

TIMELY INFORMATION

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PP-710

SEPTEMBER PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB

SEPTEMBER PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

INSECT REPORT

DISEASE POSSIBILITIES FOR NOVEMBER

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Auburn Plant Disease Report, September (D. Johnson)

The Auburn Plant Diagnostic Lab received 613 samples in September. Of those, 78 were for plant problem/disease diagnosis, 2 for plant identification, 158 for a blueberry bacterial scorch survey, and 375 were for a soybean virus survey.

Brown Patch was found on 15 turfgrass samples. This fungal disease cannot be treated before cultural issues are addressed. The soil pH must be in the appropriate range for turfgrass, thatch must be controlled, and appropriate watering and nutrient levels maintained. As with other plant species, when it comes to fertilizer, more is not necessarily better. Nitrogen, in particular, may serve to make Brown Patch more severe.

Table 1. September Plant Diseases Received at the Auburn Plant Diagnostic Lab

<u>Plant</u>	<u>Disease/Problem</u>	<u>County</u>
Azalea	Azalea Bark Scale	Warren, KY
	Azalea Lace Bug, Phomopsis Dieback	Lee
Bermudagrass	Bermudagrass Scales, Low Soil pH, Thatch	Elmore
	Brown Patch	*
	Brown Patch, High Soil pH, Thatch	Montgomery
	Brown Patch, Drechslera Crown Rot/Blight, Low Soil pH	Elmore
	Low Soil pH, Possible Drought	Shelby
Blueberry	Xylella Bacterial Scorch	Cullman (7)*
Boxwood	Latania Scale	Warren, KY
Centipede	Brown Patch	Muscogee, GA
	Brown Patch, Drought, Low Soil pH	Elmore
	Brown Patch, Gray Leaf Spot, Take-All Patch	Escambia, FL
	Brown Patch, Scale Insect	Shelby
	Ground Pearls	Coffee
	Possible Insect Problem, Ring Nematode	Elmore
Cherry, Ornamental	Possible Borer Damage	Lee
Cherry, Yoshino	Drought Stress	Madison, MS
	Gummosis	Lee
Citrus	Unknown Problem Cause	Mobile
Cotton	Alternaria, Cercospora, & Stemphylium	*
	Leaf Spots	
	Corynespora Leaf Spot	*(2)
	Possible Nutrient Problem	
Cypress, Bald	Insect Damage, Suspect Environmental Stress	Montgomery
Daylily	Corm Bacterial Soft Rot, Fusarium Root Rot, Phytophthora & Pythium Crown & Root Rots	*
Grape	Botrytis Bunch Rot	DeKalb
Hydrangea	Phytophthora Root Rot	Madison
Indian Hawthorn	Entomosporium Leaf Spot	Montgomery
Jasmine, Asiatic	Rhizoctonia Root Rot, Suspect Soil or Environmental Problem	Escambia
Juniper, Shore	Phytophthora Root Rot	Jefferson
Laurel, Mountain	Cercospora Leaf Spot, Suspect Mites	Warren, KY

Magnolia	Thrips	Choctaw
Maple	Drought Stress	Madison, MS
Maple, Red	Corynespora Leaf Spot	*
Miscanthus	Bipolaris Leaf Spot	Cherokee
Mondo Grass	Pythium Root Rot	*
Oak	Bacterial Scorch	Madison
Oak, Shumard	Tubakia Leaf Spot	*
Peach	Gummosis	Montgomery
Peanut	Late Leaf Spot, Tomato Spotted Wilt Virus	Baldwin
Pepper	Anthracnose Fruit Rot	Elmore
Rose	Possible Rose Rosette	Warren, KY (3)
Rush, Soft	No Plant Pathogens Found	Lee
Sage, Pineapple	Unknown Problem Cause	*
Soybean	Bean Pod Mottle Virus	Pickens (13)**
	Charcoal Rot	*
	Manganese Deficiency	*
	Soybean Mosaic Virus	Pickens**, Marengo (3)**
Spruce, CO Blue	Rhizosphaera Needle Cast	Warren, KY
Stevia	Phomopsis Stem Blight, Pythium Root Rot	Lee
St. Augustinegrass	Brown Patch	Montgomery
	Chinch Bugs, High Soil pH, Take-All Patch	Coffee
	Chinch Bugs, Low Soil pH, Take-All Patch	Coffee
	Chinch Bugs, Take-All Patch	Dale; Montgomery; Santa Rosa, FL
	Drought, High Soil pH, Take-All Patch	Montgomery
	Excessive Thatch, Gray Leaf Spot, Take-All Patch	Montgomery
	Gray Leaf Spot, Overwatering, Take-All Patch	Montgomery
	Take-All Patch	Montgomery
Sweetgum	Yellow-banded Timber Beetle	Escambia
Tomato	High Soil pH	Montgomery
	Septoria Leaf Spot	Warren, KY
Unknown Hosts	Southern Blight	Mobile (2)
Wax Myrtle	Suspect Trunk or Root Problem	Montgomery
Zoysia	Anthracnose, Brown Patch, Curvularia Blight, Thick Thatch Layer	Montgomery
	Brown Patch	Montgomery

