CT IPM
Integrated Pest Management Program
Department of Plant Science and Landscape Architecture
UConn Extension

Fungal Leaf Spot Diseases on Herbaceous Ornamentals

Introduction

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

Some common fungal leaf spots include Septoria leaf spot on *Phlox*, 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 Eupatorum;* and Cercospora leaf spot on *Alcea, Aquilegia* and *Hibiscus* and *Viola*.

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

Anthracnose diseases are caused by different species of fungi, including *Colletrotrichum* 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.

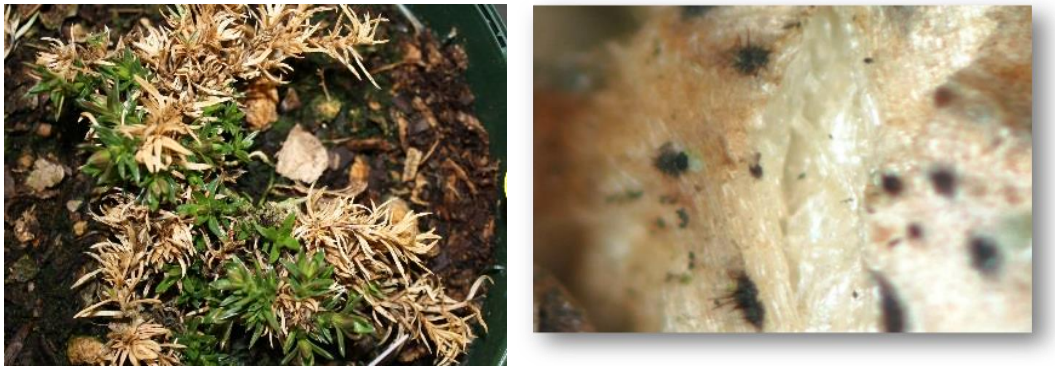

Figure 2: Anthracnose on *Phlox subulata* (left) and close-up of fruiting structures of *Colletrotrichum.* Photos by J. Allen

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 leaf spot diseases caused by fungi are not the same as for the more difficult to manage 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 others 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.
- Proper cleaning and disinfection of greenhouses and outdoor production areas.
- Cultural practices used to manage *Botrytis* will also help to manage leaf spots.
- Take cuttings only from disease-free 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.
- Foliar treatments with preventive fungicides can supplement cultural practices for controlling leaf spot fungi.
- Consult the most recent edition of New England Greenhouse Floriculture Guide - A Management Guide for Insects, Diseases, Weeds and Growth Regulators for more specific guidelines. Available from Northeast Greenhouse Conference and Expo for more information.

By Leanne Pundt, Extension Educator, UConn Extension, 2020

References

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