

# TIMELY INFORMATION

## Agriculture & Natural Resources

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PP-608

### MARCH PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB

### MARCH PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

### MARCH INSECT SAMPLES AT THE AUBURN PLANT DIAGNOSTIC LAB

### DISEASE POSSIBILITIES FOR APRIL

### LAB NOTES

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#### Auburn Plant Disease Report-March (J. Mullen)

We received 97 plant samples during March. 42 of the samples were nursery plants received from the Alabama State Department of Agriculture for *Phytophthora ramorum* (Sudden Oak Death) testing. Other samples received were mostly ornamentals but the list also includes wheat, oats, tomatoes, and kudzu.

Mary Delaney has joined our group to assist Ed Sikora with Asian soybean rust (ASBR) work. Mary holds a Ph.D. in fisheries and has had diverse experiences in areas of fisheries, microbiology, chemistry, & engineering. We're pleased to have Mary with us!

In March, ASBR was found on live green foliage of kudzu that never went dormant in Houston, Henry, and Montgomery Counties. (See page 6 for further comments on ASBR.)

Since conditions have been dry, small grain diseases were not a serious problem in many parts of the state in March. Powdery mildew was seen on wheat from Escambia and Monroe Counties. The damage we saw was severe with considerable mildew and yellowing of plants. A Helminthosporium-type leaf spot (*Drechslera avenae*) was diagnosed on oats sent from Headland. Bermuda (Tifton 85) - also from the Headland area - was observed with a Helminthosporium leaf spot. These fungi typically develop and spread when temperatures are moderate and dry/wet conditions alternate.

A variety of nursery ornamentals and media samples were submitted by the Alabama State Department of Agriculture for *Phytophthora ramorum* (SOD) testing. All test results were negative for *P. ramorum*.

The dry conditions throughout much of the state during March-April have doubtlessly caused some stress to a variety of plants. Stress-related diseases this summer may be more common than normal, as a result. Botryosphaeria canker on woody ornamentals is often related to a prior drought stress or other stress. Some anthracnose diseases (*Colletotrichum* is a common anthracnose leaf spot agent.) are more of a problem on previously stressed plants or tissues. Volutella blight on boxwood is associated with stress.

Anthracnose on camellia was seen as a circular, brown leaf spot and leaf blight. When conditions are humid, the pale orange or white fruiting bodies of the fungus appear in circular zones in the spot/blight area. This leaf spot was seen as a common problem on camellia last year. If the fruiting bodies are not present, it is impossible to visually distinguished anthracnose leaf spots/blight from other camellia leaf spot/blight diseases, including *P. ramorum* (SOD) foliage disease. Cultures or ELISA are necessary to help identify the cause of the problem.

Table 1. 2006 March Diseases Seen In The Auburn Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Bermuda	Helminthosporium Leaf Spot	Henry
	Ring Nematode Damage ( <i>Criconemoides</i> )	Elmore
Blueberry	Botryosphaeria Canker	Barbour
Camellia	Anthracnose ( <i>Colletotrichum</i> )	Chambers
Centipede	Brown Patch ( <i>Rhizoctonia</i> )	Bullock

<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Take-All Patch-Suspect Stress	Mobile
Dogwood, <i>Cornus kousa</i>	Botryosphaeria Canker	Lee
Juniper, Shore	Botryosphaeria Canker	Fayette
Kudzu	Asian Soybean Rust ( <i>Phakopsora pachyrhizi</i> )	Henry, Houston, Montgomery
Leyland Cypress	Cercosporidium Blight	Russell, Tuscaloosa
Liriope	Anthrachnose ( <i>Colletotrichum</i> )	Calhoun, *
Oats	Helminthosporium Leaf Spot	Henry
Pear, Bradford	Botryosphaeria Canker	*
	Phomopsis Canker	*
Wheat	Powdery Mildew ( <i>Erysiphe</i> sp.)	Escambia, Monroe
Nursery Plants ( <i>Ardisia japonica</i> , <i>Camellia hiemalis</i> , <i>Camellia japonica</i> , <i>Camellia sasanqua</i> , <i>Camellia sinensis</i> , <i>Camellia yuhsinensis</i> , <i>Haememalis intermedia</i> , Magnolia Hybrid, <i>Magnolia soulangeana</i> , <i>Michelia mandiae</i> , <i>Osmanthus fragrans</i> , <i>Viburnum</i> sp.)	<i>P. ramorum</i> Testing Results-All	* Negative

\*Counties are not reported for nursery, greenhouse, and golf course samples.

#### Birmingham Plant Disease Report-March (J. Jacobi)

We received 51 samples for the month of March. Some of problems seen included: bagwoods on arborvitae, brown patch on centipedegrass, Seiridium canker on Leyland Cypress, and anthracnose on liriope. We also saw several 'Nellie R. Stevens' holly samples with normal spring leaf drop. It is often very alarming to homeowners when their prized evergreens suddenly begin

to drop their leaves; however in most cases there is nothing to worry about. In the spring many broad-leaved evergreens such as holly and Southern magnolia, drop many of their oldest leaves as new growth begins. The older leaves seem to turn uniformly yellow suddenly throughout the entire plant before dropping. The younger leaves at the branch tips remain healthy and green. After the yellow leaves drop off, no further yellowing or leaf drop occurs.

Anthracnose on liriopoe causes brown spots and tip dieback, but won't kill the plants. The best control measure is to remove the damaged foliage in early spring (typically in early March) before new growth occurs. Don't wait too long before you cut back the old leaves or you'll cut the new growth. An easy and quick way to remove the old leaves is with a lawn mower set at a mowing height of 3 inches. After cutting the foliage make sure to rake and dispose of the clippings. Fungicides are usually not needed, but protective fungicide sprays can help reduce damage if severe infection occurs. Fungicides containing the active ingredient thiophanate-methyl (Cleary 3336, T-Storm, Fertilome Halt Systemic and others) or azoxystrobin (Heritage) can be used for the control of anthracnose.

We saw our first case of large patch (or brown patch) caused by *Rhizoctonia solani* in early March. However, the weather dried out and appeared to shut the disease down later in the month. Patches with active disease will often have a yellow or orange halo at the outer edge of the patch. Fungicides are best applied in the fall for control of this disease. Curative applications in the spring may stop spread of the disease and speed turfgrass recovery, but typically are less effective than fall preventative applications. See the following web page for more information (<http://www.aces.edu/pubs/docs/A/ANR-0492/>).

