

April 26, 2004

PP-567

**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, EARLY MAY

LAB NOTES

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Auburn Plant Disease Report-March (J. Mullen)

In March, we received 203 plant samples. Of these samples, 93 were from the State Department of Agriculture and Industries for *Phytophthora ramorum* testing of camellias & other ornamental shrubs. Diseases seen last month included Pythium root rot on alfalfa, Pestalotia leaf spot on aucuba, *Rhizoctonia solani* crown rot on garden bean, spring dead spot on bermuda, Phytophthora root decay on boxwood, Pythium root decay on boxwood, Cercospora leaf spot on cleyera, Entomosporium canker on cryptomeria, anthracnose on fern, Pestalotia leaf spot on gardenia, Phytophthora crown and root rot on gardenia, Pythium crown and root rot on gardenia, Entomosporium leaf spot on Indian hawthorn, Pestalotia twig cankers on juniper, Phytophthora root rot on juniper, Pythium root rot on juniper, Cercospora leaf spot on Ligustrum, Fusarium crown rot on nemesia, slime mold on oregano, sooty mold on plum, Pythium blight on *Poa trivialis*, brown patch on St. Augustine grass,

take-all patch on St. Augustine grass, and early blight on tomato. Phytophthora and Pythium root rots, Cercospora leaf spots, Botryosphaeria cankers, and Pestalotia leaf spots were common problems.

Testing of nursery plants for *Phytophthora ramorum* has involved a total of 174 plants (93 plants received in March; 81 plants received in early April). For more information on *Phytophthora ramorum*, which may cause large trunk cankers and tree death of several oak species and tan oak in California, see the following web site: <http://www.aphis.usda.gov/lpa/issues/sod/sod.html>.

On March 17, the Alabama Department of Agriculture and Industries (and many other states) issued a Stop Sale Order for all nursery stock from the California Monrovia nursery and some other nurseries known to have *P. ramorum* in some plants. On March 24, 2004, the Alabama Department of Agriculture and Industries issued a quarantine to prevent entry of any nursery stock plants from CA, WA, OR, or British Columbia into Alabama. On April 8, OR WA, and British Columbia were dropped from the Alabama quarantine order. On April 9, the federal government established an interim SOD rule that preempts all state quarantines, according to the Plant Protection Act of 2000.

Our lab at Auburn is testing the submitted plants (mostly camellias with a few lilac, strawberry bush, and viburnum) for *Phytophthora ramorum* using ELISA and culture techniques. If we find a positive ELISA or questionable ELISA result (genus level identification), we are doing culture work to identify the Phytophthora species. Some *Pythium* spp. will react to give positive ELISA results with the Phytophthora antibody. Thus far, we have not been able to confirm the presence of Phytophthora in any of the 114 leaf and twig samples thus far tested. These tests are being conducted in all states where nursery plants had been received from the *P. ramorum* confirmed nurseries in California, Oregon, WA, or British Columbia. Thus far some *P. ramorum* plants have been confirmed in Florida, Georgia, Mississippi, and Virginia. Any plants found positive for *P. ramorum* at land grant university diagnostic labs (All labs are following the same testing protocol.) are directed to send cultures to the USDA lab at Beltsville for PCR confirmation. We know this pathogen causes oak tree mortality in California, and it could have devastating effects on oak trees through out the country. *P. ramorum* will also cause a foliage leaf blight/leaf spot on many other landscape shrubs and trees including camellia, rhododendrons, azaleas, Pieris, lilac, viburnum, and others. See web site given above for a complete listing of known susceptible plants. Many of the camellia plants we have received contained a leaf spot/blight caused by an anthracnose pathogen.

The Phytophthora and Pythium root rots that were reported in March on alfalfa, boxwood, gardenia, & juniper showed foliage dieback and lower leaf yellowing/drop along with root death. The two fungi are dependent on wet conditions for their activity. Plant removal and improving soil drainage is the usual recommendation in a landscape situation.