	Brown Patch, Excess Water, Take-All Patch	Muscogee, GA
	Brown Patch, Possible Nematodes, Suspect Nutrient Deficiency	Autauga
	Brown Patch, Thick Thatch Layer	Montgomery
	Cultural Problem	Montgomery
	Thick Thatch Layer	Montgomery
Zoysia, Emerald	Brown Patch, Excessive Thatch	Elmore
Zoysia, Meyer	Brown Patch	Lee

* Counties are not reported for commercial samples.

** Survey samples.

Birmingham Plant Disease Report, September (J. Jacobi)

The diagnostic lab received 78 samples for the month of September. Some of the more common problems in September were **Phytophthora root rot** on boxwood, **Passalora needle blight** on Leyland cypress, **bacterial leaf scorch** on oaks, and **chinch bugs** on St. Augustinegrass.

Passalora needle blight is another disease of Leyland cypress and can cause considerable damage in landscape plants. The disease has undergone several name changes and was formerly known as Cercospora Needle blight and Cercosporidium Needle blight. This disease typically starts in the lower canopy and causes needle blight and defoliation that progresses up the tree and out towards the branch tips. In severe cases, only the newest needles on the branch tips remain green. Repeated infections over several years may result in complete defoliation and tree death. Several fungicides, including chlorothalonil (Daconil and other brand names), myclobutanil (Eagle and Immunox), or mancozeb provide good control, when applied on a 7-14 day interval from July-October. Pruning out severely damaged branches may also help improve control of the disease. For more information on the identification and control of this disease see the following extension publication on-line (<http://www.aces.edu/dept/extcomm/publications/anr/anr-1196/anr-1196.html>)

Table 2. 2011 September Problems Seen In the Birmingham Plant Diagnostic Lab

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Apple	Black Rot	Jefferson
Azalea	Azalea Lace Bug	Jefferson
Bermudagrass	Rhizoctonia Leaf/Sheath Spot	Jefferson
Boxwood	Macrophoma Stem Canker	Jefferson
	Phytophthora Root Rot	Jefferson (2)
Centipedegrass	Curvularia Blight	Jefferson
	Large Patch	St. Clair

Cherry	Cercospora Leaf Spot	Jefferson
Cherry Laurel	Botryosphaeria Dieback	Jefferson
Chrysanthemum	Pythium Root Rot	Chilton
Cypress, Bald	Cypress Flower Gall Midge Damage	Clay
Cypress, Leyland	Botryosphaeria Canker Passalora Needle Blight (Formerly Cercospora Needle Blight)	Shelby Jefferson, Cullman
Hawthorn	Lace Bug	Jefferson
Holly, Burford	Tea Scale	Jefferson
Holly, Helli	Black Root Rot	Jefferson
Hydrangea, Big Leaf	Corynespora Leaf Spot	Jefferson
English Ivy	Phytophthora Stem and Root Rot	Jefferson
Loropetalum	Girdling Roots	Jefferson
Oak, Pin	Bacterial Leaf Scorch	Jefferson
Oak, Shumard	Bacterial Leaf Scorch	Jefferson
Oak, White	Bacterial Wet Wood/Slime Flux	St. Clair
St. Augustinegrass	Chinch Bug	Jefferson (3)
Sunflower, Swamp	Powdery Mildew	Jefferson
Viburnum, Davidii	Phytophthora Root Rot	Etowah
Zoysiagrass	Dollar Spot	Jefferson

