



## Botrytis Blight of Peony: *Botrytis paeoniae*

### Introduction

Botrytis blight or gray mold is a fungus disease which infects a wide array of herbaceous annual and perennial plants. Although there are several species of the fungus *Botrytis* which can cause blights; the most common is *Botrytis cinerea*. Botrytis infections are favored by cool (60°F or 15°C), rainy spring and summer weather. Gray mold can be particularly damaging when rainy, drizzly weather continues over several days. One Botrytis blight fungus with a strict host preference is *Botrytis paeoniae*, which infects only peony.



Figure 1: Botrytis symptoms developing on peony.

### Symptoms and Signs

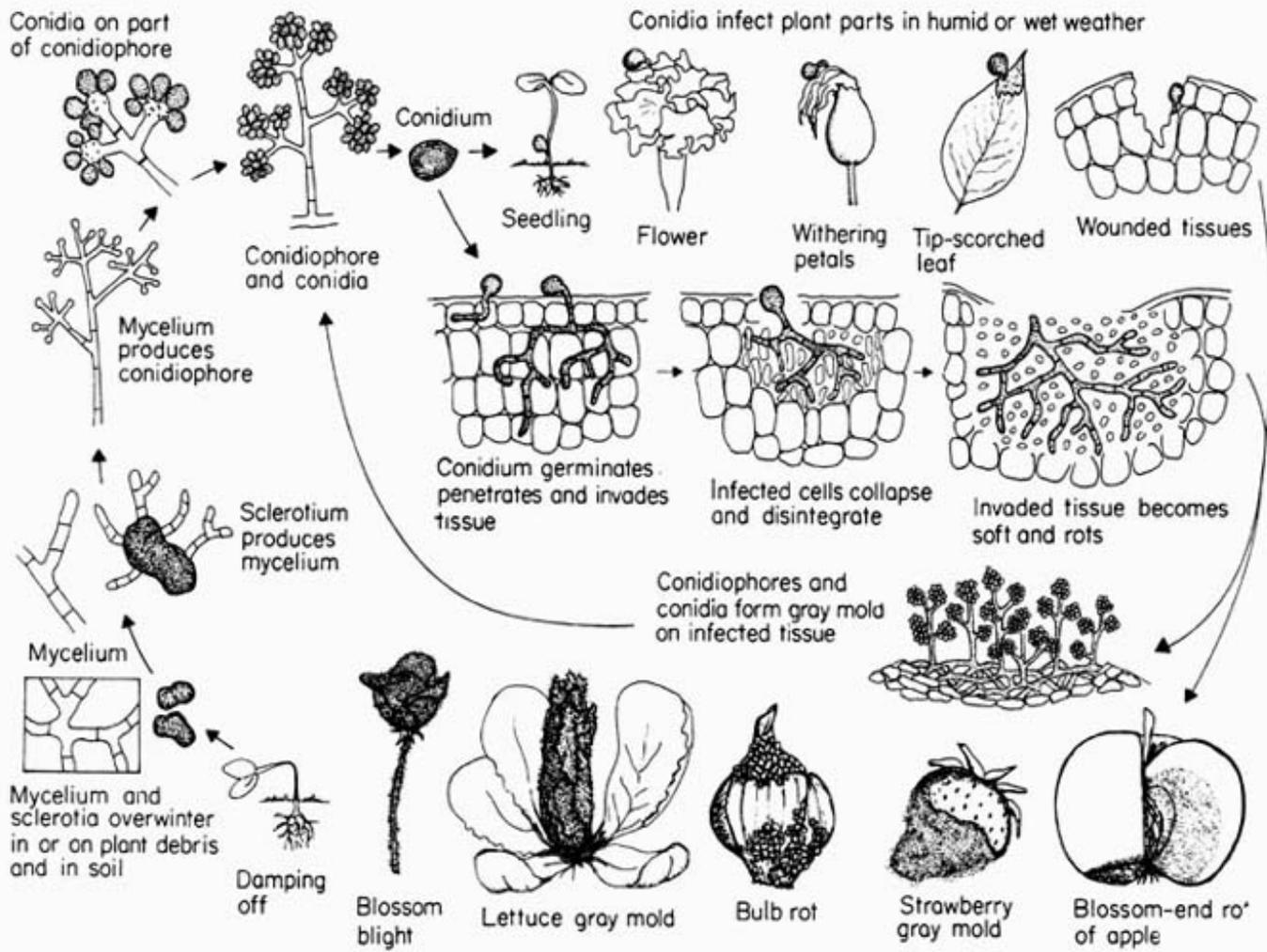
The Botrytis fungus grows over new shoots of peony and covers them with a dense velvety gray mold. Very young shoots may be blighted early on and turn black. Botrytis may also grow on developing flower parts causing bud blast and flower blight. Infected buds may swell but then die without ever opening. Flower infections can move down into the stem causing a brown and tan target-like discoloration. Infected petals which drop onto leaves can result in leaf spots. Late in the season, very small, shiny black, somewhat sausage-shaped fungal structures called sclerotia may be found just under the epidermis at the base of infected shoots.

### Disease Cycle

Botrytis blight of peony infects the base of young shoots as they emerge from the ground. This disease may also infect buds or flowers at any stage, depending on when favorable weather conditions occur. During wet periods, infection may spread quickly, blighting most open flowers as well as emerging buds. Severe infection may cause much of the foliage to turn brown and dieback prematurely. In late summer, sclerotia develop in dead plant tissue, forming the overwintering stage of the fungus.

### Management Strategies

The best way to manage this disease is by inspection and sanitation. While inspecting plants carry a paper bag for sanitation. Remove faded or blighted flowers, blighted leaves, or entire plants infected at the base and place them in the paper bag so that they may be discarded with the trash or burned. It is best not to



### Development of Botrytis gray mold diseases.

(provided by George Agrios, Plant Pathology 4th Edition)

do any sanitation when plants are wet with dew or rain since this could spread fungal spores during conditions which favor infection. Likewise avoid overhead watering, syringing, or misting plants especially if Botrytis blight has been troublesome in the past. To promote rapid drying of plants space them to allow good air circulation.

Practice good sanitation every autumn. Remove plant debris from the garden cutting peony stalks at or below the ground level, and destroy or discard this plant debris. This will help to remove many of the overwintering sclerotia and may help slow development of new infections the following spring.

Fungicide sprays may also help by protecting plants from infections. Apply these when spring weather is continuously cool and wet or if Botrytis blight has been a problem the previous year. In New York State, fungicides registered to help manage Botrytis blight of peony include some formulations of copper or the QST 713 strain of *Bacillus subtilis*, and some Neem oil products. Additional fungicides may registered for use on different plant(s) or groups of plants so always make sure the plant which will be treated is also listed on the label of the product purchased. The label also contains information on how to apply the fungicide as well as any precautions. Additional products may be available for use in commercial plant production.

Commercial applicators should refer to the appropriate pest management guidelines for more information.

When Botrytis blight of peony is a problem, avoid the use of dense, wet mulches and apply the first fungicide spray in early spring just as the red shoots begin to push up out of the ground. With continuous inspection and careful sanitation gray mold can be effectively managed. Keep an eye out for the silvery-gray mold and/or tiny black sclerotia which are sure signs of this disease.

Updated, SLJ 2/18

**READ THE LABEL BEFORE APPLYING ANY PESTICIDE!** Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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