

BLUEBERRY DISEASE FAST FACTS

Powdery Mildew

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Figure 1



Figure 2

What: Blueberry powdery mildew is caused by the fungus, *Microsphaera vaccinii*. On susceptible varieties, leaf surfaces may be covered with white fungal mycelia and spores (**Figure 1**). Infected leaves may curl or pucker. Either the upper or lower leaf surfaces may be affected. Chlorotic spots with reddish borders are common on the upper leaf surface, similar to symptoms of red ringspot virus. Water-soaked areas on lower leaf surfaces opposite the chlorotic areas distinguish mildew from the virus. Because control measures for the two diseases are very different, it is important to distinguish between them.

Spores (conidia) are constantly produced on the surface of the white fungal patches, and serve as a source of secondary infection for newly expanding leaves. Small fungal fruiting bodies (cleistothecia) may be found on upper leaf surfaces late in the season. Under a hand lens they appear as small black globes with many branched arms (appendages).

When: The first symptoms usually appear in mid-summer. New infections continue to occur as long as susceptible tissue is present and conditions are conducive for infection.

Where: Powdery mildew may be found in most blueberry plantings throughout the United States where conditions are favorable for its development. The disease is most common and severe in climates that are warm and dry. Most mildew fungi do not kill their hosts, but instead reduce growth and yield by competing for and/or depleting host nutrients.

How: Conidia are carried by air currents to emerging tissue and cause infection during periods of high relative humidity. Free water on the leaf surface is not required for infection. Infection may occur in 23 hours, with new spores being produced and matured in 5 days. The onset of cooler weather in late summer shifts the fungus from conidia production to cleistothecia. Whether the fungus overwinters as cleistothecia or mycelium in dormant buds is not yet known.

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(continued)

Control Strategies: Powdery mildew is not a serious disease of blueberry, but premature defoliation caused by mildew may affect long-term productivity. Risk of damage from this disease is usually considered slight. Since symptoms usually do not appear until after harvest, most growers do not attempt to control the disease.

- Plant resistant cultivars where disease pressure is potentially high. Berkley', 'Earliblue' and 'Ivanhoe' are resistant. 'Bluecrop', 'Rancocas', 'Weymouth', 'Pemberton', and 'Dixi' are moderately susceptible. 'Collins', 'Rubel', 'Blueray', 'Herbert', and 'Jersey' are susceptible.
- Reduce humidity in the plantings through planting orientation, plant spacing, pruning practices, limiting overhead irrigation.
- Fungicide applications are *not* recommended unless the disease is severe.
- If fungicide applications are used, it is important to make the first application early after petal fall to reduce primary inoculum and applications throughout June, July, and August to reduce secondary infections.

References:

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The New York State Berry Grower's Association
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