Table 3. September Insect Report (C. Ray)

<u>County</u>	<u>Host</u>	<u>Category</u>	<u>Identification</u>	<u>Scientific Name</u>
Shelby	Lawn	Turfgrass	Carolina Tiger Beetle	<i>Tetrarcha Carolina</i>
Dale	St. Augustine Grass	Turfgrass	Chinch Bugs	<i>Blissus sp.</i>
Coffee	Sod	Turfgrass	Ground Pearls	<i>Margarodidae</i>
Talladega	Oak	Ornamentals	Yellow-necked Caterpillar	<i>Datana ministra</i>
Covington	Building	Miscellaneous	Bordered Plant Bug Nymph	<i>Largus succinctus</i>
Dallas	Unknown	Miscellaneous	Ring-Legged Earwig	<i>Euborellia annulipes</i>
Mobile	Okra	Row Crops	Scentsless Plant Bug	<i>Niesthrea louisianica</i>

Calhoun	Home	Household - Miscellaneous	Paper Wasp Pupa	<i>Polistes sp.</i>
Montgomery	Ornamental	Ornamentals	Blue-banded Lema Leaf Beetle	<i>Lema solanis</i>
Elmore	Home	Household - Stored Products	Varied Carpet Beetle Larvae	<i>Anthrenus verbasci</i>
Elmore	Home	Household - Miscellaneous	A Seed Bug	<i>Lygaeidae</i>
Lee	Azalea	Ornamentals	Azalea Lace Bug	<i>Stephanitis pyridioides</i>
Mobile	Unknown	Miscellaneous	An Anobiid Beetle	<i>Euceratocerus sp.</i>
Marion	Unknown	Miscellaneous	Green Lynx Spider	<i>Peucetia viridans</i>
Lee	Home	Household - Medical	Brown Widow Spider	<i>Latrodectes geometricus</i>
Escambia	Sweet Gum	Ornamentals	Yellow-banded Timber Beetle	<i>Monarthrum fasciatum</i>
Cullman	Grapes	Fruits & Nuts	Flower Beetle	<i>Euphoria sepulcharis</i>
Cullman	Grapes	Fruits & Nuts	Sap Beetles	<i>Carpophilus sp.,</i>
Cullman	Grapes	Fruits & Nuts	Sap Beetles	<i>Epuraea peltoides</i>
Cullman	Grapes	Fruits & Nuts	Click Beetle	<i>Elateridae</i>
Lowndes	Unknown	Miscellaneous	Hickory Horned Devil	<i>Citheronia regalis</i>
Geneva	Unknown	Miscellaneous	Antlike Flower Beetle	<i>Anthicidae</i>
Geneva	Unknown	Miscellaneous	Eye Gnat	<i>Liohippelates sp.</i>
Lee	Juncus	Greenhouse Plants	Shore Flies	<i>Scatella stagnalis</i>
Santa Rosa, FL	St. Augustine Sod	Turfgrass	Chinch Bugs	<i>Blissus sp.</i>
Montgomery	Home	Household - Miscellaneous	Moth Flies	<i>Psychodidae</i>
Montgomery	Home	Household - Miscellaneous	Scuttle Flies	<i>Phoridae</i>
Cleburne	Home	Household - Miscellaneous	Booklice	<i>Liposcelis sp.</i>
Cleburne	Home	Household - Miscellaneous	Booklice Predatory Gamasine Mites	<i>Blattisocius dendriticus</i>
Warren, KY	Boxwood	Ornamentals	Latania Scale	<i>Hemiberlesia lataniae</i>