Cercospora spp. leaf spots are often seen while temperatures remain comfortable—in spring and fall. Circular brown or irregular lesions are often present. Spores move from plant to plant usually by wind or water-splash. Cleary's 3336, Halt, Daconil, or a mancozeb fungicide such as Dithane T/O or Protect T/O will control *Cercospora*. Check labels for plants listed.

Botryosphaeria cankers will occur on many trees and shrubs where wounds have occurred. Stressed plants are known to be more susceptible to *Botryosphaeria*. Cankers are typically elongate with cracked edges. Pruning is the usual recommendation. Make cuts 3-4 inches from the edge of the lesion. Cleary's 3336 or Halt could be applied as a protective treatment, if desired.

Pestalotia leaf spots are similar to *Botryosphaeria* in that they are often (but not always) associated with stressed plant situations. Depending upon the plant, spots may be gray, light brown, or dark brown, circular or irregular in shape. *Pestalotia* is typically easy to control. Removing fallen leaves and removal of stress situation may be sufficient for disease control. If a protective fungicide is needed, Cleary's 3336 or Halt would be effective.

Table 1. 2004 March Diseases Seen In The Auburn Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Alfalfa	Pythium Root Rot	Lauderdale
Aucuba	<i>Pestalotia</i> Leaf Spot	Dallas
Bean, Garden	<i>Rhizoctonia solani</i> Crown Rot	Lee
Bermuda	Spring Dead Spot (<i>Gaeumannomyces graminis</i> graminis)	Escambia, Montgomery, Shelby
Boxwood	<i>Phytophthora</i> Root Decay	Dallas
	Pythium Root Decay	Colbert, Dallas
Cleyera	<i>Cercospora</i> Leaf Spot	Escambia
	<i>Entomosporium</i> Leaf Spot	Russell
Cryptomeria	<i>Botryosphaeria</i> Canker	Autauga
Fern	Anthracnose- <i>Colletotrichum</i>	Cullman

Gardenia	Pestalotia Leaf Spot	Dallas
<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Phytophthora Crown & Root Rot	*
	Pythium Crown & Root Rot	*
Indian Hawthorn	Entomosporium Leaf Spot	Lee
Juniper	Pestalotia Twig Cankers	Montgomery
	Phytophthora Root Rot	Cullman, Montgomery
	Pythium Root Rot	Montgomery
Ligustrum	Cercospora Leaf Spot	Lee
Nemesia	Fusarium Crown Rot	*
Oregano	Slime Mold	*
Pine, White	Sooty Mold	Elmore
Plum	Botryosphaeria Canker	Autauga
<i>Poa trivialis</i>	Pythium Blight	Escambia
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Escambia
	Take-All Patch (<i>Gaeumanomyces graminis graminis</i>)	Elmore, Montgomery
Tomato	Early Blight- <i>Alternaria</i>	Lee

*Counties are not reported for greenhouse and nursery samples.

Birmingham Plant Disease Report-March (J. Jacobi)

March was warmer and drier than normal (3.0 inches below normal at the Birmingham Airport). Some of the problems seen last month included basal crown rot on bentgrass, spring dead spot on bermuda, black root rot on holly and petunia, eriophyid mites on rose and dwarf Alberta spruce, and cedar-quince rust.

Boxwood leafminer was a frequent problem last month. Infested leaves are often off-color (yellow-orange or brown) and may drop earlier than healthy leaves. The leaf miner overwinters within the leaf as larvae. Adults emerge the following spring just as growth starts on the boxwoods. These small, orangish flies (less than 1/8 inch) can be seen swarming around boxwoods, especially in the morning. The adults have emerged in the Birmingham area and are active at this time. Insecticides that contain the active ingredients acephate (Ortho Systemic Insect Control) or imidacloprid (Merit, Bayer Tree and Shrub Insect Control) are both effective control measures. Follow label instructions carefully.

