

# 1. PaDIL Species Factsheet



## Scientific Name:

*Western X-disease phytoplasma* -

(Phytoplasma: Acholeplasmatales: Candidatus: 16SrIII X-disease group)

## Common Name

Eastern peach X disease

Live link: <http://www.padil.gov.au:80/pests-and-diseases/Pest/Main/136663>

## Image Library

Australian Biosecurity

Live link: <http://www.padil.gov.au:80/pests-and-diseases/>

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Plant Health Australia

<http://www.planthealthaustralia.com.au/>



Department of Agriculture, Fisheries and Forestry

<http://www.daff.gov.au/>



Department of Agriculture and Food, Western Australia

<http://www.agric.wa.gov.au/>

## 2. Species Information

### 2.1. Details

**Specimen Contact:** Fiona Constable - [fiona.constable@dpi.vic.gov.au](mailto:fiona.constable@dpi.vic.gov.au)

**Author:** Constable FE & Gibb KS

**Citation:** Constable FE & Gibb KS (2006) Eastern peach X disease (*Western X-disease phytoplasma*) Updated on 10/21/2011 Available online: PaDIL - <http://www.padil.gov.au>

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### 2.2. URL

Live link: <http://www.padil.gov.au:80/pests-and-diseases/Pest/Main/136663>

### 2.3. Facets

**Status:** Exotic Regulated Pest - absent from Australia

**Group:** Phytoplasmas

**Commodity Overview:** Horticulture

**Commodity Type:** Fresh Fruit, Stone fruits

**Distribution:** USA and Canada

### 2.4. Other Names

*Candidatus Phytoplasma pruni*

*Western peach X disease*

### 2.5. Diagnostic Notes

Bacteria; Firmicutes; Mollicutes; Acholeplasmatales; Acholeplasmataceae; Candidatus Phytoplasma; 16SrIII (X-disease group).

#### Symptoms

X-disease affected peach trees may exhibit dieback of branches early in the growing season due to increased sensitivity of the vascular tissue to cold damage in winter. Affected leaves on branches may also be smaller. Approximately six to eight weeks into the growing season, leaves on affected branches curl inward and develop irregular yellow to reddish-purple spots, which later become dry and brittle and drop out leaving tattered leaves with a "shot hole" appearance. Leaves on affected branches fall prematurely, starting at the base of the branch, and often leave a cluster of leaves at the tip of the branches. Yield and quality of the fruit are affected. Fruit can drop prematurely, while remaining fruit can colour and ripen prematurely and have a bitter taste. In the early stages of disease development, only a few branches are affected. However, the entire canopy of an X-disease affected peach tree will show symptoms two to three years after initial infection. Up to 60% disease incidence in an orchard has been reported. Yield reduction as high as 80% has been reported from severely affected orchards. X-disease affected peach trees gradually decline and trees may die within 2-6 years (Nemeth, 1986; Kirkpatrick et al., 1995).

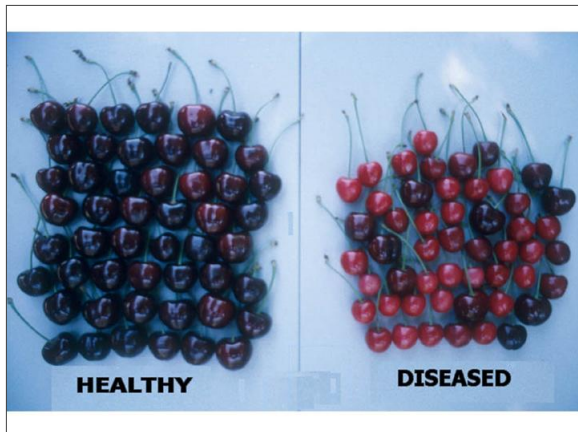
The X-disease phytoplasma is associated with Cherry X-disease (also known as cherry buckskin) in sweet

cherry and sour cherry. Symptom development in cherry depends on the cultivar and rootstock combinations. Cherry trees on Mahaleb rootstocks decline quickly and die. Trees on Mazzard, Colt, and Stockton Morello rootstocks decline slowly and may survive for many years, however a severe reduction in yield occurs (Uyemoto, 1989; Kirkpatrick et al., 1995). Affected fruit may be small and pale and fail to ripen. Affected fruits may be mixed on the same branch with unaffected fruit. Leaves on the shoot tips may form a rosette and become bronze or rust coloured several weeks earlier than leaves on healthy trees. In sour cherries, dieback may affect older infected twigs and branches. In many cherr

