

Invasive Species Issues

May 2020

Plum pox virus, plum pox disease

Plum pox disease, also called sharka, is a disease caused by *Plum pox virus* (PPV). *Plum pox virus* is considered one of the most important viral diseases of stone fruit in Europe and the Mediterranean region. It was first detected in the United States in the late 1990s. PPV has been found in and eradicated from Pennsylvania, Michigan, and New York. In 2019, PPV was declared eradicated in the United States.

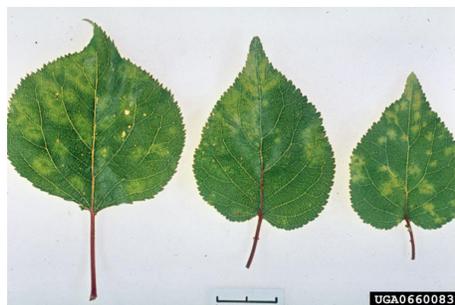
Hosts and Damage

All cultivated stone fruit species are susceptible to PPV, including cherry, plum, and apricot. Other common wild and ornamental hosts of PPV include European bird cherry, buttercup, chickweed, dandelion, shepherd's purse, tomato, petunia, peas, clover, veronica, and vetch among others. In fruit hosts, PPV may cause damage to leaves or fruit. The severity of damage is dependent on the host cultivar, time of infection, and environmental conditions.

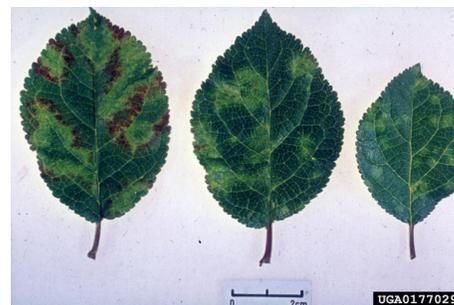
On cherry species, leaves may show pale green patterns or rings. Fruit may have deformities, yellowed or necrotic rings, or may drop prematurely. In plums, leaves may express a variety of pale green or yellow discolorations including spots, blotches, bands, rings, or line patterns. Plum fruits may also develop rings or blotches, may be deformed or ripen unevenly, and may drop prematurely. In apricots, leaf symptoms may be similar to those in plum but appear lighter while fruit may be misshapen, brown, or necrotic and the stone may also display discolored rings.



Plum pox virus, ringspots and banded mosaic, cherry plum, Biologische Bundesanstalt für Land-und Forstwirtschaft, Bugwood.org



Plum pox virus, ringspots, apricot, Biologische Bundesanstalt für Land-und Forstwirtschaft, Bugwood.org



Plum pox virus, ringspots and necrosis, plum, Biologische Bundesanstalt für Land-und Forstwirtschaft, Bugwood.org



Plum pox virus, fruit rings and deformity, plum, Biologische Bundesanstalt für Land-und Forstwirtschaft, Bugwood.org



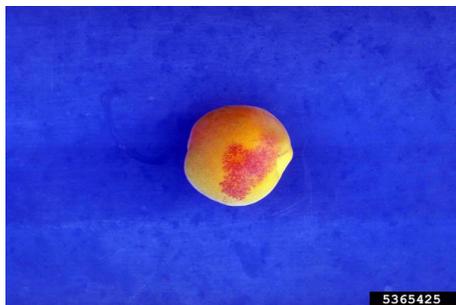
Plum pox virus, fruit and stone with ringspots, apricot, Ministry of Agriculture and Regional Development, Bugwood.org



Plum pox virus, fruit with ringspots and deformity, plum, Biologische Bundesanstalt für Land-und Forstwirtschaft, Bugwood.org

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Symptoms of PPV can resemble those of other damage agents, including other viruses, fungal diseases, bacterial canker, nutrient deficiencies, mechanical damage, and some insect damage. Plant samples should be submitted to a diagnostic lab for identification



Powdery mildew, apricot, H.J. Larsen, Bugwood.org



Bacterial canker, leaf spots, peach, J.L. Gaignard and J. Luisetti, INRA, Bugwood.org



Mechanical damage, peach, H.J. Larsen, Bugwood.org

Vectors and Spread

Plum pox virus may be introduced to new areas through the movement of plant materials, including grafted material. Local spread of the pathogen can occur by aphid vectors. At least four species of aphids known to be able to vector PPV are present in Alaska; however, aphids can only carry the virus for 1-3 hours and are unlikely to be responsible for large-scale spread of the pathogen.

Pest Significance in Alaska

Plum pox virus has a large host range in Alaska including native and domesticated plants, common nursery and greenhouse plants, and many common weeds. Establishment of this pathogen in Alaska would be very expensive to manage and devastating to orchard growers. Host species in Alaska are widespread and abundant in urban settings and natural areas. Establishment would be an economic burden due to regulatory actions, including the cost of controlling the pest and loss of plant material.

Because *Plum pox virus* is a federally regulated plant disease, it is important to report suspected infections and not attempt to treat on one's own.

Additional Information

The State of Alaska Division of Agriculture can assist with plant pathogen identification and control questions. Please contact the Alaska Plant Materials Center - Plant Pathology Laboratory: (907)745-8138 or todd.steinlage@alaska.gov

Pictures of plant diseases can be submitted for identification through our online pest portal at: <https://pestreporter.alaska.edu/>

For more information on this pathogen and others, visit our online course on Exotic Plant Pathogens available at: <https://exoticplantdiseases.open.uaf.edu/>

Header image citations L-R: 1)Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood.org; 2)Ministry of Agriculture and Rural Affairs, Bugwood.org; 3)Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood.org; 4) Central Science Laboratory, Harpenden, British Crown, Bugwood.org; 5) Joseph OBrien, USDA Forest Service, Bugwood.org

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