Table 2. 2004 March Problems Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Bentgrass	Basal Crown Rot (<i>Colletotrichum</i>)	*
Bermudagrass	Spring Dead Spot	Shelby
Boxwood, American	Boxwood Leaf Miner	Jefferson(2)
Camellia	Cottony Camellia Scale/Sooty Mold	Shelby
	Tea Scale	Shelby
Cherry Laurel	Cercospora Leaf Spot	Jefferson(3)
	Southern Red Mite	Jefferson
	White Peach Scale	Jefferson
Chinese Fringe Tree	Armillaria Root Rot	Jefferson
Cleyera	Cercospora Leaf Spot	Jefferson
Coleus	Botrytis Blight	*
Gardenia	Wax Scale	Jefferson
	Whiteflies/Sooty Mold	Jefferson/Shelby
Holly, Japanese	Black Root Rot (<i>Thielaviopsis</i>)	Jefferson
Iris	Thrips	Jefferson
Juniper	Cedar-Quince Rust	Jefferson

	Phytophthora Root Rot	Jefferson
Petunia <u>Plant</u>	Black Root Rot (<i>Thielaviopsis</i>) <u>Problem</u>	* <u>County</u>
Rose	Eriophyid Mites	Jefferson
Spruce 'Dwarf Alberta'	Eriophyid Mites	Jefferson
Sweet Potato	Fusarium Crown Rot	Cullman

*Counties are not reported for greenhouse and nursery samples.

Table. 3. March 2004 Insects Identified at the Auburn Plant Diagnostic Lab (C. Ray).

Scale Insects(6) and Mites (3) were the groups most commonly detected. Heavy infestations of Tuliptree Scale and False Spider Mites caused damage to ornamental plants in Russell and Etowah counties. Early spring swarms of termites and carpenter ants were noted in several counties.

County	"Crop"	Category	Identification
Houston	Home	Household-Miscellaneous	Psocopteran
Montgomery	Home	Household - Miscellaneous	House Spider
Marion	Magnolia	Ornamental	False Oleander Scale
Russell	Ilex x attenuata	Ornamental	mites/homopteran damage noted
Butler	N/A	Household-Miscellaneous	Wolf Spider
Limestone	N/A	Household-Miscellaneous	Carpenter & Odorous House Ants
Cullman	Fern	Ornamental	Aphids
Baldwin	N/A	Stored Grain Pest	Maize Weevil
Jefferson	Gardenia	Ornamental	Whitefly
Choctaw	Elberta Peach	Fruit Tree	White Peach Scale
Lawrence	Tifblue Blueberry	Fruit Tree	Possible Flatidae damage
Montgomery	Church	Structure Infesting -	Paper Wasps

County	"Crop"	Catagory	Identification
		Miscellaneous	
Russell	Magnolia	Ornamental	Tuliptree Scale
Russell	Michelia fuscata	Ornamental	Tuliptree Scale
Butler	Household	Structure Infesting - Miscellaneous	Black Carpenter Ant
Elmore	Magnolia grandiflora	Ornamental	False Oleander Scale
Lee	Diffenbachia	Ornamental	Aphid
Lee	Diffenbachia	Ornamental	Spider Mite
Jefferson	Oak	Wood-Boring	Tile-Horned Prionus Beetle
Montgomery	Juniper	Ornamental	No arthropod detected
Etowah	Arbor vitae	Ornamental	False Spider Mite
Etowah	Arbor vitae	Ornamental	No arthropod detected
Montgomery	Juniper	Ornamental	Latania scale
Tuscaloosa	Home	Household-Termites	Eastern Subterranean Termites
Wilcox	Peach	Fruit Tree	Asian Ambrosian Beetle
Wilcox	Chestnut	Ornamental	Asian Ambrosian Beetle
Russell	Leyland Cypress	Ornamental	No arthropod detected
Montgomery	Juniper	Ornamental	No arthropod detected

Disease Possibilities For April

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. Samples received in early April contained several turf grasses with brown patch.