Table 2. 2006 March Problems Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Arborvitae	Bagworm	Jefferson (2)
Azalea	Azalea Lacebug	Jefferson
	Phomopsis Twig Blight	Jefferson
Boxwood, American	Boxwood Leafminer	Jefferson/Shelby
	Boxwood Mites	Jefferson
Camellia, Common	Tea Scale	Shelby
Centipedegrass	Large Patch ( <i>Rhizoctonia</i> )	Bibb
Cypress, Leyland	Seiridium Canker	Chilton
Holly, Japanese	Southern Red Mite	Jefferson
Holly, Nellie R Stevens	Normal Leaf Drop	Jefferson(2), Shelby
Holly, Yaupon	Southern Red Mite	Shelby

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Hydrangea, Oakleaf	Armillaria Root Rot	Jefferson
Lily, Asiatic	Pythium Root Rot	Jefferson
Liriope	Anthracnose ( <i>Colletotrichum</i> )	Shelby
Magnolia, Southern	Black Twig Borer	Jefferson
Pansies	Aphids	Jefferson
	Phytophthora Crown Rot	Jefferson
Root Beer Plant ( <i>Piper auritum</i> )	Suspect Edema	Jefferson
Zoysia	Fairy Ring (Undetermined)	Jefferson

March Insect Report (C. Ray)

<b>COUNTY</b>	<b>CROP</b>	<b>CATEGORY</b>	<b>SPECIMEN NAME</b>
St. Clair	Plum	Small Fruits	San Jose Scale, <i>Quadraspidiotus perniciosus</i>
Dallas	Hardwood Trees	Forest Products	Giant Silk Moth Cocoon & Mantid Ootheca
Montgomery	Home	Medical (Sting)	Bethylid Wasps
Jefferson	Home	Household-Structural	Eastern Subterranean Termite, <i>Reticulitermes flavipes</i>
Calhoun	Home	Household-Structural	Blow Flies, <i>Calliphora vicina</i>
Jefferson	Clematis	Ornamental	Madeira Mealybug ( <i>Phenacoccus maderienseis</i> ) & California Red Scale ( <i>Aonidiella aurantii</i> )
Jefferson	Madevilla	Ornamental	Comstock Mealybug, <i>Pseudococcus comstocki</i>
Tuscaloosa	Home	Stored Product	Drugstore Beetle, <i>Stegobium paniceum</i>
Jefferson	Home	Stored Product	Drugstore Beetle, <i>Stegobium paniceum</i>

COUNTY	CROP	CATEGORY	SPECIMEN NAME
Covington	Lumber	Household-Structural	Eastern Subterranean Termite, <i>Reticulitermes flavipes</i>
Butler	Home	Household-Miscellaneous	Gall Midge
Butler	Home	Household-Miscellaneous	Fungus Gnat
Butler	Home	Household-Miscellaneous	Little House Fly, <i>Fannia</i> sp.
Etowah	Arborvitae	Ornamental	Spruce Spider Mite, <i>Oligonychus ununguis</i>
Autauga	Arborvitae	Ornamental	Spider Mites, Tetranychidae
Covington	Yaupon Holly	Ornamental	Yaupon Gall Psyllid, <i>Gyropsylla ilicis</i>
Russell	Philodendron	Ornamental	Thrips Eggs
Baldwin	Indian Hawthorn	Ornamental	Cottony Cushion Scale, <i>Icerya purchasi</i>
Calhoun	Boxwood	Ornamental	Spider Mites (Tetranychidae), Boxwood Leaf Miner, Peony Scale ( <i>Pseudaonidia paeoniae</i> ), Soft Scales (Coccidae)
Calhoun	Red Bud Tree	Ornamental	Unicorn Beetle Larvae, <i>Dynaste tityus</i>
Lee	Juniper	Ornamental	Yellow Mites (Tydeidae)
Dallas	Hardwood Trees	Forest Products	Banded Hickory Borer, <i>Knulliana cincta</i>
Dallas	Hardwood Trees	Forest Products	Red-shouldered Bostrichid ( <i>Xylobiops basilaris</i> ) & Apple Twig Border ( <i>Amphicerus bicaudatus</i> )
Lee	Petunia	Ornamental	Fungus Gnat Larvae (Sciaridae) and Drosophilid/Ephydrid Larvae
Tallapoosa	Fern	Ornamental	True Praying Mantis Ootheca
Tallapoosa	Ivy	Ornamental	Wax Scale, <i>Ceroplastes ceriferus</i>
Crenshaw	Cleyera	Ornamental	Cottony Cushion Scale, <i>Icerya purchasi</i>

## Disease Possibilities For April

In April, 16 soybean sentinel plots were planted. Some are now in the early vegetative growth stage. As of today (April 24), rust has not been detected at these sites. (See page 1 for comments on ASBR survival on kudzu.)

The list below includes some common disease problems received in the lab during April of the past few years. Comments on control practices are brief. Refer to fact sheets, timely information sheets, and the Alabama Pest Management Handbook for details. Early-Mid April has been unusually dry.

