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PP-551

**JUNE PLANT DISEASES FROM THE AUBURN PLANT
DIAGNOSTIC LAB**

**JUNE PLANT DISEASES FROM THE BIRMINGHAM
PLANT DIAGNOSTIC LAB**

DISEASE POSSIBILITIES FOR JULY

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Auburn Plant Disease Report-June (J. Mullen)

Much of June was characterized by moderate temperatures in the 80°'s and frequent or adequate rainfall, depending upon the area of the state. Our lab received 178 plant samples during the month of June.

Many of our June samples were crown or root rot diseases caused by the fungi *Pythium* (on anise, cotton, Helleri holly, Rudbeckia, and Vinca minor), *Fusarium* (on anise, cotton, pepper, and watermelon), and *Rhizoctonia* (on garden beans, impatiens, southern peas). Brown patch (*Rhizoctonia*) was seen on centipede and zoysia. In addition, *Sclerotium rolfsii* crown rot was observed on catharanthus and Rudbeckia. *Phytophthora* root rot was confirmed on dogwood.

Several problems were observed on oak including anthracnose, *Actinopelte* leaf spot, *Inonotus* root rot, and dieback. Dieback is often difficult to diagnose on a large tree. With oaks dieback may be caused by a variety of factors including canker diseases, root rot diseases, and trunk wood rot fungal diseases. These problems often occur on previously stressed trees. With oaks, two common stress factors are drought and fluctuating water tables. Either one of these situations could cause oak dieback with no involvement of fungal disease. But, these stressed trees do often become infected with stress-dependent fungal cankers, root rots, or wood rot diseases. The stress-dependent diseases we often see on oaks include *Hypoxyylon*

canker, Botryosphaeria canker, Inonotus wood rot, Armillaria root rot, Ganoderma wood and/or crown (butt) rot. Bacterial scorch (*Xylella fastidiosa*) or oak wilt (*Ceratocytis (Ophiostoma) fagacearum*) will also occur as dieback symptoms. The bacterial scorch typically will develop with initial scorch showing up on older leaves first. Oak wilt initially develops as branch wilt with interveinal yellowing of leaves on affected branches. Many of the trunk canker and wood rotting agents gain entrance to the trees via wounds. The bacterial scorch and oak wilt pathogens enter leaves or twigs usually via leaf hopper feeding and bark beetle feeding, respectively.

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

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Anise	Fusarium Root Rot	*
	Pythium Root Rot	*
Apple	Black Rot (<i>Botryosphaeria obtusa</i>)	Calhoun
	Fireblight (<i>Erwinia amylovora</i>)	Lawrence, Russell
	Nectria Canker	Calhoun
Beans, Garden	Anthracnose (<i>Colletotrichum</i>)	Choctaw
	Bipolaris Leaf Spot/Crown Rot	Madison, Montgomery
	Brown Patch (<i>Rhizoctonia</i>)	Limestone
Bermuda	Dollar Spot (<i>Sclerotinia homeocarpa</i>)	Cleburne
	Exserohilum Leaf Spot	Cleburne
	Ring Nematode Problem (<i>Criconemoides</i>)	Tuscaloosa
Camellia	Algal Leaf Spot (<i>Cephaleuros</i>)	Baldwin
Cedar	Pestalotia Blight	Montgomery
Centipede	Anthracnose (<i>Colletotrichum</i>)	Tuscaloosa
	Brown Patch (<i>Rhizoctonia</i>)	Montgomery
Cherry, Oriental	Coccomyces Leaf Spot	Elmore

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Corn	Cercospora Leaf Spot	Conecuh
Cotton	Fusarium Crown/Root Rot	Dallas
	Pythium Crown/Root Rot	Dallas
	Reniform Crown/Root Rot (<i>Rotylenchulus</i>)	Dallas
Cryptomeria	Pestalotia Fungal Blight	*
Daylily	<i>Bipolaris</i> Leaf Spot/Blight	Madison
Dogwood	Botryosphaeria Crown Rot	Escambia
	Phytophthora Root Rot	Escambia
	Powdery Mildew	Pike
	Spot Anthracnose (<i>Elsinoe</i>)	Marengo, Pike
Grape	Black Rot (<i>Guignardia</i>)	Elmore, Franklin
Hawthorn	Cedar Hawthorn or Cedar Quince Rust	Pike
Holly, Helli	Botryosphaeria Crown Decay	Tallapoosa
	Pythium Root & Crown Decay	Tallapoosa
Impatiens	Rhizoctonia Crown Rot	Mobile
Indian Hawthorn	Entomosporium Leaf Spot	Autauga, Covington
Leyland Cypress	Cercospora Blight	Macon, Montgomery
Maple	Anthracnose (<i>Colletotrichum</i>)	Lauderdale
	Phyllosticta Leaf Spot	Elmore
	<i>Xylaria polymorpha</i> (Saprophyte)	Out-of-State
Mayhaw	Cedar Quince Rust (<i>Gymnosporangium</i>)	

<u>Plant</u>	<u>Disease</u>	<u>County</u>
	<i>claviceps</i>)	Cleburne
Oak	Anthrachnose (<i>Colletotrichum</i>)	Montgomery
Oak, Water	Inonotus Root Rot	Montgomery
Oak, Willow	Actinopelte Leaf Spot	Lee
Peach	Bacterial Leaf Spot (<i>Xanthomonas pruni</i>)	Russell
	Brown Rot (<i>Monilinia fructicola</i>)	Russell
Peanut	Leptosphaerulina Leaf Spot	Henry
Pear	Fabraea Leaf Spot	Elmore, Pike
	Bacterial Leaf Spot	Tuscaloosa
Peas, Southern	Rhizoctonia Blight	Choctaw
Pecan	Scab (<i>Cladosporium</i>)	Russell
Peony	Botrytis Leaf Blight	Escambia
	Colletotrichum Leaf Blight	Escambia
Pepper	Fusarium Stem Rot	Mobile
Pine, Loblolly	Coleosporium Needle Rust	Winston
Plum	Bacterial Leaf Spot (<i>Xanthomonas pruni</i>)	Elmore, Russell
	Brown Rot (<i>Monilinia fructicola</i>)	Pike
Poplar, Carolina	Cladosporium Blight	Barbour
Poplar, Yellow	Anthrachnose (<i>Colletotrichum</i>)	Madison
Potato, Irish	Early Blight (<i>Alternaria solani</i>)	Henry
	Scab (<i>Streptomyces</i>)	Pike, Russell

Rudbeckia	Pythium Root Decay	*
<u>Plant</u>	<u>Disease</u>	<u>County</u>
	<i>Sclerotium rolfsii</i> Crown Rot	*
Shamrock (Oxalis)	Rust (<i>Puccinia</i>)	Lee
Sourwood	Anthraco-nose- <i>Colletotrichum</i> Branch Cankers	Cullman
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Dallas, Henry
	Gray Leaf Spot (<i>Piricularia</i>)	Mobile
	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Henry, Mobile
Tomato	Bacterial Canker	Franklin
	Bacterial Leaf Speck (<i>Pseudomonas syringae</i> pv. <i>syringae</i>)	Geneva
	Bacterial Leaf Spot (<i>Xanthomonas axonopodis</i> pv. <i>vesicatoria</i>)	Geneva, Montgomery Tallapoosa
	Blossom End Rot	Franklin
	Fusarium Wilt (<i>F. oxysporum</i>)	Russell
	Leaf Mold (<i>Cladosporium</i>)	Elmore
	Possible Bacterial Canker	Geneva
	Tobacco Mosaic Virus	Geneva
Vinca (Catharanthus)	Colletotrichum Stem Blight	Elmore
	<i>Phytophthora nicotiana</i> Blight	Elmore, Mobile, Russell
	<i>Sclerotium rolfsii</i> Crown Rot	Russell
Vinca minor	Pythium Root Decay	Lee

Watermelon	Fusarium Root Rot	Mobile
<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Gummy Stem Blight (<i>Mycosphaerella</i>)	Butler
Yew	Pestalotia Needle Blight	Colbert
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Lawrence
	Rust (<i>Puccinia</i>)	Montgomery

*Counties are not reported for greenhouse and nursery samples.

