

**PPQ Deputy Administrator's Outstanding Achievement Award
Submission Form
For
The Plum Pox Virus Eradication Project in Pennsylvania**

Lead: Asst. Regional Director Gary Clement

**[The initial growers and nursery affected by the virus in 1999]
(No lead contact)**

- Jim, Joe and John Lerew, with Lerew Bros/Lerew Farms, York Springs, PA
- Jim and William Lott, with Bonnie Brae Fruit Farms, York Springs, PA
- Everett and Steve Weiser with Weiser Orchards, York Springs, PA
- John B and John F Peters with Peters Orchards, Aspers, PA
- Philip and John Baugher, with Adams County Nursery, Aspers, PA

[Pennsylvania Department of Agriculture]

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HARRISBURG, PA 17110-9408
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Secretary Russell Redding, lead

- Secretaries Sam Hayes, Dennis Wolff, **Russell Redding**, Harrisburg, PA
- Dr. Ruth Welliver, Harrisburg, PA
- Dr. Karl Valley, Harrisburg, PA
- Nancy Richwine, Harrisburg, PA
- Rayanne Lehman, Harrisburg, PA

[Penn State University, Fruit Research and Extension Center]

210 University Drive
Biglerville, PA 17301
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Dr. Jim Travis, Station Director

- Dr John Halbrendt, Biglerville, PA
- Dr. Greg Krawczyk, Biglerville, PA
- Dr. Jim Travis, Biglerville, PA
- Dr. Fred Gildow, University Park, PA

[Adams County Extension Service]

Penn State Cooperative Extension
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Bill Kleiner, Adams County Extension Agent

- Bill Kleiner, Gettysburg, PA

- Tara Baugher, Gettysburg, PA
- Lynn Kime, Biglerville, PA

[USDA's Agricultural Research Service]

USDA ARS, Foreign Disease-Weed Science Research Unit
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 1301 DITTO AVENUE
 FORT DETRICK, MD 21702-5023
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Dr. Vernon Damsteegt, Lead

- Dr. Tim Gottwald, Ft. Pierce, FL
- Dr. Vernon Damsteegt, Ft. Detrick, MD
- Dr. William Schneider, Ft. Detrick, MD
- Dr. Ralph Scorza, Kearneysville, WV

[USDA's Animal and Plant Health Inspection Service]

Lead: Asst. Regional Director Gary Clement

- Dr. Laurene Levy, CPHST, Beltsville, MD
- Steve Poe, Riverdale, PPQ, Riverdale, MD
- Don Albright, PPQ, Carlisle, PA
- Bill Schwartz, IES, Harrisburg, PA
- Gary Clement, Asst. Regional Director, Raleigh, NC
- Chris Ball, PPQ, , MI
- Thomas Chanelli, Asst. Regional Director, Raleigh, NC

When, scope, and outcome:

The USDA-APHIS-PPQ and the Pennsylvania Department of Agriculture jointly announced eradication of Plum Pox Virus from Pennsylvania on October 29, 2009. These declarations were the culmination of a collaborative effort by the growers, industry, Penn State University and its Extension Service, the Pennsylvania Department of Agriculture and the United States Department of Agriculture.

The Plum Pox Virus was confirmed to be in North America in September of 1999 for the first time ever. This disease was first detected in Bulgaria in 1915 and has spread throughout Europe causing devastation to their stone fruit industry. USDA and Pennsylvania Department of Agriculture (PDA) immediately quarantined the townships where the disease was confirmed. A Scientific Issues Working Group was quickly established to evaluate the situation and gather scientific literature to compile a list of findings to assist in the creation of a plan of action. This group included personnel from USDA's Agricultural Research Service (ARS), Center for Plant Health Science and Technology (CPHST), Plant Protection and Quarantine (PPQ); Pennsylvania Department of Agriculture, plant pathologists, horticulturalist, entomologists, and extension experts from Penn State University (PSU). Scientists working on the disease in Europe were brought in to augment the US experts' knowledge to assure the most current information was used in the process. Numerous grower meetings were held to inform the growers,

nurserymen, packing industry, and public of what was found, the biology and history of the disease and the potential impacts the disease could have on the industry and local economy. These meetings were used to gather input and concerns to be included in the decision-making and planning process.