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

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Many Ornamentals	Powdery Mildew	White-buff colored, raised dots or pads of mycelium.	Fungicides; See Circular ANR-407.
Aglaonema	Bacterial Leaf Spot	Circular-angular, dark, water-soaked leaf spots.	Sanitation. Water at pot level.
Alfalfa	Spring Black Stem and Leaf Spot ( <i>Phoma</i> )	Small black spots on leaves, petioles, stems. Stems may be girdled.	Early cutting.
	Leptosphaerulina Leaf Spot	Small black spots on leaves and petioles. Lesions may enlarge to oval-round (1-3 mm diameter), light brown spots with dark brown borders. Yellow areas may surround the spots. When conditions are humid, spots may coalesce.	Frequent harvest.
	Stemphyllium Leaf Spot	Spots (3-4 mm) are oval, slightly sunken, dark brown with light centers. Usually spots are surrounded by a yellow halo.	Frequent harvesting.
Amaryllis	Stagnospora Leaf Spot	Dark red blotches on leaves (5-15 mm long.)	Sanitation; Cleary's 3336 or Domain.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Angel's Trumpet (Datura)	Bacterial Canker ( <i>Clavibacter michiganense</i> )	Sunken, elongate, dark brown, wet-looking canker.	Sanitation.
Apple/Pear	Botryosphaeria Canker	Cankers may be small or large (up to 5 m long). Cankers may be superficial with only a slight roughening of the bark or they may be deep, causing considerable cracking.	See AL Pesticide Handbook; Pruning.
	Fireblight ( <i>Erwinia</i> )	Blossom blight; leaf and branch dieback. Blossoms become spotted and then completely black or brown. Infection spreads from the blossoms into twigs, leaves and branches with branch canker development.	Pruning; Streptomycin at bloom.
	Frogeye Leaf Spot ( <i>Botryosphaeria</i> )	Small ( -¼ inch diameter) circular-irregular spots with purple margins and brown centers.	Sanitation in the fall; protective sprays during growing season.
Apricot	Black Knot ( <i>Plowrightia</i> )	Elongate canker becomes a swollen green gall that becomes black.	Sanitation. See Circular ANR-1055 (Disease Note on plum).
Arbor-vitae	Pestalotia Twig Blight	Sections of twigs turn brown.	Sanitation. Protective sprays of Cleary's 3336.
	Phomopsis Tip Blight	Twig tips dieback.	Sanitation. See the AL Pest Management Handbook. Also, see Common Diseases of Juniper, ANR-1173.
Aucuba	Pestalotia Leaf Spot	Black, irregular leaf spots.	Sanitation; Cleary's 3336 protective sprays.
	Phytophthora Root Rot	Foliage shows yellowing of lower foliage, wilt, dieback; roots become water-soaked and dark brown, decayed.	Sanitation. Reduce water in area.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Azalea	Anthraco nose ( <i>Colletotrichum</i> )	Small, round, red spots, sometimes with white centers.	Sanitation; see the AL Pest Management Handbook for protective fungicide treatments.
	Botrytis Petal Blight	Large irregular areas of blossoms turn brown; brown areas are covered with a gray delicate webbing during humid weather.	See AL Pest Management Handbook.
	Exobasidium Gall	Swollen blossoms, leaf, and shoot galls. From mid-April to mid-May, galls change from a green to a white or pink-white color.	Sanitation; removal of galls while they are still green; see the AL Pest Management Handbook.
	Ovulinia Petal Blight	Small white-brown spots enlarge to become large browned areas on the blossoms.	See AL Pest Management Handbook.
	Phomopsis Dieback	Dried, sunken lesions on twigs with resulting dieback.	Sanitation; see the AL Pest Management Handbook for protective fungicide treatment information.
	Phytophthora Crown & Root Rot	Crowns and roots become brown and water-soaked.	Sanitation; See AL Pest Management Handbook.
	Phytophthora Foliage Blight	Brown lesions on leaves. Lesions may be small spots or larger blotches. The fungus may sporulate in a thin white webbing on lower leaf surfaces when conditions are wet.	Sanitation; keep area dry; see AL Pest Management for protective fungicide information.
	Powdery Mildew	White, powdery dusting on upper leaf surfaces.	Sanitation of severely diseased areas; apply fungicide treatments of Cleary's 3336 or Halt.
	Rhizoctonia Aerial Blight	Lower leaves become spotted and eventually whole leaves become dark brown and fall.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Barley	Spot Blotch ( <i>Bipolaris</i> )	Brown, elongated spots (2-25 mm long) on leaf blades.	Rotation with non-grass species; fungicide treated seed; See AL Pest Management Handbook or spray guide.
Beans, Butter	Alternaria Leaf Spot	Gray or dark gray irregularly-shaped spots of variable size.	Sanitation; See the AL Pest Management Handbook under Anthracnose.
Beans, Garden	Fusarium Seedling	Lower stems and roots become reddish brown and dry rotted.	Sanitation. Crop rotation. Resistant varieties.
	Pythium Seedling Disease	Lower stems become water-soaked, flaccid, and slightly discolored. Plants eventually collapse with stems dry and shriveled.	Do not over-water garden or flower bed. See AL Pest Management Handbook.
	Rhizoctonia Crown Rot	Brown sunken lesions on the lower stem near the soil line.	See the AL Pest Management Handbook. Sanitation.
Bee Balm	Powdery Mildew	Leaf distortions; powdery white dusty patches on foliage leaves (upper leaf surfaces) and stems.	Sanitation.
Begonia	Bacterial Leaf Spot	Dark, black, water-soaked spots and blotches.	Strict sanitation. Do not water overhead.
Bentgrass	Brown Patch ( <i>Rhizoctonia</i> )	Circular-irregular patches in lawn become brown.	Reduce nitrogen fertilization. Protective fungicide treatments.
	Pythium Blight	Foliage becomes pale brown and water-soaked.	See AL Pest Management Handbook, spray guide.
Bermuda	Drechslera Leaf Spot	See Helminthosporium Leaf Spot.	
	Helminthosporium-type Leaf Spot/Blight ( <i>Exserohilum</i> )	Small brown elongated spots (2-3 mm) which may merge and cause leaf blight.	See AL Pest Management Handbook.
	Rhizoctonia Brown Patch	See bentgrass.	See bentgrass comments.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Spring Dead Spot ( <i>Gaeumannomyces</i> )	Patches of Bermuda fail to green up in the spring.	See the AL Pest Management Handbook. See ANR-371.
Blackberry	Double Blossom ( <i>Cercospora</i> )	Floral canes develop abnormal flowers with thickened petals. Internodes are shortened. Leaf development at nodes is abnormally abundant.	Sanitation as soon as abnormality is discovered. Protective fungicide treatment; see spray guide.
	Orange Rust ( <i>Gynoconia</i> )	Young shoots are weak and in clusters. Poor growth results from systemic disease. Black specks with chlorotic halos develop on upper surfaces of pale green-yellow leaves. Three weeks later, tiny orange, powdery pustules develop on lower leaf surfaces.	Sanitation.
Blueberry	Botryosphaeria Stem Canker	Somewhat inconspicuous sunken cankers develop along branches or on lower trunk areas. Dieback results. Sometimes this condition is associated with soils excessive in phosphorus & calcium.	Sanitation. Benlate protective sprays. See the AL Pest Management Handbook, or spray guide.
	Mummy Berry ( <i>Monilinia</i> )	Twig cankers and fruit rot develops. Fruit will shrivel and dry into a mummy.	Sanitation. See the AL Pest Management Handbook.
Boxwood	Macrophoma Blight (Stress)	Individual branches become yellowed and brown. Tiny black pin-point dots (fruiting bodies of the fungus) appear scattered on yellowed leaf surfaces; sometimes sunken cankers develop on twigs and branches.	Prune out damaged areas. Cleary's 3336 or Domain protective treatments may be applied. Identify and correct other stress problems.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cabbage	Phytophthora Root Rot	Small and large roots become brown, rotted, and wet; foliage shows lower leaf yellowing and dieback.	Sanitation; reduce water levels in the area; see AL Pest Management Handbook for protective fungicide treatments.
