

Plant Pathology Fact Sheet

Anthracnose of Brambles

Nicole A. Ward

*Extension Plant Pathologist***IMPORTANCE**

Anthracnose can cause severe damage to blackberries, purple and black raspberries, and to a much lesser extent, red raspberries in Kentucky. When left unchecked, anthracnose can significantly reduce overall yields, as well as limit the longevity of bramble plantings. Disease also causes loss of winter hardiness.

SYMPTOMS AND SIGNS**Canes**

Anthracnose can affect both current and second-year canes. Initially, infected canes develop circular, light gray spots about 1/8 inch in diameter. Later, these spots enlarge, become sunken, and develop a purplish border with a light gray center. Spots often grow together to form large cankers, especially on older canes. Severely infected canes may become girdled, split, or cracked, thus reducing the supply of water and mineral nutrients to tips of canes. When severe cane damage occurs, fruit associated with diseased canes often ripen abnormally and/or “dry-up” before maturation. Abnormal berries may have an “off” flavor.

Leaves

Leaf spots, which can be about 1/16 inch in diameter, are initially yellowish in color, and then turn a distinct light gray with a red-purple border. Spots often drop out, leaving holes in leaves



ANTHRACNOSE LESIONS ON A RASPBERRY CANE

referred to as “shot holes.” Foliar anthracnose occurs infrequently, and even when it does occur, it rarely results in significant defoliation.

CAUSE AND DISEASE DEVELOPMENT

The anthracnose fungus (*Elsinoe veneta*) primarily infects current season's canes. It overwinters on bark and in lesions of these infected canes. Primary infection in spring occurs when spores are released and spread to susceptible tissue by splashing rain and wind. Once infection has occurred and the fungus becomes established, additional spore production allows the disease to continue to spread. Generally, severe disease is favored by prolonged wet weather during the growing season.

DISEASE MANAGEMENT

Sanitation

Since the anthracnose fungus overwinters in old infected tissue, sanitation is important for effective disease management.

- Remove and destroy infected canes immediately to reduce spore production and to reduce the level of overwintering inoculum. Do not compost diseased canes.
- Remove and destroy wild brambles in the vicinity of cultivated brambles to prevent disease spread from wild plantings to cultivated plantings, or vice versa.
- As soon as possible after harvest, remove floricanes (those that have already fruited) to reduce overwintering fungal tissue.

Cultural practices

The following cultural practices can also help in managing this disease.

- Induce faster leaf drying by pruning and spacing plants for better air circulation. Reduce weeds to further promote air circulation.
- Avoid excessive nitrogen fertilizer, since succulent new growth is most susceptible to infection.
- Prevent plant stress. Irrigate and fertilize as necessary. Keep plants mulched to maintain soil moisture.

Fungicides

Fungicide sprays can supplement sanitation for control of anthracnose.

- Apply a delayed dormant (bud swell) application of liquid lime sulfur if anthracnose was problematic the previous year. Completely cover all canes for maximum effectiveness. In most cases, good disease control early in the season reduces the need for later-season applications.
- Do not apply lime sulfur after new shoots are 3/4 inch long, as it may cause phytotoxicity and “burn” leaves and buds.

- If a planting has a history of disease, fungicides should be applied to all brambles within and nearby the planting. Although red raspberries are less likely to be seriously damaged by anthracnose than black or purple varieties, they can become infected if inoculum (spore) load is high.
- Fungicides (other than lime sulfur) may be applied between pre-bloom and harvest. See the *Midwest Small Fruit and Grape Spray Guide* (ID-94) or *Disease and Insect Control Programs for Homegrown Fruit in Kentucky* (ID-21) for current spray recommendations.
- In severe disease situations, additional sprays may be required after harvest.

ADDITIONAL RESOURCES

- Disease and Insect Control Programs for Homegrown Fruit in Kentucky, Including Organic Alternatives, ID-21 (University of Kentucky, 2012)
<http://www.ca.uky.edu/agc/pubs/id/id21/id21.pdf>
- Growing Blackberries and Raspberries in Kentucky, HO-15 (University of Kentucky, 2005)
<http://www.ca.uky.edu/agc/pubs/ho/ho15/ho15.pdf>
- Homeowner’s Guide to Fungicides (University of Kentucky, 2012)
http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-MISC-7.pdf
- Midwest Home Fruit Production Guide, B591 (Ohio State University, 2009) 5.7 MB
http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/HomeFruitB591.pdf
- Midwest Small Fruit and Grape Spray Guide, ID-94 (University of Kentucky and the Midwest Fruit Workers Group, 2012) 2 MB
http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/ID-94.pdf
- Midwest Small Fruit Pest Management Handbook (Ohio State University, 2004) 73 MB
http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/MwSmFruitPMHandbook.pdf

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Photo by John Hartman, University of Kentucky

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