

Fungal Leaf Spot Diseases on Herbaceous Ornamentals

Introduction

Fungal leaf spots are a common problem during greenhouse and herbaceous perennial production especially when close plant spacing and overhead irrigation favor disease development. Often, specific cultivars are more susceptible than others to a specific leaf spot disease.

Some common fungal leaf spots include Septoria leaf spot on *Phlox*, and *Rudbeckia*; Heterosporium leaf spot on *Iris*; Phyllosticta leaf spots on *Anemone*, *Delphinium*, *Heuchera*, *Iris*, *Liatris*, *Monarda* and *Rudbeckia*; Alternaria leaf spot on dahlia, gerbera daisy, annual vinca, geranium and zinnia; Ascochyta leaf spot on *Aster*, *Clematis*, and *Eupatorium*; and Cercospora leaf spot on *Alcea*, *Aquilegia*, *Hibiscus* and *Viola*.



Figure 1: Normal leaf spots on *Oenothera* (Evening Primrose) due to low light and cool nights (far left), *Alternaria* leaf spot on *Creeping Broad-Leaved Sedge* (center), and *Ascochyta* leaf spot on *Clematis* (far right). Photos by L. Pundt

Anthracnose diseases are caused by different species of fungi, including *Colletotrichum* and *Gloeosporium*, which produce their spores in a fruiting body known as an “acervulus”. Spores are often released in a slimy mass that is spread by insects or splashed from place to place during irrigation. With a hand lens, you may see pimple-like fruiting bodies within the brown spots or lesions, and perhaps globs of spores on or around the fruiting bodies.

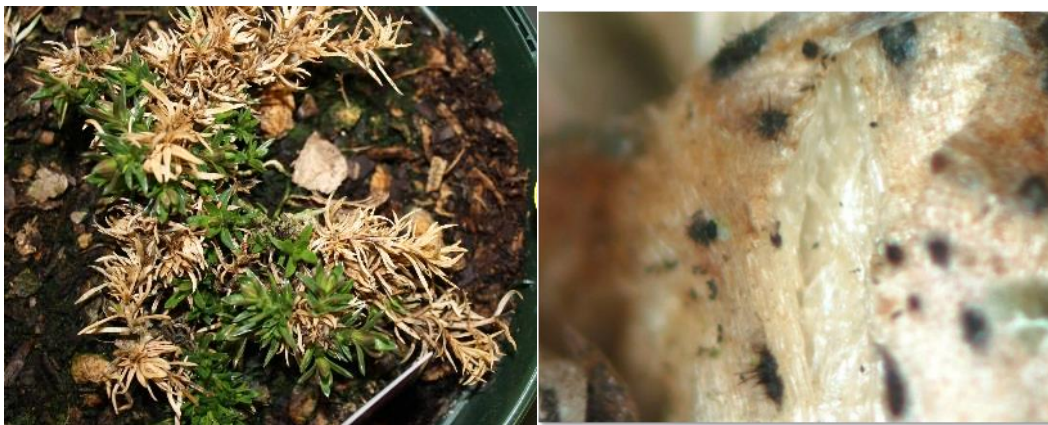


Figure 2: Anthracnose on *Phlox subulata* (on left) and close-up of the fruiting structures of *Colletotrichum* sp., which resemble pin cushions because of the few dark spines among the spores (on right). Photos by J. Allen

Injury from these and other leaf spot diseases varies with environmental conditions and with the specific cultivars being grown. It is important to determine the causal agent to determine the best management strategy. For example, management for fungal leaf spot diseases are not the same as for bacterial leaf spots.

Symptoms

Spots will vary in size, shape and color depending on the specific disease. *Septoria* causes grayish leaf spots with black, pepper-like spore cases that are surrounded by a purple border. A dark-purple border may also surround *Phyllosticta* leaf spots. Many other leafspot diseases have white to tan centers with darkened margins. Spots may progress to blighted areas on leaves. Symptoms may begin on the lowermost leaves or in the center of the plant where leaves stay wet longer.



Figure 3: *Septoria* leaf spot on *Phlox paniculata* (photo by L, Pundt) (far left); *Septoria* on *Veronica* (center) (photo by J. Allen) and close-up of *Septoria* leaf spot on *Veronica* with white center and darkened margin (photo by J. Allen).

Management

- Select disease-resistant varieties whenever possible
- Properly clean and disinfect greenhouses and outdoor production areas
- Follow cultural practices to manage *Botrytis* to also help to manage leaf spot diseases
- Take cuttings only from disease-free planting stock
- Provide proper plant spacing to increase air flow
- Water early in the day so that leaves dry by nightfall
- Clean-up diseased leaves in the fall to help remove overwintering spores
- Application of preventive fungicides can supplement proper cultural practices used for leaf spot fungi
- See the latest edition of New York and New England Management Guidelines for Greenhouse Floriculture and Herbaceous Ornamentals for more information.

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References

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