

Natter's Notes

Brown Rot vs Bacterial Blight/Bacterial Canker

Jean R. Natter

Two problems common to many fruiting and ornamental *Prunus* species are bacterial flower blight which often progresses into bacterial canker, and brown rot blossom blight and fruit rot.

Both diseases begin with very similar signs and symptoms. Flowers brown earlier than normal and collapse; the infection sometimes continues onto the attached twigs, where the affected leaves dry and cling to the branch; then, too, gumming or ooze may appear. Both diseases may kill branches, eventually the tree.

So, if you've been stumped now and then as to the correct diagnosis—brown rot versus bacterial blight – be heartened by the words of Jay Pscheidt, co-author of the PNW Disease Management Handbook: "Symptoms of the two will initially look the same. The big difference will be the development of signs – brown rot spores that give it that dull sort of gray coloration. So, if it has spores, it is for sure brown rot but, if they do not develop, we can't really say for sure which it might be." (Ed. comment: Ugh.)

A diagnostic option

As you know, MGs begin by obtaining a thorough history from clients. Another critical part of a successful inquiry is to examine suitable samples or images of much more than just one leaf.

Professional plant detectives visit sites where the troubled plants live; MGs don't. Determining an accurate diagnosis is difficult, sometimes impossible while confined to an office.

But we must make every effort to resolve the issue at hand. One option is to pass the inquiry to the next shift or two via a Referral Form, another is to contact another of the metro MG offices during our shift.

Although MGs seldom submit affected tissues to the OSU Plant Clinic for diagnosis, we can do so. Insect ID is free; disease ID typically requires a fee. But, before submitting any sample from your MG Office, consult with one of the following persons: for Clackamas County: Jane Collier; for Multnomah and Washington Counties: Jean Natter.

Factors in both diseases

- Cold wet weather for Bacterial Blight; warm moist weather for Brown Rot. (This spring was perfect for brown rot.)

- Stressed trees are more susceptible.
- Some cultivars have tolerance while others are very susceptible.



Brown rot begins with collapse of flowers and buds along with adjacent leaves. (UC Statewide IPM Project)

Cultural management of brown rot

- Remove and destroy infected twigs and branches in summer.
- Remove and destroy all affected fruit all dropped fruits as well as mummies that cling to the tree; don't compost.
- Avoid wounding fruit at harvest and cool it immediately.



Positive proof of a brown rot infection is fuzzy, almost granular, sporulation on fruits. (J.R. Natter; 2011-09) (continued)

Chemical management of brown rot

- Apply fungicide during bloom; PNW Disease Handbook lists possible home gardener products.
- Realize that a product suited for application to ornamental flowering trees may be prohibited for fruiting trees.



Brown rot overwinters in cankers, small or large. Branches may die.

Cultural management of bacterial flower blight

- Prune out affected tissues during dry weather; avoid the rainy months when bacteria may easily enter healthy tissues via leaf scars, the site of a mechanical injury, and/or pruning wounds.
- Disinfect pruners between trees with a 30-minute soak in 70% alcohol or in 10 percent bleach (9 parts water with one part of bleach)
- Consider replacing severely affected tree(s) with a tolerant kind. "*Prunus sargentii* 'Rancho' and *P. yedoensis* 'Akebono' appear to have some resistance. 'Kwanzan' cherries appear to be resistant when mature but not when young."

(<https://pnwhandbooks.org/plantdisease/host-disease/cherry-flowering-prunus-spp-bacterial-canker>)

Chemical management of bacterial flower blight

- No chemicals are listed for use by home gardeners.
- Client could hire a Certified Arborist to spray. It's helpful to request on-site evaluations from 3 or more Certified Arborists. (Use zip code to search for nearby Certified Arborists at www.treesaregood.org.)
- Use of copper is discouraged because of bacterial resistance problems, also that it may increase disease intensity.

Resources

- Bacterial Flower Blight and Canker: <https://pnwhandbooks.org/plantdisease/host-disease/cherry-prunus-spp-bacterial-canker>
- Bacterial canker - <http://ipm.ucanr.edu/PMG/r105101511.html>
- Brown Rot Blossom Blight and Fruit Rot: <https://pnwhandbooks.org/plantdisease/host-disease/cherry-prunus-spp-brown-rot-blossom-blight-fruit-rot>

- Brown rot:

<http://ipm.ucanr.edu/PMG/GARDEN/FRUIT/DISEASE/aprbrownrot.html>



Bacterial ooze is a common sign adjacent to active infections. Wait until consistently dry weather to prune trees affected with bacterial blight. (J.R. Natter; c. 2008)



Cambium exposed to show the necrotic, discolored areas below bacterial ooze. (PNW Disease Handbook; Iain MacSwann, 1967)