Birmingham Plant Disease Report-June (J. Jacobi)

The lab received 172 samples during the month of June. Some of the problems seen last month included: scab on apple, Phytophthora root rot on several woody ornamentals, downy mildew on viburnum, and zonate leaf spot on hickory and maple.

Downy mildew of viburnum causes angular spots or lesions that are often bordered by leaf veins. Damaged areas are initially chlorotic, but rapidly turn brown and dry as the disease progresses. Grayish-white fungal growth may be seen on the underside of lesions. In severe cases, extensive defoliation can occur. Management options for this disease include removal of affected leaves, avoiding overhead irrigations, and application of fungicides during favorable conditions (wet weather with cool to moderate temperatures). Mancozeb (several brand names) and azoxystrobin (Heritage) are labeled for control of downy mildew.

Zonate leaf spot was another common disease seen last month. This disease is caused by the fungus, *Cristulariella*, and is typified by grayish-brown spots with concentric rings. The rainy conditions this spring were very favorable for disease development. In one case, an affected hickory tree was completely defoliated in less than a month. However, this same tree rapidly produced a new crop of leaves and no long-term damage should occur. Rake and remove fallen leaves. Fungicides are generally not necessary.

Table 2. 2003 June Problems Seen In the Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Apple	Aphids	Shelby
	Apple Scab (<i>Venturia</i>)	Jefferson

Arborvitae	Pestalotiopsis Blight	Jefferson
	Spruce Spider Mites	Jefferson
<u>Plant</u>	<u>Problem</u>	<u>County</u>
Barberry	Phytophthora Root Rot	Jefferson
Bentgrass	Chemical Injury	*
	Pythium Root Rot	*
Bermudagrass	Bipolaris Leaf Spot	Jefferson
	Low pH	Jefferson
	Poor Drainage/Black Layer	Cullman
Blackberry	Blackberry Psyllid	Jefferson
Centipede	Anthracnose (<i>Colletotrichum</i>)	Jefferson
	Brown Patch	Jefferson (4), Shelby
	High pH	Jefferson (2)
Cypress, Leyland	Phytophthora Root Rot	Jefferson
	Seridium Canker	Jefferson
Dogwood	Powdery Mildew	Shelby
	Spot Anthracnose	Jefferson, Shelby
Euonymus, Japanese	Powdery Mildew	Jefferson
Fescue, Tall	Brown Patch	Jefferson
Gardenia	Cercospora Leaf Spot	Jefferson
	Whiteflies	Jefferson
Gladiolas	Thrips	Jefferson

Hickory	Zonate Leaf Spot (<i>Cristulariella</i>)	Jefferson
Hydrangea, Bigleaf	Cercospora Leaf Spot	Jefferson(2)
<u>Plant</u>	<u>Problem</u>	<u>County</u>
	Southern Red Mite	Jefferson
Hydrangea, Oakleaf	Armillaria Root Rot	Jefferson
	Phytophthora Root Rot	Jefferson(3)
Indian Hawthorn	Entomosporium Leaf Spot	Shelby
Juniper, Chinese	Spider Mites	Jefferson(2)
	Twig Blight (<i>Pestalotia</i>)	Jefferson
Lemon, Meyer	Scale	Jefferson
Leyland Cypress	Phytophthora Root Rot	Jefferson
Maple, Japanese	Asian Ambrosia Beetle	Jefferson
	Phytophthora Crown Rot	Jefferson
Maple, Red	Zonate Leaf Spot (<i>Cristulariella</i>)	Jefferson
Oak	Jumping Oak Galls	Jefferson
Peach	Brown Rot (<i>Monilinia</i>)	Jefferson
	Plum Curculio	Jefferson
Pear, Callery	Fireblight (<i>Erwinia</i>)	Jefferson
Pecan	Leaf Stem Gall Aphid (<i>Phylloxera</i>)	Jefferson
	Pecan Shuckworm	Jefferson(2)
Rose, Florabunda	Roundup Injury	Jefferson

Sourwood	Phytophthora Root Rot	Jefferson
St. Augustine	Gray Leaf Spot (<i>Pyricularia</i>)	Jefferson
Tomato	Aphids	Jefferson
<u>Plant</u>	<u>Problem</u>	<u>County</u>
	Bacterial Spot (<i>Xanthomonas</i>)	Jefferson, Tuscaloosa
	Roundup Injury	Jefferson
	Septoria Leaf Spot	Jefferson
Viburnum	Downy Mildew (<i>Plasmopara</i>)	Jefferson
Zoysia	Brown Patch	Jefferson(2)
	Poor Drainage/Algae	Jefferson
	Rust	Jefferson(2)
	Zoysia Mites	Jefferson(2)

*Counties are not reported for greenhouse and nursery samples.

Disease Possibilities For July

In July we usually continue to see our 'June'-summer diseases. Table 3 lists some the diseases which arrived in our lab during previous Julys. Brief comments on disease symptoms and control recommendations are included. For specific disease control recommendations, see the Alabama Pest Management Handbook or 2002-2003 Sprays Guides. Also remember that sanitation is a necessary component of most disease control programs.

Recently we received a sample of dogwood anthracnose from Russell County. This is noteworthy since most of our dogwood anthracnose has been seen in northern sections of the state where temperatures are cooler. The fungal agent of dogwood anthracnose requires temperatures in the 60-75° range with high humidity. Mountainous areas with morning fogs and shade are ideal for development and spread of this disease.

We also just recently received a few samples of southern corn leaf blight caused by *Bipolaris maydis*.