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>
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Many Ornamentals	Powdery Mildew	White-buff colored, raised dots or pads of mycelium.	Fungicides; See Cir. ANR-407.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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 diam), 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.
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 Ala. Pesticide

Handbook; Pruning.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 (1/8-1/4 inch diam.) 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	Anthracnose (<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 Ala. Pest Management Handbook.
	Exobasidium Gall	Swollen blossom, 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 Ala. Pest Management Handbook.
	Ovulinia Petal Blight	Small white-brown spots enlarge to become large browned areas on the blossoms.	See Ala. 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 & roots become brown and water-soaked.	Sanitation; See Ala. 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. Pest Management Handbook.
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 Ala. Pest Management Handbook or spray guide.
Beans, Butter	Alternaria Leaf Spot	Gray or dark gray irregularly-shaped spots of variable size.	Sanitation; See the Ala. Pest Management Handbook under Anthracnose.
Beans, Garden	Pythium Seedling Disease	Lower stems become water-soaked, flaccid, and slightly dis-colored. Plants eventually collapse with stems dry and shrivelled.	Do not over-water garden or flower bed. See Ala. Pest Management Handbook.
	Fusarium Seedling Blight	Lower stems and roots become reddish brown and dry rotted.	Sanitation. Crop rotation. Resistant varieties.
	Rhizoctonia Crown Rot	Brown sunken lesions on the lower stem near the soil line.	See the Ala. Pest Management Handbook. Sanitation.
Bee Balm	Powdery Mildew	Leaf distortions; powdery white dusty patches on foliage leaves (upper leaf surfaces) and stems.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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. Brown lesions present on individual grass blades.	Reduce nitrogen fertilization. Protective fungicide treatments.
	Pythium Blight	Foliage becomes pale brown and water-soaked.	See Ala. 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 Ala. Pest Management Handbook.
	Rhizoctonia Brown Patch	See bentgrass.	See bentgrass comments.
	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. Pest Management Handbook, or spray guide.
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.
	Phytophthora Root Rot	Small and large roots become brown, rotted, and wet; foliage shows lower leaf yellowing and dieback.	

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sanitation; reduce water levels in the	area; see AL Pest Management Hand-	book for protective fungicide	treatments.
Cabbage	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 becomes 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 Ala. 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-68.
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Light brown, large, circular patches occur on lawns; grass blades show medium brown lesions.	See Ala. 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, 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.

Plant

Disease

Description

Control

Chrysanthemum

Rhizoctonia Root
Rot

Roots become
brown, decayed and
dried.

Sanitation. See the
Alabama Pest
Management
Hand-book.

Cleyera

Anthrachnose
(*Colletotrichum*)

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.

Corn

Pythium Seedling
Disease

Lower stems turn
pale brown, become
water-soaked, and
collapse.

Crabapple

Black Rot
(*Botryosphaeria
obtusa*)

Twig cankers are
present; frog-eye
leaf spot

Prune out cankers;
Dithane will provide
protective disease
control.

Cedar Apple Rust
(*Gymnosporanium*)

Light yellow spots (1
cm or 0.5 inch
diam.) on leaves;
leaf fall when spots
are numerous.

See the Ala. Pest
Management Hand-
book.

Cypress, Leyland

Cercospora Blight

Sunken cankers
with sap flow.

Sanitation. See the
AL Pest
Management
Handbook.

Daylily

Kabatiella 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.

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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. 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.
	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sanitation; See Ala.	Pest Management	Handbook.	
English Ivy	Pythium Root Rot	Ivy older foliage turns yellow; plant wilt; dieback 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 Ala. 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 Ala. 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 Ala. Pest Management Handbook under Helminthosporium Leaf Spot and Crown rot (melting out).
Forsythia	Crown Gall	Woody Galls on lower stem/trunk near the soil line.	Sanitation; crop rotation to boxwood, holly, redbud or other nonsusceptible plants. See ANR-

