

IPM Fact Sheet Series**UMass Extension Fruit Team**

Fact Sheet #BD-001

Blueberry - Anthracnose Ripe Rot (*Colletotrichum acutatum*)**ID/Disease Cycle:**

Blueberry Anthracnose (aka 'ripe rot'), primarily damages fruit but may also infect twigs and spurs. It causes a salmon or rust-colored berry rot, which can ruin fruit quality. Blossom clusters will turn brown or black. Infected fruit shows bright pink spore masses at the blossom end. Stem cankers with raised purple margins can occur but are rare. Young girdled stems die back, resulting in a brown withering of the leaves. The disease is especially prevalent during hot, muggy weather and frequently occurs post-harvest.

Blueberry Anthracnose is caused by the fungus *Colletotrichum acutatum*. *C. acutatum* has a wide host range and causes ripe rot in several fruit and vegetable crops. In blueberries, the fungus overwinters in dead or diseased twigs, bud scales, fruit spurs, and cankers. Floral bud scales are considered the most important source of inoculum. Spores are released in spring, and are spread by rain and wind. Blossom infections usually remain symptomless until the resulting fruit begin to ripen. Mature fruit and succulent tissue may also be infected. Spores produced on infected tissues may perpetuate disease spread as long as warm, wet conditions continue. At 25°C (77°), at least 8 hours of leaf wetness is required for infection to occur; a longer leaf wetness period is required for infection to occur at higher or lower temperatures.



Figure 1) Shriveling blueberries with orange spore masses of *C. acutatum* in field prior to harvest. (Photo: T. Miles MSU)



Figure 2) Blueberry (cv. 'Jersey') showing abundant sporulation of *C. acutatum* in the field. (Photo: T. Miles MSU)

There is some variability in susceptibility to Anthracnose among blueberry cultivars. Michigan State University conducted some cultivar trials and determined susceptibility ratings that are shown below.

Table 1) Susceptibility of highbush blueberry cultivars to anthracnose fruit rot. Rating is based on field observations as well as the proportion of fruit decay after artificial inoculation: 0-15%= resistant, 16-30%= moderately resistant, 31-50%= moderately susceptible, and 51-100%= susceptible (Polashock et al., 2005, Plant Disease 89:33-38)

Susceptible		Moderately Susceptible		Moderately Resistant	Resistant
Bluecrop	Lateblue	Berkeley	Northland	Aurora	Elliot
Bluegold	Nui	Bluejay	O'Neal	Blue Rose	Draper
Blueray	Olympia	Bonus	Reka	Blue Haven	Legacy
Bluetta	Patriot	Cabot	Rubel	Brigitta Blue	Liberty
Cara's Choice	Pemberton	Collins	Stanley	Elizabeth	
Chanticleer	Puru	Hanna's	Sunrise	Croatan*	
Darrow	Rancocas	Choice	Weymouth	Murphy*	
Earliblue	Sierra	Jersey		Duke*	
Hardyblue	Spartan	Nelson			
Herbert	Toro				
Katherine					

* Duke, Muphy and Croatan show field resistance even though they were susceptible or moderately susceptible in the inoculation tests.

Damage: Impact from this disease is mainly on fruit quality, harvestable yield, and post-harvest quality. Some yield reduction can occur from blossom infections and twig blight.

Management:

Monitoring: Consult scouting records from previous years to determine if build-up of this disease is indicated. Monitor weather conditions to identify likely infection periods. Scout fields beginning at bloom for symptomatic tissue.

Control strategies:

Cultural/Biological:

- Grow resistant cultivars when available. 'Elliott', 'Legacy', and 'Reveille' are among these.
- Prune bushes to open the canopy to light, air, and spray penetration.
- Remove and destroy prunings.
- Harvest frequently to limit the amount of overripe fruit present in the field.
- Refrigerate harvested fruit as soon as possible.

Chemical:

- Refer to the [New England Small Fruit Management Guide](#) for specific materials and rates recommended for managing mummy berry.
- Apply recommended fungicides if scouting and weather monitoring indicate risk of infection.
- Repeat fungicide applications at recommended intervals if weather conditions are conducive to infection.

- Rotate fungicide materials from different FRAC groups to avoid promoting the development of resistant strains of this disease.

References: Anthracnose Fruit Rot (Ripe Rot) of Blueberries. Michigan Blueberry Fact Sheet. https://archive.lib.msu.edu/DMC/extension_publications/e3039/E3039.pdf. Timothy Miles and Annemiek Schilder, Michigan State Univ.

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Author(s): Angela Madeiras and Sonia Schloemann, UMass Extension

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