State partners collect a tremendous amount of pest interception and pest survey data. PPQ is maximizing that data’s value by embracing advanced analytics, a new area that applies quantitative methods—such as network analysis, information theory, data mining, statistics, optimization—to predict future scenarios or devise patterns that would be otherwise intractable. These methods will help us anticipate, prepare for, and when possible, stop future pest incursions. To realize this capability, PPQ created an Advanced Analytics Team in 2019.

4 Helping U.S. Agriculture Thrive—Across the Country and Around the World

5 Helping U.S. Agriculture Thrive—Across the Country and Around the World
PPQ and U.S. Customs and Border Protection conducted a successful trial program to expand risk-based sampling use in the cargo environment at the ports of entry.

Using molecular diagnostics, PPQ sequenced the Asian strain of the bacterium that causes Huanglongbing, allowing us to improve our monitoring of one of the world’s most serious citrus diseases.

In 2019, PPQ took immediate action to safeguard U.S. tomato and pepper production worth more than $2.3 billion annually against tomato brown rugose fruit virus (ToBRFV), which causes severe fruit loss in tomatoes and peppers. By working closely with our partners and stakeholders, we are safeguarding the tomato and pepper industries and the health of the food supply chain.

In 2019, PPQ reviewed pests and pathways of concern to determine their priority for MDx testing in the port environment. We evaluated MDx testing and staffing needs and created training and staffing plans to support MDx use at the ports. In addition, we expanded partnerships that will help us to identify, develop, and implement targeted MDx testing at the port, and to evaluate results in order policy, operation, and further scientific and technological development. In fiscal year (FY) 2020, we will test these principles to evaluate whether these advancements implement two species-specific MDx testing projects at plant inspection stations. PPQ has been applying MDx outside of the port environment. For example, using next-generation sequencing (NGS), Beltsville, MD, laboratory developed a process in 2019 that successfully sequenced the first full genome of the Asian strain of bacterium that causes Huanglongbing (HLB), or citrus greening, from citrus root tissue. Citrus roots are a challenging means from which to obtain HLB genomic sequence because the vast majority of bacteria present are non-target organisms. This genomic information helps PPQ and our partners to better manage the spread of distinct strains of this emerging pathogen.

Safeguarding U.S. Specialty Crops Against Seed-Borne Pathogens

For PPQ, it has worked closely with State and Federal cooperators, producers, importers, and trading partners to safeguard U.S. agriculture against weed, disease, and pest introductions. In 2019, PPQ responded to two seed-borne plant pests: potato行使formae potaninii, which can cause diseases in potatoes, tomato, and pepper, and other specialty crops; and tomato brown rugose fruit virus (ToBRFV), which causes severe fruit loss in tomatoes and peppers. To safeguard against the import of HLB and other major damaging pathogens, PPQ uses the latest available science and collaborates closely with our partners and stakeholders, we are safeguarding the tomato and pepper industries and the health of the food supply chain.

In July 2018, PPQ licensed a test of imported tomato seed, which had been re-exported to another country, was positive for quarantine pests. This included issuing a Federal Order that imposed restrictions on import of tomato and pepper seed lots and made exporting countries test and certify that the seeds are negative for quarantine pests. The results, we published a Federal Order in August 2019 requiring exporting countries to test for ToBRFV and for the first time in 2019, PPQ took immediate action to safeguard U.S. tomato and pepper production worth more than $2.3 billion annually against tomato brown rugose fruit virus, which can cause severe fruit loss.
In 2019, PPQ's Smuggling, Interdiction, and Trade Compliance (SITC) officers conducted a special operation to gather intelligence on a potential pathway for Oriental fruit fly. During the operation, they conducted 2,480 inspections, issued 244 emergency action notices, cited 3 violations, and seized a total of 4,750 pounds of mangoes that were destined to States at high risk of Oriental fruit fly introduction.

Finding Pests Before They Cause Harm

PPQ officers monitor retail markets and retail stores while analysts monitor internet sales looking for prohibited or restricted agricultural products that may have entered into the country illegally. These products may harbor invasive plant pests or foreign animal diseases that could ruin our Nation's crops, forests, or livestock. In 2019, PPQ seized 4,331 prohibited agricultural items that could harm our Nation's crops, livestock, or forests. We also conducted 30 national recalls of illegally imported agricultural products, valued at over $2.3 million from retail stores, internet sales, and during express courier package inspections.

Case Study
Closing a High-Risk Pathway

T he first break bulk cargo vessel arrived at the Houston Seaport on June 10, 2018, with two shipments of hydroelectricity equipment on board. Although the wood packaging was compliant with ISPM 15, PPQ confirmed the wood-boring pests were in fact Sirex woodwasp, a quarantine pest capable of causing serious damage to pine plantations and forests in the southern United States, said Stuart Kuehn, PPQ’s State Plant Health Director for Texas. “As soon as PPQ confirmed the wood-boring pests were in fact Sirex woodwasp, CBP issued several emergency action notifications ordering the re-export of the infested shipments.”

The importer’s attorney then asked CBP to repackage the imported equipment from its packaging so that the wood could enter. But given the imminent pest risk, CBP denied that request. The attorney’s argument was that the equipment’s ISPM mark was recognized by Texas State’s Department of Agriculture as tracking overseas companies that send non-compliant WPM, seeking ways to minimize WPM use, and exploring the benefits of reduced reliance on wood packaging material.

When a break bulk cargo vessel arrived at the Houston Seaport with two shipments of hydroelectricity equipment on June 9, 2018, a group of PPQ and U.S. Customs and Border Protection (CBP) officers noticed that the wood crates were infested with live wood-boring pests.

Houston Seaport CBP Agriculture Specialist worked diligently to inspect the wood crates encasing the 40-megawatt power generation equipment and uphold the re-export order. After much deliberation, the judge determined there was no jurisdiction and transferred the case to the U.S. Court for the Southern District of Texas. During the hearing, CBP officers testified about their impartial process, and PPQ experts defended our decision making process and authorities, presenting the molecular analysis report and other supporting evidence. After carefully reviewing all of the evidence, the court denied the plaintiff’s motion and upheld the re-export order.

On July 3, the second vessel carrying the infested shipment left the Houston Seaport. This time, they did not find any live pests and allowed the cargo to enter the United States. This case’s non-agency cooperation protected the United States against the introduction of Sirex woodwasp and helped to safeguard Texas’ $18 billion timber industry and the jobs of more than 100,000 people in that State.

The updated regulations include a new focus on developing alternatives to wood packaging material, such as tracking overseas companies that send non-compliant WPM, seeking ways to minimize WPM use, and exploring the benefits of reduced reliance on wood packaging material.

Finding Pests Before They Cause Harm

In 2019, PPQ’s Smuggling, Interdiction, and Trade Compliance (SITC) officers conducted a special operation to gather intelligence on a potential pathway for Oriental fruit fly. During the operation, they conducted 2,480 inspections, issued 244 emergency action notices, cited 3 violations, and seized a total of 4,750 pounds of mangoes that were destined to States at high risk of Oriental fruit fly introduction.

