

How to Prevent and Control Powdery Mildew

By The Editors



Photo by Pollinator: Wikimedia Commons

Wondering about that white fungus on your plant? The fungal disease **powdery mildew** is a common problem in gardens, infecting a wide variety of plants and reducing the quality and quantity of flowers and fruit.

What Is Powdery Mildew?

Powdery mildew is a fungal disease that affects a wide variety of plants. There are many different species of powdery mildew, and each species attacks a range of different plants. In the garden, commonly affected plants include cucurbits (squash, pumpkins, cucumbers, melons), nightshades (tomatoes, eggplants, peppers), roses, and legumes (beans, peas).

When the fungus begins to take over one of your plants, a layer of mildew made up of many spores forms across the top of the leaves. These spores are then carried to other plants by the wind. Powdery mildew can slow down the growth of your plant and, if the infection is severe enough, will reduce fruit yield and quality.

How Does Powdery Mildew Spread?

Powdery mildew spores typically drift into your garden with the wind, but if you've had powdery mildew occur in the past, new outbreaks may also come from dormant spores in old vegetative material or weeds nearby.

Unlike many other fungal diseases, powdery mildew thrives in warm (60-80°F / 15-27°C), dry climates, though it does require fairly high relative humidity (i.e., humidity around the plant) to spread. In cooler, rainy areas, it does not spread as well, and it is also slowed down by temperatures higher than 90°F (32°C). It tends to affect plants in shady areas more than those in direct sun, too.

Identification

How to Identify Powdery Mildew Damage

- Plants infected with powdery mildew **look as if they have been dusted with flour.**
- Powdery mildew usually starts off as **circular, powdery white spots**, which can appear on leaves, stems, and sometimes fruit.
- Powdery mildew **usually covers the upper part of the leaves**, but may grow on the undersides as well.
- Young foliage is most susceptible to damage. Leaves turn yellow and dry out.
- The fungus might cause some leaves to twist, break, or become disfigured.
- The white spots of powdery mildew will spread to cover most of the leaves or affected areas.
- The leaves, buds, and growing tips will become disfigured as well. These symptoms usually appear late in the growing season.



Powdery mildew first appears as small white spots on the upper part of the leaves. Photo Credit: The Regents of the University of California, UC Davis.

Control and Prevention

How to Prevent Powdery Mildew

As with all pests and diseases, the best means of controlling powdery mildew is proactive prevention.

- Choose plants for your garden that are resistant to powdery mildew. Many mildew-resistant varieties of cucurbits (melons, cucumbers, squash, etc.) have been developed and can be bought from major seed suppliers.
- Plant in sunnier spots, as powdery mildew tends to develop more often in shady areas.
- Selectively prune overcrowded areas to increase air circulation around your plants; this helps to reduce relative humidity.
- Watering from overhead can help to wash spores off leaves. Note, however, that wet foliage can often contribute to the development of other common diseases, so it's best not to rely on this as a prevention tactic.

How to Control Powdery Mildew

- Consider spraying infected plants with protectant (preventative) fungicides. Effective organic fungicides for treating powdery mildew include sulfur, lime-sulfur, neem oil, and potassium bicarbonate. These are most effective when used prior to infection or when you first see signs of the disease.
- If you don't want to use chemical fungicides, try spraying your plants with a bicarbonate solution:
Mix 1 teaspoon baking soda in 1 quart of water. Spray plants thoroughly, as the solution will only kill fungus that it comes into contact with.
- Once plants are heavily infected, it's very difficult to get rid of the disease, so focus on preventing it from spreading to other plants. Remove all infected foliage, stems, and fruit and destroy them, either by throwing them in the trash or by burning. Remember, do not compost any infected plant, as the disease can still be spread by the wind and persist in the composted materials.

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