Table 3. Brief Disease Descriptions and Control Recommendations for Diseases Often Seen in July.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ajuga	Rhizoctonia Aerial Blight	Leaves/stems turn brown. Mycelial webbing may be present.	Cleary's 3336.
Aloe	Fusarium Stem Rot	A dry decay of stem sections.	Cleary's 3336.
Alfalfa	Common (<i>Pseudopeziza</i>) Leaf Spot	Small (1-3 mm diam.), circular, brown-black spots with ragged margins; defoliation.	Early harvest.
	Leptosphaerulina Leaf Spot	Small black "pepper" spots or 1-3 mm "eyespot" which have light brown centers and dark brown borders.	---
	Rust (<i>Uromyces</i>)	Red-brown powdery pustules on leaves, petioles, stems, defoliation.	Regular harvesting.
	Summer Black Stem & Leaf Spot (<i>Cercospora</i>)	Circular-irregular red-brown or brown spots (2-6 mm diam.). When humidity high, spots become gray; defoliation.	Regular harvesting.
Apple	Apple Blotch (<i>Alternaria mali</i>)	Brown circular or oval spots which sometimes appear slightly zonate.	See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bitter Rot on Fruit (<i>Gloemerella-Gloeosporium</i>)	Small, circular, light-brown spots on the fruit. Spots enlarge and become sunken in the center. Concentric rings of pink pustules may occur. Rotted flesh is watery but not mushy.	Regular fungicide sprays.
	Black Rot (<i>Botryosphaeria</i>)	<u>Fruit</u> : a brown spot on fruit that enlarges and usually becomes black; rotted flesh is firm. <u>Leaf</u> : brown or yellowish-brown spots (C-¼ inch diam.) with purple margins and irregular shape. <u>Canker</u> : lesions on branches or trunk are slightly sunken, reddish-brown and show concentric rings of cracked bark.	Sanitation; recommend fungicide treatments.
	Cedar Apple Rust (<i>Gymnosporangium juniperae-virginiana</i>)	Bright yellow spots on apple leaves. Orange (aecial) cups on lower leaf surfaces in yellow spots; defoliation.	See ANR-468.
	Fly Speck on Fruit (<i>Microthyriella</i>)	Numerous, tiny, circular, black spots appear grouped together on a section of the apple skin.	Regular fungicide sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Scab (<i>Venturia inaequalis</i>)	Olive-green to brown, slightly raised circular or slightly irregular spots (which may coalesce) on leaves and fruit; tissue distortion may result; early leaf, fruit drop may result from severe infection.	Follow spray recommendations in spray guide; sanitation.
	Sooty Blotch (<i>Gloeodes pomigena</i>)	Superficial infection which appears as though someone placed a sooty finger print on apple fruit surface.	Regular fungicide sprays.
	White Rot (<i>Botryosphaeria dothidea</i>)	White or light brown, watery rot of fruit.	Sanitation; recommended fungicide treatments.
Ash	Anthrachnose (<i>Apiognomonina</i>)	Irregular brown blotches of variable sizes occur along leaf edges and along leaf veins mostly.	Sanitation.
Aster	Pythium Root Rot	Roots light brown and water-soaked, pull apart easily.	Sanitation; reduce water levels.
	Southern Blight (<i>Sclerotium</i>)	Decay of stem at soil line; white mycelium (sometimes with brown-black mustard-seed-sized sclerotia may be present) often at soil line.	Soil Solarization.
Aucuba	Botryodiplodia (<i>Botryosphaeria</i>) Canker/Dieback	Black cankers on stems.	Pruning; Cleary's 3336.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phytophthora Root Rot	Roots become water-soaked and a brown color during early stages of disease.	Sanitation. Reduce water in the area. See ANR-571 and the Pest Management Handbook.
Azalea	Bacterial Leaf Spot	Black irregular spots; water soaked spot edges.	Strict sanitation. Do not water over-head.
	Colletotrichum Leaf Spot	Small, circular brown leaf spots.	Sanitation; protective sprays of Cleary's 3336.
	Phomopsis Dieback (Stress-Related)	Sunken cankers that cause dieback of individual branches.	Pruning; eliminate stress.
	Phytophthora Root Crown/Rot	Brown, water-soaked areas on crown and roots; outer root cortex slips easily away from inner tissues.	Sanitation; Good drainage; Fungicide drenches.
	Powdery Mildew	White powdery dusting on leaf surfaces; some leaf distortion; some necrosis.	Sanitation; See AL Pest Management Handbook.
Bahiagrass	Dollarspot (<i>Sclerotinia</i>)	Bleached-out lesions with dark borders develop on grass blades; disease begins in small patches which can enlarge.	Maintain adequate fertility.
Bean, Garden	Alternaria Leaf Spot	Oval-circular brown (sometimes zonate) leaf spots.	Chlorothalonil or maneb product.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Anthracnose (<i>Colletotrichum</i>)	Black, sunken lesions (½ inch diam.) on pods, cotyledons and stems. When spores are produced, the lesions are orange-colored. On leaves, spots are small and reddish-brown. Veins on lower leaf surfaces may be discolored red-brown in sections.	Protective fungicide sprays. Rotation.
	Cercospora Leaf Spot	Irregular, gray-brown spots with red-brown margins; leaf drop.	Regular fungicide sprays.
	Charcoal Rot (<i>Macrophomina</i>)	Lower stem near soil line becomes weakened/shredded. Split stem has tiny black dots sprinkled throughout.	--
	Cucumber Mosaic Virus	Green-yellow mottle; abnormally shaped leaves; abnormally small leaves.	Control aphids and cucumber beetles; do not save seed; control weeds.
	Fusarium Crown Rot	Stem at the soil line becomes decayed with a dry-type rot.	A long rotation or soil solarization.
	Fusarium Wilt	Lower leaves turn yellow; plants wilt and grow poorly; brown streaks in vascular system in lower stem.	Rotate out of beans for 6-10 years. Plant resistant varieties.
	Pythium Crown Rot	Lower stem develops a soft, wet, brown rot.	Sanitation; decrease irrigation practices.
	Rhizoctonia Aerial Blight	Brown, necrotic blotches on leaves.	See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rhizoctonia Sore Shin	Lower stem develops a dry, brown rot lesions.	Sanitation; See Ala. Pest Management Handbook.
	Southern Blight (<i>Sclerotium</i>)	See Aster.	Soil Solarization. Crop rotation or deep plowing.
Begonia	Pythium Root Rot	Roots become soft, brown and water-soaked.	Sanitation; See the Ala. Pest Management Handbook.
	Rhizoctonia Aerial Blight	Leaves become brown spotted, blighted and shredded.	Cleary's 3336, Domain, benomyl products labelled for ornamentals; sanitation.
Bentgrass	Anthracnose (<i>Colletotrichum</i>)	Leaf spot/blight often secondary.	See control recommendations for brown patch.
	Black Layer	Leaves turn yellow and plants dieback; a black soil layer is present about one inch below the soil surface.	Soil renovation is required.
	Brown Patch (<i>Rhizoctonia</i>)	Foliage Blight	See the AL Pest Management Handbook.
	Curvularia Blight	Yellow spotting of leaves; typically seen during hot, stressful conditions. Usually a minor problem.	Fungicides usually not needed. Remove stressful conditions. Fungicides labelled for control of brown patch may help.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Dollar Spot	Silver dollar-sized pale yellow or white circular areas in lawn. Individual grass blades usually have white leaf spots that develop as bands across the whole leaf blade. Spots have dark borders.	See ANR-493 and the AL Pest Management Handbook.
	Fairy Ring	Yellow or brown areas that occur in ring-like patterns. Mushrooms may develop at outer sides of ring areas.	See ANR-372.
	Nematodes, Stunt, Ring & Sheath	Plants grow poorly, yellow, dieback.	See ANR-523.
	Pythium Root Rot	Plants yellow and dieback. Infected areas may appear wet, watersoaked. In wet conditions, a white fluffy mold may develop.	See ANR-594.
Bermuda	Brown Patch (<i>Rhizoctonia</i>)	Foliage Blight.	See Ala. Pest Management Handbook.
	Dollar Spot (<i>Sclerotinia</i>)	Irregularly shaped bleached patches of grass; white spots with dark borders on grass blades.	Collect grass clippings; Fungicides.
	“Helminthosporium” Leaf Spot & Bipolaris Leaf Spot	Leaf lesions are irregularly shaped and brownish-green. Old lesions become tan or white with dark brown borders.	Sanitation; fungicide treatments.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

