

Peach X Disease of Peach Trees



Cornell University
College of Agriculture and Life Sciences
New York State Agricultural Experiment Station

Peach X Disease, also known as Western X Disease, can be found in both the northwestern and northeastern United States. It is not a common disease, but it is a serious concern when present. It is also known to infect nectarines and sweet and sour cherries. The disease is caused by a phytoplasma, which is a highly specialized bacterial pathogen that infects the phloem tissues of plants and is vectored by leafhoppers and by grafting or budding infected tissue.



Above, A: Slight discoloration and mottling of infected leaves. Infected trees will appear to have discolored foliage when compared to healthy trees.

Below: Leaves along infected branches will all begin to turn red before the abscise.

Symptoms and Signs

The first visible symptoms are a slight foliar mottling on certain branches. This will progress until all of the leaves turn red. Later in the season, affected leaves will abscise except those at the tips of branches.

Fruit set on infected branches will ripen prematurely. No seeds will develop within the pits of these fruit, and the fruit will develop an unpleasant taste. Infected cherries never develop color or size up.

Impact and Considerations

Infected trees will not be commercially viable within 2 to 4 years. Newly established trees infected with X-Disease are never commercially viable and should be removed promptly. No direct chemical means of the disease management is commercially viable for large plantings, meaning that the best management option is to use clean budwood and rootstocks to prevent the entry of the pathogen into the orchard. Once established within an orchard, it will spread to surrounding chokecherries in hedgerows and will continually infest the leafhopper populations that enter the orchard.



Epidemiological aspects

Inoculum can overwinter within infected trees both in the orchard and in chokecherries and wild cherries in surrounding hedgerows. Broad leaf weeds within the orchard rows can also be reservoirs of inoculum. Black Cherries will not serve as a reservoir for the pathogen. The phytoplasma is vectored by leafhoppers, meaning that once the disease is established within an orchard it will be difficult to eradicate entirely. Simply removing obviously infected trees may not be enough because leafhoppers pick up the pathogen from the surrounding hedgerows. Successful management requires alternate host removal from hedgerows.



Above: Reddening foliage on most of the branches is a sign of severe infection. Trees in this condition will not produce a good crop, and will provide inoculum for feeding leafhoppers to spread around.

What can you do about Peach X Disease?

If you have Peach X Disease ...

- **Cultural management**
 - *Remove symptomatic or asymptomatic infected trees.*
 - *Eradicate stumps to prevent suckering.*
 - *Remove chokecherries within 500m of the orchard.*
- **Chemical / organic management**
 - *Treating hedgerows with brush killers can remove sources of inoculum that are external to the orchard. Do not allow brush killers to drift into the orchard. The organic option would be to remove these other hosts by hand instead of brush killers.*

If you want to avoid Peach X Disease ...

- **Cultural management**
 - *Use only disease-free budwood and rootstocks from orchards that don't have a history of Peach X Disease.*



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For more information, please contact:

Zachary Frederick – zaf9@cornell.edu
Dr. Kerik Cox – kdc33@cornell.edu

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