

Powdery Mildew

White powdery growth on leaves and shoots can be a sign of powdery mildew. This disease affects many plants, and one of several fungi can cause it. Manage powdery mildew by using resistant plant varieties and altering the growing environment. In some situations, fungicide treatments might be required for susceptible plant species.

Symptoms can vary by plant species.

- ◆ White, powdery spots develop on both leaf surfaces and expand as the infection grows.
- ◆ Leaves turn yellow or brown and fall off, exposing the plant or fruit to sunburn.
- ◆ Leaves or shoots can twist or distort.
- ◆ Vegetable fruits usually aren't affected, but apples, grapes, and stone fruits can develop weblike russet scars or corky areas.

Powdery mildew is common in warm, dry conditions.

- ◆ Unlike many diseases, powdery mildew doesn't require moist conditions to grow.
- ◆ Moisture during the spring inhibits growth.
- ◆ Moderate temperatures (60° to 80°F) and shade encourage the disease.

Alter the growing environment to make plants less susceptible.

- ◆ Grow plants in sunny locations.
- ◆ Provide good air circulation by pruning excess foliage.
- ◆ Don't overfertilize with nitrogen, because lush foliage and shade encourage the disease.

Plant resistant varieties.

Some highly susceptible plants have resistant or less susceptible varieties.

- ◆ **Ornamentals:** Crape myrtle, rose, London plane tree, rhododendron, and zinnia.
- ◆ **Fruit:** Apple, raspberry, and peach.
- ◆ **Vegetables:** Melons, pumpkins, squash, cucumbers, beans, and peas.



Consider nonchemical approaches.

- ◆ Sprinkle infected plants with water. To prevent problems with other diseases, do this midmorning, so moisture dries rapidly. Adding some soap can increase control.
- ◆ Prune out small infestations, and remove infected buds during the dormant season. Quickly remove infected materials, so you don't spread spores to new areas.

Some susceptible varieties might need fungicides.

- ◆ These plants include apples, caneberries, grapes, roses, and cucurbits.
- ◆ Control mild to moderate infections with horticultural oil, with plant-based oils such as neem oil or jojoba oil, or with potassium bicarbonate fungicides. Don't use oils if you've applied sulfur or if it is above 90°F.
- ◆ Prevent infections with wettable sulfurs, especially ready-to-use products with soaplike surfactants. These products aren't effective after the disease appears. Repeat applications might be necessary.
- ◆ Other fungicides are available for some plants, but most must be applied before you see the first fungal growth.

See *Pest Notes: Powdery Mildew on Fruits and Berries, Powdery Mildew on Ornamentals, and Powdery Mildew on Vegetables* at www.ipm.ucdavis.edu for more details.



Powdery mildew on a rose (left) and melon (right).

Minimize the use of pesticides that pollute our waterways. Use nonchemical alternatives or less toxic pesticide products whenever possible. Read product labels carefully and follow instructions on proper use, storage, and disposal.

For more information about managing pests, contact your **University of California Cooperative Extension office** listed under the county government pages of your phone book or visit the UC IPM Web site at www.ipm.ucdavis.edu.

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