	Pythium Blight	Foliage develops brown, wet-looking blotches; necrosis.	See ANR-594 and the AL Pest Management Handbook.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plant grow poorly.	Culture practices to eliminate root stress. Plant nematode resistant crops; solarization. See Ala. Pest Management Handbook if golf course or commercial situation.
	Rust (<i>Puccinia</i>)	Leaves become reddish-orange and eventually die.	See ANR-621 or the Ala. Pest Management Handbook.
	Ring Nematode (<i>Criconemoides</i>)	Plants grow poorly. Yellowing dead patches may develop in scattered areas.	Cultural practices to eliminate root stress. See Ala. Pest Management Handbook for commercial or golf course situation.
	Spring Dead Spot (<i>Gaeumannomyces</i>)	Dead areas in spring.	See AL Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces</i>)	Patchy areas thin out with individual plants becoming yellow and then dieback follows.	See ANR-823.
Blackberry	Orange Rust (<i>Gymnoconia nitens</i>)	Stunted plants; orange pustules develop on lower leaf surfaces.	Removal of plants.
Blueberry	Botryosphaeria Canker	Sunken, cracked, lesions on branches.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Bougainvillea	Anthracnose (<i>Colletotrichum</i>)	Light brown, circular leaf spots.	Sanitation. Protective sprays of Cleary's 3336 or Halt may be applied.
Boxwood	Macrophoma Leaf Spot	Brown leaf spots with small black specks in spots. This fungus often develops on weakened plants.	Sanitation of fallen leaves; remove stress situations; Cleary's 3336 may be applied as a protective treatment if desired.
	Phomopsis Leaf Blight	Brown, leaf blotches & brown leaves.	Sanitation; alleviate stresses; Cleary's 3336, if desired as a protective treatment.
	Phytophthora Root Rot	Root decay which appears water-soaked and brown. Plants develop yellowing that begins with older growth. Dieback also occurs.	Reduce water levels in the area. Remove damaged plants. See ANR-571 and the AL Pest Management Handbook.
	Pythium Root Rot	Feeder roots decay when conditions are kept continually wet. Plants develop yellowing that begins with older growth. Dieback also occurs.	Reduce water levels in the area. Remove damaged plants. See Ala. Pest Management Handbook.
Calla Lilly	Volutella Blight	Leaves and branches dieback from canker lesions on branches; orange masses of spores may be present on cankers.	Sanitation; alleviate stresses; Cleary's 3336, if desired as a protective treatment.
	Southern Blight (<i>Sclerotium</i>)	Crown rot, white mold.	Sanitation. Solarization or deep turn soil may help.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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Cantaloupe	Anthracnose (<i>Colletotrichum</i>)	Circular brown leaf spots.	See the AL Pest Management Handbook.
	Bacterial Wilt (<i>Erwinia</i>)	Individual leaves become wilted and die; gradually the whole stem section dies.	Control cucumber beetles.
	Cucumber Mosaic Virus	Plants are stunted. New growth is stunted. Leaves show abnormal shape (shoestring) mosaic, and puckering. Symptoms may be mild or severe.	Remove damaged plants. Controlling aphids may help some.
	Fusarium Melon Rot	Melon develop a soft rot; eventually a white fluffy mold develops.	Avoid wounds.
	Fusarium Wilt	Lower leaves yellow and plant gradually wilts from the bottom up.	Rotation or fumigation.
	Papaya Ringspot Virus	See symptoms for CMV.	See CMV control comments.
	Phytophthora Root Rot	Roots become brown and water-soaked.	Ridomil 2E. See Handbook.
	Powdery Mildew	White, powdery layer on upper leaf surface of plants; necrosis follows.	See the AL Pest Management Handbook.
	Watermelon Mosaic Virus	See symptoms for CMV.	See CMV control comments.

Plant

Disease

Description

Control

Centipede	Brown Patch (<i>Rhizoctonia</i>)	Irregular or circular patches of grass	develop brown blotches on leaf blades or
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possibly on stolons.
Usually a foliage
blight.

See AL Pest
Management
Handbook or ANR-
492.

	Dollar Spot (<i>Sclerotinia</i>)	Small, circular areas the size of a silver dollar become yellowed and show	See ANR-493 and the AL Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces</i>)	Patches turn yellow and then brown.	See AL Pest Manage- ment Handbook.
Cherry Laurel	Botryosphaeria Dieback	Sunken, cracked lesions on branches.	Sanitation.
	Shot Hole (<i>Xanthomonas</i>)	Reddish, angular spots develop; centers fall out.	See AL Pest Manage- ment Handbook.
Chrysanthemum	Bacterial Leaf Spot	Angular, small, black leaf spots.	See AL Pest Manage- ment Handbook.
	Fusarium Crown Rot	Lower stem becomes brown and dried; plants wilt and die.	Rotate area out of mums for 6-10 years.
	Phoma Leaf Spot/Blight	Brown spots/blotches.	Sanitation. Cleary's 3336 or Halt may help.
	Phytophthora & Pythium Root Rot	Roots become brown with water-soaked decay.	See AL Pest Manage- ment Handbook.
	Pythium Stem Rot	Dark brown soft stem rot.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cleome	Rhizoctonia Root Rot	Roots develop a brown, dried decay. Foliage wilts, yellows and dies back.	Sanitation; crop rotation; deep turn soil.

Coreopsis	Bacterial Leaf Spot	Angular, black, water-soaked leaf spots.	Sanitation. Do not water overhead.
Corn	Aspergillus Ear Rot	Brown, decay of kernels. Yellow-green spore masses may be present.	Avoid stress. Maintain soil moisture.
	Bacterial Stalk Rot (<i>Erwinia</i>)	Brown, wet, often foul-smelling areas on stalk.	Maintain balanced fertility; avoid drought stresses early in the growing season.
	Charcoal Rot (<i>Macrophomina phaseolina</i>)	A dry decay of lower stalks. Inner tissues of lower stalks are gray from the presence of masses of tiny black fungal sclerotia.	Usually this is not a severe problem; hot and dry conditions favor disease; some hybrids show resistance.
	Common Rust (<i>Puccinia sorghi</i>)	Yellow-orange brown-black dusty pustules scattered over upper and lower leaf surfaces. When disease is severe, leaves yellow and turn brown.	Resistant hybrids.
	Downy Mildew (<i>Sclerophthora macrospora</i>)	Yellow streaks in leaves; crazy top.	Rotation.
	Fusarium Ear Rot	A brown, dry rot of kernels. A pink coloration from spore masses may develop.	Sanitation; avoid stress.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Gray Leaf Spot (<i>Cercospora</i>)	Gray-colored, elongated leaf spots.	Resistant varieties.
	Smut (<i>Ustilago</i>)	A thin, white layer of plant-tissue covers a	ball of black, greasy or powdery spores.

Abnormal balls (smut balls) (4-5 inches diam.) occur on ears, tassels and nodes.	Resistant varieties; maintain balanced fertility; avoid wounds; destroy galls before they break open.		
	Southern Corn Leaf Blight (<i>Bipolaris maydis</i>)	Small, brown, elongated leaf spots; spots may coalesce to cause a blight.	See Austin Hagan.
	Southern Rust (<i>Puccinia polysora</i>)	Yellow-golden and light brown pustules are scattered mostly over the upper leaf surfaces. Infected leaves turn yellow and dry out.	Resistant hybrids.
Cotton	Alternaria Leaf Spot	Light or medium brown, irregular-shaped leaf spots develop.	Disease usually not severe enough to require control measures; sanitation.
	Fusarium Root Rot	Lower stems show a brown or red-brown discoloration and decay. Plants wilt and dieback.	Refer to Ed Sikora.
	Phoma, Phomopsis Leaf Spot	Brown, circular-irregular leaf spots.	Refer to Bill Gazaway.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Roots develop small-large irregular galls. Plants are stressed.	Refer to Ed Sikora.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Crabapple	Cedar-Apple Rust (<i>Gymnosporangium</i>)	Large (3-5 mm), bright yellow spots; on underside of leaf spots, orange pustules may be present.	See AL Pesticide Handbook.

Crape Myrtle	Cercospora Leaf Spot	Red-brown colored, circular leaf spots.	Sanitation; See AL Pest Management Handbook.
	Powdery Mildew	White, powdery coating on upper leaf surfaces mostly; new growth may become distorted; leaf necrosis will follow.	Sanitation; See AL Pest Management Handbook.
Cucumber	Anthracnose (<i>Colletotrichum</i>)	Round or irregularly round brown leaf spots.	See the AL Pest Management Handbook.
	Bacterial Wilt (<i>Erwinia</i>)	Leaf and petiole wilting and eventual death.	Control the cucumber beetle.
	Cercospora Leaf Spot	Irregular, light-brown spots.	See Ala. Pest Management Handbook.
	Mosaic Viruses	Mosaic pattern of alternating green and yellow patches on foliage and fruit. Reduced growth.	Control aphids; Do not save seed; control weeds.
	Powdery Mildew	White, powdery dusting on leaves, stems.	See AL Pest Management Handbook.
Daylily	Anthracnose (<i>Colletotrichum</i>)	Irregular brown blotches that occur throughout leaf area.	Sanitation; Cleary's 3336 would give protective disease control.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Kabatiella Streak	Yellow spots and streaks.	Sanitation. Cleary's 3336 will provide some protective disease control.
	Pythium &	Phytophthora Crown	Rot

	Crowns become wet, brown, and water-soaked.	Sanitation. Protective treatments of Subdue may be applied.	
		Rust (<i>Puccinia hemerocallidis</i>)	Reddish brown leaf spots. When severe, entire leaves become blighted.
		Rhizoctonia Crown Rot	Crowns become dried, brown, decayed.
		Southern Blight (<i>Sclerotium rolfsii</i>)	Crown rot; white mold at crown.
Delphinium		Fusarium Root Rot	Roots become brown and dried.
Dithanus		Fusarium Crown & Root Rot	Roots become brown and dry rotted.
		Pythium Root Rot	Roots become brown with water-soaked decay.
Dogwood		Botrytis Leaf Spot/ Blight	Brown-gray leaf spots/blotches.
		Cercospora & Septoria Leaf Spots	Round-angular, brown spots (2-4 mm).
			Sanitation. Protective sprays of Heritage, Banner Maxx or Fertilome System Fungicide.
			Sanitation. Cleary's 3336 may help give protective disease control.
			Sanitation; rotation to turf; solarization.
			Crop rotate away from Delphinium, Zinnia.
			Sanitation. Crop rotation or deep turn soil.
			Keep area well drained.
			Cleary's, Domain.
			Sanitation; See AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Powdery Mildew	White powdery coating on leaves, both upper and lower leaf surfaces.	Sanitation of leaves in the fall. Cleary's 3336 sprays may be applied as protective sprays if trees are small.