	Volutella Blight	Branches or the main trunk develops sunken lesions. When conditions are humid, orange spore masses develop on the lesions.	Sanitation; avoid stress situations; see AL Pest Management Handbook for protective fungicide treatments.
	Black Rot ( <i>Xanthomonas</i> )	V-shaped brown-black lesions appear at leaf edges. Veins leading away from lesions become brown-black. Eventually stem vascular system become rotted.	Sanitation; rotation away from crucifers for 2 years.
	Downy Mildew ( <i>Peronospora</i> )	Yellow spots that become dark brown.	Sanitation; reduce water levels in the area; see the AL Pest Management Handbook for protective fungicide treatments.
Camellia	Algal Leaf Spot ( <i>Cephaleuros</i> )	Red-green-brown raised circular leaf spots with wavy edges.	Sanitation. See AL Pest Management Handbook.
	Armillaria Root Rot	Sudden dieback; roots show thin white mycelial layer and sometimes black thread-like structures (Rhizomorphs); honey-colored mushrooms are also a diagnostic sign.	Remove the plant with associated roots.
	Botryosphaeria Canker	Sunken, cracked stem lesions.	Sanitation.
	Cercospora Leaf Spot	Brown circular or irregular spots of variable size.	Sanitation. Cleary's 3336 or Domain protective sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Exobasidium Gall	Swollen soft gall areas on flowers & leaves. Galls initially are green but they become white.	Sanitation. See AL Pest Management Handbook.
	Virus Ringspots	Yellow spots and ring spots; may be a reduction in plant growth.	Sanitation.
Cedar, Eastern Red	Cedar Apple Rust	Cedar branches develop spherical hard galls which produce orange jelly like projections after rains.	Sanitation. See AL Pest Management Handbook and ANR-468.
Centipede	Anthracnose	Yellow-brown circular leaf spots. Some leaf spots will span the width of a leaf blade and the tip of leaf will dieback. This is not a common problem - it may be stress-related.	See Austin Hagan.
	Brown Patch ( <i>Rhizoctonia</i> )	Light brown, large, circular patches occur on lawns; grass blades show medium brown lesions.	See AL Pest Management Handbook.
	Take-All Patch ( <i>Gaeumannomyces graminis</i> pv. <i>graminis</i> )	Patches of turf yellowing and dying.	See ANR-823. Bayleton may help. Turf replacement may be necessary.
Cherry	Botryosphaeria Canker	Elongate, cracked canker.	Sanitation.
	Septoria Leaf Spot	Medium brown, angular spots (about 1 cm or ¼-½ inch long) on leaf surfaces; when severe, defoliation results.	Sanitation.
Cherry Laurel	Shot Hole ( <i>Xanthomonas</i> )	Circular or angular shot holes spots. Initially spots are reddish with dark, wet edges.	Collect and remove fallen leaves.
Cherry, Yoshina	Phytophthora Root Rot	Older leaves may turn yellow, dieback of branches, wilt; roots become water-soaked and brown decayed.	Remove the tree, reduce water levels in the area. Plant a tree with some resistance to Phytophthora.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Chrysanthemum	Rhizoctonia Root Rot	Roots become brown, decayed and dried.	Sanitation. See the Alabama Pest Management Handbook.
Cleyera	Anthrachnose ( <i>Colletotrichum</i> )	Reddish, black spots, blotches. Orange pustules develop in spring and summer.	Sanitation; Cleary's 3336 may help.
	Cercospora Leaf Spot	Circular-oval light brown leaf spots.	Sanitation.
Clover	Cercospora Leaf Spot	Angular-circular brown leaf spots. This is usually not a serious problem.	----
Columbine	Powdery Mildew ( <i>Erysiphe</i> )	White or buff-colored powdery patches on foliage. Later affected tissues are yellow and then brown.	Sanitation. Cleary's 3336.
Corn	Pythium Seedling Disease	Lower stems turn pale brown, become water-soaked, and collapse.	----
Crabapple	Black Rot ( <i>Botryosphaeria obtuse</i> )	Twig cankers are present; frog-eye leaf spot.	Prune out cankers; Dithane will provide protective disease control.
	Cedar Apple Rust ( <i>Gymnosporanium</i> )	Light yellow spots (1 cm or 0.5 inch diameter) on leaves; leaf fall when spots are numerous.	See the AL Pest Management Handbook.
Cypress, Leyland	Botryosphaeria Canker	Sunken, cracked lesions or cankers on branches or trunk.	Sanitation. Prune out cankers making cut 3 inches beyond canker edge.
	Cercosporidium Blight	Lower branches develop blight and patches of necrosis.	Sanitation. See the AL Pest Management Handbook.
	Seiridium Canker	Sunken cankers with sap flow.	See the AL Pest Management Handbook.
Daylily	Kabatella Leaf Spot	Numerous small (5 mm or ¼ inch long) brown spots; leaf yellowing around spotted areas. The disease is often associated with stress.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Dianthus	Alternaria Leaf Spot	Medium brown, oval or round leaf spots. Some spots may develop a faint zonation.	For homeowners, Bordeaux mixture is available. In commercial production, Kocide 2000 could be used.
	Fusarium Crown Rot	Brown, dried, rotted tissues on lower stems. Top dieback.	Sanitation. Crop rotation.
Dogwood	Anthracnose ( <i>Discula</i> )	This disease is characterized by leaf necrosis, twig and branch cankers and stem dieback which all begin in the lower branches and progress to the upper canopy. The disease generally begins as purple-rimmed brown spots on leaves. Spots soon develop into a general blight of infected leaves. Leaf death is followed by progressive infection and death of associated twigs and then branches.	See ANR-551 or the AL Pest Management Handbook.
	Botryosphaeria Canker	Elongated, elliptical, often cracked sunken lesions on branches on trunk.	Sanitation. Make cuts 3-4 inches beyond the margins of damage.
	Botrytis Blossom Blight	Blossoms develop brown blotches. When conditions are humid, a gray mold may develop.	Sanitation; mancozeb products such as Dithane T/O and Cleary's 3336 or Halt may be used to provide protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Spot Anthracnose ( <i>Elsinoe</i> )	Small (1-2 mm) red-brown spots with reddish borders occur on bracts, leaves, and young twigs. Spotting may be severe and new leaves may appear reduced in size; foliage death may result.	Sanitation; See AL Pest Management Handbook.
English Ivy	Pythium Root Rot	Ivy older foliage turns yellow; plant wilt; die-back occurs; roots develop a brown, wet rot.	Sanitation. See AL Pest Management Handbook under Phytophthora.
Euonymus	Powdery Mildew ( <i>Microsphaera</i> )	A white powdery dusting appears on upper leaf surfaces; when disease is severe some leaf distortion occurs.	See the AL Pest Management Handbook.
Exacum	Impatiens Necrotic Spot Virus	New growth was stunted. Brown spots and blotches were present on the newly matured foliage.	Sanitation. Control thrips.
Fern, Boston	<i>Colletotrichum</i> Leaf Spot	Brown spots/blotches on fronds.	Sanitation. Protective sprays of Cleary's 3336.
Fescue	Brown Patch ( <i>Rhizoctonia</i> )	Light brown, often large, circular patches occur on lawns; grass blades, show medium brown irregular lesions.	See the AL Pest Management Handbook.
	Net Blotch ( <i>Drechslera</i> )	Typically, short, square rectangular or elongated blotches (5-10 mm or larger) with longitudinal or horizontal dark line patterns develop on leaves. Line patterns resemble a net.	See AL Pest Management Handbook under Helminthosporium Leaf Spot and Crown rot (melting out).

