

Greenhouse Pest Message, October 22, 2024
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Powdery mildew has been spotted on many outdoor ornamentals. This is a common pathogen, also found on bedding plants, greenhouse vegetables, and herbs. Some powdery mildew will only affect a few species of plants, while others attack many different ornamentals. Powdery mildew only grows on living plants. The pathogen persists in greenhouses by spreading among plants and can be reintroduced to a greenhouse if brought in on new cuttings. Powdery mildew spores are produced in lesions and can easily be spread by wind. In outdoor growing structures, this pathogen can be especially challenging as the plants are exposed to new spores regularly. Identification is often simple, appearing as white spots or patches on leaves that can spread covering the entire leaf (see photos below) and eventually turn into necrotic spots. Petals are sometimes affected, and on kalanchoe and other succulents it may appear as a scab lesion. Powdery mildews prefer dryer weather, and do not require free water on the leaf to infect. Usually plants are not killed, however, crop quality is reduced.

Completely cleaning out a greenhouse will get rid of powdery mildew. When susceptible varieties are grown they should be monitored regularly for signs of disease, and treated when necessary. Cut back infected foliage if possible.

The photos below show powdery mildew on gerbera petals, dahlia, and *Helianthus*.



Photos by C. Krasnow and E. Bush

Maintaining a regular spray program is important on many types of crops. Listed below (Table 1) are recommended fungicides. The “Tier 1” group has shown consistent control to different types of powdery mildew in trialing. Tier 1.5 is also effective and should be included in a spray program. Rotation of fungicide classes is important to reduce the chances of resistance developing. Be sure to check the label for crop safety.

There are also a number of biological fungicides (Table 2) that have powdery mildew suppression and control listed. Levels of control have not been tested at UConn, but will be included in future trials. Refer to the product label for recommended use.

Table 1: List of effective fungicides against powdery mildew on ornamentals

	Product	Active ingredient	FRAC code
Tier 1	Postiva	Pydiflumetofen+Difenoconazole	3/7
	Compass O	Trifloxystrobin	11
	Eagle	Myclobutanil	3
	Terragaurd	Triflumizole	3
Tier 1.5	Mural	Azoxystrobin+Benzovindiflupyr	11/7
	Switch 62.5WG	Cyprodinil+Fludioxonil	9/12
	Empress	Pyraclostrobin	11
	Pageant Intrinsic	Pyraclostrobin/boscalid	11/7
	Heritage	Azoxystrobin	11
	Daconil	Chlorothalonil	M5
	Broadform	Fluopyram/Trifloxystrobin	11/7
	Orkestra	Pyraclostrobin/fluxapyroxad	11/7
	Concert	Chlorothalonil/Propiconazole	M5/3
	Banner Max	Propiconazole	3

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Table 2: OMRI listed biological fungicides that can be used against powdery mildew

Product	Active ingredient
Actinovate SP	<i>Streptomyces lydicus</i> WYEC 108
Cease	QST 713 Strain of <i>Bacillus Subtilis</i>
MilStop	Potassium bicarbonate 85%
Regalia CG	Extract of <i>Reynoutria sachalinensis</i>
Sulfur Dust	Sulfur
Triact 70	Clarified Hydrophobic Extract of Neem Oil 70%
Triathlon	<i>Bacillus amyloliquefaciens</i> strain D747