	Pythium/ Phytophthora Root Rot	Root infection begins as water-soaked root decay. Dead roots dry out.	Sanitation. See the AL Pest Manage- ment.
	Septoria Leaf Spot	Brown, small, angular spots.	Sanitation. See the AL Pest Management Handbook.
	Spot Anthracnose (<i>Elsinoe</i>)	Tiny red spots on bracts & leaves.	See AL Pest Manage- ment Handbook.
Elm	Powdery Mildew	White powdery coating on leaves, both upper and lower leaf surfaces. Yellowing and blight follows. New growth may be distorted.	Sanitation of leaves in the fall. Cleary's 3336 sprays may be applied as protective sprays if trees are small.
Fern	Pythium Root Rot	Brown, water-soaked roots.	See Pest Management Handbook.
Fescue	Anthracnose (<i>Colletotrichum</i>)	Brown spotting of leaves.	Sanitation. Do not water in the evening. See the AL Pest Management.
	Brown Patch (<i>Rhizoctonia</i>)	Brown blight of foliage.	See AL Pest Manage- ment Handbook.
	Dollar Spot	See Centipede.	See Centipede.
Fig	Rhizoctonia Blight	Large necrotic blotches on leaves.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Florida Jessamine	Botryodiplodia Dieback	Elongated, sunken cankers cause die- back. Canker edges are often cracked.	Prune out cankers. Make cuts 4-5 inches from edges of damage.
Gardenia	Phytophthora Root Rot	Roots become wet, brown, and rotted.	

Dieback begins with lower foliage usually.	Sanitation. Reduce irrigation. See AL Pest Management Handbook.		
Geranium	Botrytis Blight	Blossoms become gray-brown and limp.	Sanitation; See the AL Pest Management Handbook.
	Phytophthora Root Rot	Roots become brown, water-soaked.	See AL Pest Management Handbook.
	<i>Xanthomonas campestris pv. pelargonii</i>	Leaves develop black spots. Stems develop black rot areas. The bacterial infection will become systemic and eventually plants will wilt.	Sanitation.
Grape	Black Rot (<i>Guignardia</i>)	Medium-dark brown circular spots with darker brown borders on leaves and fruit.	Protective fungicide sprays; Sanitation.
Hawthorn	Cedar-Hawthorn Rust (<i>Gymnosporangium</i>)	Bright yellow spots on leaves and fruit of apple, crabapple, hawthorne. Aecial orange cups develop in spots. (Cedars develop cankers.)	See ANR-468.
Hibiscus	Fusarium Stem/Root Rot	Dark brown, dry stem decay lesion.	Sanitation. Protective treatment spray of Cleary's 3336.
Holly, Foster	Botryosphaeria Canker	Sunken, cracked lesions; dieback often results.	Sanitation. Avoid stress.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Holly, Helli	Pythium Root Rot	Feeder roots develop a wet, light brown rot.	See AL Pest Management Handbook. Keep area well drained.
		Thielaviopsis Root Rot	Roots show black

lesions and often black root tips. Plants grow poorly.

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Hosta	Pythium Root Rot	Roots become light brown and wet-rotted; pull apart easily.	Sanitation. Reduce water levels in the area; crop rotation; deep turning soil will help.	
Hydrangea	Cercospora Leaf Spot	Irregular brown lesions of variable sizes develop on leaves.	Sanitation; Cleary's 3336 or Domain protective sprays.	
	Pythium Crown & Root Rot	Feeder roots become light brown and soft-rotted.	See AL Pest Management Handbook. Improve soil drainage.	
Impatiens	<i>Impatiens Necrotic Spot Virus</i>	New growth is dwarfed and stunted; foliage may show yellowing spots/ patterns or black spots/patterns.	Sanitation; Thrips control with insecticides.	
	Phytophthora Crown & Root Rot	Medium brown, wet, soft rot of lower stem and roots.	Sanitation; See AL Pest Management Handbook.	
	Pythium Root Rot	Medium brown, wet, soft rot of lower stem and roots.	Sanitation; See AL Pest Management Handbook.	
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>	
	Ivy, Algerian	Phytophthora Root Rot	Roots become brown and wet-rotted; tissues pull apart easily.	Sanitation. Reduce water levels in the area; crop rotation; deep turn soil may help.
	Ivy, English	Alternaria Leaf Spot	Large, brown-black, sometimes zonate, circular-oval spots (3-5	mm diam.).

See AL Pesticide Handbook.

	Anthracnose (<i>Colletotrichum</i>)	Circular or roughly circular, brown leaf spots.	Sanitation. See the AL Pest Management Handbook.
	Bacterial Leaf Spot	Angular, black, water-soaked spots (2-3 mm diam.).	Sanitation; See Ala. Pesticide Handbook.
	Phyllosticta Leaf Spot	Brown, circular to oval leaf spots.	See recommendations for Alternaria.
	Phytophthora Root Rot	Brown, water-soaked root decay.	Sanitation. See Ala. Pest Management Handbook.
Juniper	Pestalotia Blight	Needles become brown.	Sanitation. Locate and correct stress condition.
	Phytophthora Root Rot	Roots become brown, soft, and water-soaked.	Sanitation; See the Ala. Pesticide Handbook.
	Twig Blight (<i>Phomopsis</i>)	Brown twig tips; small cankers at base of small twigs.	Sanitation; Cleary's 3336, Domain, or a benomyl fungicide labelled for ornamentals.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Juniper, Shore	Phytophthora Root Rot	Roots develop a brown, wet decay.	See Ala. Pest Management Handbook. Improve soil drainage.
	Pythium Root Rot	Small roots become water-soaked and decayed. Infected	roots may be only slightly brown.

See Ala. Pest Management Handbook. Improve soil drainage.

Leyland Cypress	Cercospora Blight	Needles (usually lower limbs affected first) become brown.	Sanitation. See the AL Pest Management Handbook.
Ligustrum	Colletotrichum Leaf Spot	Medium brown circular-irregular leaf spots.	Sanitation. See Ala. Pest Management Handbook.
Lilac	Phytophthora Root Rot	Roots become brown and water-soaked.	Subdue 2E may be used as a protective treatment. First test a few plants to be sure phytotoxicity is not a problem.
Liriope	Colletotrichum Leaf Spot	Brown, circular-irregular leaf spots (2-10 mm diam.). When spots coalesce, a large portion of leaf may turn brown and die. Often leaf tips are affected.	Sanitation; Cleary's 3336, Domain, or a benomyl fungicide labelled for ornamentals.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants grow poorly. Roots exhibit irregularly-shaped galls.	Leaves soil fallow for a few years; plant nematode-resistant plants or solarize area (ANR-713).
Magnolia, Japanese	Bacterial Leaf Spot	Brown, irregular leaf spots with water-soaked margins.	Strict sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Hypoxyton Canker	Circular or elongated areas on trunk/branches where bark falls off and gray or	black fungal growth (stroma) develops in a hard thick layer; dieback eventually

develops.