In 2019, PPQ’s Smuggling, Interdiction, and Trade Compliance (SITC) officers conducted a special operation to gather intelligence on a potential pathway for Oriental fruit fly. During the operation, they conducted 2,480 inspections, issued 244 emergency action notices, cited 3 violations, and seized a total of 4,750 pounds of mangoes that were destined to States at high risk of Oriental fruit fly introduction.

In 2019, PPQ’s Smuggling, Interdiction, and Trade Compliance (SITC) officers conducted a special operation to gather intelligence on a potential pathway for Oriental fruit fly. During the operation, they conducted 2,480 inspections, issued 244 emergency action notices, cited 3 violations, and seized a total of 4,750 pounds of mangoes that were destined to States at high risk of Oriental fruit fly introduction.
When foreign pests capable of harming our Nation’s forests, damaging U.S. crops, or disrupting trade become established in the United States, PPQ works closely with Federal, State, Tribal, and industry partners to control and, when possible, eliminate them from our country. In 2019, we eradicated a number of plant pests and contained and suppressed others to prevent their spread and keep export markets open.

In our Strategic Plan, we established two objectives for optimizing pest management and eradication. The first: to more fully coordinate with and engage our partners to determine where we can and should focus our resources to yield the greatest results. The second: to explore how we might integrate and wisely use the unique capacities of all partners to strengthen and extend PPQ’s domestic programs.

In 2019, we advanced three strategic initiatives that we introduced last year. These initiatives make use of the latest technologies to strengthen our effectiveness and deliver more results for the industries we serve. They include improving data-driven decision making in our domestic pest programs, exploring the use of unmanned aircraft in field operations, and expanding the use of canines for surveys and other pest detection activities.

On the Cutting Edge of Plant Health Protection

PPQ continually evaluates, adapts, and adopts the best available science, tools, and technologies to improve its plant protection methods. From the use of mobile data collection tools to unmanned aircraft, these advances keep PPQ and its partners on the cutting edge in the fight against harmful plant pests and diseases.

Expanding the Use of Drones and Unmanned Aircraft

PPQ has been working on a number of initiatives to make our pest management and eradication programs more efficient and effective. One of these initiatives included challenging our dog teams to detect a wider range of plant pests and diseases, such as Liberica fruit fly (Mythimna) and coconut rhinoceros beetle (CRB). Following several years of successful trials in controlled and natural environments, we deployed two canine teams trained to find CRB in Hawaii in October 2019. We plan to finish training and make the CRB-detecting canine teams fully operational in 2020. We have also launched a trial project with an independent canine facility to determine whether canine teams could detect spotted lanternfly egg masses.

On top of these efforts, we continue to train canine teams to detect prohibited agricultural products in international cargo, passenger baggage, and mail parcels that could carry foreign plant pests or animal diseases, such as African swine fever, into our country and seriously harm our country’s field crops, forests, farms, and environment—and the livelihoods of America’s farmers and ranchers.

For several years, we have been exploring how we could use unmanned aircraft systems (UAS) to support a range of operational needs, including releasing sterile insects, surveying trees, and monitoring rangeland health. Recently, we have started optimizing those systems that proved feasible and cost-effective for field use. To support this effort, we hired a dedicated Development Engineer and trained two employees as UAS remote pilots. We also obtained an exemption from the Federal Aviation Administration allowing us to perform agricultural-related services nationwide with small UAS, including aerial pesticide applications to support eradication programs.

In late 2019, PPQ deployed two canine teams operationally to sniff out coconut rhinoceros beetles in Hawaii.
In 2019, PPQ trained employees across the country to demonstrate accountability to our stakeholders. We also use this data to plan, conduct, and evaluate our domestic safeguarding efforts. We also use this data to plan, conduct, and evaluate our domestic safeguarding efforts, and demonstrate pest-free areas in support of U.S. exports, enable the development of new science-based methods to improve transparency, and demonstrate accountability to our stakeholders. In 2020, we began developing web-based applications to demonstrate accountability to our stakeholders.

In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. For example, the NPB Firewood Working Group, which was established in 2017 to coordinate and disrupt U.S. access to valuable export markets, and crop insurance, and demonstrated accountability to our stakeholders.

In 2020, PPQ funded $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ helped to deliver results. We are a critical part of our pest management and eradication mission. We work with numerous groups to fight threats against plant pests. In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. For example, the NPB Firewood Working Group, which was established in 2017 to coordinate and disrupt U.S. access to valuable export markets, and crop insurance, and demonstrated accountability to our stakeholders.

In 2020, PPQ funded $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace. In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

Making Better Data-Driven Decisions

PPQ uses extensive datasets collected from the field and ports to help our domestic and export markets. We use these data to plan, conduct, and evaluate our domestic safeguarding efforts. We also use these data to plan, conduct, and evaluate our domestic safeguarding efforts. We also use these data to plan, conduct, and evaluate our domestic safeguarding efforts. We also use these data to plan, conduct, and evaluate our domestic safeguarding efforts. We also use these data to plan, conduct, and evaluate our domestic safeguarding efforts.

For example, we use the Plant Pest and Disease Management and Disaster Program. PPQ is charged with allocating this funding for the National Clean Plant Network and cross-state pest management and eradication success. We work with numerous groups to fight threats against plant pests. In 2019, PPQ funded 407 projects to strengthen the Nation’s infrastructure for pest management and eradication. PPQ works with numerous groups to fight threats against plant pests. For example, the NPB Firewood Working Group, which was established in 2017 to coordinate and disrupt U.S. access to valuable export markets, and crop insurance, and demonstrated accountability to our stakeholders.

In 2020, PPQ funded $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ provides $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.

In 2019, PPQ provided $6.35 million to support 27 clean plant centers. These centers diagnose, clean, and distribute disease-free planting stock, helping U.S. specialty crop producers stay competitive in the global marketplace.

In 2019, PPQ helped U.S. cotton producers stay competitive in the global marketplace.
In 2019, PPQ released two sterile Mexican fruit fly (Mexfly) wasps in California release sites. These wasps have reduced ACP populations in Texas by more than 50 percent and by as much as 99 percent around California release sites.

PPQ’s Citrus Health Response Program continued to accelerate the development of sterile fruit flies and the Texas sterile fruit fly release facility in Texas in 2020 and are developing sterile fruit flies in several U.S. and international locations. The sterile fruit fly release facility in Texas in 2020 and are developing sterile fruit flies in several U.S. and international locations.

