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Powdery mildew - *Uncinula necator*

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Powdery mildew can infect all green tissues and give them a white to gray, powdery appearance. Colonies occur mostly on the upper leaf surface. Early berry infections can result in split berries, secondary rots and undesirable flavors in wine. Late berry infections are less obvious but can still predispose the berries to rots.

In late summer, the fungus produces small, brown to black fruiting bodies (cleistothecia) on infected plant parts. Cleistothecia overwinter in bark crevices and release ascospores during rains of 0.1 inch (2.5 mm) or more between bud break and fruit set. In regions with mild winters, the fungus can also survive in dormant buds, which develop into "flag shoots." Powdery mildew is favored by high humidity and temperatures of 68 to 81°F (20 to 27°C). Wetness is not required for infection. Temperatures above 95°F (35°C) inhibit new infections. Begin monitoring early in the season, focusing on shaded leaves and clusters inside the canopy.



Early (above left) and advanced (above right) symptoms on leaves.

Berry infection.

Cleistothecia on a leaf.

Additional information

- Search [MSU Extension News for Agriculture](#) site
- Search [MSU Fruit CAT Alert](#) newsletter for articles. Type in keyword: powdery mildew.
- [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)



Infected shoots show gray, feathery patches (above left), which appear reddish brown on dormant canes (above right).

Severe infection on a grape cluster.