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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.

Japanese Maple

Japanese maples are much loved favorites in the perennial garden. Their year round beauty, versatility, and variety have made them admired around the world for centuries. What limits their use in the southeastern United States is their intolerance to high summer temperatures. In spite of that limitation, some cultivars such as Bloodgood and Coral Bark do well in our environment. Planting location is essential to success with these lovely trees. In their native habitat Japanese maples are an understory tree. They like moist, leafy soil in a semi-shaded location, with protection from damaging winter winds. They cannot tolerate drought, over-watering, or heavy clay like soils. Stressed trees are prone to leaf scorch and canker diseases caused by several pathogens. We have isolated *Colletotrichum*, *Phomopsis*, *Nectria*, and *Botryosphaeria* from branch and twig cankers. The cankered areas will look gray or tan against the normal reddish brown color of the twigs. Small black fruiting bodies of the fungus may be seen with a hand lens. Trees should be checked carefully each spring for diseased branches which should be pruned out and destroyed. Japanese maples benefit from being fertilized with a tree and shrub food once in the spring and again in the fall.



Canker on Japanese maple

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Azalea

Azaleas are very popular plants in the southern landscape. Their cultural requirements are fairly simple. They are mostly woodland plants, requiring acidic soils with good drainage where the roots may be kept cool and moist. They do best with afternoon shade and protection from cold cutting winds in the winter. A sample came into the clinic this week with Azalea anthracnose caused by *Glomerella cingulata*. Leaf spotting and defoliation can occur in susceptible varieties. Small olive to rusty brown spots, 0.5-3.0mm in diameter appears on both the upper and lower leaf surfaces. Good sanitation is important in controlling the disease. Fallen leaves should be raked up and destroyed. Fungicides listed for ornamentals give excellent control if applied to newly developing leaves.



Azalea anthracnose

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Crabapple and Apple

Crabapples are one of our most beautiful flowering trees. Flower colors range from white through the pink and fuchsia shades. They often have spectacular fruit as well pretty blooms. Crabapples are tough trees but can be prone to several fungal diseases. A sample arrived at the clinic last week with Marssonina blotch caused by *Diplocarpon mali*. This disease occurs primarily on leaves and rarely on fruit. Symptoms begin as leaf spots on the upper surfaces of mature leaves. The lesions are 5-10mm in diameter, grayish brown, often with a faint purplish border. Small black fruiting bodies called acervuli are often visible inside the spots. On



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susceptible varieties the lesions may coalesce, turning the surrounding tissue chlorotic. Severe defoliation may start in early summer resulting in loss of the berry crop the following year. Fruit symptoms are rare but can appear as small brown sunken spots on fruit where leaf infection is severe. Control of this disease is achieved through orchard sanitation, pruning, and the use of protective fungicides. Captan and copper based fungicides are effective when used in a regular spray program.



Marssonina blotch

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Two of the most common diseases found on apples are flyspeck caused by *Schizothyrium pomi*, and sooty mold caused by *Gloeodes pomigena*. The fungi causing these diseases grow superficially on the surface of the fruit causing the fruit to be unsightly and unmarketable. Most of the apple crop in the southeastern United States would be affected each year if not for the use of protective fungicides. Symptoms of flyspeck are groups of a few to 50 or more shiny black, superficial pseudothecia on the surface of the fruit. The colonies are usually 1-3cm in diameter or larger, and round to irregular in shape.

Sooty blotch appears as colonies of olive green on mature fruit. The colonies may be discrete circular to large blotches with diffuse margins which are sooty in appearance. Sooty blotch and flyspeck colonies often occur on the same fruit. Fungicide sprays should be applied at 10-14 day intervals beginning at first cover to provide the best protection. Clean up of fallen fruit and leaves, along with proper pruning are also helpful.



Flyspeck

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Sooty mold

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Muscadines

Muscadine grapes are generally much less prone to disease than table grapes. However, in recent years Ripe rot caused by *Colletotrichum gloeosporioides* has become a serious problem in the warm humid areas of the southeastern United States. Ripe rot occurs on grapes as they mature and ripen. Infected berries develop circular, reddish brown spots on their skin. Spots can enlarge to encompass the entire fruit. Salmon colored masses of conidia characteristically cover the rotting fruit. Affected berries shrivel as they decay and can remain on the stem or drop to the ground. Losses can be controlled through the use of fungicides such as



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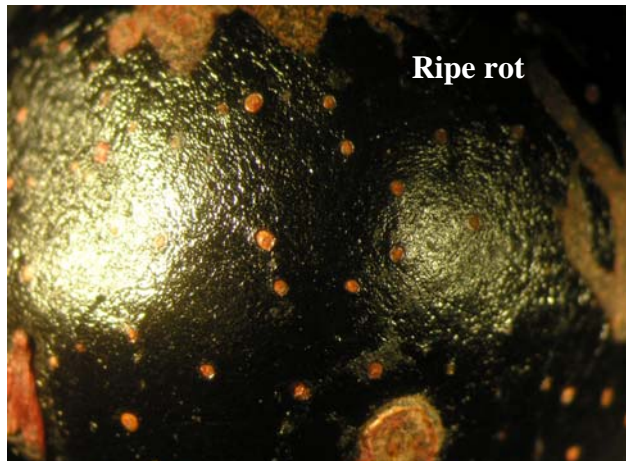
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maneb, starting when the fruit is still green and continuing during the ripening period. Good sanitation helps to remove some of the inoculum. All fruit should be cleaned up and disposed of after harvest. Most of the bronze colored varieties are susceptible to ripe rot. The dark skinned varieties are usually more resistant.



Ripe rot

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Ripe rot

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Soybeans

A soybean sample came into the clinic with Tobacco ringspot virus (TRSV). TRSV is thought to be the most economically important of the virus affecting soybean production. The bud blight symptoms of this viral disease may reduce yield by 25-100%. Proliferation of

adventitious leaf and floral buds are typical with this virus. Most of these extra pods will not develop. Pods that do grow will often contain only one bean. Plants infected while small will be stunted. A diagnostic symptom is the curving of the terminal bud to form a crook. Pith in the stems often shows a brownish discoloration. Pods can develop brown necrotic spots. This virus is easily sap transmissible. It is thought to be transmitted by thrips, dagger nematodes, and by seed transmission. At present the best protection is to use clean seed and avoid fields with a history of dagger nematode.



TRSV

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Oak

Samples from members of the white oak family have been arriving at the clinic with severe infestations of wooly oak aphid. Aphids feed on sap from the phloem of plants. They can cause general decline of an affected plant when present in high numbers. Aphids are also often vectors for virus transmission. In addition, they secrete large amounts of sticky watery honeydew which becomes a nuisance when it falls on cars, sidewalks, and house siding. Oaks heavily infested are often trees already under some kind of stress caused by drought or disease. The best protection is to keep your trees healthy with adequate water, fertilizer, and borer control. Even established oaks have suffered through several years of drought and would benefit from some irrigation. On young trees, aphids may be controlled with



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insecticidal soaps, or malathion. Spraying mature oaks is not practical for most homeowners.



Woolly aphid on willow oak

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