Research remains a critical priority if we’re going to ensure the U.S. citrus industry flourishes and thrives for the long term. Since 2013, PPQ has led the HSAC multi-agency coordination group, which has invested nearly $38.5 million to speed the development of tools that could help the U.S. citrus industry fight back against HLB. Projects have focused on four critical areas: ACP control, integrated insect control, technologies to prevent new plantings against HLB outbreaks, and early detection and quarantine of newly emerging field trials of several promising control varieties, evaluated treatments, and nutrient applications that have shown promise in lab settings, and explored the potential and economic impact of these diseases. We use food commodities, such as baled hay and other products

To develop rapid identification test kits for IFA. In 2019, PPQ and our cooperators worked to prevent the human-assisted spread of IFA to other areas through the Citrus Health Response Program. The Citrus Health Response Program supported the production and release of the parasitoid wasp in 2019. This parasitoid wasp kills the Asian citrus psyllid, sweet orange scab, and citrus black spot. Our Citrus Health Response Program supports the national program protects 661 million acres of rangeland and 230,500 acres of rangeland, helping to protect approximately 230,500

At the request of Tribes, government agencies, and private landowners, PPQ coordinates area-wide grasshopper and Mormon cricket treatments, when conditions warrant, to help protect more than 665 million acres of rangeland and farmland crops worth over $8.7 billion.

In 2019, USDA Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement from all commercial cotton-producing areas in the continental United States. This announcement

In 2018, PPQ worked with Tribes and tribal partners, university, and industry to develop and carry out pest and disease regulations to protect U.S. State and regional, two nuts, and nursery crops from damage and trade disruptions due to tariffs. In 2017, our efforts directly protected over 6,607,000 acres of specialty crops valued at over $14 billion. In total, PPQ protects specialty crop-producers nationwide worth over $27 billion and nursery crops valued at $2.9 billion.

Citrus Diseases: PPQ makes advisable-to-troublesome with citrus growers to combat citrus canker, Huanglongbing (HLB or citrus greening), Asian citrus psyllid, sweet orange scab, and citrus black spot. We used food commodities, such as baled hay and other products

Grasshoppers and Mormon Crickets: Each year, PPQ monitors and manages grasshopper and Mormon cricket populations on rangeland in 27 western states. If untreated, detrimental grasshopper species and Mormon crickets could devastate crops such as alfalfa, wheat, barley, and corn. They can also significantly reduce harvest and livestock forage, impacting agricultural income for U.S. livestock producers. PPQ monitors $38.5 million to speed the development of tools that could help the U.S. citrus industry fight back against HLB. Projects have focused on four critical areas: ACP control, integrated insect control, technologies to prevent new plantings against HLB outbreaks, and early detection and quarantine of newly emerging.

In 2018, USDA Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement

In 2019, based on survey results and the needs of land managers, PPQ treated more than 1,000,000 acres of rangeland, helping to protect approximately 1,000,000 acres of rangeland and wildlife habitat. We also finalized an environmental impact statement for the National Environmental Policy Act. This document assesses the effect of various grasshopper and Mormon cricket treatments on the environment. We monitor ACP actions on 369 wild native ACP, pest, and citrus fruit and nursery crops.

PPQ stands shoulder-to-shoulder with our partners, our goal is to detect an outbreak early and respond rapidly. Our rule and effective action protects crops and the industry that depend on them, as well as valuable foreign export markets. This, we successfully eradicated 11 of 12 exotic fruit fly outbreaks that started in 2018 and 2019.

Our Citrus Health Response Program also supported the production and release of the banana leaf psyllid. In 2019, this parasitoid wasp kills the Asian citrus psyllid (ACP)—the major insect that spreads HLB—and has helped reduce ACP populations in Texas by more than 90 percent and by as much as 99 percent around California release sites.

It also tracks and monitors grasshopper and Mormon cricket populations on rangeland in 27 western states. If untreated, detrimental grasshopper species and Mormon crickets could devastate crops such as alfalfa, wheat, barley, and corn. They can also significantly reduce harvest and livestock forage, impacting agricultural income for U.S. livestock producers. PPQ monitors $38.5 million to speed the development of tools that could help the U.S. citrus industry fight back against HLB. Projects have focused on four critical areas: ACP control, integrated insect control, technologies to prevent new plantings against HLB outbreaks, and early detection and quarantine of newly emerging.

In 2018, PPQ monitored and managed grasshopper and Mormon cricket populations on rangeland in 27 western states. If untreated, detrimental grasshopper species and Mormon crickets could devastate crops such as alfalfa, wheat, barley, and corn. They can also significantly reduce harvest and livestock forage, impacting agricultural income for U.S. livestock producers. PPQ monitors $38.5 million to speed the development of tools that could help the U.S. citrus industry fight back against HLB. Projects have focused on four critical areas: ACP control, integrated insect control, technologies to prevent new plantings against HLB outbreaks, and early detection and quarantine of newly emerging.

In 2018, USDAs Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement

In 2018, USDAs Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement

In 2018, USDAs Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement

In 2018, USDAs Secretary Sonny Perdue officially announced the successful eradication of pink bollworm from all commercial cotton-producing areas in the continental United States. This announcement
In 2019, PPQ continued to work closely with the New York State Department of Agriculture and Markets and the Canadian government to control the European cherry fruit fly in the United States and maintain key export markets. Our program staff implemented trapping, treatments, and a systematic approach for managing ECFF; conducted larval studies to determine an effective approach for managing ECFF; tested trap and lure combinations; and conducted surveys to determine the potential spread of the pest in California. Together, we conducted aerial surveys in 47 counties, treated more than 21,000 acres, and inspected 28,000 nursery stock shipments from Idaho, saving $25 million dollars of apple production worth more than $1.1 billion in 2019.

Potato Potato: Working with State departments of agriculture and the potato industry, PPQ is fighting against two major potato pests: pale cyst nematode in Idaho and golden nematode in New York. In Idaho, PPQ and partners continue to reduce viable pale cyst nematode populations in Idaho’s host range, depleted EPTD host stands, and EPTD associations with crops, including potatoes. Idaho’s established potato is a facilitating seed trade for the New York cherry industry, and successfully prevented the movement of the pest outside of the quarantine area.

PPQ and the New York State Department of Agriculture and Markets maintain an active control and mitigation program in New York to prevent the spread of golden nematode. Since 2015, PPQ has cooperated with California’s tree nut industries to combat the navel orangeworm. Scientists have adapted sterile insect technique—also known as sex attractive sterile male technique (SIT)—to help successfully eliminate pink bollworm from the United States in response to pressures from California’s tree nut industries to combat the navel orangeworm. Scientists have adapted sterile insect technique (SIT) to help successfully eliminate pink bollworm from the United States. For 10 years, the United States battled PPQ, the most devastating tribal disease of stone fruit worldwide. If established, it would have devastated the United States’ stone fruit industry; decimated commercial nursery production, including ornamental and dried-flower plants; impacted specialty plants at botanical gardens and arboreums; and negatively impacted species and native biodiversity. From the beginning, the PPQ eradication program used a cooperative effort among PPQ, USDA’s Agricultural Research Service, departments of agriculture as impacted states, the Turcato family, industry, academia, growers, and horticulturists. Working with our partners, PPQ eradicated this disease, thereby protecting the United States’ stone fruit industry, which includes 1.3 million commercial production acres valued at $6.6 billion annually, with an annual export value in excess of $1 billion. The cooperative PPQ eradication program engaged the uninterrupted trade of stone fruits throughout the country, internationally, helping the multi-billion-dollar nursery and ornamental industry, and the fruit and vegetable industry, with California’s navel orangeworm and the potato industry, PPQ is fighting back against two major potato pests: pale cyst nematode in Idaho and golden nematode in New York. In Idaho, PPQ and partners continue to reduce viable pale cyst nematode populations in Idaho’s host range, depleted EPTD host stands, and EPTD associations with crops, including potatoes. Idaho’s established potato is a facilitating seed trade for the New York cherry industry, and successfully prevented the movement of the pest outside of the quarantine area.