Prune out the infected area. Make cuts 5 inches beyond the damage.

Powdery Mildew

White powdery dusting on twigs and upper surfaces of leaves; infected areas die.

Cleary's 3336 would provide protective control.

Maple

Anthracnose
(*Kabatella*)

Large, light-brown irregular spots and blotches may kill whole leaves; spots often follow leaf veins.

Sanitation; fungicide sprays.

Botryosphaeria Canker

Sunken lesions on branches/trunk; cracking at lesion edges may occur.

Sanitation.

Ganoderma
Wood/Root Rot

Dieback; brown wood rot.

Sanitation.

Phyllosticta Leaf Spot

Spots are circular-irregular, and have brown centers with purple margins (C"-½" diam.).

Sanitation; fungicide sprays.

Maple, Japanese

Anthracnose

Brown, circular or roughly circular leaf spots; some irregular blotches that may expand along leaf veins.

Sanitation of leaves in the fall.

Plant

Disease

Description

Control

Phomopsis Dieback

Usually small, sunken, oval cankers on branches, twigs.

Prune out cankers. Make cuts about 4 inches beyond the edge of cankers.

Marigold

Phytophthora &

Pythium Root Rot

Roots become brown

with a wet rot.	See Ala. Pest Management Handbook.		
Mint	Colletotrichum Leaf Spot	Brown circular leaf spots.	Sanitation.
Mondo Grass	Anthracnose (<i>Colletotrichum</i>)	Brown irregular lesions on leaves.	Sanitation. See Ala. Pest Management Handbook.
	Web Blight (<i>Rhizoctonia</i>)	Brown blotches and spots develop; when conditions are humid, a light brown webbing will occur.	Sanitation. Cleary's 3336 or Halt will provide protective disease control.
Morningglory	Rust (<i>Puccinia</i>)	Orange powdery patches on leaf surfaces; infected areas die.	Sanitation.
	White Rot (<i>Albugo</i>)	White raised patches form on leaves; infected areas die.	Sanitation; reduce irrigation.
Muscadine	Black Rot (<i>Guignardia</i>)	Reddish-brown irregular leaf spots with tiny black specks often scattered over surface of spots.	Protective fungicide sprays. See the Ala. Pest Management Handbook.
Nandina	Virus	Leaves develop red discoloration and/or dark red spots and/or a red /or yellow mosaic develops.	Sanitation.
Nectarine	Botryosphaeria Dieback	Sunken, elongated cankers with cracked edges.	Prune out cankers making cuts 4-5 inches from damage.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Oak	Anthracnose (<i>Apiognomonia</i>)	Brown blotches often along leaf veins or leaf edges.	Sanitation; See Ala. Pest Management Handbook for small oak trees.

Hypoxyton Canker	Areas on trunk will develop a gray or black hard layer just under the bark; bark will become cracked and fall off.	Sanitation.	
	Monochaetia Leaf Spot	White, rough-surfaced irregular leaf spots.	Sanitation of leaves in the fall.
	Oak Leaf Blister (<i>Taphrina</i>)	Round, slightly, convex-concave light brown leaf spots (4-5 mm diam.).	Sanitation; See Ala. Pest Management Handbook.
	Phyllosticta Leaf Spot	Circular, brown spots (2-4 mm diam.).	Sanitation.
	Powdery Mildew	Leaves and young twigs develop white coating on surfaces. Leaves and twigs may be deformed. Some yellowing and dieback may result. Not usually a serious problem.	Sanitation of leaves in the fall. Protective sprays of Cleary's 3336 may be used.
	Slime Flux	A foul smelling ooze runs down trunk surface. Initially, infection of fungi, bacteria, and yeast develops in wound area.	Sanitation of infection area when it is still localized.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Okra	Botrytis Fruit Rot	Brown-gray blotches on fruit surface.	Sanitation.
	Choanephora Fruit Rot	A wet rot with tiny black hair like structures.	Sanitation.

	Cucumber Mosaic Virus	Plants become stunted. Leaves may be abnormal in shape (shoestring), puckered, with mosaic.	Remove plants. Control of aphid may help some.
	Fusarium Wilt	Wilting, yellowing, stunting of whole plant; vascular system darkened.	Rotation away from okra for 6-10 years.
	Rhizoctonia Seedling Disease	Lower stems and roots develop brown, dry lesions.	Sanitation.
	Southern Blight (<i>Sclerotium rolfsii</i>)	Lower stem at soil-line become brown-black; a white fungal mat present when conditions hot & humid.	Crop rotation; Solarization; Sanitation.
Pampas Grass	Piricularia Leaf Spot	Gray-brown circular leaf spots.	Cleary's 3336.
Pea, Field	Anthracnose (<i>Colletotrichum sp.</i>)	Brown-orange spots on leaves, pods.	See the Ala. Pest Management Handbook.
	Fusarium Crown Rot	Lower stem at soil line develops a brown, dry rot.	Long crop rotation or soil solarization.
	Fusarium Wilt	Lower leaves turn yellow; plants wilt; vascular system discolored in lower stem.	Rotate area out of peas for 6-10 years; or solarization.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Mosaic Virus; Possibly Black Eye Cowpea Mosaic Virus	Green and yellow spots or blotches in a regular pattern on leaves.	Do not save seed; control weeds and insects. Plant resistant varieties-- 'Mississippi Cream' or 'Pink Eye Purple Hull BVR'.

	Rhizoctonia Stem Rot	Dark brown or brown-red dry lesions develop on lower stems.	See Ala. Pest Management Handbook.
	Southern Blight (<i>Sclerotium rolfsii</i>)	Dark brown lesion on stem at the soil surface; coarse white fungal threads at soil line plus white, tan or black, tiny "balls" (½ mm diam.).	Rotation; solarization.
Peach	Brown Rot (<i>Monilinia</i>)	While blossom blight, twig blight and branch cankers occur earlier in the season, brown spots/areas on the fruit are noticed in July. Grey-brown tufts of spores develop over the rotted areas.	Sanitation; fungicide sprays.
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Brown-black circular spots which fall out leaving shot holes; may be yellowing around spots.	Sanitation; sprays for commercial growers.
	Botryosphaeria Dieback; Gummosis	Elongated, sunken canker with cracked edges.	Sanitation. Make pruning cuts 4-5 inches from the edges of cankers.
	Phytophthora Crown/Root Rot	Trunk at the soil level and roots become decayed with a wet-looking characteristic.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Peanuts	Aspergillus Crown Rot	A dark brown decay develops at soil line. Sometimes black spore structures are seen as tiny black aerial specks.	- - -
	Cylindrocladium Black Root Rot	Black lesions on lower stems (near soil line)	and roots. Orange spore masses may

cover lesions.

Early Leaf Spot (<i>Cercospora</i>)	Dark brown, circular leaf spots (3-4 mm) on upper leaf surfaces.	Regular fungicide spray program.
Late Leaf Spot (<i>Cercosporidium</i>)	Black circular leaf spots (3-4 mm) on lower leaf surfaces.	Regular fungicide spray program.
Phoma Leaf Blotch	Oval brown spots.	---
Phytophthora Crown Rot	Lower stems become dark and water-soaked, decayed.	Sanitation. Reduce irrigation. Check with A. Hagan.
Rhizoctonia Stem Rot	Dark brown, sunken, dried lesions on stems.	See the Ala. Pest Management Handbook.
Tomato Spotted Wilt Virus	Stunted plants; leaves show ring spot patterns; new leaves small and abnormally shortened internodes.	Control thrips.
White Mold (<i>Sclerotium</i>)	White fungal strands with tiny white, tan or black associated ball structures (sclerotia) on stems, pegs or pods.	Fungicide treatment; Rotation.

Plant

Disease

Description

Control

Pear

Entomosporium Leaf Spot (*Fabraea*)

Purple or dark-brown spots (¼" diam.) on leaves and fruit. Cankers on current season growth are purple or black.

