

Powdery Mildew on Rhododendrons

What is Powdery Mildew?

Powdery mildew is a term used to refer to a number of different fungus diseases that infect a wide range of plants. Apples, roses, grapes, lawn grasses, zinnias, peas and potatoes are just a few examples. Powdery mildew is commonly encountered on lilacs, azaleas and many other shrubs and trees.

Mildew-infected plants typically have a grayish-white powdery coating over affected leaves and shoots. Leaves infected with mildew are usually distorted, curled or twisted, and may be stunted or smaller than normal. Severely infected foliage may become chlorotic or yellowish, turn brown, and prematurely fall from the plant. Badly infected new shoots may also die.

The grayish-white coating of powder, so often evident on the affected plant tissue, is actually the body of the fungus, the mycelia strands, as well as the organism's spores. To obtain food from the plant under attack, the organism sinks small, root-like organs into the outer layer of cells.

Depending on which powdery mildew organism is involved, it can survive the winter in various ways. Some produce small black fruiting bodies that overwinter on dead leaves or twigs that fall or hang on the plant. With other species, the fungus spends the winter in buds or green leaves still on the plant. Powdery mildew attacking evergreen shrubs and roses often overwinters in this fashion.

Contrary to popular opinion, powdery mildew outbreaks are not favored by rainy weather. Steady rain tends to wash mildew spores off the foliage before they have a chance to penetrate the tissue. Mildew is more commonly associated with high relative humidity and the light coating of dew that forms on leaves when cool nights follow warm days. Mildew is often severe on lilacs, deciduous azaleas and roses during the late summer and early fall.

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Rhododendrons can be infected by one or more powdery mildew organisms, and the symptoms of the disease are often not the classic ones seen on most other plants. The leaf deformity and grayish-white powder rarely occur, at least not on the surface of leaves.

The first symptoms are usually manifested by chlorotic areas on the leaves' top surfaces. This may not be obvious at first, but as the leaf matures to deep green, the contrasting lighter green areas show up. These areas eventually become more yellow than green.

The undersides of the leaves display corresponding brown patches that may become covered with the grayish-white coating. This coating rarely, if ever, appears on the upper surfaces. Close inspection of the leaves' lower surfaces is necessary to see it. Sometimes the coating is so sparse that it can't be seen without a hand lens.

An acute case of rhododendron powdery mildew can lead to severe defoliation. If the disease is allowed to remain unchecked for several years,

serious branch dieback can occur. Older, large rhododendrons may have no more than one year's leaves at the ends of the branches. Some plants can defoliate completely and die.

Because the fungus probably overwinters on the previous season's leaves and in the buds, protective sprays are essential in any program aimed at controlling the disease. Clean up and destroy all fallen leaves and prune out all dead branches and twigs. As the new growth expands in spring, protective fungicides should be applied. Potassium bicarbonate, triforine, myclobutanil, wettable sulfur, and oil products

labeled for use on ornamental plants have all proven effective at controlling mildew. Do not apply sulfur products when temperatures are above 85 degrees and do not mix them with oil products. Depending on the product chosen, several applications may have to be made during and up til the new growth has hardened off. A spreader/sticker incorporated in the spray can increase the fungicide's effectiveness. Follow all label directions precisely.