PPQ employees collect soil samples in an Idaho potato field to screen for pale cyst nematodes, a major potato pest. These surveys are necessary to detect the pest and protect U.S. access to valuable export markets.

Plum Pox Virus: On October 17, 2019, USDA declared the eradication of plum pox virus (PPV) from the United States. For 15 years, the United States battled PPV, the most devastating viral disease of stone fruit worldwide. If established, it would have devastated the United States’ stone fruit industry; decimated commercial nursery production, including ornamental and dried-flower plants; impacted specialty plants at botanical gardens and arboreums; and negatively impacted species and native biodiversity. From the beginning, the PPQ eradication program used a cooperative effort among PPQ, USDA’s Agricultural Research Service, departments of agriculture as impacted states, the Turcato family, industry, academia, growers, and horticulturists. Working with our partners, PPQ eradicated this disease, thereby protecting the United States’ stone fruit industry, which includes 1.3 million commercial production acres valued at $6.6 billion annually, with an annual export value in excess of $1 billion. The cooperative PPQ eradication program engaged the uninterrupted trade of stone fruits throughout the country, internationally, helping the multi-billion-dollar nursery and ornamental industry, and the fruit and vegetable industry, with California’s navel orangeworm and the potato industry, PPQ is fighting back against two major potato pests: pale cyst nematode in Idaho and golden nematode in New York. In Idaho, PPQ and partners continue to reduce viable pale cyst nematode populations in Idaho’s host range, depleted EPTD host stands, and EPTD associations with crops, including potatoes. Idaho’s established potato is a facilitating seed trade for the New York cherry industry, and successfully prevented the movement of the pest outside of the quarantine area.

PPQ’s efforts to combat PPV included planting resistance breeding programs, sanitzing more than 2,500 pieces of farm equipment to protect U.S. potato acreage free of this pest. In 2019, the program adopted strategies already used in the Idaho program and began focusing regulatory activities on indexed and deregulated fields rather than along geographic boundaries. As a result, we have been able to also reduce the regulated area by more than 1.1 million acres—or 85 percent—allowing farmers to grow and trade crops without restrictions. Together, the Idaho and New York programs protect 468,503 acres of potato production nationwide and export markets worth more than $22 million in 2019.
Combating Tree Pests

PPQ continues its battle against two destructive, wood-boring beetles: the Asian longhorned beetle (ALB) and emerald ash borer (EAB). ALB is an invasive insect that feeds on a wide variety of trees in the United States, especially killing them. If left to become established here, the beetle could become one of the most destructive and costly species ever to enter the country. The beetle threatens urban and suburban shade trees, ornamental resources such as parks, and forest resources and wildlife. It could also harm industries such as maple syrup production, hardwood lumber processing, nurseries, and tourism.

EAB is a beetle that feeds on a wide variety of trees in the United States, eventually killing them. If it were to become established here, this beetle could become one of the most destructive and costly species ever to enter the country. The beetle threatens urban and suburban shade trees, ornamental resources such as parks, and forest resources and wildlife. It could also harm industries such as maple syrup production, hardwood lumber processing, nurseries, and tourism.

The ALB most likely came to the United States inside wood packaging material from Asia. Since 1996, the beetle has been found in five States (New York, New Jersey, Illinois, Pennsylvania, and California). We have eradicated infestations in Illinois, New Jersey, and parts of New York, Massachusetts, and Ohio. In 2019, we declared eradication in three Ohio townships. In 2019, PPQ released wasps in 29 States and the District of Columbia to help control beetle populations and protect U.S. ash trees.

Program against EAB has been more elusive. Despite best efforts, the domatological quaran tine has not stopped this pest from significantly expanding its range. It is now found in 39 States and the District of Columbia, and it has killed more than 100 million ash trees. In 2019, APHIS proposed a program to end our domestic regulatory activity, which included acrornathoth, or issuing permits, certifications, and compliance agreements; making site visits; and conducting investigations of suspected violations. If we decide to end the domestic activity, PPQ would instead focus on developing and releasing biological control agents (bioco ntrol) to manage the pest.

For several years, PPQ has used EAB’s natural enemies—tiny stingless wasps—as biocontrol agents. In 2019, we released these wasps in 28 States and 306 counties, the District of Columbia, and 3 Canadian provinces. During 2019, PPQ released wasps in 3 new States (Rhode Island, Delaware, and Florida) and 14 new counties. The goal of releasing these biocontrol agents is to find predators or parasites, and more importantly, attack and kill EAB in 2019. For EAB, we released 20 percent more of these stingless wasps than we did in 2018. A total of 790,282 wasps were released in 2019 to help control EAB populations and protect U.S. ash trees. Early observations show that young regenerating ash trees are benefiting from these biocontrol releases.

Spotted Lanternfly

PPQ and our cooperators used over $30 million in federal funds in FY 2019 to continue addressing the reported lanternfly (LTL) infestation in the southeast portion of Pennsylvania and seven other States: Delaware, Maryland, New Jersey, New York, North Carolina, Virginia, and West Virginia. These eight states have joined together in the cooperative fight against this pest. Our goal is to detect, contain, control, and supress SLF populations and regulate agricultural and forest industries. To accomplish this goal, we are carrying out an acro -site integrated pest management strategy that includes detecting surveys, control measures to treat the pest and its preferred host, and outreach activities. APHIS is not planning to enact a Federal quarantine at this time. States are enacting quarantines to prevent its further spread. Several State quarantines require businesses and organizations to obtain a permit before they move products, vehicles, or other conveyances within or out of the SLF-quarantined area. The permit establishes what the businesses must meet to prevent the pest’s spread. We also continue to safeguard against the introduction of this pest into other parts of the country through post-entry inspection and by targeting critical pathways from countries known to have SLF.

In 2019, PPQ launched a robust SLF public awareness effort through Hungry Pests, our invasive species outreach program. This effort included online videos, public service announcements, social media posts, outreach materials, a business outreach kit, and English- and Spanish-language radio media tours. Throughout 2019, APHIS supported the SLF Cooperative Program for Pennsylvania and other States to ensure consistent messaging and outreach coordination. PPQ and 32 States will survey for SLF in 2020 through the Cooperative Agricultural Pest Survey program. These surveys will help us quickly detect and rapidly respond to accurate and consistent monitoring and outreach efforts. APHIS and 22 States will survey for SLF in 2021 through the Cooperative Agricultural Pest Survey program. These surveys will help us quickly detect and rapidly respond to accurate and consistent monitoring and outreach efforts.

