



Extension

UNIVERSITY OF WISCONSIN-MADISON

Provided to you by:

Downy Mildew

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What is downy mildew? The downy mildews are a group of diseases that cause destruction of the leaves, stems, flowers and fruits of many plant species worldwide. In Wisconsin, downy mildews have traditionally been problems on grapes, cucumbers (see UW Bulletin A3978, *Cucurbit Downy Mildew: Identification and Management*,

available at <https://learningstore.extension.wisc.edu/>), roses and *Viburnum*. Downy mildews on basil (see UW Plant Disease Facts D15, *Basil Downy Mildew*) and impatiens (see UW Plant Disease Facts D66, *Impatiens Downy Mildew*) have more recently become problematic.



Downy mildew can cause severe losses in regions where grapes are produced.

What does downy mildew look like? Downy mildew symptoms begin as small, green or yellow, translucent spots that can eventually spread to an entire leaf, stem, flower or fruit. Infected plant parts may eventually brown or bronze. The causal organism appears on infected stems, flowers and fruits, and on undersurfaces of infected leaves, as a downy, white, gray or purple fuzz.

Where does downy mildew come from?

Downy mildew is caused by several closely related fungus-like water molds (e.g., *Peronospora* spp., *Plasmopara* spp. and *Pseudoperonospora* spp.) that survive in plant debris or on infected plants. Downy mildew organisms are fairly host specific. The downy mildew organism that infects one type of plant (e.g., rose) is not the same downy mildew organism that infects another (e.g., grape). However, if you see downy mildew on one plant, then environmental conditions (i.e., cool, wet weather) are favorable for development of downy mildews on a wide range of plants.

How do I save a plant with downy mildew? Downy mildews can be controlled using fungicides, if treatments are applied early enough in disease development. Fungicides containing chlorothalonil and copper (particularly Bordeaux mix, a combination of copper sulfate and lime) are labeled for downy mildew control in home gardens. Timing and number of applications will vary depending on exactly the type of downy mildew you are attempting to control. Be sure to read and follow all label instructions of the fungicide that you select to ensure that you use the product in the safest and most effective manner possible.

How do I avoid problems with downy mildew in the future? Consider buying downy mildew resistant varieties, when available. In new plantings, space plants far apart. In established plantings, prune or thin plants to increase airflow. Proper spacing and thinning will reduce humidity and promote rapid drying of foliage, which is less favorable for downy mildew development. Avoid overhead watering and apply water directly to the soil at the base of your plants. At the end of the growing season, remove and destroy infected plant debris as this can serve as a source of spores for the next growing season.

For more information on downy mildew: Contact the University of Wisconsin Plant Disease Diagnostics Clinic (PDDC) at (608) 262-2863 or pddc@wisc.edu.

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A complete inventory of UW Plant Disease Facts is available at the University of Wisconsin-Madison Plant Disease Diagnostics Clinic website: <https://pddc.wisc.edu>.

Submit additional lawn, landscape, and gardening questions at <https://hort.extension.wisc.edu/ask-a-gardening-question/>