

Powdery Mildew (Erysiphales)



Figure 1 Powdery mildew on squash



Figure 2 Powdery mildew on pumpkin

Damage

The upper and (less frequently) lower surfaces of leaves as well as the stems of infected plants have a white powdery appearance. Powdery mildew is caused by several closely related fungi that survive in plant debris or on infected plants. These fungi grow primarily on leaf surfaces and send small root-like structures into the leaf cells to extract nutrients. Infected leaves usually wither and die. Infected plants may experience early dieback and a shortened growing season.

When Active

High humidity creates conditions favorable to the development of powdery mildew on a wide variety of plants. Begin scouting for powdery mildew in early July after fruit initiation when plants are most susceptible.

Susceptible Plants

These fungi are fairly host specific. The powdery mildew that affects one type of plant (e.g., pumpkins) is not the same powdery mildew that affects another (e.g., phlox). Cucurbits, including squash, pumpkins, muskmelons, and gourds are the vegetables most frequently affected.

Prevention Methods

Consider buying plant varieties that have been developed with resistance to powdery mildew. Prune diseased tissue and destroy it. Gather and destroy dead leaves and stems in the fall since they can be a source of spores for the next growing season. Space plants for good air circulation and plenty of sun. Water early in the day and avoid overhead watering.

Treatment Methods

Early detection is important. A combination of baking soda (1 ½ teaspoons) with 3 Tablespoons of light weight horticultural oil (e.g. Sunspray® oil) dissolved in a gallon of water has been shown to be effective in controlling powdery mildew. The solution should be applied every 7-14 days from bud break until the humid weather subsides.

Additional Information/Resources

- UW Extension Bulletin [A3688 Growing Pumpkins and Other Vine Crops in Wisconsin](#)
- UW Extension Garden Fact Sheet [XHT1005b Powdery Mildew](#)
- Cornell University [Powdery Mildew of Cucurbits](#)
- Dane County UW Extension Horticulture Hotline [608-224-3721](#) (M-F, 9 am-12 noon, April 15 – October 31) or horticulture@countyofdane.com

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