

UNDERSTANDING AND PREPARING FOR THE THREAT OF PLUM POX VIRUS SPREADING TO CALIFORNIA AND THE WESTERN STATES

An international conference was held at the UC Davis campus on September 29-30, 2014, to address the threat to the U.S. stone fruit industry of Plum Pox Virus (aka sharka disease). A summary of the history of this disease in the US is presented below, followed by the listing of conference speakers and topics.

Plum Pox Virus in the United States

Gary Obenauf, Director, California Dried Plum Board

The U.S. stone-fruit industry is under threat from *Plum pox virus* (PPV) (aka sharka disease). This exotic invasive pathogen, spread by aphids, compromises tree health, causes premature fruit drop and reduces fruit quality. Infected fruit of most stone fruit is neither suitable for fresh or for most processed products. First identified in Europe in the early 20th century, PPV has rapidly spread world-wide since the late 1980s, likely due to the globalization of trade and travel. PPV is now present in all major fruit growing countries except the U.S., Australia, New Zealand, and South Africa. It is estimated that PPV has caused \$13 billion in losses over the last 30 years in Europe alone. Current losses in Europe, where the virus is most prevalent, amount to \$180 million each year. Virus control consists of tree removal. The U.S. is highly vulnerable to this disease with few resistant cultivars and few resistant germplasm resources.

In 1999 PPV was detected in Pennsylvania. After 10 years, an expenditure of over \$65 M, and the almost complete destruction of the Pennsylvania stone fruit industry, the virus was declared eradicated in that state. PPV was detected in Ontario Canada in 2000. Almost 275,000 stone fruit trees were destroyed in a 10 year eradication effort. In 2012 Canadian officials terminated the eradication program and embarked on a PPV monitoring and management program (<http://www.inspection.gc.ca/plants/plant-protection/diseases/plum-pox-virus/monitoring-and-management-program/eng/1323887724804/1323889930176>) (accessed March 21, 2013). The presence of PPV in Ontario is a persistent threat to the U.S. stone fruit industry. In the summer of 2006, a national surveillance program detected PPV outbreaks in the states of New York and Michigan (<http://www.agriculture.ny.gov/PI/ppv/ppv.html>) (accessed March 18, 2013). It has since been eradicated in Michigan and appears to be eradicated in New York. Other major peach producing states, such as South Carolina, New Jersey, and Georgia, are equally threatened by the possibility of accidental movement of infected propagation material or introduction of infectious aphids. If infected propagation materials or the virus were to reach California, the results could be devastating. California currently grows approximately 973,800 acres of susceptible stone fruits

(<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1113>) (Accessed March 19, 2013). Unlike Pennsylvania, the California stone fruit industry is characterized by very large commercial orchards grown in close proximity under ideal

environmental conditions for aphid and virus spread. The stone fruit industry in the U.S. is valued at \$1.8 billion annually. PPV has the potential to curtail fruit production anywhere from 10-100%, depending on the level of cultivar susceptibility.

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**GEIDT HALL, UNIVERSITY OF CALIFORNIA, DAVIS
SEPTEMBER 29-30, 2014**

SEPTEMBER 29th

8:00-9:00 Registration

9:00 WELCOME AND GREETING (15 min)
Ted DeJong, Department of Plant Sciences, University of California, Davis
Gary Obenauf, California Dried Plum Board

Session I – INTRODUCTION TO PLUM POX VIRUS

9:15 PLUM POX (SHARKA): THE DISEASE AND VARIABILITY OF THE VIRUS
Delano James, Canadian Food Inspection Agency, Sidney, British Columbia

9:45 CHALLENGES AND PROGRESS IN DETECTION OF PLUM POX VIRUS
Marc Fuchs, Department of Plant Pathology, Cornell University

10:15 BREAK

10:40 INDUSTRY PERSPECTIVE: SURVIVING PLUM POX VIRUS
Phil Baugher, Adams County Nursery, Aspers, Pennsylvania

Session II – CURRENT WORLD STATUS OF PLUM POX VIRUS

11:00 WESTERN EUROPE
Rick Mumford, Food and Environment Research Agency, York, United Kingdom
Sylvie Dallot, French National Institute for Agricultural Research, Montpellier, France

12:20 LUNCH

1:20 PLUM POX VIRUS IN POLAND: HOW DO WE TRY TO COPE WITH IT?
Tadeusz Malinowski, Research Institute of Horticulture, Skierniewice, Poland

2:00 NORTH AMERICA
Marc Fuchs, Department of Plant Pathology, Cornell University
Delano James, Canadian Food Inspection Agency, Sidney, British Columbia
Ruth Welliver, Pennsylvania Department of Agriculture, Harrisburg,
Pennsylvania

3:10 BREAK

Session III – STATUS OF RESEARCH ON PLUM POX VIRUS

3:30 DIAGNOSIS AND DISTRIBUTION IN THE TREE
Marc Fuchs, Department of Plant Pathology, Cornell University
Delano James, Canadian Food Inspection Agency, Sidney, British Columbia

4:30 EPIDEMIOLOGY AND MODELING
Timothy Gottwald, USDA Agricultural Research Service, Fort Pierce, Florida
Bill Schneider, USDA Agricultural Research Service, Fort Detrick, Maryland

5:30 ADJOURN

SEPTEMBER 30th

Session III – STATUS OF RESEARCH ON PLUM POX VIRUS (Continued)

8:00 DEVELOPING RESISTANCE
Maria Badenes, Valencian Institute of Agricultural Investigations, Valencia,
Spain Ralph Scorza, USDA Agricultural Research Service, Kearneysville, West
Virginia

Session IV – PLANNING FOR AN OUTBREAK ON THE WEST COAST

9:20 THE PLUM POX VIRUS EXPERIENCE IN NEW YORK AND PENNSYLVANIA:
REGULATORY PERSPECTIVE
Ruth Welliver, Pennsylvania Department of Agriculture, Harrisburg,
Pennsylvania
Margaret Kelly, New York State Department of Agriculture and Markets,
Albany, New York

10:00 BREAK

10:20 THE PLUM POX VIRUS EXPERIENCE IN NEW YORK AND PENNSYLVANIA:
INDUSTRY PERSPECTIVE
Phil Baugher, Adams County Nursery, Aspers, Pennsylvania

10:40 DIAGNOSTICS: FROM THE ORCHARD TO THE LAB
California Department of Food and Agriculture, Sacramento, CA

11:00 SYSTEMS IN PLACE TO EXCLUDE AND DETECT PLUM POX VIRUS
California Department of Food and Agriculture, Sacramento, CA

11:20 RESPONSE TO A DETECTION EVENT: EXPECTATIONS AND ISSUES
California Department of Food and Agriculture, Sacramento, CA

11:40 TRADE IMPACTS
Michael Guidici Pietro, USDA APHIS, San Francisco, California

12:00 LUNCH

1:00 PANEL DISCUSSION: WHAT ARE THE CRITICAL RESEARCH ISSUES THAT WILL
IMPROVE OUR ABILITY TO MAKE DECISIONS AND PREPARE A SUCCESSFUL
RESPONSE?

Session V – RESEARCH NEEDS FOR PLUM POX VIRUS

1:30 Breakout sessions

2:30 Break

Session VI – NEXT STEPS

2:50 GROUP DISCUSSION

5:00 ADJOURN

Abstracts and videos of the presentations are on the UC Web site:
<http://ucanr.edu/sites/plumpox2014/>