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Powdery mildew is out and about; Scout for it

The bipolar weather of late is causing all kinds of problems in greenhouse crops.

“Fake summer” in much of the country is resulting in greenhouses heating up too much during the day followed by big temperature fluctuations at night. Warm day and cool night temperatures coupled with high humidity has resulted in powdery mildew outbreaks.

Powdery mildew is one of the more easily recognizable plant diseases. The white powdery fungal growth can be seen on leaves, stems, and flowers (Figure 2). However, it might go unnoticed on lower and shaded leaves or when conditions don't

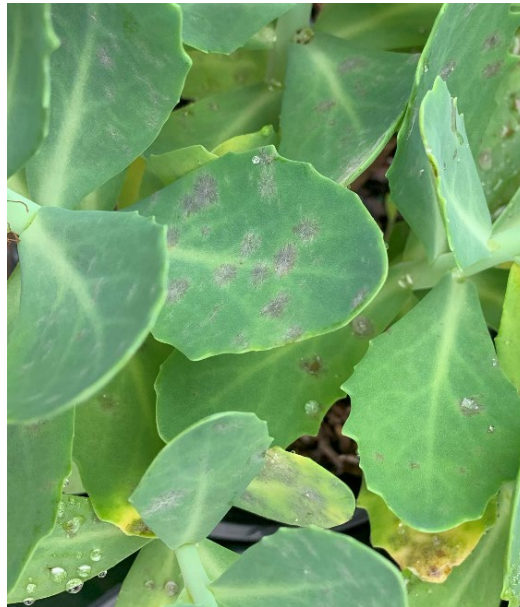


Figure 1: Powdery mildew infection of Sedum showing purple to gray patches. (Image by J. Williams-Woodward)

favor the white fungal sporulation. Under unfavorable conditions when relative humidity levels are less than 75%, infected areas may only show symptoms of yellow or purplish patches. This is what I saw recently on Sedum plants. The powdery mildew infection was mostly purplish leaf spotting with a minor amount of white sporulation (Figure 1). On some plants, like Fuchsia (Figure 2), all that may be seen are purplish patches with little to no sporulation. Powdery mildew fungi are mostly host-specific. Although the disease may be seen on multiple plant species in a greenhouse, unless the plants are within the same plant family, it is likely a different powdery mildew species on each plant species

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Growers and pest managers should scout for powdery mildew weekly in the spring and fall. Look on both the upper and lower sides of leaves for the white, powdery growth. Concentrate in areas where temperature within the greenhouse may fluctuate more readily such as near vents and doors. Powdery mildew spores are primarily spread by wind. Infection and development of the new spores and hyphae can be rapid under favorable environmental conditions.

Infected plants should be removed to reduce spreading the disease to surrounding plants of the same species/plant family. Remove infected leaves, stems, or whole plants. Infected tissues should be bagged and disposed off-site. Powdery mildew can potentially survive on closely related weed species, so keep weeds in and around the greenhouse to a minimum.

Powdery mildew infection is more severe in plants with high nutrition with new growth flushes. Monitor plant nutrition and avoid excess nitrogen fertilization. Growers should apply fungicides to reduce powdery mildew spread. Fungicides containing actives in FRAC Group 3 (Triazoles/DMIs) such as myclobutanil, difenoconazole, mefentrifluconazole, tebuconazole, triflumizole, and triticonazole and Group 11 (strobilurins/QoIs) such as azoxystrobin, pyraclostrobin, and trifloxystrobin are effective against powdery mildew. Some fungicides are powdery mildew specific including piperalin (Group 5) and pyriofenone (Group 50). Copper-containing fungicides (Group M1), chlorothalonil (Group M5), and potassium bicarbonate are also good choices. Powdery mildew fungi are known to develop fungicide resistance; therefore, rotate applications among fungicides in different FRAC Groups to reduce fungicide resistance development.

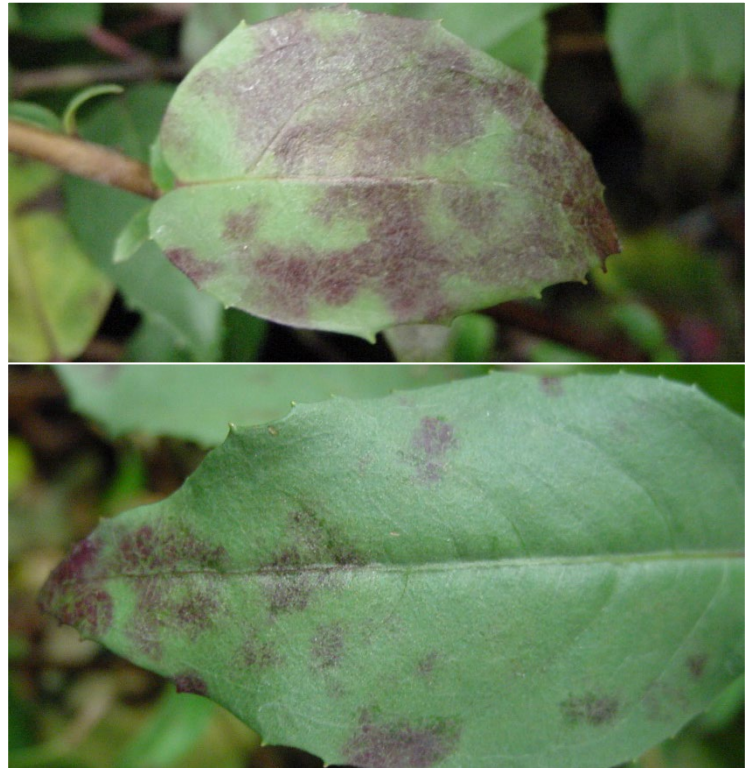


Image 2: Purplish spotting with little to no sporulation is powdery mildew infection of Fuchsia plants. Only under very humid conditions will the powdery mildew fungus sporulate on this host. (Image by J. Williams-Woodward)



Figure 3: Typical white powdery fungal sporulation due to powdery mildew infection of rosemary. (Image by J. Williams-Woodward)

Please note: The mention of specific active ingredients and products does not constitute an endorsement or recommendation of, nor discrimination against similar products not mentioned. **ALWAYS READ PRODUCT LABELS AND USE THEM AS DIRECTED ON THE LABEL.**

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