At our Brighton, MI, facility, PPQ rears stingless wasps that attack and kill the emerald ash borer beetle. In 2019, a total of 790,282 wasps were released in 29 States and the District of Columbia to help control beetle populations and protect U.S. ash trees.
How PPQ and Our Partners Eradicated Plum Pox Virus (PPV) at a Glance

**Case Study**

### The disease:
Plum Pox Virus (PPV) is a viral disease that threatens stone fruit orchards. PPV is spread by small aphids that can move from tree to tree, infecting them with the virus. The disease can spread quickly and infect many trees in a season, making it challenging to control.

### How it spreads:
- **Aphids** carry the virus from tree to tree by moving from infected to uninfected plants.
- The virus can infect almonds, apricots, and other stone fruits, making them unmarketable. The virus can also infect wild, backyard, and urban stone fruit plants, making them vulnerable to other, potentially fatal viruses.
- PPV can also infect almonds, apricots, and other stone fruit varieties. It makes stone fruit trees more susceptible to other diseases and pests.

### Partnerships:
- **Establishing PPQ’s Laurel Levy Memorial Fund:** PPQ established a fund in honor of its former Director, Laurel Levy, who led the PPV eradication program and dedicated her life to fighting diseases that threatened America’s agricultural products.
- **Continuing communication with partners:** PPQ continues to partner with growers, researchers, and other stakeholders to monitor and control PPV outbreaks.

### Keeping PPV Out
- **Import controls:** PPQ enforces strict import controls to prevent the entry of PPV-infected plants into the United States. This includes requiring that all imported stone fruit trees be screened and certified as disease-free.
- **Surveillance:** PPQ conducts quarantine inspections and surveillance to detect PPV early and prevent its introduction into the United States.

### Laurelene Levy’s Erady:ous Contributions
Laurene Levy was a pioneering scientist who made significant contributions to the PPV eradication program. After her death in 2009, the disease was named in her honor, and the Laurel Levy Memorial Fund was established to support research and education related to PPV. Levy’s dedication to fighting diseases that threaten America’s agricultural products continues to inspire new generations of researchers and activists.

### National Science Program Coordinator Don Seaver notes that PPQ’s Laurel Levy Fund remains an important source of support for researchers who are working to control PPV and other diseases that threaten America’s agricultural products.

### National Policy Manager Lynn unpublished data about the success of the PPV eradication program, indicating that PPQ’s efforts have been effective in preventing the spread of PPV in the United States.

### Conclusion
PPQ’s Laurel Levy Fund continues to support research and education related to PPV, ensuring that the work of Laurelene Levy and her colleagues continues to advance our understanding of how to prevent the spread of this disease.
When global trade brings tremendous benefit, it also brings risk. Potentially harmful plant and animal pests and diseases can hitchhike on or in the plants, fruit, vegetables, and other products we trade. To help the world move billions of dollars in commodities without spreading invasive pests and diseases, PPQ works with countries around the globe to promote a safe, fair, and predictable trade system. This system, built on internationally and regionally harmonized, science-based plant health measures, not only reduces pest risks, but also helps to create a level playing field for U.S. products abroad.

In our Strategic Plan, we set a goal of increasing the safety of agricultural trade and expanding economic opportunities for U.S. products in the global marketplace by promoting widespread use of science-based standards, resolving plant health barriers to trade, and helping U.S. producers meet foreign market access requirements.

Two years ago, we introduced four strategic initiatives that promise to make agricultural trade more predictable, fair, and safe. They include achieving the electronic exchange of phytosanitary certificates through a global ePhyto system, developing a regulatory framework to manage pest risks linked with the international movement of seed, developing strategies to address pest risks from electronic commerce, and promoting the use of voluntary guidelines to reduce pest risks associated with the global movement of sea containers.

Creating a Safe, Smooth-Functioning Trade System
PPQ aims at the negotiating tables of two of the world’s renowned plant health standard-setting organizations: the International Plant Protection Convention (IPPC) and the North American Plant Protection Organization (NAPPO). Through these forums, PPQ is building important international and regional relationships that help the United States advance plant health protection standards and harmonized regulatory approaches that are necessary for the free movement of global agricultural trade.

Making Agricultural Trade Safe and Supporting U.S. Exports

At the regional level, PPQ helped NAPPO conduct a workshop in Costa Rica on seed health and trade in March 2019 for more than 50 government and industry participants from the Americas. The workshop focused on implementing ISPM 38, the international standard for seed trade. A new protocol for establishing phytosanitary import requirements, inspection guidelines for sampling and testing, and guidelines for containing media for export and re-export. The workshop also advanced the importance of harmonizing seed trade requirements among countries in the Americas.

In 2019, PPQ worked through the International Plant Protection Convention to encourage global adoption of eight new science-based trade standards that contribute to a safe, fair, and predictable trade system.
Advancing the Global Use of Modern Technologies

Internationally, PPQ has been instrumental in building the world’s first global electronic phytosanitary portal system, which went live in 2018. Phytosanitary certificates are critical documents attesting that a country’s plant health requirements have been met and that the consignment meets the importing country’s plant health standards. The ePhyto system makes it easy to transfer data between trading partners, making it convenient for importers to use, and more than 70 countries are in the process of adopting the ePhyto system. In November 2019, PPQ hosted an ePhyto workshop for 27 plant health officials from 23 African countries to help their countries learn how to connect their countries to the system, either through a national system or via the global system. In addition, PPQ was able to share key phytosanitary tools and knowledge with workshop participants, helping to improve plant protection services in the African region and strengthening our relationship with our African plant health counterparts.

International Phytosanitary Certificate

As an example of global cooperation, PPQ worked with the IPPC to finalize international guidance for improving phytosanitary measures taken at the border. The IPPC’s new approach—called the Regulatory Framework for Seed Health (or ReFreSH)—is a holistic systems approach to reduce risks associated with seed trade. The approach is called the Regulatory Framework for Seed Health (or ReFreSH). It is based on the internationally recognized system for reducing the risk of food safety hazards. ReFreSH leverages the North American approach to managing the sea container pathway. In April, we promoted this initiative at the 2019 IPPC Commission on Phytosanitary Measures meeting, highlighting the North American approach to managing the sea container pathway. And in September, we hosted the IPPC Sea Container Task Force meeting in Baltimore, MD. This meeting brought together experts from seven countries, global shipping organizations and other relevant industries, NAPPO, and representatives from IPPC to finalize international guidelines for improving pest risk assessments for three representative seed commodities to help define the ReFreSH framework; and drafted a ReFreSH accreditation standard to guide participation in the ReFreSH systems approach; and drafted a ReFreSH annex a high priority.

In addition, PPQ has been working with international and domestic partners, global shipping organizations, and other relevant industries to promote practical, voluntary guidance for clearing sea containers and preventing the spread of hitchhiking pests.

