



POWDERY MILDEW

Rotation Program

syngenta[®]

Powdery mildew can affect a wide range of herbaceous and woody ornamental crops. Knowing which crops are susceptible, coupled with good scouting and a preventive rotation of effective fungicides, can allow you to avoid the unsightly effects of powdery mildew on your plants. **The following recommendations help reduce the risk of disease in your operation.**



Powdery mildew fungi form white, talcum-like spots called “colonies” on leaves, stems and flowers. Over time, these colonies increase in size and number to cover the plant’s surface. If not controlled, severe infections will cause leaves to turn yellow, brown and then drop, resulting in reduced plant vigor and growth. While powdery mildew is often first observed on the upper surface of the leaves, both sides may develop colonies, so it is important to check both sides of the leaf when scouting.

Symptoms

- White powdery spots or coating on both sides of leaves, stems and young buds
 - Flower petals and bracts of poinsettia can also be affected
- Yellow or brown leaves
- Distorted leaves and flower buds or undeveloped flowers
- Stunted growth

Powdery mildew can be more serious on woody ornamentals like roses and crape myrtles because it attacks new growth including buds, shoots, flowers and leaves.

Environmental Conditions Conducive to Powdery Mildew

Powdery mildews are most likely to develop in the spring or fall when:

- Temperatures are between 62° - 72°F
- Relative humidity levels are 70 percent or greater
- There is reduced light intensity

Moisture on plants from dew or irrigation does not favor the development of powdery mildew and can even limit the disease development by inhibiting germination and killing the spores.

Cultural Tips

- Provide a clean, dry growing environment
- Check incoming plants for disease
- Scout fully expanded leaves weekly, particularly in the lower to mid-canopy where air movement may be limited
- Keep humidity low by heating and venting as needed
- Remove diseased plants immediately to limit spore production and spread
- Overhead irrigation may reduce the spread of powdery mildew as it washes the spores off plants

Susceptible Crops

Several different fungi cause powdery mildew and each prefer different plants. The fungi listed below favor the corresponding plant types.

Fungi	Susceptible Crop
<i>Erysiphe australiana</i>	Crape Myrtle
<i>Erysiphe polygoni</i>	Hydrangea
<i>Microsphaera penicillata</i>	Lilac
<i>Oidium sp.</i>	Snapdragon, Poinsettia
<i>Oidium begoniae</i>	Begonia (fibrous and tuberous)
<i>Oidium longipes/Erysiphe sp.</i>	Petunia
<i>Sphaerotheca pannosa var. rosae</i>	Rose
<i>Sphaerotheca macularis</i>	Pansy

Erysiphe cichoracearum is a common powdery mildew fungus that can infect many plants, including:

- Ageratum
- Delphinium
- Rudbeckia
- Aster
- Gaillardia
- Salvia
- Calendula
- Gerbera
- Scabiosa
- Coreopsis
- Gloxinia
- Verbena
- Dahlia
- Phlox
- Zinnia

Powdery Mildew Prevention Programs

Prior to disease development, apply fungicides in a rotation on a 14-day interval. For active infections, shorten the application interval to 7 days.

Greenhouse Rotation

Application	Recommended Treatment	FRAC #	Fungicide	Application Rates	Application Timing	Target Diseases
1	Spray	M5	Daconil Weatherstik®	22 fl. oz./100 gal.	Apply as full coverage spray to the point of drip on a 14-day interval prior to blooms	Powdery mildew, Leaf spots, Rusts
2	Spray	9 + 12	Palladium®	4 - 6 oz./100 gal.	Foliar application on a 7 - 14-day interval	Powdery mildew, Leaf spots
3	Spray	11 + 7	Mural®	4 - 7 oz./100 gal.	Foliar application on a 14-day interval	Powdery mildew, Leaf spots, Rusts
4	Spray	3	Eagle® 20 EW	6 - 12 fl. oz./100 gal.	Foliar application on a 14-day interval	Powdery mildew, Rusts

REPEAT

Nursery Rotation

Application	Recommended Treatment	FRAC #	Fungicide	Application Rates	Application Timing	Target Diseases
1	Spray	M5 + 3	Concert® II*	22 - 35 fl. oz./100 gal.	Apply as full coverage spray to the point of drip on a 14-day interval	Powdery mildew, Leaf spots, Rusts
2	Spray	9 + 12	Palladium	4 - 6 oz./100 gal.	Foliar application on a 14-day interval	Powdery mildew, Leaf spots
3	Spray	11 + 7	Mural	4 - 7 oz./100 gal.	Foliar application on a 14-day interval	Powdery mildew, Leaf spots, Rusts
4	Spray	3	Eagle 20 EW	6 - 12 fl. oz./100 gal.	Foliar application on a 14-day interval	Powdery mildew, Rusts
REPEAT						

*Concert II is not for use in greenhouses. Use Daconil Weatherstik in place of Concert II for greenhouse applications.

Your Complete Powdery Mildew Solution

A preventive fungicide rotation is essential for successfully controlling powdery mildew. Following this recommended program and incorporating appropriate cultural practices can help reduce the threat of powdery mildew in greenhouses and nurseries.

To learn more, visit www.GreenCastOnline.com/Solutions



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