944.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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 Ala. Pest Management Handbook. Sanitation.
	Fusarium Root Decay	Dieback, lower foliage turns yellow, root decay.	Sanitation. See the AL Pest Management Handbook.
	Rust (<i>Puccinia</i>)	Yellow spots on leaves; yellow spots develop orange, powdery pustules; leaf drop.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Grape	Anthracnose (<i>Gloeosporium</i>)	Circular-irregular brown blotches/spots (3-5 mm diam.) with brown-black margins. Spot centers may become light colored & dry. Damage may be severe with fruit rot and dieback.	See the Ala. Pest Management Handbook or spray guide; Sanitation.
	Black Rot (<i>Guignardia</i>)	Medium-dark brown irregular spots (approx. 5 mm diam.) on leaves and fruit.	See Ala. Pest Management Handbook. Sanitation or spray guide.
Hawthorn, Indian	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 Ala. Pest Management Handbook.
Holly, Helli	Phytophthora Root Rot	Roots become brown and decayed. Outer tissues easily pull away from the root central core.	See the Ala. Pest Management Handbook.
Holly	Colletotrichum Leaf Spot	Black circular spots (about 5mm diam.) 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 (1-2mm diam.) 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>
Hosta	Colletotrichum Leaf Spot	Circular, brown leaf spots.	Sanitation. Cleary's 3336 will help control this disease.
Hydrangea	Anthracnose (<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	Bacterial Leaf Spot	Small (2-5mm), dark, angular spots on leaves.	Sanitation; irrigate at soil level.
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 Hand-book under 'Damping-off' or 'Phytophthora Root Rot', for commercial situations.
Indian Hawthorn	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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Iris	Heterosporium Leaf Spot	Dark brown oval leaf spots become larger brown blotches; sometimes a halo is present.	Sanitation. See Ala. 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	Botryosphaeria Canker	Elongated, sunken, cracked stem lesions.	Pruning. Protective sprays of Cleary's 3336.
	Anthrachnose (<i>Colletotrichum</i>)	Brown irregular spots (3 mm diam. & larger) that sometimes occur along veins.	Sanitation. See the Ala. Pesticide Hand-book. Use Cleary's 3336 or Domain.
	Bacterial Leaf Spot	Small (2-4mm diam.), angular, dark leaf spots with wet looking edges on leaves.	Sanitation. See the Ala. Pest Management Handbook.
	Edema	Small, brown, corky spots on lower leaf surfaces.	Reduce irrigation.
Fusarium/Pythium Root Decay	Roots become brown decayed, dried and also wet rotted.	Sanitation. Banrot protective treatments.	
Japanese Pagoda Tree	<i>Nectria</i> Canker	Sunken canker with tiny orange raised specks scattered over lesion.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Juniper	Phomopsis Tip Blight	Dieback.	Pruning; Fungicide application. See the Ala. Pesticide Handbook.
	Cedar-Apple Rust (<i>Gymnosporangium</i>)	Large woody spherical galls (2-5 cm diam.) 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 Hand-book for protective fungicide treatments.
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.
Leyland Cypress	Cercospora Needle Blight	Beginning with lower branches and inner needles, blight develops and spreads upward & outward.	Sanitation; protective sprays of Cleary's 3336.
	Seiridium Canker	Elongated sunken lesions on trunk usually with sap oozing around lesion edge.	Pruning. See Ala. Pest Management Handbook.
<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 diam.) with slightly wavy margins.	Usually none. Sanitation.
	Phyllosticta Leaf Spot	Brown irregular spots (3 mm diam. 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	Anthraco nose (<i>Kabatiella</i>)	Brown, irregularly-circular spots which often follow along leaf veins. Spots begin small, but may develop to involve larger portions of leaves.	See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phomopsis Canker	Brown-gray elliptical sunken lesions on smaller branches, twigs.	Sanitation.
Maple, Red	Phyllosticta Leaf Spot	Circular pale brown spots with darker brown borders (about ¼ inch diam.).	--
	Pythium Root Rot (Seedlings)	Roots brown, water-soaked, rotted.	Sanitation. Reduce watering schedules.
Marigold	Alternaria Leaf Spot	Black circular or irregular leaf spots (1-3 mm diam.).	See Ala. 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 develops.	Sanitation; Banrot, or Cleary's 3336 (or Halt) will provide some protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Oak	Anthracnose (<i>Apiognomonina</i>)	Brown-black spots and irregular blotches which often develop along leaf edges and/or leaf veins.	Sanitation. See Ala. Pest Management Handbook.
	Algal Leaf Spot (<i>Cephaleuros</i>)	Gray-green or brown-red spots with irregular margins (1 cm or ¾ inch diam.) on leaves; spots may coalesce.	See Ala. Pest Management Handbook.
	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 diam.) on leaves. As spots age, they change from a light green-brown color to a medium-dark brown.	See Ala. Pest Management Handbook.
	Powdery Mildew	White powdery dust-ing 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.	---

