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## Black rot - *Guignardia bidwellii*

Annemiek Schilder, MSU Plant Pathology

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On the leaves, light brown, roughly circular spots appear in the spring and summer ( left). These can be distinguished from herbicide damage by a ring of small black fruiting bodies (above right), which are visible with the naked eye or a hand lens.

Fruit infections occur from bloom until the berries become naturally resistant (about 3 to 5 weeks after bloom in most varieties). The first symptom, a whitish dot within a rapidly expanding brown area, appears 10 to 14 days after infection. Within a few days, the berry starts to shrivel and becomes a hard, blue-black mummy.

If berries are infected close to the onset of natural resistance, lesions remain localized. The fungus over-winters in mummies within the vine or on the ground. Ascospores are released shortly after bud break until about 2 weeks after bloom and are dispersed by wind and rain.

Infected tissues can also yield conidia, which are dispersed by rain splash and cause secondary infections. The optimum temperature for disease development is 27°C (80°F). At that temperature, the wetness period required for infection is only 6 hours (see table below).



Initial berry lesions (above), which expand and may show growth rings (right).

### Are conditions right for black rot?

Forecast models for black rot are available at [Enviro-weather](#). Select a weather station from the map that is closest to your location. Then click on "fruit" for a list of weather resources and models for fruit production.

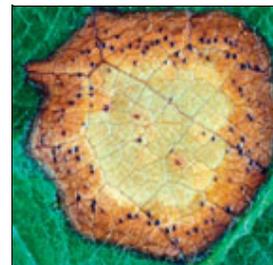


Photo:Left , T. Zabadal. Right, A. Schilder.



Ave. temperature (F)	Hr. of leaf wetness	Number of wetting hours required for black rot infection at various temperatures.
50	24	
55	12	
60	9	
65	8	

70	7	Source: R.A. Spotts, Ohio State University.
75	7	
80	6	
85	9	
90	12	



Mummified berries on a cluster.



Mummified berries.

## Additional information

- Search [MSU Extension News for Agriculture](#) site
- Search MSU *Fruit CAT Alert* newsletter for articles. Type in keyword: black rot
- [Vineyard Scouting Calendar for Key Pests](#)
- [MSU Diagnostic Services](#)
- Special [grape disease problems](#) and controls (from [Michigan Fruit Management Guide](#)) (Download [Adobe Acrobat Reader](#) to view PDF files)
- More about [black rot](#)

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