In 2019, PPQ hosted a workshop in 2019 for plant health officials from 23 African countries to help them learn how to connect their countries to the global ePhyto hub.

In 2019, PPQ was able to share key phytosanitary tools and knowledge with workshop participants, helping to improve plant protection services in the African region and strengthening our relationship with our African plant health counterparts.

Helping the World Address Critical High-Risk Pest Pathways

PPQ continues to help the global community tackle high-risk pest pathways such as sea containers, international seed trade, and internet-based trade. In 2019, we continued our work with the Canadian Food Inspection Agency, U.S. and Canadian border protection agencies, North American shippers, and global shipping companies to promote the use of practical, voluntary guidance for clearing and inspecting sea containers. In April, we promoted the initiative at the 2019 IPPC Commission on Phytosanitary Measures meeting, highlighting the North American approach to managing the sea container pathway. And in September, we hosted the IPPC Sea Container Task Force meeting in Baltimore, MD. This meeting brought together experts from seven countries, global shipping organizations and other relevant industries, NAPPO, and representatives from IPPC to finalize international guidelines for improving pest risk assessments for three representative seed commodities to help define the ReFreSH framework; and drafted a ReFreSH accreditation standard to guide participation in the ReFreSH systems approach; and drafted a ReFreSH annex a high priority.

For nearly a decade, PPQ has been monitoring the online trade of plant and animal pests, and live plants, and we have started developing strategies to effectively address risks associated with these imports. In 2019, we continued to build relationships with many of the larger online retailers, especially those using social media to promote product movement. We employed a variety of tools to search and identify regulated plant products sold online and continue to investigate new tools. We also shared our e-commerce outreach materials with online retailers to expand international participation and expertise. We conducted outreach to large online retailers, online vendors, and purveyors to help them understand why certain products are regulated and may be restricted or prohibited.

In 2019, PPQ hosted a workshop in 2019 for plant health officials from 23 African countries to help them learn how to connect their countries to the global ePhyto hub.
In 2019, PPQ conducted 20 bilateral meetings and 12 technical meetings to establish practical, science-basedphytosanitary requirements for the safe trade of live plants and plant products. Through these meetings, we helped the United States realize significant trade opportunities. For example, we opened new markets for U.S. producers, like U.S. blueberries to Vietnam with an estimated value of $10 million upon maturity; and, we reopened market access for U.S. shrimp to New Zealand, valued at $14 million, and U.S. rice to Vietnam, valued at $10 million. We also reviewed critical export issues, including the European Union, valued at $35 million annually; and Thailand, valued at $87 million annually. In addition, we successfully resolved phytosanitary issues for 243 shipments of U.S. origin products worth a total of $102 million that were held in foreign ports.

Sustaining and Expanding Key Export Markets

Each year, PPQ conducts technical negotiations with countries around the world to open, expand, and retain U.S. access to foreign markets worth nearly $23 billion, including securing access for U.S. corn to Myanmar, expanding access for U.S. rice to Cambodia, and retaining access for U.S. soybeans to China.

In 2019, we completed 20 bilateral meetings and 12 technical meetings to establish practical, science-based phyto-sanitary requirements for the safe trade of live plants and plant products. Through these meetings, we helped the United States realize significant trade opportunities. For example, we opened new markets for U.S. producers, like U.S. blueberries to Vietnam with an estimated value of $10 million upon maturity; and, we reopened market access for U.S. shrimp to New Zealand, valued at $14 million, and U.S. rice to Vietnam, valued at $10 million. We also reviewed critical export issues, including the European Union, valued at $35 million annually; and Thailand, valued at $87 million annually. In addition, we successfully resolved phytosanitary issues for 243 shipments of U.S. origin products worth a total of $102 million that were held in foreign ports.

PPQ is conducting a 3-year survey of soybeans as they move from the farm to local, regional, and export grain elevators in 19 States to learn more about weed seed levels at each point in the supply chain. We are using this information to help industry reduce weed seeds in key exports.

In 2019, we completed 20 bilateral meetings and 12 technical meetings to establish practical, science-based phyto-sanitary requirements for the safe trade of live plants and plant products. Through these meetings, we helped the United States realize significant trade opportunities. For example, we opened new markets for U.S. producers, like U.S. blueberries to Vietnam with an estimated value of $10 million upon maturity; and, we reopened market access for U.S. shrimp to New Zealand, valued at $14 million, and U.S. rice to Vietnam, valued at $10 million. We also reviewed critical export issues, including the European Union, valued at $35 million annually; and Thailand, valued at $87 million annually. In addition, we successfully resolved phytosanitary issues for 243 shipments of U.S. origin products worth a total of $102 million that were held in foreign ports.

In 2020, PPQ developed vacuum steam treatments for red oak and walnut logs to facilitate the movement of these high-value exports to international markets.
Creating a Seed-Specific Standard

To address some of these issues, PPQ worked through the International Plant Protection Convention—an international forum made up of 184 member countries, including the United States—to adopt the International Standard for Phytosanitary Measures (ISPM 38) for the international movement of seeds. “This standard helps national plant protection organizations identify, assess, and manage the pest risk associated with the global movement of seeds for planting,” said John Greifer, Assistant Deputy Administrator for International Plant Protection.

A Systematic Approach to Reducing Seed-Borne Disease

Domestically, PPQ has been working in collaboration with the U.S. seed industry, the National Plant Board, and academia to develop a holistic approach to systematically reduce pest contamination across the seed production continuum. This approach is known as ReFreSH, short for the Regulatory Framework for Seed Health.

ReFreSH is based on the internationally recognized principles for reducing the risk of safety hazards at the seed level. It establishes industry best practices and uses existing principles for reducing the risk of safety hazards in the food industry. It will leverage industry best practices and use existing principles for reducing the risk of safety hazards in the food industry.

By the end of 2014, we’ve made significant strides in adapting ReFreSH,” Podleckis said. “Specifically, we completed the ReFreSH concept paper that describes the scenario for ReFreSH and the process used to design it. We also drafted a ReFreSH accreditation standard, which outlines participation requirements as well as participant roles and responsibilities.”

Currently, PPQ is preparing a ReFreSH Manual, which prioritizing entities will use as a template for designing the procedures and processes they will use to meet the accreditation standard. PPQ has started developing a trial project with Brazil that will allow us to validate the effectiveness of ReFreSH in reducing pest risks and facilitating safe seed trade.

Next Steps

International Support Increases

Our counterparts in Mexico, Chile, Canada, Australia, and New Zealand have also expressed interest in developing a systems approach with us. Internal Support Increases

“International Support Increases” is based on the internationally recognized principles for reducing the risk of safety hazards at the seed level. It establishes industry best practices and uses existing principles for reducing the risk of safety hazards in the food industry. It will leverage industry best practices and use existing principles for reducing the risk of safety hazards in the food industry.
Our Most Valuable Resource: PPQ Employees

Every accomplishment in this report reflects the hard work of PPQ’s diverse and dedicated workforce of nearly 2,900 people. They apply their unique talents and skills to achieve PPQ’s mission and provide global plant protection leadership. PPQ Management Team is committed to equipping and empowering our employees for continued success.

