DIVISION OF AGRICULTURE
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University of Arkansas System

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SPDN
Southern Plant Diagnostic Network
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Arkansas Plant Health Clinic Newsletter

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Peach

The incidence of Peach Yellows disease is low but can cause significant damage where it occurs. Peach Yellows is caused by a phytoplasma (formerly called mycoplasma-like object (MLO)), a group of organisms similar to viruses, but having characteristics of bacteria as well. The organism is transmitted by grafting and by the plum leafhopper. Symptoms are chlorotic, yellow leaves that often roll upward. Red spotting develops as leaves begin to droop. Severe infections will develop slender shoots with small, narrow, yellow leaves. Buds that are normally latent on younger trees produce dwarfed leaves and witch's brooms. Terminal dieback is common in one-year-old shoots. Trees usually die 2 to 3 years following the appearance of symptoms. Symptoms on fruit are poor quality and mature early. The flesh of the fruit may exhibit red streaks or marble patterns, with unusual reddening around the pit. Red spotting may occur on the skin. Removal of diseased trees from an orchard is recommended. There are no chemical controls for the disease, although spraying for leafhoppers may help reduce transmission. There is no cure.

Peach Yellows-Phytoplasma sp.

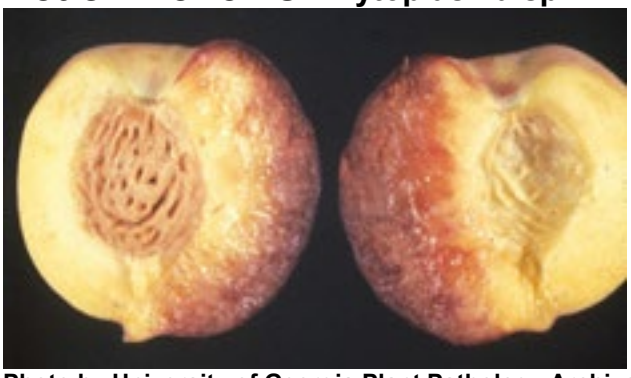

Photo by University of Georgia Plant Pathology Archive, Bugwood.org

Peach Yellows-Phytoplasma sp.

Photo by A.L. Jones, APS Images

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Peach Yellows-Phytoplasma sp.

Photo by Terry Kirkpatrick, University of Arkansas Cooperative Extension

Bermuda

Spring Dead Spot caused by Ophiosphaerella spp. is considered the most important disease of Bermuda grass in North America. It occurs typically on Bermuda plantings three or more years old. Circular depressed areas may be evident prior to spring green-up. When the turf greens up, circular patches of dead, bleached grass appear. The dead spots may be from 6 inches to as large as 3 feet in diameter. After several years, the centers of active patches may contain weeds or live bermudagrass, with the patches taking the form of rings. Rings that run together can form serpentine arcs. The roots and stolons will be severely rotted in these areas. Re-growth is extremely slow. Bermuda that re-colonizes the necrotic areas remains stunted due to toxins produced by the fungi. Adequate control of Spring Dead Spot is mainly through cultural practices. Core aeration done in August or September, and practices that reduce soil compaction and improve drainage are recommended. Ammonium sulfate and potassium applications have been found to be helpful when applied in summer. Apply at least 1.0 lbs. of Potassium (K_2O) per 1000 sq. ft. to turfgrass during June, July or August. Maintain pH in the range of 5.5-6.5. Fungicide treatments are not always effective. A systemic such as Heritage used once in the fall about 30 days before dormancy gives best results when paired with good cultural practices. Cultivars with good winter hardiness are less affected by Spring Dead Spot.

Bermuda Spring Dead Spot Mycelial plaques- *Ophiosphaerella* spp.

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Bermuda Spring Dead Spot - *Ophiosphaerella* spp.

Photo by Brannon Thiesse, University of Arkansas Cooperative Extension

Hawthorn

Washington Hawthorn, *Crataegus phaenopyrum*, is a must have plant for attracting songbirds in the garden. They are shrubby trees reaching a mature height of 25' by 25'. Hawthorns have white blooms in the spring and attractive red berries in the fall. Fall colors of red and orange leaves are an additional bonus. The berries provide winter food for birds and the thorny branches provide safe nesting spots during the summer months. Washington Hawthorns are susceptible to several rust diseases. Quince rust primarily attacks the fruit and tender stem growth. Leaf lesions are not as common as with Hawthorn Rust., Fruit infected with Quince rust are covered with protruding off-white aecia of the fungus. The fruit eventually dry out and drop from the tree. Petioles, thorns, and twigs begin to swell and turn orange soon after infection. Spindle-shaped galls 2 to 4 inches long are eventually formed. By late summer, twig galls expand and girdle the stem, resulting in branch dieback. Dead twigs may remain attached to the tree for several years. Old galls are dark brown to black in color. Both cultural and chemical controls are necessary. Prune out any galls found on alternate hosts junipers and cedars. During the winter, prune out all quince galls remaining on branches, twigs, and thorns of Hawthorns. Preventive fungicide applications may be required in locations where hawthorn and quince rusts are problems. Fungicide timing is like that for cedar-apple rust on flowering crabapple. Make the first application to hawthorns when the orange telial galls on junipers become noticeable, (usually at flower bloom on hawthorn), and make additional applications at regular intervals to protect newly developing growth. Applications of a triazole fungicide such as propiconazole, (Banner Maxx), myclobutanil, (Immunox), or triadimefon, (Bayleton, Strike, Green Light Fung-Away, Monterey Fungi-Fighter), at three-week intervals beginning shortly after bloom is effective in suppressing quince rust.

Cedar Hawthorn Rust- *Gymnosporangium globosum*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Cedar Hawthorn Rust-
Gymnosporangium globosum

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Cedar Hawthorn Rust Aecia-
Gymnosporangium globosum

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Mondo grass

Mondo Grass, (*Ophiopogon Spp.*), is an evergreen ornamental grass that usually thrives in a variety of locations. It does best in a rich, moist, slightly acidic soil with good drainage and afternoon shade. Problems arise when planted in heavy soils with poor drainage. Planting Mondo grass in such a site promotes outbreaks of pythium root rot, considered to be the most serious disease of Mondo Grass. Symptoms begin as tip burn followed by gradual yellowing and browning. Eventually the crown will easily separate from the base when gently pulled. Amending the soil with organic matter and improving drainage are essential to controlling pythium diseases. Foliar applications of Aliette fungicide will help control pythium if drainage problems are solved. Scale insects also attack Mondo Grass, but usually don't do great damage unless the plants are already stressed. If scale insects are present, they may be seen at the base of the plants using a magnifying glass. Apply insecticidal soap or fine horticultural oil to kill scale.

Mondo grass Pythium-*Pythium spp.*

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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