



Arkansas Plant Health Clinic Newsletter

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Orchid

Orchids belong to one of the largest families of flowering plants, the Orchidaceae. They may be found in most parts of the world, including North America, although the vast majority are found in tropical areas. Orchids are grown primarily for their spectacular blooms. They can be found in an amazing variety of colors, shapes, sizes, and delicious scents. However, they are prone to several viral diseases. The three most common viruses detected in orchids are Odontoglossum Ringspot Virus (ORSV), Tobacco Mosaic Virus (TMV), and Cymbidium Mosaic Virus (CYMMV). The orchid pictured here tested positive for both ORSV and CYMMV. Symptoms can include chlorosis, brown spots, ringspots, mosaic patterns, diamond-shaped or spiral spots, elongated yellow spots along veins, distorted leaves, and flower breaks. These viruses are sap transferred. They are spread primarily through contaminated pruning tools. Always dip any implements used on your orchids in a fresh 10% bleach solution (1 cup bleach to 9 cups water) between cuts. Keep the tools submerged in the solution for a minimum of 5 minutes. Tools can also be sterilized using a flame. Wooden stakes and bamboo stakes should not be re-used. Plastic pots may be scrubbed and

soaked in the 10% bleach solution. Clay pots cannot be sterilized with a bleach solution but can be baked in a 500-degree oven for an hour. Wash hands between handling plants or use disposable gloves. Viruses are not curable. Infected plants should be destroyed.

Orchid Odontoglossum Ringspot Virus (ORSV)- Tobamovirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Orchid Cymbidium Mosaic Virus (CYMMV)-Potexvirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Kalanchoe

Kalanchoe are succulent, tropical plants prized for their colorful blooms. Plants grown under ideal conditions will bloom for months. They are very easy to care for, requiring well-drained soils and 8-10 hours a day of bright but indirect light. Temperatures below 40°F can kill them, as will wet, heavy soils. Kalanchoe can develop several leaf diseases, due to poor environmental conditions. Anthracnose leaf spot, caused by *Colletotrichum gloeosporioides* can attack leaves, petioles, and blooms, during periods of prolonged leaf moisture and high humidity. Symptoms are small, dark, sunken, water-soaked spots that rapidly enlarge to large necrotic areas. Masses of salmon to orange-colored spores erupt from pimple-like acervuli during periods of wet weather. Good air circulation and keeping the foliage dry when watering help limit the severity of Anthracnose. Fungicides containing chlorothalonil or thiophantae-methyl aid in control but must be used along with good cultural practices.

Kalanchoe Anthracnose- *Colletotrichum gloeosporioides*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry

Spur blight, caused by *Didymella applanata*, can attack both raspberry and blackberry. Raspberries are markedly vulnerable. The disease can be especially devastating in overgrown and weed-infested plantings, particularly if excessive nitrogen has been applied. Brown V-shaped lesions with broad yellow margins occur on infected leaves of primocanes. The infection then spreads from the leaf into the petiole and into the node. Affected leaves are usually shed. A spreading, dark, chestnut brown lesion develops below the node and around axillary buds. Silver or gray lesions with small, black pseudothecia and later pycnidia develop during the winter. Cane botrytis causes similar symptoms on primocanes, but the lesions are light brown. It is not unusual to find plantings with Spur blight problems to also have anthracnose, cane blight, and botrytis diseases as well. Diseased canes should be removed from the planting immediately. Lime sulfur applied during the dormant season is highly recommended. Cabrio, Abound, and Pristine, are effective if used before the disease becomes severe. Healthy plantings are less susceptible.

Blackberry Spur Blight spores-*Didymella applanata*

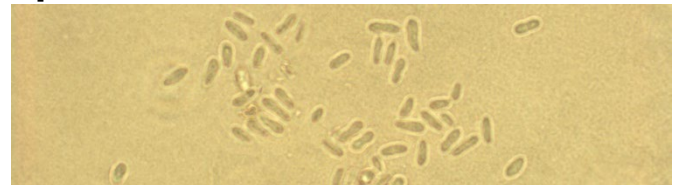


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Blackberry Spur Blight- *Didymella applanata*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

and chemical options. Growers should practice a 2–3-year crop rotation with non-cruciferous crops. Volunteer greens and weeds should be eradicated. Good soil drainage, adequate nutrition, and the avoidance of overhead irrigation are essential to success. The fungicide Cabrio is very effective when applied before the diseases reach epidemic proportions. Homeowners may use a vegetable garden fungicide containing chlorothalonil.

Turnip White Spot-*Cercospora brassicae*



Photo by Keri Welch, University of Arkansas Cooperative Extension

Turnip and Mustard

A persistent problem with growing Greens in Arkansas is the prevalence of leaf pathogens. White spot, caused by *Pseudocercospora capsellae* and *Cercospora* leaf spot caused by *Cercospora brassicicola* are two of the common diseases of greens. Symptoms are similar for both diseases. Symptoms of white spot are circular spots with gray, brown or nearly white centers on cotyledons, leaves and petioles. Edges of the lesions are slightly darkened. Leaves turn yellow and drop prematurely with this disease. Seedlings may be killed if the disease is severe at emergence. *Cercospora* leaf spot is sometimes called Frog-eye leaf spot. Lesions are pale green to gray or white and often have a brown border. Control of both diseases is best managed with a comprehensive program, combining cultural

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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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