

Is Powdery Mildew That Bad?



By Joyce Edmeier, Tree Care Advisor

Every year my lilac shrubs, bee balm and phlox get blotches of a white powdery substance that appears in late summer. Sometimes the leaves curl, but often they seem to continue growing without any harm. Even though this fungal disease can devastate some ornamental crops and looks unpleasant in our landscape, is it really that bad?

What is powdery mildew?

Powdery mildew is a common disease of trees and shrubs caused by several species of fungi in the Erysiphaceae family where the fungal colonies appear powdery with white to gray spots or blotches. Plants that are often infected include azalea, crabapple, dogwood, phlox, lilac, dahlia, zinnia, rose, spirea, oak, cucumber and squash.



Photo courtesy: The Missouri Botanical Garden

Symptoms

Close observation shows the fruiting body of the fungus is a sphere which forms on or in a mycelial mat on the surface of a plant. Powdery mildew spores (conidia) can be produced every 4-6 days with the right conditions and are dispersed by air and water. These spores can survive winters in the buds of infected plants and re-infect plants in the spring.

Powdery mildew suppresses growth on plant material and can cause stunted and curled foliage. Leaves can become chlorotic and in extreme cases the leaves turn yellow or dried brown. It begins on the lower leaves and spreads to the upper leaves where the characteristic powdery growth appears. Photosynthesis and transpiration in the leaves is greatly reduced, particularly in the new leaves of plants when sunlight is blocked.

Necessary Conditions

Powdery mildew occurs most often in humid areas and multiplies with high levels of humidity and decreased air movement. It is also less common in the summer but thrives in the cool nights and warmer days of spring and fall. Powdery mildew is worse on shaded plants that have little air movement and is often spread by the wind or splashing rain.

Controls

Powdery mildew's impact on horticultural and greenhouse operations can be severe, however the good news is it has little impact on our North American forests. Damage appears to be minor in woodlands, but more serious on ornamental trees and shrubs, and only appears when the infection is severe. Select only healthy or resistant plants and space the plantings out for better air circulation, avoiding overhead irrigation which causes excess moisture and ideal growing conditions for powdery mildew. The use of drip irrigation to apply water is suggested.

Pruning infected stems is a proper cultural control before the infestation becomes severe, or simply remove the infected leaves. Selective pruning of shrubs in the winter helps open the canopy for better air circulation. Chemical control using fungicides may be used if applied early in the infestation, making sure to cover both sides of leaves. Some common fungicides used are Thiophanate methyl, Sulfur, Chlorothalonil, and Potassium bicarbonate. Read the directions on the labels to follow the proper dosage, plant material and timing of the chemical application.

Resistance

There are many plants readily found at nurseries that show resistance to powdery mildew. This resistance may be bred in a specific cultivar or can occur naturally. Smoke bush or *Cotinus coggyria* 'Royal Purple' or 'Winecraft Black' are good examples of desired ornamental shrubs. Phlox 'David' and 'Delta Snow', 'Rose Queen' Bee Balm, and many zinnias also have resistance to



Photo courtesy: University of New Hampshire Cooperative Extension

powdery mildew. Check out the plant label to see if the plant you are purchasing is resistant to this fungal disease.

So, is powdery mildew that bad? In most cases, for the average gardener it is manageable without the use of chemicals. Vigilance on avoiding the humid, crowded conditions, and watching for the tell-tale signs of the fungal spores are the best way to keep on top of this fungal disease. Powdery mildew can be controlled in most environments with observation of leaves and stems and proper disease management in the landscape.

For More Information:

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