

Disease Profile-*Leucostoma* (*Cytospora*) Canker on Stone Fruit Production



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Leucostoma canker caused by *Leucostoma cincta*, *L. personii*, or *L. leucostoma* can severely damage and kill twigs and branches of peach, nectarines, and sweet cherries. It is a much more prevalent problem for stone fruit production in cooler areas like New York than more southern growing areas.



Above: Ooze laden canker with conidia emerging from pycnidia embedded in a dead peach branch (Photo courtesy of David Rosenberger)

Symptoms and Signs

The symptoms vary depending on part of the tree infected.

- Twig infections appear as sunken areas around winter killed buds, which produce amber-colored ooze in the spring. Black stoma will erupt through the dead bark and appear like many black pinheads.
- Branches can be infected from twig ooze, and will have dead twigs or pruning stubs in the center of dark cankers.
- Trunks and scaffold limbs that are infected will show elliptical dark cankers with amber gummosis around the edge of the ellipse. As the canker ages, the bark cracks to reveal black tissue underneath, and more amber gummosis.
- Trees form a callus ring around branch cankers during the summer season, but the fungus invades the tissue beyond the canker each winter. This gives older cankers the appearance of being embedded in rings of callused tissue.
- Branches on severely weakened trees will not display the callus rings, creating a canker that is dark but appears more diffuse.

Impact and Considerations

Infection can be facilitated by wounded tissue from winter damage and pruning injuries.

Springtime sunburn on the southwest facing portion of trees on bright days predisposes tissue to infection. This is an important area to check for infection when pruning.

Insects such as borers and Oriental Fruit Moths create wounds for infection courts when they feed. Integrating insect management into the overall management program creates fewer infection opportunities for *Leucostoma*.

Epidemiological aspects

Conidia are the main source of inoculum, and are released in late fall and early spring. However, they can be found throughout the growing season whenever the relative humidity is at 90% or greater. Conidia are released in the highest numbers during cool, wet periods both early and late in the season. They are spread by splashes of rain and the prevailing wind, but they are not infective 6 hours after release. This means that they cannot infect over great distances.



Above: *Leucostoma* twig canker releasing amber, conidia-laden ooze from pycnidia embedded in the wood. The infection here is likely to have originated from the pruning stub (Photo courtesy of David Rosenberger).

What can you do about Leucostoma Canker?

If you have Leucostoma Canker...

- **Cultural management**

- Prune infected cankers and remove materials from the orchard floor. Pruning should be done after petal fall to ensure wounds heal rapidly.
- Plant only disease free nursery stock to avoid introduction into an orchard.
- Late season fertilizer applications should not have high nitrogen content, as this promotes succulent tissue that is more susceptible to winter injury. Winter injury creates a pathway for *Leucostoma* colonization. However, if the nitrogen content is too low then the leaves will be more susceptible to fungal colonization.

- **Chemical / organic management**

- No direct chemical control of the fungus is available.
- Chemical control of insects that create infection sites limits the number of infection courts that can be colonized by *Leucostoma*.

If you want to avoid Leucostoma Canker...

- **Cultural management**

- Trees should be trained to avoid narrow crotch angles. Narrow crotches are more likely to be attacked by borers, more prone to winter injury, and more likely to break under the fruit load of a typical season. All of these factors create infection opportunities for *Leucostoma*.

- **Chemical / organic management**

- No chemical pre-planting treatment is currently available.



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