Penn State University and Extension personnel produced an educational documentary in just over thirty days shortly after the detection for use in educating people about the disease. This film included interviews with the growers, packers, nurseries, scientists and regulators that captured each of their concerns, fears, and the uncertainty of the situation. The infected growers and the Pennsylvania Department of Agriculture Secretary held meetings with USDA and OMB demonstrating their support and commitment to pursuing an attempt to eradicate the disease during the winter of 1999/2000. Penn State and USDA economists worked together developing a fair compensation package for the orchards that would need to be destroyed during the control efforts. The Pennsylvania Department of Agriculture volunteered to pay a portion of the compensation, for the removal and destruction costs, and for the supplies and labor needed to stabilize the soils from erosion once the orchards were destroyed.

Achievements:

Once the removals were started in the spring of 2000 and more positive orchards were being detected, a removal buffer was recommended by the Science Panel to get ahead of the virus and expedite the eradication efforts. This was recommended due to the up to three-year latency of the virus before it would reach a detectable level and was understood and accepted by the affected growers.

Sentinel tree sites were established, maintained, and monitored throughout the removal areas to see if any virus transmission continued since entire townships had all of their host Prunus plants removed. Seedling and sucker surveys were conducted in all positive orchard sites for three years to assure that all possible infection sources were eliminated. A homeowner survey was developed and conducted in all areas within 5 miles of a positive detection site locating numerous dooryard fruit trees and ornamental plants infected with the virus. Intensive sampling of non-Prunus plants in and around positive sites were conducted to assure that there were no unknown alternate hosts harboring the virus maintaining the threat of reinfection at a later date. Aphid studies were conducted to learn about what species were present in the orchards, when they were there, and in what numbers. Studies were done to determine which of these species were capable of transmitting the virus and how effective they were at doing so.

Roles:

All of these activities were essential to the success of the project reaching its goal of eradication. While PDA took on the primary responsibilities of laboratory testing of all samples collected and the orchard surveys, PPQ assumed the homeowner survey, sentinel survey, and coordinating a spring bloom survey of fencerows, pasture lands, and woodlots around all detection sites. These surveys were conducted by PDA and PPQ personnel working together to complete the task. PSU personnel from their Fruit Research Station took on the aphid and non-Prunus host surveys providing valuable

information used by State and Federal program managers to adjust survey protocols and strategies. ARS and PSU scientists collected and reared aphid colonies, which enabled them to conduct virus transmission studies at the containment facility in Ft Detrick, MD. ARS scientists also did genetic sequencing which helped explain what was occurring in the field and if the project was progressing towards the goal of eradication. Other ARS scientists worked defining the list of ornamental hosts which aided the homeowner survey assuring that all possible hosts of the virus were being sampled. CPHST personnel in Beltsville conducted independent confirmation testing of all suspect positives detected in the field and did the strain typing work assuring that only strain D was being detected in the field and that there were no false positive tests resulting in growers needlessly loosing their orchards. Growers helped the entire process by working with the project altering orchard treatments to enable testing, removing infected and exposed orchards, and informing personnel working on the project of wild rogue host trees on other properties in the area that could have easily been missed by project personnel. The growers and nurserymen also hosted numerous visits conducted by PPQ to train new PPQ officers and fact-finding visits by regulatory officials from foreign countries.

Successful outcomes (communications and business processes):

Regular update meetings attended by Federal, State, and PSU researchers and Extension personnel were held throughout the entire project on a regular basis during the survey season. These meetings kept everyone informed of what was being accomplished by each group and the status of each operation. It also gave a forum to hash out problems that existed or were developing, providing solutions and maintaining the consensus of all project participants.

Annual meetings were held that included updates by the Federal and State project participants along with the research results being conducted by ARS and CPHST scientists. These meetings soon expanded to an international event as Canada discovered the virus in 2000. This leveraged the knowledge known about the virus as Canadian program information and research was also presented at these meetings. This also gave Federal personnel that worked with Canada on trade issues access to direct program updates by the project managers. A close working relationship was developed between the two projects which was extremely beneficial to the U.S. when PPV was detected in New York and Michigan in 2006.

Achievement/Impact:

This project not only protected U.S. agriculture from the disease becoming permanently established in the U.S., as it is in Europe, but it also enabled the uninterrupted commerce of stone fruits throughout the U.S. and international markets while the disease was being eradicated from Pennsylvania. This enabled the multi-billion dollar nursery and fresh stone fruit industries to maintain their market shares in an increasingly competitive environment.

Roles:

[Pennsylvania Department of Agriculture]

Sam Hayes, Former Pennsylvania Department of Agriculture Secretary

Immediately mobilized his Department to respond to the detection. This included having grower meetings and negotiations with USDA to establish cost sharing that demonstrated Pennsylvania's strong commitment to dealing with the problem.

Dennis Wolff, Former Pennsylvania Department of Agriculture Secretary

Continued the commitment and strong support of the program with the change of administration.