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Forsythia	Crown Gall	Woody galls on lower stem/trunk near the soil line.	Sanitation; crop rotation to boxwood, holly, redbud or other non-susceptible plants. See ANR-944.
	Phomopsis Gall	Woody galls on stem that could be confused with crown gall.	Prune out galls. Make cuts 3-4 inches beyond the gall.
Gardenia	Anthrachnose	Circular, brown-black leaf spots.	Sanitation of fallen leaves. See the AL Pest Management Handbook.
Gerbera Daisy	Powdery Mildew ( <i>Erysiphe</i> reported)	White powdery blotches on leaves & stems; yellowing, necrosis.	Protective fungicide treatment; see AL Pest Management Handbook.
Geranium	Bacterial Leaf Spot/Stem Rot ( <i>Xanthomonas</i> )	Black spots on leaves and stems; total collapse of stem may occur; bacteria may develop in vascular system and become systemic.	Strict sanitation. Bordeaux mixture protective sprays.
	Bacterial Wilt ( <i>Ralstonia solanacearum</i> ) race 3 biovar 2	Wilt, leaf edge scorch, leaf yellowing.	Sanitation. (Plants were destroyed by Alabama State Department of Agriculture & Industries Inspectors by USDA-APHIS directive.)
	Botrytis Blight	Gray blotches occur on the foliage. Whole leaves may become involved and die. When weather is cool and moist with a high relative humidity, a delicate webbing of spores and hyphae can be seen.	See the AL Pest Management Handbook. Sanitation.
	Fusarium Root Decay	Dieback, lower foliage turns yellow, root decay.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rust ( <i>Puccinia</i> )	Yellow spots on leaves; yellow spots develop orange, powdery pustules; leaf drop.	Sanitation. See the AL Pest Management Handbook.
Grape	Anthrachnose ( <i>Gloeosporium</i> )	Circular-irregular brown blotches/spots (3-5 mm diameter) with brown-black margins. Spot centers may become light colored & dry. Damage may be severe with fruit rot and dieback.	See the AL Pest Management Handbook or spray guide; Sanitation.
	Black Rot ( <i>Guignardia</i> )	Medium-dark brown irregular spots (approx. 5 mm diameter) on leaves and fruit.	See AL Pest Management Handbook. Sanitation or spray guide.
Hibiscus	Bacterial Leaf Spot	Angular, dark leaf spots with wet-looking edges. Yellow "halos" may be present.	Sanitation of all damaged foliage. Do not water over head. See the AL Pest Management Handbook.
Holly, Helleri	Phytophthora Root Rot	Roots become brown and decayed. Outer tissues easily pull away from the root central core.	See the AL Pest Management Handbook.
Holly	Colletotrichum Leaf Spot	Black circular spots (about 5 mm diameter) sometimes with cream-colored spores covering centers of spots.	Sanitation; protective sprays of Cleary's 3336 or Domain may be used.
	Phyllosticta Leaf Spot	Small (1-2 mm diameter) black spots sometimes with a whitish center.	Sanitation; protective sprays of Cleary's 3336 or Domain may be used.
Holly, Japanese 'Compact'	Black Root Rot ( <i>Thielaviopsis basicola</i> )	Plants do not grow and roots develop black lesions and root tips. Lower foliage may become yellow. Dieback may occur.	Sanitation; Banrot or Cleary's 3336 (or Halt) may be applied for protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Horse Sugar or Sweet Leaf	Exobasidium Gall	Fleshy, swollen areas on leaves, flowers, and young twigs.	Sanitation. See the AL Pest Management Handbook.
Hosta	Colletotrichum Leaf Spot	Circular, brown leaf spots.	Sanitation. Cleary's 3336 will help control this disease.
Hydrangea	Anthrachnose ( <i>Colletotrichum</i> )	Circular, brown leaf spots, blossom spots.	Sanitation. Cleary's 3336 will help control this disease.
	Botrytis Blossom Blight	Blossoms are brown-gray spotted/blotched.	Sanitation. See ANR-912 for fungicide recommendations.
Hydrangea, Oak Leaf	Anthrachnose	Circular-irregular brown spots.	Sanitation. See the AL Pest Management Handbook.
	Bacterial Leaf Spot	Small (2-5 mm), dark, angular spots on leaves.	Sanitation; irrigate at soil level.
	Cercospora Leaf Spot	Angular, brown spots develop.	Sanitation of fallen leaves. See the AL Pest Management Handbook.
	Pythium Root Rot	Wilt and dieback; small roots become light brown, wet, and deteriorate easily.	Reduce water levels in soil. Remove damaged plants. See the AL Pest Management Handbook.
Impatiens	Alternaria Leaf Spot	Dark brown-black, angular leaf spots.	Sanitation; Kocide 101.
	Colletotrichum Leaf Spot	Small, white, circular spots develop.	Sanitation. Cleary's 3336 or Halt will help control this disease.
	Pythium Root Rot	Roots become pale brown and decayed. Outer tissues easily pull away (separate) from the inner central core. Foliage is stunted, wilted.	Sanitation. Reduce water levels in the soil. See the AL Pest Management Handbook under 'Damping-off' or 'Phytophthora Root Rot', for commercial situations.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Indian Hawthorn	Rhizoctonia Crown Rot	A brown, dry decay of the lower stem develops.	Sanitation. See the AL Pest Management Handbook.
	Colletotrichum Leaf Spot	Brown, circular-irregular shaped leaf spots.	Sanitation. Protective sprays of Cleary's 3336.
	Entomosporium Leaf Spot	Small, round, red spots develop.	Sanitation. See the AL Pest Management Handbook.
Iris	Phytophthora Root Rot	Roots become brown and decayed. Outer tissues easily pull away from the root central core. Foliage wilts and dieback occurs.	See the AL Pest Management Handbook.
	Heterosporium Leaf Spot	Dark brown oval leaf spots become larger brown blotches; sometimes a halo is present.	Sanitation. See AL Pest Management Handbook.
	Borers/Soft Rot ( <i>Erwinia</i> )	Leaves and rhizomes become decayed with a wet, foul-smelling rot; wounds are often evident in the rhizome rotted areas. Wounds are often caused by the iris borer, but other insects may be involved.	Sanitation. Especially in the fall, all diseased rhizomes should be destroyed. To further prevent & control borers, an insecticide dust may be applied weekly in the spring from new growth initiation to the beginning of June.
Ivy, English	Anthrachnose ( <i>Colletotrichum</i> )	Brown irregular spots (3 mm diameter & larger) that sometimes occur along veins.	Sanitation. See the AL Pesticide Handbook. Use Cleary's 3336 or Domain.
	Bacterial Leaf Spot	Small (2-4 mm diameter), angular, dark leaf spots with wet looking edges on leaves.	Sanitation. See the AL Pest Management Handbook
	Botryosphaeria Canker	Elongated, sunken, cracked stem lesions.	Pruning. Protective sprays of Cleary's 3336.
	Edema	Small, brown, corky spots on lower leaf surfaces.	Reduce irrigation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium/Pythium Root Decay	Roots become brown decayed, dried and also wet rotted.	Sanitation. Banrot protective treatments.
Jack-In-The-Pulpit	Rust ( <i>Uromyces</i> )	Orange, powdery spores masses in small pustules on foliage. Leaves eventually become yellow & necrotic.	Sanitation.
Japanese Pagoda Tree	Nectria Canker	Sunken canker with tiny orange raised specks scattered over lesion.	Sanitation.
Juniper	Armillaria Root Rot	Brown, dry decay of roots and sometimes crown. Look for mushrooms, a white mold under the bark, and/or black thread-like structures.	Remove tree and roots.
	Phomopsis Tip Blight	Dieback.	Pruning; Fungicide application. See the AL Pesticide Handbook.
	Cedar-Apple Rust ( <i>Gymnosporangium</i> )	Large woody spherical galls (2-5 cm diameter) become covered with orange, jelly-like finger-like projections.	See ANR-468.
	Cedar-Quince or Hawthorn Rust ( <i>Gymnosporangium</i> )	Orange powdery sunken cankers.	See ANR-468.
Juniper, Blue Pacific	Phytophthora Root Rot	Plants do not grow; roots become brown and water-soaked; dieback and yellowing develops.	Sanitation; reduce water levels in the area; see the AL Pest Management Handbook for protective fungicide treatments.
Kudzu	Pseudomonas Bacterial Leaf Spot (Halo Blight)	Very small, circular, black spots with yellow halos.	----
Laurel	Blumeriella Leaf Spot	Brown-reddish leaf spots become shot holes.	Sanitation.
Lettuce	Alternaria Leaf Spot	Dark gray oval-irregular leaf spots.	Sanitation.
Leucothoe	Cercospora Leaf Spot	Brown, circular to irregular leaf spots.	Sanitation. Cleary's 3336 or Halt will help provide protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ligustrum	Cercospora Leaf Spot	Brown, circular to irregular leaf spots.	Sanitation. Cleary's 3336 or Halt will help provide protective disease control.
	Macrophoma Leaf Spot	Brown circular or oval leaf spots.	Sanitation; Cleary's 3336 or Domain protective sprays.
Lilac	Bacterial Leaf Spot	Dark angular spots.	Sanitation. Do not water overhead.
Lupin	Rhizoctonia Lower Stem Decay	Dark brown, black lower stem dry rot.	---
Magnolia, Southern	Algal Leaf Spot ( <i>Cephaleuros</i> )	Green or red-brown, slightly raised, circular spots (1 cm diameter) with slightly wavy margins.	Usually none. Sanitation.
	Phyllosticta Leaf Spot	Brown irregular spots (3 mm diameter and larger) which often become brown bordered with lighter centers as spots age.	Sanitation. Protective sprays of Cleary's 3336 or Domain.
Magnolia	Stress	Many older leaves become yellow and then brown; excessive leaf drop. (Some leaf senescence is normal during April-June.)	Water when conditions are droughty.
Maple, Japanese	Anthrachnose ( <i>Kabatiella</i> )	Brown, irregularly-circular spots which often follow along leaf veins. Spots begin small, but may develop to involve larger portion of leaves.	See AL Pest Management Handbook.
	Phomopsis Canker	Brown-gray elliptical sunken lesions on smaller branches, twigs.	Sanitation.
	Phytophthora Root Rot	Roots become brown, wet, and decayed. Plants develop die-back and wilt.	Remove damaged plants. Reduce water levels in soil. See AL Pest Management Handbook.