Preparing PPQ for the Future

To make sure PPQ has the right people with the right skills working on the right things well into the future, we are implementing our Human Capital Plan. The plan, completed in 2018, identified critical skills and knowledge that our workforce will need to have to better achieve our mission in the coming years. For example, it identified molecular diagnostics as a key area for growth. In 2019, we began developing hiring and training plans to make sure our employees can unleash the full potential of these high-tech testing methods.

In line with our Human Capital Plan, we are actively building our knowledge management capacity. This will ensure we create, retain, share, and apply employee knowledge systematically and strategically. We also worked hard in 2019 to fill mission-critical vacancies. Overall, we hired 477 employees, many of whom were recruited under special hiring authorities, including Schedule A, Veterans’ Recruitment Appointment, and the Peace Corps noncompetitive eligibility programs. To support our new and experienced employees, we offered a wide range of technical and non-technical training throughout the year.

Supporting Employees

In 2017, we established the Center for Advisory Resources for Employees (CARE). CARE includes our Advisory Group, which seeks to strengthen the bonds of cooperation between our unions and management, and a new ombudsman unit. Our ombudsmen are helping employees at every level—management, non-management, union, and non-union—resolve difficult workplace situations and manage conflict in a way that promotes healthy working relationships.

The CARE team travels to work sites that are experiencing a variety of challenges. The team assesses each situation and creates specific action plans—with accountability—to help supervisors create a more productive, healthy, and safe work environment. The team also focuses on what PPQ does right. For example, they visited the Asian longhorned beetle program in Worcester, MA, to learn what makes that work unit much a powerhouse of positive energy and high morale. Through extensive employee surveys, they identified the program’s best practices. Based on what the CARE team learned, they are developing a workshop on these practices. The workshop will give managers and supervisors the opportunity to engage with and empower their staff. The workshop’s outcomes will be a plan for implementing the practices specific to a unit’s work environment and culture.

PPQ leadership wants every employee to have plenty of opportunity for career development and advancement. Over the past 3 years, PPQ’s Coalition has led the Developmental Assignment Program (DAP). This program gives employees an opportunity to expand their career experiences and gain new skills by working on an assignment outside of their normal scope of work. These assignments create products requested by PPQ managers, and all of the DAP products meet key PPQ needs.

Helping U.S. Agriculture Thrive—Across the Country and Around the World

Under PPQ’s Developmental Assignment Program, Plant Health Safeguarding Specialist Colin Park, working with National Operations Manager Betsy Randall-Schadel, developed and delivered a project that improves data quality, tracking, and analytics for PPQ’s Phytophthora ramorum program and will facilitate data-driven decisions.
Strengthening PPQ With Diversity

PPQ’s workplace diversity is a key element of our mission success. This diversity enhances our workforce and makes us a more innovative and productive team. It also helps us to reflect the many stakeholders we serve—from consumers and farmers, to importers and exporters, just to name a few—strengthening our effectiveness and credibility. To promote diversity and inclusion at PPQ, we have Civil Rights and Diversity Advisory Committees at the national and local levels. They deliver robust diversity and inclusion programs through diversity at USDA.

In 2019, PPQ’s Diversity and Inclusion Work Group—a strategic planning group that complements the efforts of PPQ’s National Civil Rights and Diversity Advisory Committee (NCRDAC)—completed its work on a “living” Diversity and Inclusion Plan. The plan will help employees understand that diversity encompasses a wide range of experiences, knowledge, and strengths, and that employee diversity in age, background, ethnicity, physical abilities, beliefs, sex, and other attributes makes them better able to accomplish their work units; and creating a team to monitor the implementation of each goal and its objectives.

In addition, the NCRDAC published the PPQ 2019 Diversity and Inclusion Planning Tool. This highly visual year-at-a-glance calendar highlights special heritage months, events, meetings, and other activities. PPQ staff use it to participate in planned EEO and civil rights activities or to plan their own activities. In addition, the year, one of the committee members joined the board of USAFA’s Hispanic American Cultural Center (HACC) as HACC’ s representative. HACC’s mission is to promote personal and professional growth through diversity at USAFA.

In addition, PPQ’s Diversity and Inclusion Work Group—a strategic planning group that complements the efforts of PPQ’s National Civil Rights and Diversity Advisory Committee (NCRDAC)—completed its work on a “living” Diversity and Inclusion Plan. The plan will help employees understand that diversity encompasses a wide range of experiences, knowledge, and strengths, and that employee diversity in age, background, ethnicity, physical abilities, beliefs, sex, and other attributes makes them better able to accomplish their work units; and creating a team to monitor the implementation of each goal and its objectives.

In addition, the NCRDAC published the PPQ 2019 Diversity and Inclusion Planning Tool. This highly visual year-at-a-glance calendar highlights special heritage months, events, meetings, and other activities. PPQ staff use it to participate in planned EEO and civil rights activities or to plan their own activities. In addition, the year, one of the committee members joined the board of USAFA’s Hispanic American Cultural Center (HACC) as HACC’s representative. HACC’s mission is to promote personal and professional growth through diversity at USAFA.

This also links externally to strengthen our program delivery through diversity by reaching out to stakeholders who have a limited ability to read, write, speak, or understand English. PPQ has contracted with an interpreter and translation service to help us to better serve people with limited English proficiency (LEP) because of their national origin. Employees can use the service as part of their regular work when engaging with industry, stakeholders, and customers. Services include document translation to or from most foreign languages, as well as real-time language interpretation over the phone to help staff conduct business or exchange important information. This promotes better communication with LEP stakeholders who seek our services or need to understand and comply with our regulations to safeguard American agriculture.

To help our country's youth realize a career safeguarding American agriculture and the environment, PPQ participates in APRIS-corordinated AgDiscovery and Safeguarding Natural Heritage programs. AgDiscovery programs last for 2 to 4 weeks at colleges and universities across the country and target middle and high school students interested in learning from tribal elders, practitioners, and professionals, university professors, and U.S. Government scientists while living on a college campus. In 2019, PPQ participated in six AgDiscovery and five SNH programs. In addition, we welcomed three Native American interns. We also benefited from two HACE interns we brought aboard in 2018. All of our interns experienced real-world work opportunities, helping them gain valuable experience while delivering products or services that support PPQ’s ability to achieve its mission.
Recognizing PPQ’s Employees

Every day, PPQ employees give their all to deliver extraordinary results for our stakeholders. This section highlights some of the exemplary work that was recognized in 2019.

**American Phytopathological Society Honors PPQ Employees for Scientific Contributions**

The American Phytopathological Society (APS) honored three PPQ employees for their work and contributions to the field of plant pathology. These scientists received the recognition during the society’s 111th annual meeting in Cleveland, OH, in August 2019.

