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Powdery Mildew on Crape Myrtles

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The crape myrtle is a popular woody ornamental plant. Its deep green foliage and bright-colored blooms last throughout the summer and its interestingly textured trunk accents the landscape in winter. Despite its usual hardiness, in the spring and fall, some leaves may turn grayish white. This change may be a sign of powdery mildew, a disease common to crape myrtles.

Symptoms

Powdery mildew occurs most often on young, actively growing plant tissues (Fig. 1). It can completely cover and severely damage new plant growth. Older leaves are less likely to be affected, but can become infected under conditions favorable for the disease.

The surface of an infected plant has a powder-like appearance (Fig. 2), infected shoots may dry up and shrivel, severely affected buds will drop off (Fig. 3), and badly infected leaves may grow abnormally (curl and twist). Severe infection also causes premature defoliation.



Figure 1. Top: Early symptoms (discrete white spots with diffused edges) of powdery mildew on crape myrtle foliage. Bottom: Close-up of severe symptoms. Spots can enlarge and merge to cover large portions of the leaves. *Source: Kevin Ong.*



Figure 2. Left: Non-symptomatic plant. Right: Symptomatic plant. On symptomatic plants, the foliage looks like it is covered with a fine dusting of white powder. *Source: Kevin Ong.*

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Figure 3. Flower buds affected by powdery mildew can produce unsightly, malformed blooms that rapidly deteriorate.
Source: Kevin Ong

Cause

The fungus *Erysiphe lagerstroemiae* causes powdery mildew. It grows in thin layers on the surface of buds, flowers, leaves, and shoots. It produces numerous spores that, when seen under a microscope or hand lens, look like chains of beads. This fungal growth results in a powdery appearance on the plant surface, hence the common disease name, powdery mildew.

In the fall and early winter, the fungus produces an ascoma or clietothecia—an overwintering structure. It is a dark, spherical structure about the size of a small poppy seed and easy to see among the whitish mildew. The ascoma survives the winter on leaves or plant debris and produces spores in the spring that can re-infect crape myrtles.

Environmental Conditions

The wind carries the powdery mildew spores to other plants. Under favorable conditions, infection may occur as few as 3 to 5 days after the spore lands on the crape myrtle. Powdery mildew spores can germinate and infect crape myrtle in the absence of free water on the plant tissue, as long as there is adequate humidity in the air. Warm days and cool nights (60° to 80°F) favor development and spread of powdery mildew. Disease development slows when leaf temperatures exceed 90°F.

Control

Prevention is the best management method. Use crape myrtle varieties that are resistant to powdery mildew. Good cultural sanitation practices such as raking, removing, and burying affected leaves can reduce future disease pressure. Selective pruning and plant placement in the landscape to encourage good air circulation can suppress humidity levels and reduce the opportunities for powdery mildew spores to settle on plant tissue. Avoiding excess fertilization also helps reduce susceptibility to powdery mildew.

Some fungicides, both natural and synthetic, are available to help control powdery mildew. Natural fungicides such as neem oil extract and potassium bicarbonate are effective when used correctly. Fungicides are typically not needed during the hottest part of the year when the powdery mildew fungus is inactive, and using fungicides at this time may damage the plant foliage. Always read all directions and labels before using any chemical control.

For more information about crape myrtle varieties:

- **Aggie Horticulture -** Information about varieties that have powdery mildew resistance and are good choices for Texas. http://aggie-horticulture.tamu.edu/southerngarden/lager.html
- **US National Arboretum -** Information about crape myrtle varieties and characteristics, including powdery mildew resistance. http://www.usna.usda.gov/Research/Herbarium/Lagerstroemia/

Extension Plant Pathology
http://plantclinic.tamu.edu

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