



Arkansas Plant Health Clinic Newsletter

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Peony

Peony Blotch

Peonies are up and have buds. They are one of our finest perennials. They are exceptionally long-lived, reaching ages of 50 years or more. They are also very healthy when planted with a minimum of 6 hours of sun in good garden soil with excellent drainage. Perhaps the most common disease we find on peonies is Red Spot (Blotch), caused by *Graphiopsis chlorocephala*, formerly *Cladosporium paeoniae*. This looks ugly but does not significantly damage the plant. Symptoms begin as small, circular, red to purple spots on the upper surface of young leaves. These spots become a burnished dark purple. The undersides of the leaves become a chestnut brown color. Later in the season, the lesions coalesce, becoming large, irregular purple blotches. Susceptibility to Red spot is quite variable, with many older cultivars being the most susceptible. It is important to clean up peony debris. In the fall, prune all spent top growth to ground level, and remove it from the garden. Begin spraying on a weekly schedule when new growth is just breaking the soil in the spring, continuing until the flowers begin to

open. Fungicides containing mancozeb, thiophanate-methyl, or copper are effective.

Peony Blotch-*Graphiopsis chlorocephala*, formerly *Cladosporium paeoniae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Peony Phytophthora

Peonies planted in locations with poor drainage may develop Phytophthora Blight and Stem Canker caused by *Phytophthora cactorum*. Symptoms begin as small water-soaked spots on emerging shoots, stems, petioles, buds, or leaves. The spots become dark brown to black, leathery elongated lesions. A wet rot occurs when crowns and roots are infected, causing the collapse and death of the entire plant. Once symptoms are noticed, chemical treatments are usually not effective. All parts of the infected plant, and the immediate soil should be removed from the planting. Peonies should not be replanted in that location until



drainage issues are resolved and infested soil has been replaced.

Peony Phytophthora Blight- *Phytophthora cactorum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Peony Powdery Mildew

We do not see Powdery Mildew of peony, caused by *Erysiphe polygoni*, very often in the lab, but it may occur during periods of high humidity in crowded plantings. Symptoms usually begin as small white spots of powdery looking material (mycelia) on the upper surface of the leaves. The spots may coalesce to cover the entire surface. Yellowing, browning, and withering of the affected leaves may occur. This does not kill the plant but weakens it. In plantings with a history of Powdery Mildew, fungicides should be applied at the first sign of the disease. Homeowners may use Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), or Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide, (chlorothalonil) or Ortho Maxx Garden Disease Control, (chlorothalonil), or Garden Tech Daconil Fungicide, (chlorothalonil), or Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil), or Spectracide Immunox Plus, (myclobutanil & permethrin), or Bonide Rose Rx Systemic Drench, (tebuconazole), or Bio Advanced Garden-Disease Control for Roses, Flowers, Shrubs, (tebuconazole), or Bonide Infuse Systemic for Turf and Ornamentals, (thiophanate-methyl), or Ortho Rose and Flower Insect and Disease Control, (triticonazole & acetamiprid).



Peony Powdery Mildew-*Erysiphe polygoni*



Photos by Sherrie Smith, University of Arkansas Cooperative Extension

Peony Cercospora

Cercospora Leaf Spot, caused by *Cercospora paeoniae* is a disease usually seen mid to late season. Lesions on the leaf are roughly circular, tan to brown, with dark stromata (spore bearing structures) of the fungus appearing as black specks within the lesion. The lesions sometimes resemble a bull's-eye. Older lesions may crack, and the centers fall out. Fungicides applied for control of Red Spot will also control Cercospora Leaf Spot. All diseased plant parts should be removed and destroyed at the end of the growing season. Watering at ground level reduces splash inoculum. Homeowners may use Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), or Hi-Yield Vegetable, Fruit, and Ornamental Fungicide, (chlorothalonil) or Ortho Maxx Garden Disease Control, (chlorothalonil), or Ortho Disease B Gon Garden Fungicide, (chlorothalonil), or Garden Tech Daconil Fungicide, (chlorothalonil), or Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil), or Spectracide Immunox Plus, (myclobutanil & permethrin), or Bonide Rose Rx Systemic Drench, (tebuconazole), or Bayer Advanced Garden-Disease Control for Roses, Flowers, Shrubs, (tebuconazole), or Bio Advanced Garden-All-in-One Fungicide/Insecticide/Fertilizer, (tebuconazole & imidacloprid), or Fertilome 2-N-1 Systemic Fungicide, (tebuconazole & imidacloprid), or Bonide Infuse Systemic for Turf and Ornamentals, (thiophanate-methyl), or Ortho Rose and Flower Insect and Disease Control, (triticonazole & acetamiprid).



Peony Cercospora Leaf Spot- *Cercospora paeoniae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Peony Botrytis Blight

Botrytis Blight can affect peonies any time of year. However, we receive the most complaints in the spring at bloom time because flowers can be completely ruined by the fungus. Symptoms on young shoots begin as water-soaked lesions. Shoots rot off at the ground when they are 5 to 8 inches tall. The rotted areas become covered with a grayish brown mass of spores and fungal hyphae. Wind and rain or irrigation splash carry the spores up into the canopy where they cause leaf blight and bud rot. Flower buds turn black or brown and fail to open. Occasionally, open flowers become infected and turn brown. Small, black overwintering structures (sclerotia) may be seen on decayed peony debris. Fungicides containing mancozeb, or thiophanate-methyl, or chlorothalonil, should be applied as a soil drench early in the spring, and on newly emerging shoots at 10-14-day intervals. As with other peony diseases, good sanitation practices should be followed.

Peony Botrytis Blight-*Botrytis paeoniae*



Photo by Michelle Grabowski, University of Minnesota Extension - Horticulture, Bugwood.org

Peony Botrytis Blight-*Botrytis paeoniae*



Photo by Michelle Grabowski, University of Minnesota Extension - Horticulture, Bugwood.org



Lemoine's Disease

Occasionally the Plant Health Clinic receives a peony sample with bead-like swellings or galls on the roots. The galls closely resemble galls produced by root knot nematodes. However, examination of the galls reveals no nematodes. This disease of peony is known as Lemoine's Disease and is thought to be caused by a *Secoviridae* virus complex. When one of the galls is cut in half, yellow inclusions are found within the gall. Some affected varieties show stunting, reduced flowering, and pitting in the roots. Other peony cultivars show little to no decline, despite having numerous root galls. There is no cure for these plants. They should be discarded. Excellent sanitation should be observed. Tools should be kept clean and sanitized between plants, using a 10% bleach solution.

Peony Lemoine's Disease- *Secoviridae* spp.



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Glyphosate

A word of caution is in order when using weed killers around valuable plants. Roundup (glyphosate) will drift up to 1500 feet across the yard to damage sensitive plants when there is a breeze during application. Since this herbicide is translocated to the roots, it will cause symptoms in subsequent years if the plant is not outright killed.

Peony Glyphosate herbicide damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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