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. Pest Management Handbook.
	Colletotrichum Leaf Spot	Circular gray spots with dark borders.	See the Ala. Pest Management Handbook.
	Fusarium Crown Rot	Lower stems develop a reddish brown decay.	Sanitation.
	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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	<i>Thielaviopsis</i> Black Root Rot	Black lesions on roots. Plants are stunted.	Sanitation. See the Ala. Pest Management

Handbook.

Peach	Bacterial Canker-Gummosis (<i>Pseudomonas</i>)	Sunken, wet blackened areas on trunk/ branches. There is usually excessive gum production associated 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 Ala. Pest Management Handbook or spray guide.
	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 Ala. Pest Management Handbook or spray guide.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		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
(*Criconemoides*)

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
or/and 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
diam.).

Sanitation. See the
Ala. Pest
Management
Handbook.

Fireblight (*Erwinia*)

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
Ala. Pest
Management
Handbook.

Plant

Disease

Description

Control

Frogeye Leaf Spot
(*Botryosphaeria*)

Small purple flecks
usually enlarge to

circular brown
lesions 4-5 mm in

diam. Lesion margins are purple; centers are tan or brown.	See Ala. Pest Management Handbook.		
Peas, Field	Pythium Seedling Disease	Lower stems become soft, water-soaked and pale brown. Plants fall over.	See Ala. 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 Pest Management Hand-book.
Pepper	Bacterial Leaf Spot	Dark, small (2-5mm), angular leaf spots with wet looking edges.	Sanitation. See the Ala. Pest Management Handbook.
Periwinkle	Botrytis Blight	Brown gray spot/blight.	Sanitation. Increase air circulation. Increase temperature. See the Ala. Pest Management Handbook.
	Phyllosticta Leaf Spot	Medium-brown, circular-oval spots (5 mm diam.).	Sanitation; Protective sprays of Cleary's 3336 or Domain.
	Phytophthora Blight	Brown lesions on leaves and stems.	Sanitation. See Ala. 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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Photinia	Anthracnose (<i>Colletotrichum</i>)	Light-brown, zonate spots (10-15 mm or <u> </u> inch long) sometimes associated with leaf margins.	Sanitation; See Ala. 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.
	Entomosporium Leaf Spot	Red-black spots (5-10 mm diam.) 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</i> f. sp. <i>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 Ala. Pest Management Handbook.
	Lophodermium (<i>Ploioiderma</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 Ala. Pest Management Handbook.

Plant

Disease

Description

Control

	Rhizosphaeria Needle Blight, Twig Blight	Needles and small twigs turn brown, die.	Sanitation. See spray recommen- dations for needle cast; may need to continue in summer.
Pine, Slash	Rhizosphaeria Needle Blight	See Pine, Loblolly.	
Pine, Virginia	Ploioderma Needle Cast	See Loblolly Pine.	
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.	
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small (2-5 mm diam.) 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 Cir. ANR-217 or the Ala. Pest Management Handbook.
Potato, Irish	Bacterial Soft Rot (<i>Erwinia spp.</i>)	Cream-tan colored, wet rot of tubers. As rot ages, secondary bacteria cause foul smell.	Sanitation; avoid wounds.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. 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.
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.

Plant

Disease

Description

Control

Black Spot
(*Diplocarpon*)

Black spots (1/4-1/2 inch diam. or 4-8 mm) with feathery margins.

Follow a regular spray schedule; sanitation.

Brown Canker
(*Diaporthe umbrina*)

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
(*Pernospora*)

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 Ala. Pest Management Handbook. Decrease humidity.