Maple, Red	Phyllosticta Leaf Spot	Circular pale brown spots with darker brown borders (about ¼ inch diameter).	---
	Pythium Root Rot (Seedlings)	Roots brown, water-soaked, rotted.	Sanitation. Reduce watering schedules.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Marigold	Alternaria Leaf Spot	Black circular or irregular leaf spots (1-3 mm diameter).	See AL Pest Management Handbook.
Mayhaw (Hawthorn)	Cedar-Quince Rust ( <i>Gymnosporangium</i> )	Yellow irregular spots with tiny white-orange aecial cups (spore masses) developing on lower leaf surfaces opposite upper leaf yellow spots.	Removal of cedar cankers. See ANR-468.
Mondograss	Root Knot Nematode ( <i>Meloidogyne</i> )	Poor growth; root galls.	Sanitation. See ANR-689 and ANR-856.
Monkey Grass ( <i>Liriope</i> )	Anthracnose ( <i>Colletotrichum</i> )	Pale brown blotches and spots on foliage. Blotch margins are sometimes dark brown or red-brown. Spots may involve large sections of leaves. Often leaf tips are involved.	Sanitation; Protective sprays of Cleary's 3336 or Halt may be used.
	Fusarium Root Rot	Roots become dry and necrotic, brown; foliage dieback, wilt and yellowing usually develop.	Sanitation; Banrot, or Cleary's 3336 (or Halt) will provide some protective disease control.
Oak	Anthracnose ( <i>Apiognomonina</i> )	Brown-black spots and irregular blotches which often develop along leaf edges and/or leaf veins.	Sanitation. See AL Pest Management Handbook.
	Algal Leaf Spot ( <i>Cephaleuros</i> )	Gray-green or brown-red spots with irregular margins (1 cm or ¼ inch diameter) on leaves; spots may coalesce.	See AL Pest Management Handbook.
	Armillaria Root Rot	Brown, dry decay of roots and sometimes crown. Look for mushrooms, a white mold under the bark, and/or black thread-like structures.	Remove tree and roots.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Hypoxylon Canker	Environmental stressed oak may develop a dieback where Hypoxylon acts to hasten the dieback problems. The fungus causes decay of inner bark and sapwood and silver gray or coal black stroma develops in the decay area, causing the bark to crack and fall away.	Pruning and tree removal.
	Oak Leaf Blister ( <i>Taphrina</i> )	Concave-convex spots (10-15 mm or ¼-½ inch diameter) on leaves. As spots age, they change from a light green-brown color to a medium-dark brown.	See AL Pest Management Handbook.
	Powdery Mildew	White powdery dusting on leaves; infected new growth may be deformed.	Sanitation of leaves in the fall.
Oats	Barley Yellow Dwarf Virus	Leaves are yellowish red; stunting; excessive tillering.	---
	Helminthosporium Leaf Spot	Small, brown elongate leaf spots.	---
	Loose Smut ( <i>Ustilago</i> )	The seed heads of oats become filled with the black sooty masses of fungal spores.	Seed treatment.
Oxalis	Rust ( <i>Puccinia</i> )	Yellow leaf spots; orange powdery pustules on lower leaf surface.	Remove sweet corn from the area.
Pansy	Cercospora Leaf Spot	Black superficial, slightly raised spots with ropey appearance and irregular feathery spot edges.	Sanitation. See AL Pest Management Handbook.
	Colletotrichum Leaf Spot	Circular gray spots with dark borders.	See the AL Pest Management Handbook.
	Fusarium Crown Rot	Lower stems develop a reddish brown decay.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Myrothecium Crown Rot	Lower stems become light brown and develop a wet rot. Black bodies of the fungus are just barely visible.	Sanitation. See the AL Pest Management Handbook.
	Pythium Root & Crown Rot	Tissues become light brown and wet, pull apart easily; plants wilt, become yellow and die.	Sanitation; reduce water levels in the area; see AL Pest Management Handbook for protective fungicide treatments.
	Thielaviopsis Black Root Rot	Black lesions on roots. Plants are stunted.	Sanitation. See the AL Pest Management Handbook.
Peach	Armillaria Root Rot	Plants may be stunted; dieback; honey colored mushrooms may be present; a white, flat mold may be present under the bark.	Tree removal and root removal.
	Bacterial Canker-Gummosis ( <i>Pseudomonas</i> )	Sunken, wet blackened areas on trunk/branches. There is usually excessive gum production association with the canker. A characteristic sour-foul smell is often present when the canker is cut.	Sanitation.
	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Circular black spots (2-5 mm) develop on leaves. As spots age, they dry out and fall out, leaving circular 'shot holes' in the leaves.	See the Peach Spray Guide, ANR-8.
	Brown Rot ( <i>Monilinia</i> )	A gray-brown blossom blight with subsequent twig blight and canker development. Fruit rot follows. Spore production gives rotted tissues a gray powdery covering.	See AL Pest Management Handbook or spray guide.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Peach Leaf Curl ( <i>Taphrina</i> )	Concave-convex spots develop on leaves. Often, early 'spots' are the color of normal leaf tissue. Severe disease causes leaves to be excessively puckered and deformed and curled and somewhat thickened.	Sanitation. See the AL Pest Management Handbook or spray guide.
	Phomopsis Canker	Elliptical, sunken, brown cankers, mostly on twigs.	Sanitation.
	Phomopsis Twig Canker	Gray, sunken, elliptical or oval cankers (lesions) (4 mm long or longer) on twigs and small branches.	Sanitation.
	Ring Nematode ( <i>Criconemoides</i> )	Roots poorly developed; top growth is reduced.	Sanitation; crop rotation or fumigation. See Ed Sikora.
Peanut	Tomato Spotted Wilt Virus	Poor growth; new growth stunted and mottled, sometimes with ring spots and/or mosaic.	Thrips control.
Pear	Botryosphaeria Canker	Sunken, elliptical or oval cracked cankers on branches and trunks.	Sanitation.
	Entomosporium Leaf Spot	Red-black circular spots (5-10 mm diameter).	Sanitation. See the AL Pest Management Handbook.
	Fireblight ( <i>Erwinia</i> )	Black blotches beginning at leaf edges; leaf blight; longitudinal, sunken, cracked cankers with droplets of bacterial ooze during humid, wet weather; twig blight; limb blight.	Sanitation. See the AL Pest Management Handbook.
	Frogeye Leaf Spot ( <i>Botryosphaeria</i> )	Small purple flecks usually enlarge to circular brown lesions 4-5 mm in diameter. Lesion margins are purple; centers are tan or brown.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Peas, Field	Pythium Seedling Disease	Lower stems become soft, water-soaked and pale brown. Plants fall over.	See AL Pest Management Handbook or spray guide.
	Rhizoctonia Stem/Root Rot	Lower stems develop reddish-brown or brown dried lesions. Dieback may result.	Sanitation; crop rotation. See the AL Pest Management Handbook.
Pepper	Bacterial Leaf Spot	Dark, small (2-5 mm), angular leaf spots with wet looking edges.	Sanitation. See the AL Pest Management Handbook.
Periwinkle	Botrytis Blight	Brown gray spot/blight.	Sanitation. Increase air circulation. Increase temperature. See the AL Pest Management Handbook.
	Phyllosticta Leaf Spot	Medium-brown, circular-oval spots (5 mm diameter).	Sanitation; Protective sprays of Cleary's 3336 of Domain.
	Phytophthora Blight	Brown lesions on leaves and stems.	Sanitation. See AL Pest Management Handbook.
	Thielaviopsis Root Rot	Plants grow poorly. Roots have black lesions, sections, and tips.	Sanitation. Cleary's 3336 protective drenches.
Petunia	Thielaviopsis Root Rot	Plants grow poorly. Roots have black lesions, sections, and tips.	Sanitation; Cleary's 3336 protective drenches.
Photinia	Anthrachnose ( <i>Colletotrichum</i> )	Light-brown, zonate spots (10-15 mm or - inch long) sometimes associated with leaf margins.	Sanitation; See AL Pest Management Handbook under Entomosporium Leaf Spot.
	Armillaria Trunk Rot	Sudden wilt and dieback; thin white mycelial layer beneath bark; sometimes black thread-like rhizomorphs and/or honey-colored mushroom present.	Sanitation--removal of plants.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Entomosporium Leaf Spot	Red-black spots (5-10 mm diameter) on upper & lower leaf surfaces. Spots generally have dark red-black borders. Spots may coalesce.	Pruning; Fungicide treatment; See Circular ANR-392.
Pine, Loblolly	Fusiforme Rust ( <i>Cronartium quercuum f. sp fusiforme</i> )	Spindle-shaped (fusiform) swellings (galls) develop on branches and trunks. In March-April the orange spore masses (aecia) of the fungus develop on the bark surface. The powdery spores cover the whole gall area. (Oaks are the alternate host for this fungus.)	Sanitation; removal of galled branches and/or trees when galls occur on trunks. See the AL Pest Management Handbook.
	Lophodermium ( <i>Ploiderma</i> ) Needle Cast	Last year's needles become spotted, blighted, and fall off. Tiny, black football-shaped fungal fruiting bodies can be seen on needles with hand lens.	Fungicide applied in spring and fall. See AL Pest Management Handbook.
	Pine Needle Rust	White, flaky, rectangular pustules containing orange spores on needles. Later, yellow spots develop. Needle drop may follow. Asters are the alternate host.	Usually not a serious problem. Remove asters/composites in the immediate area.
	Rhizosphaeria Needle Blight, Twig Blight	Needles and small twigs turn brown, die.	Sanitation. See spray recommendations for needle cast; may need to continue in summer.
Pine, Slash	Rhizosphaeria Needle Blight	See Pine, Loblolly.	
Pine, Virginia	Ploiderma Needle Cast	See Pine, Loblolly.	
Pine	Needle Rust ( <i>Coleosporium</i> )	Needles covered with numerous cream-color pustules (2-3 mm).	Remove asters and other composite plants/weeds in the area.
Plum	Bacterial Canker ( <i>Pseudomonas</i> )	See Peach.	

