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Peony Blights

Paul C. Pecknold

Donald H. Scott

Walter R. Stevenson
PEONY BLIGHTS

Paul C. Pecknold, Donald H. Scott, Walter R. Stevenson
Extension Plant Pathologists

Many amateur gardeners who have looked forward all winter to seeing attractive blooms of brightly colored peonies may be disappointed by sudden wilting just as they are ready to bloom.

The peony, like most flowers, can fall victim to several diseases. Sometimes a disease, such as botrytis blight, will merely discolor the petals of opening blossoms. In wet springs it may even destroy developing buds before they open. Other diseases, such as Phytophthora blight, will attack leaves and stems as well as buds, and will frequently destroy entire stems. Leafspot diseases may cause tattered, unsightly leaves during the summer months, and soil-borne problems such as wilt will destroy entire plants.

Botrytis Blight or Gray Mold

This common peony problem is caused by a fungus that overwinters in the soil on the base of old stems, and on leaves, buds and petals that were infected during the previous season. From these sources fungal spores, produced in the spring, are carried by splashing rains, wind and insects to

Botrytis Blight
new peony shoots where they initiate infection at soil level. Shoots infected early in the spring produce many more spores that may infect leaves, unopened buds and open blossoms. Ants, which are attracted to infected buds by the sweet ooze, can carry botrytis spores to other buds resulting in further spread of blight.

The disease-causing fungus attacks stems, buds, petals and leaves. Young shoots in all stages of growth, up to and including the buds, may suddenly wilt and fall over. Examination reveals a soft, brown rot of the stem that extends above and below the surface of the soil. Occasionally the rot may extend into the roots.

Small buds attacked by botrytis blight will cease to develop and turn black. Older buds turn brown and fail to open, while petals frequently become watery and matted. The flower pedicel will usually be killed for several inches below infected flower and buds.

Peony leaves are usually attacked last. Large, irregular spots with dark and light brown zonations appear. These spots vary in size and may involve the entire leaflet. In wet weather the diseased parts will become covered with masses of gray, fungus spores.

Phytophthora Blight

This destructive disease, caused by the fungus Phytophthora cactorum, attacks stems, leaves and buds, but its effects are different than those of gray mold. Infected areas are dark brown or black and have a tendency to become leathery. Frequently, the disease causes black lesions several inches long at the base of the stem, resulting in wilting and death. A destructive crown rot may also result.

Stem Rot

The symptoms of this disease are hard to distinguish from gray mold and phytophthora blight. However, the stem rot is confined to the stems, which rot off near the ground line resulting in a rapid wilting of terminal foliage. Usually, large, black fungus fruiting bodies (sclerotia) are easily seen in the center of the diseased stems when cut lengthwise. Peony stem rot is caused by the fungus Sclerotinia sclerotiorum.

Leafspot

Leafspot sometimes referred to as "red-spot" or "measles," is so called because of the typical shiny, dark-purplish spots produced on the upper surface of infected leaves. Elongated, reddish-brown streaks also form on infected stems. Ultimately the entire plant may become spotted -- hence, the common name "measles." This disease is caused by the fungus Cladosporium paonae.
Peony Wilt

In wet seasons peony leaves and stems may start to wilt during the blooming period although there is no external evidence of disease. When wilted stems are cut in half, the woody tissue of infected stems show a characteristic brown discoloration. Peony wilt is caused by the soil-borne fungus Verticillium albo-astrum, which plugs up the water-carrying vessels of the stem - causing death of infected plants.

Cultural Blight Control

Sanitary measures offer the most effective means of control of peony blights. Begin with a thorough clean-up of old, infected stems, leaves and other plant debris in the fall. A good practice is to pull the soil away from the crowns and cut off the old stems as close as possible to the crown without injuring the bud.

In the spring any wilted or rotted shoots should be removed and destroyed as soon as they are detected.

If a mulch or other covering is used to protect against winter injury, it should be removed early in the spring before the new shoots emerge from the soil.

Growers should attempt to improve air circulation and penetration of sunlight to peony plants. For instance, avoid close planting; avoid planting in areas enclosed by shrubs, trees or hedges; thin out peony shoots to four per plant in the spring.

Chemical Blight Control

When the new shoots start to push through the soil they should be sprayed with Bordeaux mixture or a fixed copper fungicide. Thoroughly soak the soil in the vicinity at the same time. Repeat in a week for a total of two applications.

Once peony shoots reach 3 to 6 inches in height and again when they are 10 to 18 inches high, spray with one of the fungicides listed in Table 1 or a general purpose flower formulation containing one of the listed fungicides. Adding 1/2 teaspoonful of liquid household soap per gallon of spray will improve coverage of foliage. Soak the soil around the plants with the spray. If leaf blight and bud blast develop later, a third application may be necessary.

Table 1. Chemicals for controlling peony blights

<table>
<thead>
<tr>
<th>Sold as</th>
<th>Active ingredient</th>
<th>Use rate 100 gallons</th>
<th>tablespoons per gallon*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benlate</td>
<td>benomyl 50% WP</td>
<td>1/2 lb.</td>
<td>1</td>
</tr>
<tr>
<td>Maneb</td>
<td>maneb 80% WP</td>
<td>1 1/2 lbs.</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Fore</td>
<td>mancozeb 80% WP</td>
<td>1 1/2 lbs.</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Dithane F-78</td>
<td>zineb 75% WP</td>
<td>1 1/2 lbs.</td>
<td>1 1/3</td>
</tr>
</tbody>
</table>

*One level tablespoon equals 3 level teaspoons; 16 level tablespoons equals one level cup.

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