Warren, KY	Mountain Laurel	Ornamental	Spider Mite Damage	<i>Tetranychidae</i>
Warren, KY	Azalea	Ornamental	Azalea Bark Scale	<i>Eriococcus azalea</i>
Elmore	Bermuda sod	Turfgrass	Bermudagrass Scale	<i>Odonaspis ruthae</i>
Coffee	St. Augustine Sod	Turfgrass	Chinch Bugs	<i>Blissus sp.</i>
Dale	Home	Household - Structural	Southern Dark-winged Subterranean Termite	<i>Reticulitermes virginicus</i>
Madison	Red Oak	Ornamental	Obscure Scale and Osborn Scale	<i>Melanaspis obscura, Diaspidiotus osborni</i>
Tallapoosa	Home	Household - Miscellaneous	Smoky Brown Cockroaches	<i>Periplaneta fuliginosa</i>
Montgomery	St. Augustine Sod	Turfgrass	Chinch Bugs	<i>Blissus sp.</i>
Clay	Cypress Wood	Household - Structural	Dark-winged Subterranean Termites	<i>Reticulitermes virginicus</i>
Clay	Home	Household - Miscellaneous	Scuttle Flies	<i>Phoridae</i>
Clay	Home	Household - Miscellaneous	Multi-Colored Asian Lady Beetle	<i>Harmonia axyridis</i>
Clay	Home	Household - Miscellaneous	Varied Carpet Beetle	<i>Anthrenus verbasci</i>
Clay	Home	Household - Miscellaneous	Fruit Flies	<i>Drosophila sp.</i>
Clay	Home	Household - Miscellaneous	A Leaf Hopper	<i>Empoasca sp.</i>
Clay	Home	Household - Miscellaneous	A Silken Fungus Beetle	<i>Cryptophagus sp.</i>
Clay	Home	Household - Miscellaneous	Book Lice	<i>Liposcelis sp.</i>

Disease Possibilities for November (D. Johnson)

We frequently see **Phytophthora Root Rot** in the fall on trees and shrubs as well as bedding plants. Affected roots become brown and rotted and are often water-soaked. The outer cortex may easily slip from the inner root tissue. The lower foliage may yellow and dieback. Since this fungus is often associated with wet soils, recent drought conditions throughout Alabama may tamp down the incidence. Control may mean removing the plant and associated soil or protective drenches.

The list below includes some of the disease problems and their symptoms that might be encountered in November. *Refer to the pertinent fact sheets, timely information sheets, spray guides, and the Alabama Pest Management Handbook for detailed control measures.*

Ajuga Phytophthora Crown and Root Rots: Dieback; roots brown, water-soaked, dying. CONTROL: Remove damaged plants; reduce water levels; nearby plants may be protected with Subdue drenches.

Ajuga Rhizoctonia Crown and Root Rot: A brown, dry rot of crown and roots. CONTROL: Remove damaged plants and associated soil. Rotate away from susceptible species for 1-3 years.

Arborvitae Phytophthora Root Rot: Dieback; brown, wet-rotted roots; root may dry and be easily pulled apart. CONTROL: Sanitation, control excess soil moisture; protective fungicide drenches; see Alabama Pest Management Handbook.

Azalea Anthracnose: Light brown round or irregular leaf spots. CONTROL: See Alabama Pest Management Handbook.

Azalea Phomopsis Canker: Sunken, elongate lesions on twigs and limbs; dieback. CONTROL: Prune affected limbs 3 inches beyond canker, dipping shears in 10% bleach between cuts.

Azalea Phytophthora Root and Crown Rots: Roots and stem near soil line appear water-soaked, brown; dieback. CONTROL: Sanitation, improve soil drainage. See Alabama Pest Management Handbook and ANR-571.

Azalea Powdery Mildew: Individual white, powdery leaf spots may eventually cover the entire leaf surface. CONTROL: Sanitation; Cleary's 3336 or Halt.

Bentgrass Pythium Blight: Irregular areas of turf become water-soaked, then light brown. CONTROL: See ANR-594.

Bermuda and Bermudagrass Bipolaris Leaf Spot/Blight: Small, elongate, brown leaf spots which may coalesce; stem blight; may be associated with low soil potassium. CONTROL: See Alabama Pest Management Handbook under Helminthosporium melting-out; submit soil sample.

Bermudagrass Brown Patch (Rhizoctonia): Large circular patches of light brown turf; individual blades show brown lesions and/or crowns show brown lesions, rot. CONTROL: See Alabama Pest Management Handbook, ANR-492.

Bermudagrass Dollar Spot: Pale yellow, dollar-sized spots of turf which may coalesce. Individual blades show cream colored spots with dark borders. CONTROL: Improve fertilization and optimize irrigation; collect clippings. See Alabama Pest Management Handbook and ANR-493.

Bermudagrass Nematode Damage: Various patches of yellowed turf; poor root development, stunted growth. A soil analysis is required for definitive diagnosis. CONTROL: See ANR-523.