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Potato, Irish	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Small (2-5 mm diameter) circular, brown-black spots with wet-looking margins and dry--sometimes--shot hole centers. Older spots often have reddish margins. Spots may be surrounded with a yellow zone or halo.	Sanitation.
	Black Knot ( <i>Dibotryon</i> )	Sections of branches become swollen and covered with black, swollen, hard, fungal growth.	Prune; fungicide treatment. See Circular ANR-217 or the AL Pest Management Handbook.
	Bacterial Soft Rot ( <i>Erwinia</i> spp.)	Cream-tan colored, wet rot of tubers. As rot ages, secondary bacteria cause foul smell.	Sanitation; avoid wounds.
	Early Blight ( <i>Alternaria</i> )	Small (1-2 mm) brown spots develop into larger (10-15 mm long) irregular spots which are brown-black and often have a target pattern. Spots occur on leaves and stems.	See AL Pest Management Handbook.
	Fusarium Tuber Rot	A black wet rot or a drier, brown rot of tuber; sometimes center of rot area is hollow, sometimes with white mycelium.	Sanitation. Avoid wounds.
	Late Blight ( <i>Phytophthora infestans</i> )	Foliage becomes brown spotted, blotched. Dead areas may spread to cause death of the whole plant.	See Alabama Pest Management Handbook.
	Scab ( <i>Streptomyces</i> )	Surface of tubers develop oval-irregular rough lesions.	Sanitation. See AL Pest Management Handbook.
Red Cedar	Armillaria Root Rot	Dieback and total death of tree. Mushrooms or black thread-like structures may develop at base of tree and just under the bark, respectively.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Rhododendron	Cercospora Leaf Spot	Brown, circular or oval leaf spots.	Sanitation. Cleary's 3336 or Halt may help. See the AL Pest Management Handbook.
Rose	Botrytis Blight	Gray-brown irregular areas on flowers and leaves; gray mycelium and spores give spots/ blotches a gray, cloudy appearance.	Lower humidity levels; increase temperatures; prune out diseased plant parts; fungicides.
	Black Spot ( <i>Diplocarpon</i> )	Black spots ( -¼ inch diameter or 4-8 mm) with feathery margins.	Follow a regular spray schedule; sanitation.
	Brown Canker ( <i>Diaporthe umbrina</i> )	Brown oval or elliptical sunken lesions on rose canes.	Sanitation. Make cuts 3-4 inches beyond canker margins. Dip shears into a disinfectant between cuts. See AL Pest Management Handbook under Black Spot for fungicide recommendations.
	Downy Mildew ( <i>Pernospora</i> )	Irregular pale yellow spots on upper leaf surfaces; grayish-sometimes with thread-like growth-spots on lower leaf surfaces. Leaves eventually become brown, withered and drop.	Sanitation. See AL Pest Management Handbook. Decrease humidity.
	Powdery Mildew ( <i>Sphaerotheca</i> )	Whitish powdery growth on leaf surfaces; new growth may be distorted; leaves dry & turn yellow then brown; leaf drop.	See AL Pest Management Handbook.
	Rose Mosaic Virus	Leaves develop yellow blotches and line patterns.	Remove damage plants.
	Stem Canker ( <i>Coniothyrium</i> )	Cankers are gray-brown and may be very large.	Sanitation. See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Rubus	Cercospora Leaf Spot	Angular brown-black spots.	Sanitation. Follow recommendations in the AL Pest Management Handbook for Rubus "Leaf Spot".
Rudbeckia	Fusarium Root Rot	Root decay; dry rot; dieback.	Sanitation; crop rotation.
Ryegrass	Helminthosporium ( <i>Bipolaris</i> ) Leaf Spot	Small, brown, elliptical spots which may coalesce.	See ANR-621 or the Alabama Pest Management Handbook.
Sedum	Powdery Mildew ( <i>Erysiphe</i> sp.)	White, powdery spots or patches on foliage.	Sanitation. Cleary's 3336 or Halt will help provide protection.
Shasta Daisy	Alternaria Leaf Spot	Gray-brown, roughly circular spots.	Sanitation. Cleary's 3336 or a benomyl fungicide should give some protective control.
Snapdragon	Fusarium Wilt	Wilt, yellowing of older leaves first, vascular browning.	Sanitation; crop rotation.
	Pythium Root Rot	Foliage wilt; roots brown and water-soaked.	Sanitation. See AL Pest Management Handbook.
Spicebush, Japanese	Botryosphaeria Canker	Elongate, cracked canker.	Sanitation.
St. Augustine	Brown Patch ( <i>Rhizoctonia</i> )	See Centipede.	---
	Take-All Patch ( <i>Gaeumannomyces</i> )	Sections of turf thin out. Lesions (black) develop on stolons and roots; plants yellow and die.	Soil pH and fertilizer management. See ANR-823. Bayleton may help.
Strawberry	Angular Leaf Spot ( <i>Xanthomonas</i> )	Small black, water-soaked, angular spots.	Sanitation. Kocide protective sprays.
	Anthraco-nose-Crown Rot ( <i>Colletotrichum</i> )	Lower stems (crowns) become brown and rotted. Leaf edges turn brown; plants wither and die.	Use healthy transplants.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Anthracnose Fruit Rot ( <i>Colletotrichum</i> )	Fruit develops dark brown, irregular surface spots/rot areas which extend into the inner flesh. When humidity is high, orange spore masses form on the fruit.	See AL Pest Management Handbook.
	Botrytis Gray Mold	Light-brown irregular spots, blotches on blossoms, leaves, petioles, stems, fruit. In humid weather, fungus produces a gray powdery growth over lesions.	See AL Pest Management Handbook.
	Mycosphaerella Leaf Spot (Common)	Deep purple small spots become 3-6 mm diameter with white centers and reddish edges.	See AL Pest Management Handbook.
	Phytophthora Crown Rot	Plants wilt & dieback. Crowns become discolored or red-brown.	Sanitation. See the AL Pest Management Handbook.
Sycamore	Anthracnose ( <i>Colletotrichum</i> )	Large brown blotches develop, sometimes along veins.	Collect and remove all fallen leaves in the autumn; for a small tree, protective fungicide may be applied. See the AL Pest Management Handbook.
Tomato	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Small black circular or angular spots that become cream-colored with age.	See AL Pest Management Handbook.
	Botrytis Blight	Brown-gray leaf blotches.	Sanitation. See the AL Pest Management Handbook.
	Early Blight	See Irish Potato.	
	Late Blight	See Irish Potato.	

