

Plum Pox Virus



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Plum Pox Virus

- PPV was not confirmed in North America before October, 1999
- On October 12, 1999 PPV was found in south central PA on Encore peach
- In 2006, PPV found in New York and Michigan



Disease History



- ❑ Bulgaria - 1915
- ❑ Yugoslavia - 1935
- ❑ Hungary - 1941
- ❑ Germany - 1956
- ❑ Poland / Russia - 1961
- ❑ France - 1970
- ❑ England (Kent) 1965
- ❑ Spain - 1984
- ❑ Chile – 1992
- ❑ USA (PA) - 1999
- ❑ Canada - 2000

PPV spread

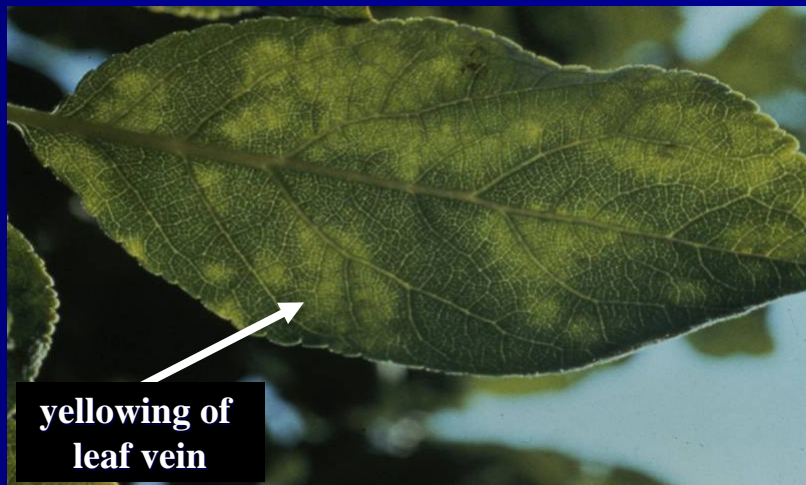
- ❖ Infected nursery stock, seedling trees, rootstocks, budding materials
- ❖ Aphids



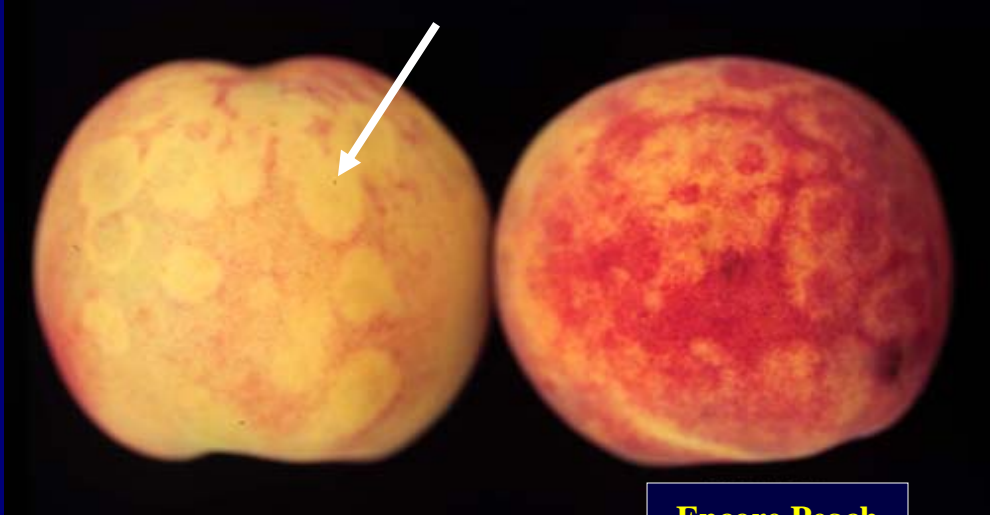
PPV strains

- PPV-D, PPV-M, PPV-C, PPV-EA
- European strains, PPV-D, PPV-M
- PPV-D in PA, does not infect cherry, spread slowly by aphids, seed transmission not known
- Strains differ in severity of symptoms on different hosts and in patterns of spread by aphids

Symptoms on European plum leaf



note rings on peach



Encore Peach

PPV Infected Fruit Trees :

- Reduction in fruit quality
- Yield losses of 80-100% in susceptible cultivars
- Tree death – 5% per year