## 2.6. References

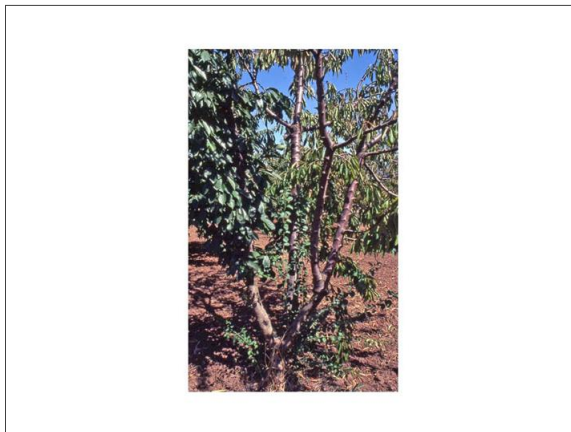
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- Wolfe HR. 1955. Transmission of the western X-disease virus by the leafhopper, *Colladonus montanus*. Plant Disease 39, 298-299.

### 3. Diagnostic Images



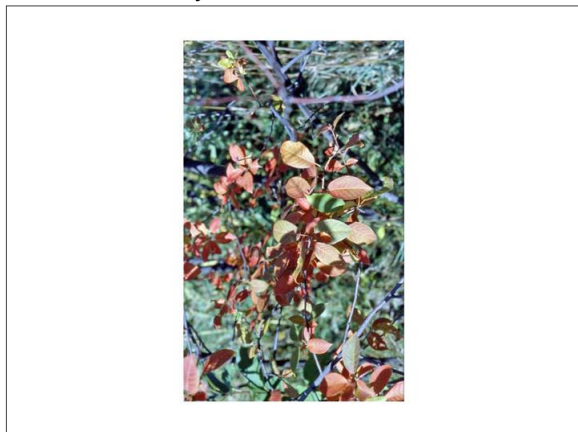
Cherry fruit from an unaffected tree (Left) compared to fruit from an X-disease affected fruit tree (right) (For permission to reproduce images email [wehowell@wsu.edu](mailto:wehowell@wsu.edu)).

**Host Symptoms:** Dr. B. Howell Washington State University



A hypersensitive reaction to X-disease at the graft union of sweet cherry on the Prunus mahaleb rootstock (For permission to reproduce images email [purcell@nature.berkeley.edu](mailto:purcell@nature.berkeley.edu)).

**Host Symptoms:** A. H. Purcell University of California



X-disease affected *Prunus virginiana* (chokecherry) in Utah, USA – symptoms occur in early autumn (For permission to reproduce images email [purcell@nature.berkeley.edu](mailto:purcell@nature.berkeley.edu)).

**Host Symptoms:** A. H. Purcell University of California



An entire X-disease affected cherry orchard (For permission to reproduce images email [purcell@nature.berkeley.edu](mailto:purcell@nature.berkeley.edu)).

**Host Symptoms:** A. H. Purcell University of California



Unaffected fruits of Bing cherry (held by hand) compared to affected fruits (located on the tree) which are smaller, lighter coloured, distorted and erect (For permission to reproduce images email [purcell@nature.berkeley.edu](mailto:purcell@nature.berkeley.edu)).

**Host symptoms - fruit:** A. H. Purcell  
University of California



Shoots from a young Rainier cherry scion/Colt rootstock tree recently infected with X-phytoplasma showing mixture of normal (left) and diseased (right) fruit (For permission to reproduce images email [jkuyemoto@ucdavis.edu](mailto:jkuyemoto@ucdavis.edu)).

**Host symptoms - fruit:** Dr. JK Uyemoto  
USDA



Shoots from a young Rainier cherry scion/Colt rootstock tree recently infected with X-phytoplasma showing mixture of normal (left) and diseased (right) fruit (For permission to reproduce images email [jkuyemoto@ucdavis.edu](mailto:jkuyemoto@ucdavis.edu)).

**Host symptoms - fruit:** Dr. JK Uyemoto  
USDA



An unaffected peach leaf (middle) compared to X-disease affected peach leaves with shothole symptoms (left and right) (For permission to reproduce images email [wehowell@wsu.edu](mailto:wehowell@wsu.edu)).

**Host symptoms - leaves:** Dr. B. Howell  
Washington State University

## Results Generated:

Wednesday, February 26, 2020

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