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Leaf Mold ( <i>Cladosporium</i> )	Lower leaves develop pale green or yellow spots. Lower leaf surface of spots develop on olive green mold. Spots may coalesce. Leaves may curl and fall from plant. Occasionally, stems, blossoms, and fruit may be affected. Fruit may develop black leathery rot near stem end.	---
	Pythium Root Rot	Roots slightly off-color (brown); cortex may easily pull away from root central cylinder.	Sanitation; See the Alabama Pest Management Handbook. Improve soil drainage.
	Tomato Spotted Wilt Virus	Plants stunted, wilted with yellow or brown spots or blotch.	Sanitation. Control thrips.
Trillium	Sclerotinia Leaf & Stem Blight	Leaf areas and stem become blighted & rotted. A white mold may develop when conditions are 60-75°F and moist.	Sanitation.
Tulip Poplar	Alternaria Leaf Spot	Medium-brown, circular-irregular spots (1-2 cm or - inch long).	Sanitation.
Turnips	Cercospora Leaf Spot	White-light gray, circular-irregular, small-large (1 cm) spots on foliage.	Sanitation. See the AL Pest Management Handbook.
Viburnum, David	Cercospora Leaf Spot	Brown, circular or irregular leaf spots.	Sanitation. Protective sprays of Cleary's 3336 or Halt will help.
Watermelon	Fusarium Root Rot	Lower leaves yellowed; yellowing and wilt spreads upward in plant.	Crop rotation or plant resistant varieties.
Wheat	Barley Yellow Dwarf Virus	Foliage yellows, become stunted and root systems are abnormally shallow. Leaves may become distorted.	Delay planting date in the fall; some varieties show moderate resistance.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bipolaris Leaf Spot	Brown irregular spots.	Fungicides in some situations; Refer to A. Hagan.
	Fusarium Head Scab	Seed heads bleached, shriveled and covered with a pink-orange mold.	Crop rotation for at least one year.
	Loose Smut ( <i>Ustilago</i> )	Spikelets become filled with brown-black masses of spores.	Seed treatment; resistant varieties.
	Powdery Mildew ( <i>Erysiphe</i> )	Leaves become covered with a white-buff colored powdery coating. Infected leaves eventually yellow and die.	See AL Pest Management Handbook.
	Puccinia Leaf Rust	Orange-red, powdery, raised pustules (1-5 mm diameter) scattered over leaf blades.	See AL Pest Management Handbook or spray guide.
	Puccinia Stem Rust ( <i>Puccinia graminis f sp tritici</i> )	Yellow flecks and orange elongated pustules on leaves and stems; leaf blight.	Resistant varieties; fungicide protective sprays; See AL Pest Management Handbook.
	Septoria Leaf Spot	Yellow flecks on lower leaves become irregular (1-5 - 4-15 mm), lens-shaped, brown spots.	Use disease-free seed. See AL Pest Management Handbook or spray guide.
	Septoria Leaf & Glume Blotch ( <i>S. nodorum</i> )	Yellow, tan, or brown, oval or lens-shaped spots (about 1 cm long) on leaves. On glumes, a general gray-brown discoloration begins at glume tip and moved downward. Tiny black fruiting bodies may be sprinkled on browned glume areas.	See AL Pest Management Handbook or spray guide.
	Soilborne Wheat Mosaic Virus	Stunting; leaves develop yellow streaks and a 'short line' or 'dash' type of mosaic pattern.	Crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Take-All ( <i>Gaeumannomyces</i> )	Plants are stunted and yellow with few tillers. Roots and lower stems become black, rotted and brittle.	Crop rotation.
	Wheat Spindle Streak Mosaic Virus	Elongated yellow streaks, mosaic on leaves.	Rotate wheat out of area as it is soilborne by <i>Polymyxa</i> fungus.
Zoysia	Brown Patch ( <i>Rhizoctonia</i> )	See Bentgrass.	
	<i>Exserohilum rostratum</i> Leaf Spot and Crown Rot	Small brown, elliptical leaf spots which may coalesce.	See ANR-621 or the AL Pest Management Handbook.
	Rust ( <i>Puccinia</i> )	Grass blades become covered with orange-brown dusty pustules of spores.	See the AL Pest Management Handbook or ANR-621.
	Take-All ( <i>Gaeumannomyces</i> )	See St. Augustine.	
All	Slime Mold	Wet-looking thin sheets of fungus material which may be green, reddish or brown in color. When the spore stage is present, plant material may be covered with a powdery coating of black, brown, red or yellow spores.	Fungal sheets or masses may be physically removed; spore masses may be washed off with a strong stream of water; when conditions become dry, slime molds will disappear. These fungi do not cause damage to plants except for a shading effect.

### Lab Notes

As we begin to move into our busy season, please remember to check the box at the top of the plant questionnaire whether you want the lab service charge applied to the client or to the central ACES budget (Educational). Also, please provide as much information as possible. Thanks!