Powdery Mildew
(*Sphaerotheca*)

Whitish powdery growth on leaf surfaces; new growth may be distorted; leaves dry & turn yellow then brown; leaf drop.

See Ala. Pest Management Handbook.

Stem Canker
(*Coniothyrium*)

Cankers are gray-brown and may be very large.

Sanitation. See AL Pest Management Handbook.

Rudbeckia

Fusarium Root Rot

Root decay; dry rot; dieback.

Sanitation; crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ryegrass	Helminthosporium (<i>Bipolaris</i>) Leaf Spot	Small, brown, elliptical spots which may coalesce.	See ANR-621 or the Alabama Pest Management Handbook.
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 Ala. 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.
	Anthracnose-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 Ala. 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 Ala. Pest Management Handbook.

Mycosphaerella Leaf Spot (Common)

Deep purple small spots become 3-6 mm diam. with white centers and reddish edges.

See Ala. Pest Management Handbook.

Sycamore

Anthracoise (*Colletotrichum*)

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 (*Xanthomonas*)

Small black circular or angular spots that become cream-colored with age.

See Ala. Pest Management Handbook.

Botrytis Blight

Brown-gray leaf blotches.

Sanitation. See the AL Pest Management Handbook.

Plant

Disease

Description

Control

Early Blight

See Irish Potato.

	Late Blight	See Irish Potato.	
	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.
Tulip Poplar	Alternaria Leaf Spot	Medium-brown, circular-irregular spots (1-2 cm or $\frac{1}{2}$ inch long).	Sanitation.
Turnips	Cercospora Leaf Spot	White-light gray, circular-irregular, small-large (1 cm) spots on foliage.	Sanitation. See the Ala. Pest Management Handbook.
Watermelon	Fusarium Root Rot	Lower leaves yellowed; yellowing and wilt spreads upward in plant.	Crop rotation or plant resistant varieties.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Wheat	Barley Yellow Dwarf Virus	Foliage yellows, becomes stunted	and root systems are abnormally

shallow. Leaves may become distorted.

Delay planting date in the fall; some varieties show moderate resistance.

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 (*Ustilago*)

Spikelets become filled with brown-black masses of spores.

Seed treatment; resistant varieties.

Powdery Mildew (*Erysiphe*)

Leaves become covered with a white-buff colored powdery coating. Infected leaves eventually yellow and die.

See Ala. Pest Management Handbook.

Puccinia Leaf Rust

Orange-red, powdery, raised pustules (1-5 mm diam.) scattered over leaf blades.

See Ala. Pest Management Handbook or spray guide.

Puccinia Stem Rust (*Puccinia graminis f. sp. tritici*)

Yellow flecks and orange elongated pustules on leaves and stems; leaf blight.

Resistant varieties; fungicide protective sprays; See Ala. Pest Management Hand-book.

Septoria Leaf Spot

Yellow flecks on lower leaves become irregular (1-5 - 4-15 mm), lens-shaped, brown spots.

Use disease-free seed. See Ala. Pest Management Handbook or spray guide.

Plant

Disease

Description

Control

Septoria Leaf & Glume Blotch (S.

nodorum)

Yellow, tan, or brown, oval or lens-

shaped spots (about 1 cm long) on leaves. On glumes, a general gray-brown dis-coloration begins at glume tip and moves downward. Tiny black fruiting bodies may be sprinkled on browned glume areas.

See Ala. 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.
	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 Alabama Pest Management Handbook.
	Rust (<i>Puccinia</i>)	Grass blades become covered with orange-brown dusty pustules of spores.	See the Ala. Pest Management Handbook or ANR-621.
	Take-All (<i>Gaeumannomyces</i>)	See St. Augustine.	
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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 blue plant questionnaire whether you want the lab service charge applied to the client or to the central ACES budget (Educational). Also, please fill out the 'blue sheet' with as much information as possible. Thanks! (We are preparing new diagnosis and nematode analysis forms. Hopefully we will notify you soon that they are ready and available.)