Dr. Ruth Welliver

Conducted the initial testing and established and operated a laboratory to test hundreds of thousands of samples each year.

Dr. Karl Valley

Contributed exceptional performance and support to all phases of the project. His dedication, creativity, and tenacity had a huge impact on the overall success of the project.

Nancy Richwine

Directed the mapping of all *Prunus* orchard blocks in the State. She also introduced and maintained GIS mapping and databases to track orchards and samples collected throughout the project.

Rayanne Lehman

Set up, directed the orchard surveys for several years, and developed a manual that detailed the hierarchical survey technique covering most every possible situation that could be encountered in an orchard survey.

**[Penn State University, Fruit Research and Extension Center]
210 University Drive
Biglerville, PA 17**

Dr John Halbrendt

Conducted the exhaustive research testing for plum pox in non-*Prunus* hosts at positive detection sites throughout the course of the project. This research confirmed that there were no potential alternate hosts preventing the eradication.

Dr. Greg Krawczyk

Conducted the aphid population studies that identified what species of aphids were present, when they were there, and in what numbers, in the orchards, sentinel trees, and in residential hosts.

Dr. Jim Travis

Was instrumental in the initiation and production of an educational documentary film about the detection of plum pox in Adams County during the winter of

1999-2000. He also authored a Recovery Plan for Plum Pox Virus of Stone Fruits in 2007.

[Adams County Extension Service]

Bill Kleiner and Tara Baugher

Provided support in keeping the grower community informed throughout the project.

Lynn Kime

Provided agro-economic expertise while working with the USDA and Penn State University to establish the interim rule; he was an invaluable resource bringing the grower perspective to the planning table; and worked with infected growers making sure that they understood the removal and destruction process allowing them to make sound business decisions.

[USDA's Agricultural Research Service]

Dr. Tim Gottwald

Developed a statistical sampling technique, which helped make the seemingly impossible reasonable

Dr. Fred Gildow with Penn State University and Dr. Vernon Damsteegt with ARS

Performed virus transmission studies that enabled the project to make informed regulatory decisions that involved the vectoring of the disease by aphids.

Dr. William Schneider

Conducted genetic research that helped us understand the virus and how it related to other genotypes of the strain in Canada and around the world.

Dr. Ralph Scorza

Conducted host susceptibility studies of ornamental plants and for his research in developing plum pox-resistant fruit varieties.

**[USDA's Animal and Plant Health Inspection Service]
(Lead to be determined)**

Gary Clement, State Plant Health Director for Pennsylvania in 1999

Represented APHIS at early grower meetings. He also established USDA's Plum Pox Virus Project Office, staffing it with essential personnel and infrastructure. He instituted program operational procedures that created a solid foundation that would sustain the effectiveness of the program, which remain part of the project framework to this day.

Don Albright

Took over from Gary Clement as the second Program Manager of the PPV eradication program, and since that time has provided leadership to the program, not only in Pennsylvania, but in Michigan and New York. Don has been the model of what all program managers aspire to. Don also has provided direction for the national PPV surveys.

Dr. Laurene Levy and her staff; Renee DeVries and Vessela Monroediava

Developed the initial testing protocols for PPV and operated the final confirming testing laboratory. She also remains one of USDA's PPV experts.

Stephen Poe

For his help in establishing plum pox as an Emergency Program. He explained the Federal Register rulemaking process to the growers, industry, and the public, wrote the Interim and Final Rules, and developed the justification and format for the compensation program.

Bill Schwartz

Conducted extensive and exhaustive work researching records, interviewing growers and nurserymen, their suppliers, and consumers supplying valuable information to the project that assisted in regulatory decisions. He followed up on leads and documented all of the information while attempting to find the source of the infection.

Chris Ball

Sett up and maintained the sentinel tree project throughout the detection areas. He also managed the seeding and sucker surveys in destroyed positive orchards assuring that no sources of virus remained in the areas.

Thomas Chanelli

As Assistant Region Director ensured program and resource needs to ensure the success of the program were provided.

Relation to the Mission:

This project fulfilled many parts of PPQ's mission of safeguarding U.S. agriculture. The first goal achieved was the prevention of a foreign disease becoming established in the first detected location in North America. While accomplishing this task, the project assured our foreign trading partners that U.S. Prunus products posed no threat of infection and were safe to import. This allowed for unrestricted trade of these products during the eradication process. This project also demonstrated how working together with our foreign trading partners sharing a similar problem, with a different approach of dealing with that problem, can both benefit by sharing research and communicating what is being found and how the situation is being addressed.