Bermudagrass Pythium Blight and Root Rot: Blades yellow, dieback; roots light brown and rotted. CONTROL: See Alabama Pest Management Handbook.

Blueberry Botryosphaeria canker: Elongate, sunken, cracked, lesions. CONTROL: Prune affected stems.

Blueberry Phomopsis Canker: Elongate, cracked, sunken stem cankers; dieback. CONTROL: Prune affected limbs 3 inches beyond canker edge.

Blueberry Phytophthora Root Rot: A serious disease that can cause plant death; brown, water-soaked lesions on roots become dried. CONTROL: Ridomil; See Alabama Pest Management Handbook.

Boxwood Macrophoma Blight: Leaves red to yellow with scattered small black bodies on surface. CONTROL: Remove affected branches 3 inches beyond damage; control plant stress. See Alabama Pest Management Handbook and ANR-222.

Boxwood Phytophthora Crown and Root Rots: Dieback, wilt, yellowed foliage; rotting of lower trunk; roots become light brown, rotted, water-soaked; the outer cortex of the root is easily separated from its core. CONTROL: Sanitation; maintain proper water and fertility. See Alabama Pest Management Handbook.

Boxwood Volutella Blight: Dieback beyond branch and twig cankers; blighted leaves. Masses of orange spores develop on twigs and leaves in humid conditions. CONTROL: Pruning; remove fallen leaves. See Alabama Pest Management Handbook.

Camellia Colletotrichum Leaf Spot (Anthracnose): Light brown circular spots; under close inspection orange-pink-white-brown sporulation may be seen on the lesions. CONTROL: Sanitation; Cleary's 3336 protective sprays.

Camellia Sudden Oak Death: Bleeding cankers on trunk, limbs; brown leaf spots, often starting at tip and growing toward petiole. So far, this disease appears to be limited to nursery container plants. CONTROL: Contact Alabama Department of Agriculture or this lab for instructions.

Cedar, Red (Juniper) Pestalotia Tip Blight: Tips of twigs turn brown to gray. CONTROL: Maintain proper fertility and watering schedules; selective pruning.

Cedar, Red (Juniper) Phomopsis Dieback: Browning of twig tips. Dieback extends further down twig with time; cankers. CONTROL: Sanitation. See Alabama Pest Management Handbook.

Cedar, Red (Juniper) Phytophthora Root Rot: Dieback. Roots become brown, wet, and rotted, later drying out. CONTROL: Sanitation. Reduce irrigation and improve soil drainage. See Alabama Pest Management Handbook for control in nursery settings.

Centipede Brown Patch (Rhizoctonia): Rapidly developing large circular or irregular patches; individual blades show brown lesions, crowns show lesions and rot. CONTROL: See Alabama Pest Management Handbook. See ANR-492.

Centipede Lesion or Ring Nematodes: Yellow, declining growth, thinning, wilting, and sometimes death occur in patches or uniformly through the turf. CONTROL: See ANR-523.

Centipede Take-all Patch: Small circular light or reddish brown patches which may coalesce into large areas of dead or declining turf. CONTROL: See ANR-823. Bayleton; turf replacement may be necessary.

Cherry, Yoshino Phytophthora Root Rot: Older leaves may yellow, branch dieback, wilt; roots brown, water-soaked, decayed. CONTROL: Remove tree, reduce water levels, replant with *Phytophthora*-resistant plant.

Chrysanthemum Phytophthora and Pythium Root Rots: Dieback; roots brown, water-soaked. CONTROL: Reduce irrigation, sanitation, rotation, protective drenches. See Alabama Pest Management Handbook.

Cucumber Downy Mildew: Small yellow areas on upper leaf surface which expand and are bound by the veins; undersurface may develop a light gray to dark purple downy growth. CONTROL: See Alabama Pest Management Handbook.

Cypress, Leyland Botryosphaeria Canker: Cracked, elongate, sunken lesions or cankers on branches or trunk. CONTROL: Sanitation; prune affected branches 3 inches beyond canker edge.

Cypress, Leyland Cercospora/Cercosporella Blights: Blight usually starts on lower inner leaves. CONTROL: Pruning, sanitation. Cleary's 3336 can be used as protective spray. See ANR-1196.

