



Arkansas Plant Health Clinic Newsletter

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Liriope

Liriope, also known as liriope, is one of our most versatile perennials. It handles full sun, filtered sun, or deep shade equally well, has showy flowers, and spreads fast by rhizomes. Plants grow 10-16 inches high and are recommended for zones 4-10. As a rule, liriope are trouble free in the garden. They are, however, intolerant of heavy wet soils. When planted on such soil they become prone to *Phytophthora* root and crown rot. The pathogen is *Phytophthora palmivora*. Symptoms are yellowed leaves that appear water-soaked, discolored, and rotted at the base. Affected leaves become chocolate-brown near the base and are easily pulled from the crown. The pathogen requires abundant free moisture in the soil to reproduce and infect. The best approach to managing this disease is to avoid bringing home plants with disease symptoms. Purchase plants with healthy green foliage that is firmly attached to the crown. Avoid over-watering, plant crowding, and planting too deep. Avoid soils with high organic or peat moss content. Do not plant in areas where water is prone to stand. Fungicides available to the homeowner only suppress the disease at best. If the bed is small, replacement of the soil and re-planting may solve the problem.

Liriope *Phytophthora* Crown Rot- *Phytophthora palmivora*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Annual vinca

Annual vinca also known as annual periwinkle is a cheerful plant providing continuous bloom throughout the summer season in a range of colors. It requires good drainage and at least half a day of full sun. This is another garden plant that is susceptible to *Phytophthora* infection when soil conditions favor the disease. The disease attacks the stems of the plants and is known as *Phytophthora* stem canker, causal agent *Phytophthora parasitica*. Lesions develop on stems causing wilting, and then collapse as the stem is girdled. Roots are also attacked and rotted. Overhead irrigation and the overuse of nitrogen-rich fertilizers seems to worsen the disease. Clay soils with poor drainage should be avoided. Vinca should not be planted in a bed with a history of the disease. Aliette fungicide has been found to suppress the disease when applied every 2 weeks as a foliar spray. This is not practicable



for many people. Soil replacement remains a viable option.

Vinca Phytophthora Stem Canker-*Phytophthora parasitica*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Green beans

Samples have come into the clinic this week with severe spider mite damage. Spider mites are common pests of many garden and landscape plants. Plant cells are damaged as they feed on sap with their small whip shaped mouthparts. Damaged areas typically have chlorotic flecked markings, sometimes with bronzed or scorched areas. Severe infestations can cause premature leaf-drop and plant death. Looking at the underside of symptomatic leaves with a hand lens will show the tiny mites, their eggs, and webs. Insecticides are of little use against mites. A miticide must be used when seeking a chemical solution. Most miticides do not kill the eggs and must be repeated at 10–14-day intervals. Insecticidal soaps and fine horticultural oils can also be used to good effect. A strong stream of water will wash them off foliage. All treatments must be repeated to kill newly hatching young. Overuse of insecticides in the garden can encourage outbreaks of spider mites by eliminating their natural predators. Drought conditions also encourage mite infestations. Watering plants properly can reduce incidence.



Green bean Spider mite damage- *Tetranychidae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Corn

Southern corn leaf blight (*Bipolaris maydis*) is not generally regarded as a serious problem as good resistance to the disease is available. However, early heavy infection in a susceptible cultivar can cause severe damage to leaves, predisposing the plant to stalk rot. Spindle shaped tan lesions with rounded ends, and buff to brown borders occasionally with a red tint, appear first on lower leaves. Race O normally attacks leaves only, whereas Race T attacks leaves, leaf sheaths, ear husks, ears, cobs, and stalks. Stalk and leaf sheath infections begin as purple spots that develop tan-gray

centers. Control consists of planting resistant varieties, deep tillage to bury debris, crop rotation, and fungicides where warranted. Fungicides such as Tilt are effective against the disease. Consult MP 154.

Corn Southern Leaf Blight- *Bipolaris maydis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Soybean

Frogeye leaf spot, (*Cercospora sojina*), is starting to make an appearance on susceptible varieties. The lesions are circular to angular spots from less than 1 mm to 5mm. They begin as dark, water-soaked spots and develop into brown spots surrounded by narrow, dark reddish-brown margins. The central area becomes ash grey to light brown as the spots age. Several lesions may coalesce to form larger spots. Susceptible varieties may suffer up to 30% yield loss. The use of pathogen free



seed and resistant cultivars has reduced the incidence of this disease. See MP 154 for a complete list.

Soybean Frogeye Leaf Spot- *Cercospora sojina*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Muscadines

Muscadines require full sun and good drainage. They have less disease problems than other grapes but are susceptible to Black rot caused by *Guignardia bidwellii*.

This is a serious disease throughout the United States wherever grapes are grown. Losses range from 5-85% depending on variety of grape, and environmental conditions. Black rot can affect all green parts of the plant. Leaf symptoms appear one to two weeks after infection. Cream colored lesions from 2-10mm

become tan, then reddish brown. Leaf spots are bordered by a narrow band of dark brown tissue. Small black fruiting bodies develop in the centers of the lesions. Stems develop elongated black lesions. On the berries a small white dot first appears. Within a few hours the dot is surrounded by a reddish ring which can grow to over one cm in a day. Within a few days the berries begin to darken and shrivel until they are hard dry mummies. The surface of the lesion cracks and becomes rough with embedded fruiting bodies. Chemical controls are necessary starting when shoots are 10-16cm long and continuing until the berries contain 5% sugar. Protective fungicides such as Captan applied after bloom, and every 14days until August give good protection. All mummified fruit and diseased leaves should be cleaned up and destroyed.

Muscadine Black Rot- *Guignardia bidwellii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Muscadine Black Rot on fruit- *Guignardia bidwellii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Poplar

Poplars are short lived trees prone to many diseases. Many don't live much longer than 12-20 years before succumbing to disease. They are also considered a trash tree, dropping leaves, twigs, and branches throughout the season. They also have shallow aggressive roots. Their attraction is their extremely fast

growth rate. They are used routinely in the home landscape as a windbreak, screen, or as a border to a drive. Although susceptible to several foliar diseases, the real killers of poplars are the canker diseases. They are attacked by *Cytospora*, *Phomopsis*, *Septoria*, *Valsa* and *Dothiciza*. They are also prone to bacterial cankers and borer damage. The cankers weaken branches causing them to be susceptible to breakage. They kill limbs entirely when the canker girdles the branch. Often the entire top of the tree will die. The homeowner usually does not notice the problem until leaves start to yellow and fall from the tree. There is no effective chemical treatment. Stress can be reduced by adequate spacing, watering, and proper fertilization. From a disease standpoint, I cannot recommend them in the home landscape.

Poplar *Cytospora* Canker- *Cytospora* sp.



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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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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