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FACT SHEET

PLUM POX VIRUS

PLUM POX VIRUS (PPV) IS AN INVASIVE PEST SPECIES THAT CAUSES PLUM POX, the most devastating viral disease of stone fruit species. PPV first appeared in the United States in Pennsylvania in October 1999 and then New York and Michigan in July 2006. It was also discovered in Ontario, Canada, in June 2000. The virus reduces fruit yield, marketability, and shortens the productive lifespan of orchards. Its economic impact is estimated to be several million dollars in the United States.

There are nine recognized strains of PPV (D, M, Rec, EA, W, T, C, CR, and An) worldwide. Genetic analyses revealed only PPV strain D in the United States. This strain infects a variety of *Prunus* species, including peaches, apricots, plums, and nectarines, as well as wild and ornamental *Prunus* species.

PPV is disseminated through propagative materials (budwood, grafts, and nursery stock) and vectored by aphids. It takes at least three years after infection for foliar or fruit symptoms (yellow or light green patterns or blotches) to be apparent. Therefore, it is critical to deploy the most robust detection methods to identify infected trees before the onset of symptoms so they may be targeted for destruction.

PPV has been eradicated in Pennsylvania and Michigan as a result of diligent efforts by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, state departments of agriculture, local growers, researchers, and regulators. In New York, eradication has yet to be achieved but several federally regulated areas have been progressively released for replanting in recent years and no find was reported in 2012 and 2013. Nonetheless, the presence of PPV in stone fruit orchards in the neighboring Canadian province of Ontario, where aphid-mediated transmis-

sion of the virus is occurring, calls for heightened vigilance and continued implementation of a multi-tiered approach of surveys, removal of infected trees, control of plant materials, and education to fully eradicate PPV from New York and protect the U.S. stone fruit industry.

National Plant Diagnostic Network (NPDN) is committed to enhancing agricultural security through improved plant health, in particular of stone fruits, and increasing crop productivity by using the most advanced technologies for reduced incidence of invasive species such as PPV.

NPDN is a critical component of the biosecurity infrastructure of the United States. The detection network provided by NPDN helps rapidly recognize and identify wheat blast and minimize economic and yield losses. NPDN trains agricultural professionals, engaging them as citizen scientists to increase the opportunities to detect outbreaks of this and other important pests and diseases, leveraging the capacity and expertise of the land-grant university system to enhance our biosecurity network.



Plum Pox image courtesy of APS