Cypress, Leyland Phytophthora Root Rot: Generally occurs in wet, poorly drained soils. Dieback, yellow foliage; roots dark, decayed. Rarely a problem on large, landscape trees. CONTROL: Subdue Maxx in nursery plants – not recommended in landscapes.

Daylily Phytophthora Root Rot: Roots brown and wet, dead roots become dry; CONTROL: Sanitation, remove damaged plants and associated soil; reduce soil moisture.

Daylily Rust: Orange pustules evident early; elongate yellow-brown leaf spots. CONTROL: Sanitation. See TI PP-506. Immunox or Fertilome Systemic Fungicide.

Fig Rust: Reddish brown spots on upper leaf surfaces, yellow-orange spots on leaf undersurfaces. CONTROL: Sanitation. Do not use overhead irrigation.

Gardenia Phytophthora Root Rot: Roots become brown, brittle; plants show general decline. The disease may spread to adjacent plants. CONTROL: Remove diseased shrubs and replace with *Phytophthora*-resistant plants. See ANR-571.

Geranium Botrytis Blight: Brown leaf spots, blight of blossoms and leaves. Stem blight. CONTROL: See Alabama Pest Management Handbook.

Grape Pierce's Disease (Bacterial Scorch): Leaf edge scorch begins with older foliage; dieback. CONTROL: Remove damaged plants.

Holly Phomopsis Canker: Cankers on small branches; dieback. CONTROL: Sanitation.

Holly Phytophthora Root and Crown Rots: Roots dark and decayed, outer cortex easily separates from inner core; lower trunk decayed. CONTROL: Sanitation, reduce excess soil moisture. See Alabama Pest Management Handbook.

Holly Pythium Root Rot: Foliage on lower limbs becomes yellowed; roots rotted and discolored. CONTROL: Sanitation, improve drainage; see Alabama Pest Management Handbook.

Hydrangea Anthracnose: Brown circular leaf and blossom spots. CONTROL: Sanitation; Cleary's 3336.

Hydrangea Armillaria Root Rot: Black threadlike structure may be present around root or crown areas; thin white fungal mats may appear under bark. CONTROL: Remove affected plants and surrounding soil; replant away from hydrangea.

Hydrangea Cercospora Leaf Spot: Variable brown leaf spots. Control: Remove all damaged leaves. See Alabama Pest Management Handbook.

Hydrangea Corynespora Leaf Spot: Round, brown, often zonate leaf spots. CONTROL: Sanitation.

Hydrangea Phytophthora Root Rot: Primarily a problem in container-grown plants. Initially, a sudden wilting of foliage, also yellowing, stunting, or leaf fall. Feeder roots brittle and brown. CONTROL: Remove all plants with damaged foliage, reduce excess water from area and improve drainage; Subdue, Banrot, or Banol may be applied to adjacent plants as a protectant and may be effective on roots with low level of infection.

Hydrangea Powdery Mildew: Leaves have patches with white, dusty coating. CONTROL: See Alabama Pest Management Handbook; see ANR-1212.

Hydrangea, Oakleaf Phytophthora Crown Rot: Lower trunk brown and wet-rotted. CONTROL: Sanitation; see Alabama Pest Management Handbook.

Indian Hawthorn Entomosporium Leaf Spot: Reddish leaf spots with black centers. CONTROL: Sanitation. Protective fungicide sprays.

Ivy Anthracnose: Irregular brown spots often occurring along veins. CONTROL: Sanitation; Cleary's 3336 or Domain. See Alabama Pest Management Handbook.

Ivy Phytophthora Root Rot: Roots initially brown and water-soaked, then dry. Foliage wilts, dieback. CONTROL: Sanitation, reduce irrigation. See Alabama Pest Management Handbook and ANR-1148.

Jasmine Phytophthora Root Rot: Dieback; roots brown and soft rotted. CONTROL: Sanitation, improve soil drainage; may require replacing with *Phytophthora*-resistant ground cover. See ANR-571.

Juniper: See Cedar, Red.

Ligustrum Cercospora Leaf Spot: Large, round to angular, dark brown leaf spots. CONTROL: Sanitation; Cleary's 3336, Halt, or Domain protective sprays.

Liriope Fusarium Crown Rot: Dry rot of lower stem. CONTROL: Avoid plant stress. Cleary's 3336 as protective spray.