Intensive Surveys in Prunus Production Regions

Infected orchards removed soon after detection



PA UPDATE – 2000 –Sept. 2006

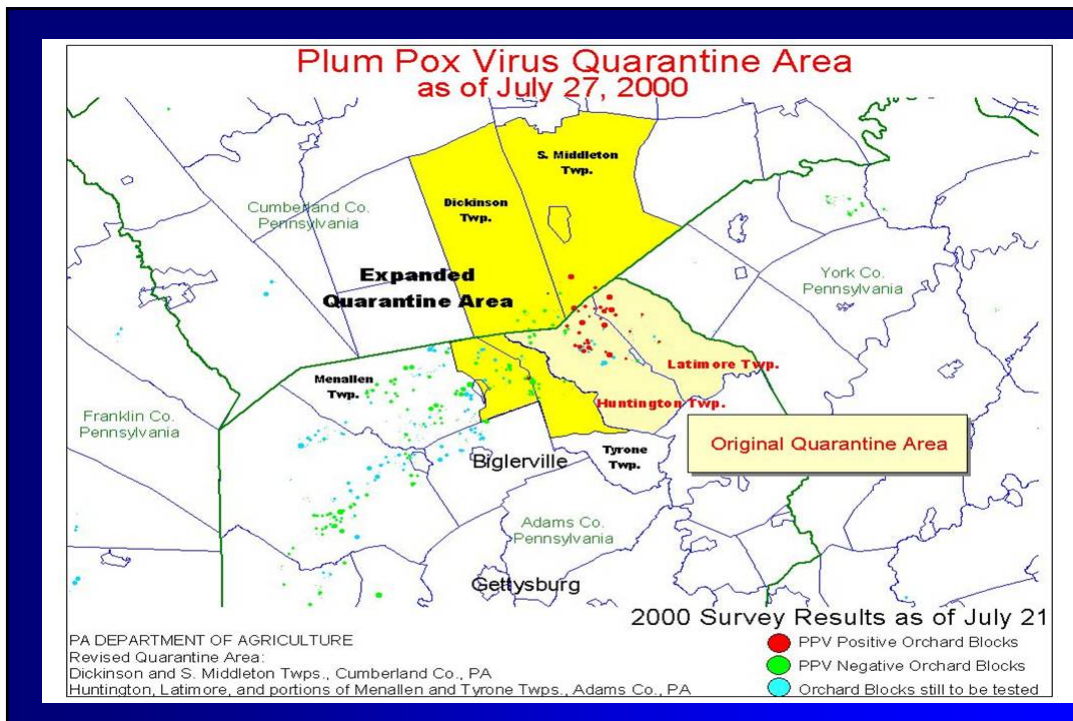
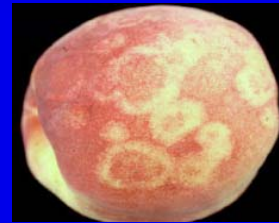
- Samples processed: **10,332,233**
- # Positive Samples: **459** (399 of these in 2000)
- Weeds processed: **83,869** (All negative)
- Bait Plants (from 2002): **31,468** (All negative)
- # Positive Sites (blocks, res.): **119**
- Total Com. Acreage Removed: **> 1600**
- Residential Tree Des. Orders: **214**

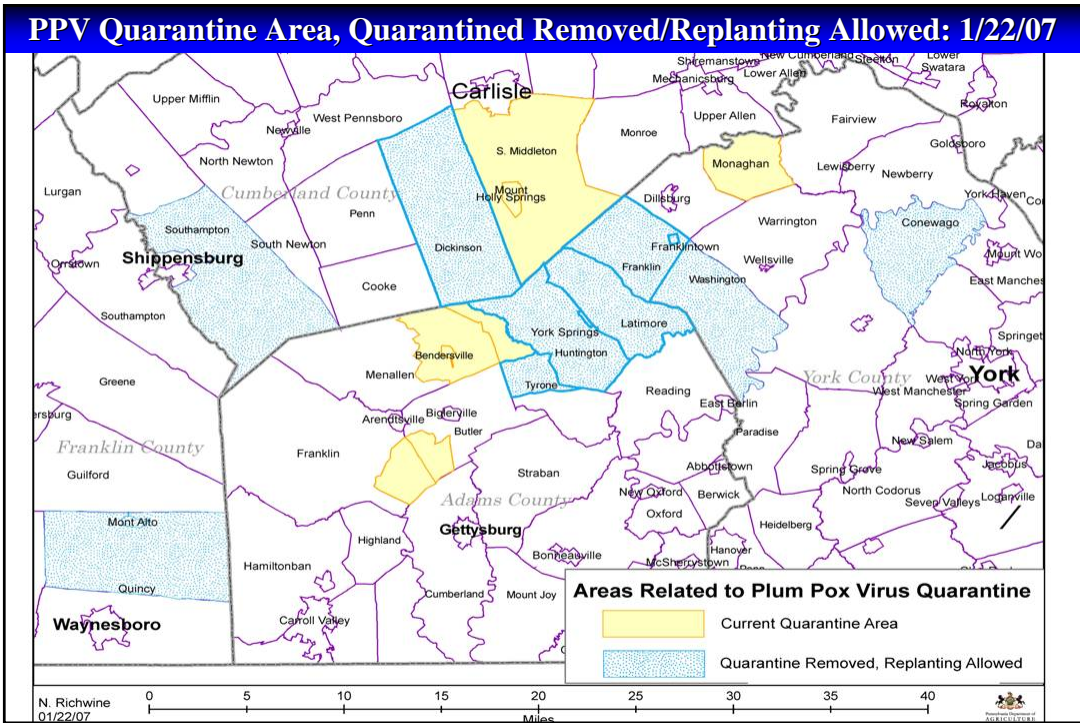
PA UPDATE – 2000 –Sept. 2006

Cost of Eradication Program:

| | |
|---------------------|---------------|
| PA State Government | over \$8.8 M |
| U.S. Government | over \$31.8 M |
| Total | \$40.6 M, |
|of this | |

Over \$26 M has been paid to growers for indemnity, etc.





PPV: Recommendations

- More reliable testing techniques to reduce false readings due to sampling variation and environmental influences (false neg.)
- Additional research to answer questions about the virus, spread, and resistant cultivars
- Concern that there is an expectation that survey costs will decrease when they will increase due to replanting in quarantine areas
- Elimination of extensive sampling outside of PA ignores potential for spread and threatens national stone fruit industry