The Plant Doctor
Powdery Mildew on Crapemyrtles

MISSISSIPPI STATE UNIVERSITY EXTENSION

The twisting, smooth-textured, cream to cinnamon-brown-colored trunk of the crapemyrtle makes it a pleasing plant in both winter and summer gardens. The red, pink, white, lavender, or purple flowers give great summer color.

One of the few problems with the crapemyrtle is that its dark green leaves tend to turn white in the summer. This is because many crapemyrtles are susceptible to infection by a particular white fungus.

The fungus grows in thin layers on the leaf surface. It produces many chains of spores that make a talcum powder-like appearance. This powdery appearance gives the fungus its name—powdery mildew.

On warm, dry days, the air can carry these small, light spores to uninfected shoots, buds, leaves, and flowers. Nighttime cools the air, increasing the relative humidity. The spores, like plant seeds, absorb the moisture, germinate, and grow.

Powdery mildew grows best on young, actively growing tissue, such as new shoots and buds. The fungus may entirely cover new growth and affect it severely. Older leaves can become infected under severe conditions. An infection may occur in as few as 3 to 5 days from the time the spore lands on a leaf and begins producing new spores.

Badly infected leaves may curl and twist. They may then turn yellow and fall to the ground. Each infection produces many thousands of spores to continue the cycle. Eventually, buds may abort and fall to the ground. The leaf-twisting happens because the fungus sends specialized thread-like structures into the upper leaf cells to absorb water and nutrients. As the contents of these cells are consumed, the cells stop expanding and growing normally. Healthy cells surrounding the infection continue to grow, causing the twisting.

In mild climates, such as coastal areas, powdery mildew may survive the winter as spores lodged in bud scales and bark and on the material that fell to the ground the previous season. The spores germinate on newly emerging tissue in the spring. In noncoastal areas of the state, another fungal stage, called the cleistothecia stage, survives the unfavorable winter period.

Cleistothecia are produced later in the summer and appear as small black structures, about the size of a small pepper grain, among the white powdery mildew. They overwinter in the soil near the base of the tree, where they fell while attached to plant parts. Spring rains cause them to produce a new type of spore that winds carry back to the tree. Thus, raking and disposing of fallen leaves and other plant parts will reduce next year's infection.

The best way to manage powdery mildew on crapemyrtles is to plant resistant cultivars. You should plant them in full sun and in open areas with good air circulation.

If established crapemyrtles are infected, prune them to increase air circulation. Remove the small, twiggy growth below and within the canopy. This keeps the trunk clean, letting air into the canopy. Pruning crapemyrtles is best done in the winter, when they are dormant.

Good air circulation reduces the chance that spores will settle on the plant and reduces the humidity level in the plant canopy. Also prune surrounding plants to encourage air circulation and allow sunlight to reach the crapemyrtle.

Because high humidity and a susceptible host are all that is required for powdery mildew to thrive, there will be situations in which fungicides will be needed. In general, you should apply fungicides when a powdery mildew infection starts. If the powdery mildew seems to be increasing, increase the frequency of fungicide applica-

tion. Applications on 1- to 2-week intervals may be needed. Once you reduce the infection, decrease the frequency of fungicide application.

Many fungicides are labeled for use on crapemyrtles. These may be sold to homeowners under many different names, so look for the following active ingredients.

If you want organic fungicides, look for sulfur (but do not apply in temperatures of 90ºF or above), neem oil extract, Bordeaux mix, or some of the baking soda fungicides (potassium bicarbonates). You might try making your own baking soda fungicide using the Cornell rose formula: Add 1 tablespoon of baking soda and 1 tablespoon of a light horticultural oil to 1 gallon of water. When spraying, shake the mix to keep the baking soda in solution.

Conventional fungicides that work well against powdery mildew include the active ingredients propiconazole, myclobutanil, tebuconazole, triforine, and triadimefon. These are sold under many different brand names, so find them by looking for the active ingredients in small print on the front of the label. Read and follow all label directions carefully.

Cultural recommendations, including a list of varieties that are resistant to powdery mildew, may be found in Extension Publication 2007 *Crapemyrtle: Flower of the South*.

Information Sheet 1666 (POD-02-16)

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