Sanitation; Pruning; Regular fungicide treatments.

Fireblight (*Erwinia*)

In July, black spots/areas begin at leaf edges. Gradually black leaf areas enlarge until black

discoloration moves into the twig and branch.

Sanitation.

	Juniper-Pear Rust (<i>Gymnosporangium</i>)	Orange aecial 'cups' develop on lower leaf surface of pear. Junipers develop a witches-broom in sections of plant with cankers and orange spore pustules.	Sanitation. Removal of alternate host if possible.
	Nectria Canker	Sunken lesions are usually surrounded by swollen callus tissues.	Sanitation. Cut out the canker, making cuts 3-4 inches beyond the edge of the cankers.
Pecan	Scab (<i>Cladosporium</i>)	Leaf lesions are dark green-brown-black and sometimes slightly raised. Some leaf deformity may occur. Similar irregular spots develop on nut shucks. Spot coalescence is common.	See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Peony	Botrytis Blight	Brown blotches and spots develop on leaves and possibly blossoms.	Sanitation. See the AL Pest Management Handbook.
Pepper	Anthracnose (<i>Colletotrichum</i>)	Translucent sunken spots develop on fruit. Eventually spots may develop tiny black or orange specks.	See Ala. Pest Management Handbook.
	Bacterial Spot (<i>Xanthomonas</i>)	Irregular, black, greasy spots (2-5 mm diam.) on leaves and stems; some yellow halos around spots; defoliation.	Bactericide sprays; Sanitation.

	Cucumber Mosaic Virus	Plants become stunted. Leaves may show abnormal shape, mosaic, puckering. Disease may be mild or severe.	Sanitation. Control of aphids may help some.
	Fusarium Crown/Root Rot	The lower stem and roots become dried with a brown decay.	Sanitation. Crop rotation or deep plow.
	Pythium Crown/Root Rot	The lower stem and roots become rotted with a wet, brown decay.	Sanitation. Improve soil drainage; decrease irrigation.
	Southern Blight (<i>Sclerotium rolfsii</i>)	Crown rot; white mold.	Deep plow; rotate to cotton, sorghum, or grass; solarization.
	Tomato Spotted Wilt Virus	Plants showed stunted new growth; a faint mosaic pattern.	Control thrips.
Periwinkle (<i>Catharanthus</i>)	Anthrachnose (<i>Colletotrichum</i>)	Brown, sunken cankers on stem sections.	Cleary's 3336, Domain, or WP benomyl; Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phomopsis Blight	Brown, sunken cankers on stem sections.	Cleary's, Domain or WP benomyl; Sanitation.
	Phytophthora Aerial Blight	Dark brown, black cankers encircle stems and cause wilt and dieback.	Sanitation. See Ala. Pest Management Handbook.
	Rhizoctonia Aerial Blight/Crown Rot	Lower leaves and lower stem near the soil line become browned and decayed.	See the Ala. Pest Management Handbook; Sanitation.
Petunia	Phytophthora Foliage Blight/Root Rot	Foliage develops spots, blight, collapse.	Sanitation.

Photinia	Bacterial Leaf Spot	Brown, irregular leaf spots with water-soaked edges.	Strict sanitation.
	Entomosporium Leaf Spot	Red-black circular leaf spots.	See Ala. Pest Management Handbook.
Pine, Virginia	Pitch Canker (<i>Fusarium</i>)	Sunken lesions on branches/trunk with resin flow.	Sanitation.
Plum	Bacterial Scorch Disease	Leaf edges turn brown; often the browned leaf edge area is zonate. Trees dieback and eventually die.	Sanitation; tree removal.
	Black Knot (<i>Plowrightia morbosum</i>)	Black swollen, elongate galls on branches.	See Ala. Pest Management Handbook.
Pine, Loblolly	Pythium Root Rot	Brown, water-soaked roots.	See Ala. Pest Management Handbook.
Poinsettia	Pythium Root Rot	Roots become soft, brown, water-soaked.	See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Privet, Japanese	Cercospora Leaf Spot	Circular or irregular brown (sometimes large) spots.	See Ala. Pest Management Handbook.
Potato, Irish	Fusarium Dry Rot (Tuber)	Dry, brown rot areas develop in tubers. Often rot areas develop cavities in the tuber containing white mycelium.	Avoid wounding tubers at harvest.
	Erwinia Soft Rot	Soft, dark irregular areas of rotted, watery, foul-smelling tissue.	Avoid wounds and wet conditions.
Pumpkin	Watermelon Mosaic Virus	Green-yellow mosaic; reduced growth.	Sanitation. Control aphids.

Pyracantha	Southern Blight (<i>Sclerotium</i>)	See Aster.	Solarization.
Rhododendron	Botryosphaeria Canker	Sunken, brown, dried, cracked, elliptical lesions develop on branches.	Sanitation. Protective spray of Cleary's 3336 or Domain.
Raspberry	Botrytis Blossom Blight	Blossoms become brown and limp.	Sanitation. See Ala. Pest Management Handbook.
Rose	Black Spot (<i>Diplocarpon rosae</i>)	Black circular leaf spots with irregular, feathery edges.	See AL Pest Management Handbook.
	<i>Cercospora rosicola</i> Leaf Spot	Circular brown spots.	See Ala. Pest Management Handbook for black spot.
Satsuma	Fusarium Crown Rot	A dry brown decay develops at soil line.	Sanitation.
Snapdragon	Phytophthora Root Rot	Roots become brown and watersoaked.	See AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sorghum-Sudan	Exserohilum Leaf Spot	Brown, elongated leaf spot (0.2 cm-1 cm).	--
Soybean	Bacterial Leaf Spot (<i>Pseudomonas</i>)	Small, angular brown-black spots, sometimes with a halo.	--
	Charcoal Rot (<i>Macrophomina</i>)	Lower stem near soil line becomes weakened and shredded. Split stem has tiny black dots sprinkled throughout.	--
	Cyst Nematode (<i>Heterodera</i>)	Poor plant growth; small, undeveloped root system; white or yellow or brown spherical bodies (½ mm) on roots.	Rotation; Fumigation; Resistant varieties.

Frogeye Leaf Spot (<i>Cercospora</i>)	Circular-irregular spots (1-5 mm) with dark red borders and gray centers; spot coalescence; leaf drop.	Healthy seed; Rotate 2 years.
Fusarium Root Rot (<i>Sudden Death Syndrome</i>)	Usually a problem only on small plants. The tap root and lateral root system becomes rotted. Plants wilt and die.	Delay cultivation until soil moisture is adequate. Ridge soil around the base of plants to promote adventitious root development. Rotation.
Rhizoctonia Stem and Root Rot	Lesions on lower stems and roots may be brown or reddish depending on the fungus isolate and soil conditions. Plants may wither and die.	Use fungicide seed protectants. Provide good soil drainage.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants grow poorly, are yellowed and/or stunted. Roots have irregularly-shaped galls.	See Soybean Spray Guide.
	Septoria Leaf Spot	Irregular, dark brown spots (1-4 mm diam.) typically on older leaves; leaves turn yellow & fall.	Plow under crop residue; disease free seed; rotation.
Squash, Summer	Bacterial Wilt (<i>Erwinia tracheiphila</i>)	Wilt, dieback.	Control cucumber beetles.
	Fusarium Root Decay and/or Crown Rot	Roots and crowns develop a brown, dry rotting. Plant wilt and dieback.	Sanitation. Crop rotation.
	Mosaic Viruses	See comments on	cucumber.

See comments on
cucumber.