Liriope Phytophthora Crown Rot: Crowns brown, wet-rotted; plants wilt, yellow, die. CONTROL: Remove plants and associated soil; improve drainage. Fungicides not recommended in landscapes.

Liriope Rhizoctonia Crown Rot: Lower stems brown and dry. CONTROL: Sanitation. See Alabama Pest Management Handbook.

Magnolia Algal Leaf Spot: Circular, greenish or reddish brown, slightly raised leaf spots. CONTROL: Sanitation. See Alabama Pest Management Handbook.

Maple Phytophthora Root Rot: Roots brown to reddish-brown and brittle. Leaf yellowing and drop. The fungus may girdle stem near soil line. Symptoms often show on one plant then spread to nearby plants. CONTROL: See ANR-571.

Mustard Cercospora Leaf Spots: Brown, irregular leaf spots, possible with small gray patches. CONTROL: Sanitation; see Alabama Pest Management Handbook.

Oak Powdery Mildew: Light colored dusting on leaves; some yellowing and leaf distortion. CONTROL: Sanitation.

Okra Root Knot Nematode: Large, irregular root swellings; poor development. CONTROL: Rotation, sanitation; see ANR-856.

Pansy Phytophthora or Pythium Crown and Root Rots: Crown and roots become brown and water-soaked. CONTROL: Sanitation; see Alabama Pest Management Handbook and ANR-1214.

Pecan Brown Spot: Initial round, brown leaf spots become concentric gray, irregularly-shaped spots. CONTROL: Proper tree maintenance; see Alabama Pest Management Handbook for scab.

Pecan Scab: Olive green to black, rough, slightly raised spots on leaves, petioles, and nut shucks. CONTROL: Sanitation; see Alabama Pest Management Handbook or, for homeowners, ANR-50.

Peony Botrytis Blight: Brown blotches on leaves, stems, blossoms. CONTROL: Sanitation. See Alabama Pest Management Handbook.

Pepper Anthracnose Fruit Rot: Sunken, black blotches on fruit which may develop orange pustules. CONTROL: See Alabama Pest Management Handbook.

Pepper Tomato Spotted Wilt Virus: Plants stunted, distorted. Ring spots or bronzing may be present. CONTROL: Sanitation; control thrips.

Periwinkle See Vinca.

Petunia Phytophthora Foliage Blight/Root and Crown Rots: Leaf spots, dieback, blight; roots and crown brown, wet rotted. CONTROL: Remove damaged plants. See Alabama Pest Management Handbook.

Rhododendron Phytophthora Root Rot: Dieback; roots become brown, water-soaked, rotted. CONTROL: Remove damaged plants; reduce excess soil moisture. See Alabama Pest Management Handbook.

Rose Armillaria Root Rot: Dieback, reduced shoot growth, leaf dwarfing; white, fan-shaped mats under bark; black fungal strands on collar and root system; golden mushrooms in surrounding area. CONTROL: Remove affected plants; replant with less susceptible species and avoid plant stress, particularly drought. See ANR-907.

Rose Black Spot (*Diplocarpon rosa*): Round black spots with feathery edges. CONTROL: See ANR-505 and Alabama Pest Management Handbook.

Rose Brown Canker: Elongate brown cankers. CONTROL: Remove cankered limbs, cutting 3 inches beyond canker edge; plant removal if trunk is affected. Protective sprays on nearby roses using fungicides labeled for black spot.

Rose Cercospora Leaf Spot: Circular brown leaf spots. CONTROL: See Alabama Pest Management Handbook for Black Spot.

Rose Common Canker: Red to yellow spots in the bark become light brown cankers with a dark brown margin, becomes shrunken and cracked. CONTROL: Avoid injury to canes; prune the affected canes with sharp tools immediately above the node and at an angle.

Rose Downy Mildew: Irregular yellow spots that blacken with age. CONTROL: Sanitation; see Alabama Pest Management Handbook.

Rose Phytophthora Root Rot: Dieback; roots brown and wet-rotted, later dried out. CONTROL: Remove and destroy all plants with dieback; improve soil drainage, water levels. Protective drenches may prevent spread to nearby healthy plants. See Alabama Pest Management Handbook.

Rose Powdery Mildew: White powdery coating on leaves and stems. CONTROL: See Alabama Pest Management Handbook and ANR-407.