**Phil Berger**

Phil Berger, former Director of PPQ’s Center for Plant Health Science and Technology, received APS’ Excellence in Regulatory Affairs and Crop Security Award for outstanding contributions to regulatory plant pathology, crop security, and trade enhancement efforts. Berger, who retired from PPQ in December 2018 after 16 years of service, advanced the use of diagnostic technologies in regulatory decision making. He championed the development of rapid pest detection techniques and diagnostics for Huanglongbing disease. He also founded PPQ’s National Plant Protection Laboratory Accreditation Program.

**Mary Palm**

The society named former Pest Management Director Mary Palm, who retired in May 2019 after 35 years of PPQ service, as the APS 2019 Fellow. Palm’s work has had significant impact on the field of plant pathology, especially in the areas of mycology, fungal systematics, and regulatory plant pathology. Throughout her career, she also excelled as a leader and role model. Deeply committed to APS, Palm served on many committees, including the Mycology Committee and Financial Advisory Committee. She also took on leadership roles, such as the Public Policy Board’s Fellow to the White House Office of Science and Technology Policy and, most recently, as the APS President from 2018 to 2019.

**Avijit Roy**

Molecular Biologist Avijit Roy received the Lee M. Hutchins Award for 10 years of published research in APS journals on basic or applied aspects of diseases of perennial fruit plants. Roy’s significant contributions to citrus virology included eight research papers on the citrus tristeza and citrus leprosis viruses. His investigations and outcomes have vastly improved scientists’ understanding of these economically damaging diseases and directly supported the health of the citrus industry.
APHIS Administrator’s Awards
Each year, APHIS’ Administrator honors exceptional people in the agency whose efforts have transformed our work and furthered our safeguarding mission. This year, USDA Under Secretary Greg Ibach joined Administrator Osama El-Lissy to help illuminate the accomplishments of a number of PPQ employees, including those who served on the agency’s eFile Team and the Nebraska Flood Response Team.

Deputy Administrator’s Awards
Each year, PPQ Deputy Administrator Osamah El-Lissy recognizes the exemplary employees, partners, and cooperators who made significant contributions innovative achieving PPQ’s mission of safeguarding American agriculture in the previous year. He also honors one outstanding employee whose work has helped to transform our agency.

2018 Safeguarding Award
This year, PPQ Deputy Administrator Osamah El-Lissy presented the Safeguarding Award to the Houston Interagency Agriculture Team for their vigilance in protecting U.S. agriculture in 2018. This team, which included PPQ and U.S. Customs and Border Protection (CBP) employees, proved the strength of our safeguarding partnership.

Working together, the team uncovered an infestation of live wood-boring pests in an imported shipment of wood destined to travel across Texas and into Arkansas in 400 wood crates in June 2018. The shipment was destined to travel across Texas and into Arkansas on open flatbed trucks. When PPQ confirmed the presence of live wood-boring pests were Sirex woodwasp, which are over a dozen different species. PPQ’s Port Detection and Emergency Programs Director Valerie Defeo participated in the agency team, providing invaluable emergency response experience and leadership. Human health and safety and American agriculture all benefited from their efforts.

2018 Outstanding Employee Award
Deputy Administrator El-Lissy presented the Outstanding Employee Award to Houston Interagency Agriculture Team Member Tyrone Jones. Tyrone helped to resolve a longstanding problem for many PPQ researchers and scientists, especially those analyzing DNA sequences, who lacked access to critical software needed to interpret and understand their data. To fix this problem once and for all, Stulberg joined APHIS’ Big Data and Scientific Computing Working Group in 2018. Thanks to his scientific expertise and personal passion, he helped the group gain agency approval for a comprehensive list of critically important scientific software. Now, PPQ employees have access to hundreds of scientific software applications, including open-source and commercial products, which were previously off limits. Stulberg also helped establish a process for granting certain scientists super-user access to run new software products, helping to keep PPQ on the cutting edge. Stulberg’s work led to fundamental changes within APHIS and advanced how scientists can perform their work within the APHIS IT framework. His high-impact efforts contributed significantly to the achievement of PPQ’s mission. And he did it all as a mid-level duty while performing his regular work, which included conducting an above-average number of confirmatory tests for plant pathogens.
ensuring additional safeguarding. certificate with an additional industry declaration from all countries are accompanied by a phytosanitary future seed testing initiatives. Based on information the project’s success and serves as a template for stations, Science and Technology, Policy Management, and CBP. This exceptional collaboration underpinned seeds. The large cross-functional project included staff quarantine pospiviroid pathogens in imported tomato detection program to evaluate the presence of implemented, and improved an identification and The Tomato Seed Testing Project Team initiated, 2018 Team Award: Tomato Seed Testing Team from Deputy Administrator Osama El-Lissy. award on behalf of the Tomato Seed Testing Project Ed Podleckis (right), Senior Risk Manager, accepts the 700,000 ailanthus trees were treated with insecticide By the end of the 2019 treatment season, nearly 700,000 ailanthus trees were treated with insecticide By the end of the 2019 treatment season, nearly 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted (extensively SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in 2018 Team Award: Tomato Seed Testing Project Team from Deputy Administrator Osama El-Lissy. Spotted Lanternfly Process Improvement Team PPQ has diligently worked to express the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in PPQ has diligently worked to improve the spotted lanternfly (SSL) operational processes through innovation, consistent communication, and the overcoming of hiring difficulties. As the SSL program gained momentum, its Process Improvement Team bolstered communication with all stakeholders at many levels, in many forms. The team addressed hiring issues and secured necessary staff in
PPQ Employees Earn Awards for Reaching Major Safeguarding Milestones

In April, Deputy Administrator Osama El-Lissy traveled to Florida to celebrate two significant safeguarding milestones: the grand opening of a new sterile insect rearing facility in Sarasota and processing 1 billion plant units in a single year at the Miami Plant Inspection Station.

Sarasota Sterile Insect Release Facility

Deputy Administrator El-Lissy praised Abbie Fox, PPQ’s Fruit Fly Exclusion and Detection Program Director (right, center), for overseeing one of the most successful plant protection programs in the Nation. He also recognized John Renshaw (right, bottom) for his expertise, guidance, and tireless efforts in overseeing the design and construction of Florida’s new Sterile Insect Release Facility. Throughout the planning, design, and construction of the facility, Renshaw was the voice of knowledge, wisdom, and guidance that carried it forward. His unmatched level of technical knowledge and leadership has ensured that almost 100 million irradiated flies are continuously ready to be released each week.

Miami Plant Inspection Station

Deputy Administrator El-Lissy praised the Miami Plant Inspection Station’s entire staff (above) for their work processing 1 billion plant units in a single year—an achievement that underscores the staff’s deep commitment to safeguarding America’s agricultural and natural resources. In addition, the Miami-Dade County Office of the Mayor and the Board of County Commissioners presented a proclamation to the staff declaring Thursday, April 18, 2019, as the “USDA Miami Plant Inspection Station Day.”

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident. Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA’s TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.