St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Irregular areas or patches become blighted. Individual brown lesions on leaves may be evident.	See ANR-492 & the AL Pest Management Handbook.
	Gray Leaf Spot (<i>Piricularia</i>)	Gray-brown oval or irregular spots on grass blades; spots may merge.	Protective fungicide sprays; Sanitation.
	Take-All Patch (<i>Gaeumannomyces</i>)	Patches or areas become yellowed and thinned as individual plants develop root/stolon lesions and plant foliage dies back.	See ANR-823 and the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Strawberry	Common Leaf Spot (<i>Mycosphaerella</i>)	Red-brown round or oval spots on leaves, stems. Spots may have light brown centers.	See Ala. Pest Management Handbook.
Sweet Potato	Fusarium Wilt	Plant wilts with wilt and yellowing beginning at lower foliage and progressing upward. Vascular tissues under the cortex are brown streaked.	Sanitation; long crop rotations (10-16 yrs.)
	Scurf (<i>Monilochaetes infuscans</i>)	Raised or sunken scabby, rough lesions on roots.	See Ala. Pest Management Handbook.
Sycamore	Alternaria Leaf Spot	Irregular brown leaf spots.	Sanitation. Collect and remove all fallen leaves this fall.

	Powdery Mildew	White powdery substance on leaves.	See Ala. Pest Management Handbook.
	Scorch (<i>Xylella</i>)	Leaves become brown and dried at the margins.	Tree pruning; tree removal.
Syngonium	Phytophthora Root Rot	Roots become brown with a wet decay.	Improve soil drainage. See Ala. Pest Management Handbook.
Tomato	Bacterial Canker (<i>Clavibacter</i>)	Elongate, brown, wet-looking lesions or cankers on stems; center of cankers dry and look white.	Protective sprays; Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Canker (<i>Pseudomonas</i>)	Elongate, dark brown, wet looking lesions or cankers on stems; when stems are cut open with a length-wise cut, inner tissues are seen to be hollow with tissues arranged in a ladder-like structure.	Protective sprays; Sanitation.
	Bacterial Speck (<i>Pseudomonas</i>)	Gray spots with black centers, sometimes surrounded by wide borders of yellow or white tissue. Spots on upper leaf surfaces may be raised. Fruit spots are small, dark, slightly raised & scabby spots which may	be surrounded by an extensive yellow-white halo.

See Vegetable Spray Guide or AL Pest Management Handbook and ANR-71.

Bacterial Spot (<i>Xanthomonas</i>)	Small, black, almost circular or angular spots on leaves, often with no halo development. Fruit spots are small, black, and slightly raised.	See Vegetable Spray Guide or AL Pest Management Handbook and ANR-71.
Bacterial Wilt (<i>Ralstonia</i>)	Plants wilt rapidly; foliage green when wilt occurs.	Rotation; solarization of soil.
Buckeye Fruit Rot (<i>Phytophthora parasitica</i>)	Brown, water-soaked spots with dark zonate rings and an indefinite margin.	Ridomil 2E. See Vegetable Spray Guide.
Cucumber Mosaic Virus	Leaves show deformity, mosaic, stunted growth.	Sanitation. Control aphids.

Plant

<u>Disease</u>	<u>Description</u>	<u>Control</u>
Early Blight (<i>Alternaria</i>)	Black or brown spots (1/4-1/2 inch diam.) on leaves, stems, fruit. Spots often have a concentric pattern.	Fungicide sprays; Sanitation; See Vegetable Spray Guide.
Fusarium Wilt	Plant foliage turns yellow and dies. Often yellowing begins at lower sections of the plant or on one side of the plant. Gradually the whole plant dies. Vascular system is brown.	Resistant varieties; Rotation.
Gray Wall	Blotchy ripening.	Avoid excess soil

moisture, soil compaction, high nitrogen and low potassium.

Late Blight (<i>Phytophthora infestans</i>)	Large spreading brown lesions, cankers.	See Ala. Pest Management Handbook.
Pith Necrosis (<i>Pseudomonas corrugata</i>)	Stems may develop adventitious roots and become hollow inside the stem with scattered horizontal tissue strands present.	Sanitation. Copper combination protective sprays may help. See Ala. Pest Management Handbook under tomato bacterial spot, speck & canker.
Root-Knot Nematode (<i>Meloidogyne</i>)	Knotty galls on roots; plants show poor growth.	Rotation; Fumigation; Solarization.
Septoria Leaf Spot	Gray-brown, circular-irregular leaf spots.	See Ala. Pest Management Handbook.

Plant

Disease

Description

Control

Southern Blight (<i>Sclerotium</i>)	White fungal mat occurs at soil line; plants die due to death of lower stem.	Solarization; rotation; fumigation, Terraclor. See Ala. Pest Management Handbook.
Tobacco Etch Virus	Plants become stunted; leaves develop mosaic and puckering.	Sanitation. Control of aphids may help some.
Tomato Spotted Wilt Virus	New growth becomes abnormally small, small yellow spots appear. Young leaves become bronzed in spots, patches or whole leaf areas involved. Fruit spotted or with ring	spots. Plants wilt and die.

Sanitation; Control thrips.

	Root Knot Nematode	Roots develop irregular galls. Plants grow poorly and decline.	Sanitation. Plant nematode resistant varieties.
Verbena	Fusarium Crown Rot	Brown lower stem rot.	Cleary's drenches may help.
Vinca Minor	Anthracnose (<i>Colletotrichum</i>)	Brown, irregular spots develop leaves.	Sanitation. Cleary's 3336, Domain or a benomyl product labelled for ornamentals.
	Phyllosticta Leaf Spot	Brown leaf spots with a darker brown border.	Cleary's 3336 protective sprays.
	Pythium Root Rot	Roots become brown and watersoaked.	Aliette protective treatments or Subdue 2E. (Test a few plants for phytotoxicity.)
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rhizoctonia Stem Blight	Brown lesions near soil line.	Sanitation; Cleary's 3336 or benomyl protective sprays.
Watermelon	Cercospora Leaf Spot	Circular-irregular pale brown leaf spots with black margins (2-10 mm diam.).	Sanitation; fungicide sprays.
	Cucumber Mosaic Virus or Watermelon Mosaic Virus	Leaves become mottled green-yellow, distorted, wrinkled with curled edges; abnormally shortened internodes.	Control weeds; Control aphids and cucumber beetles; Do not save seed.
	Fusarium Wilt	Lower leaves turn yellow; whole plant wilts; lower stem vascular system is	brown.

Rotate 6-7 years and then plant a resistant variety such as Crimson Sweet or Jubilee.

	Gummy Stem (<i>Mycosphaerella</i>)	Elongate, brown, wet and sometimes cracked lesions; black leaf spots may develop on leaf edges; plant sections beyond cankers die back.	Protective fungicide sprays; Sanitation in the fall.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Roots develop irregular swellings (galls) plants are stunted.	Solarization. Fumigation sometimes for commercial plantings.
Zoysia	Bipolaris Leaf Spot	Small, brown, elongated spots which may coalesce to cause large area of blight on leaves.	Sanitation. See the AL Pest Management Handbook.
	Brown Patch (<i>Rhizoctonia</i>)	Irregular areas or patches become blighted. Individual brown lesions on leaves may be evident.	See ANR-492 & the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Dollar Spot (<i>Sclerotinia</i>)	Bleached-out, silver-dollar-sized spots in lawn; spots may merge. Individual grass blades show whitish spots, blotches with dark brown borders.	See Ala. Pest Management Handbook.
	Fairy Ring	Yellow and later brown areas develop in a ring like pattern. Mushrooms may develop in the fall at the outer edges of the rings.	See ANR-372 and the AL Pest Management Handbook.

Helminthosporium Leaf Spot	Small, elongated brown spots on leaf blades. Numerous spots cause leaf blight.	See Ala. Pest Management Handbook.
Ring Nematode (<i>Criconeoides</i>)	Yellow-dead patches scattered in lawn.	See Ala. Pest Management Handbook.
Rust (<i>Puccinia zoysia</i>)	Rusty spots on leaves; leaves later dry out and turn brown.	See Ala. Pest Management Handbook.
Take-All Patch (<i>Gaeumannomyces</i>)	Black lesions on roots cause plants to become yellow and dieback.	See ANR-823 and the Ala. Pest Management Handbook.