Soybean Anthracnose: Irregular brown lesions on stems, pods, and petioles; lesions may develop minute black spines in later stages. CONTROL: Rotation; plow under crop residues.

Soybean Asian Soybean Rust: Initially tiny yellow leaf spots which darken, become angular; pustules may form on leaf undersurfaces. CONTROL: *Early detection*; see ANR-1310.

Soybean Bacterial Pustule: Dark brown or black, slightly raised leaf spot; edges may be water-soaked. CONTROL: None.

Soybean Charcoal Rot: Lower stem becomes weak and shredded; pith may develop salt-and-pepper appearance. CONTROL: Rotation; deep plow.

Soybean Stem Canker: Small reddish brown stem lesions, usually near leaf node; lesions grow, become black, sunken; plant death; interveinal yellowing or necrosis in leaves. CONTROL: Contact Ed Sikora.

St. Augustinegrass Brown Patch: Brown blotches on individual blades; whole blade may become brown. CONTROL: See Alabama Pest Management Handbook.

St. Augustinegrass Gray Leaf Spot: Gray spots and blotches which may become large, foliage dieback. CONTROL: Sanitation; see Alabama Pest Management Handbook.

St. Augustinegrass Take-All Patch (*Gaeumannomyces*): Circular light to reddish-brown patches of turf. CONTROL: Maintain soil pH between 5.5-6.0; use ammonium forms of nitrogen.

Strawberry Botrytis Fruit Rot: Fruit becomes wet, brown, decayed and may have gray mold on surface. CONTROL: Sanitation; see Alabama Pest Management Handbook.

Strawberry Phytophthora Root and Crown Rot: Dieback, wilting, stunting, yellowing of lower foliage; crown and roots brown and soft rotted. CONTROL: See Alabama Pest Management Handbook and ANR-906.

Sweet Potato Fusarium Surface Rot on Roots: Firm, dry, round, brown lesions on roots; roots may become shrunken and hard in storage. May lead to the more aggressive **Fusarium Root Rot** in which lesions may be concentric dark and light brown rings and rotting extends to internal tissue. CONTROL: Avoid wounding at harvest; see ANR-917.

Sweet Potato Scurf: Brown to black superficial spots at harvest which may merge to encompass whole potato surface. CONTROL: Rotation; see Alabama Pest Management Handbook.

Tomato Anthracnose Fruit Rot: Usually a ripe fruit disease; wet, colorless, sunken lesions up to 1 cm; a thin layer of dry white tissue under the skin; center of lesion may become black and orange spores may develop. CONTROL: Sanitation; see Alabama Pest Management Handbook.

Tomato Tomato Spotted Wilt Virus: Yellow to brown leaf spots, plants wilted, new growth stunted. CONTROL: Sanitation; resistance. Reflective mulch is most effective for thrips control.

Tulip Penicillium Bulb Rot (Blue Mold): Brown blotches on bulb, often with blue, green, or gray spore masses. CONTROL: See Alabama Pest Management Handbook for dip recommendations or discard affected bulbs.

Turmeric Root Knot Nematode: Poor plant growth; galls on roots; reduced root system. CONTROL: Sanitation, resistance.

Turnip Cercospora and Cercosporella Leaf Spots: Irregular white to tan leaf spots with brown borders. CONTROL: Sanitation, rotation; see Alabama Pest Management Handbook.

Vinca, Annual Phytophthora Stem, Crown, and Root Rots: Stems or roots brown, water-soaked. CONTROL: Sanitation; improve soil drainage.

Willow Cercospora Leaf Spot: Small brown leaf spots. CONTROL: Sanitation.

Zoysia Bipolaris Leaf Blight: Small, brown leaf spots may become large blighted areas. CONTROL: See Alabama Pest Management Handbook under Helminthosporium.

Zoysia Brown Patch (Rhizoctonia): Rapidly developing large circular or irregular patches; individual blades show brown lesions, crowns show lesions and rot. CONTROL: See ANR-492.

Zoysia Rust: Orange-brown, powdery spots on leaves. CONTROL: See Alabama Pest Management Handbook or ANR-621.

Zoysia Take-All: Circular light to reddish-brown patches of turf; individual plants yellow and die; black lesions on stolons and roots. CONTROL: Maintain soil pH between 5.5-6.0; use ammonium forms of nitrogen.