

TIMELY INFORMATION

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JULY PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB

JULY PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

JULY INSECT SAMPLES AT THE AUBURN PLANT DIAGNOSTIC LAB

DISEASE POSSIBILITIES FOR AUGUST & LATE SUMMER

LAB NOTES

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Auburn Plant Disease Report-July (J. Mullen)

Many of the 130 plant samples submitted in July were ornamental plants. The July sample number was just slightly above half of the plant sample number received in July of 2005. The severe drought of this summer was not conducive to plant development or diseases.

Many (37 or 35%) samples were submitted by State Department of Agriculture Inspectors for *P. ramorum* testing of trace forward plants or as part of a national *P. ramorum* survey. In May, the survey detected one camellia plant that was PCR confirmed positive for *P. ramorum*. PCR *P. ramorum* confirmation was done at the University of Florida and at the USDA Molecular Lab at Beltsville, MD.

We found tomato spotted wilt virus on tomato, pepper, and zinnia, and peanuts. This virus was an extensive problem on tomatoes this summer.

The most unusual problem in July was ergot on bahia grass. Ergot is a disease of grasses that causes the replacement of seed with a hard, black, elongated *sclerotium*. This disease is noteworthy because the sclerotia contain chemical substances called alkaloids that are potent toxins. In the middle ages, people unknowingly consumed the ergots along with wheat made into flour. The alkaloids caused people to have hallucinations and develop other disorders including convulsions, swollen limbs, gangrene of body extremities, and burning sensations. With livestock, reproductive failure and gangrene of animal extremities can result if more than 0.3% by weight is fed to livestock. The incidence of the ergot on the sample I saw was low but in some areas, incidence may have been higher. The ergots were under a thick layer of a black sooty mold-like fungus, *Cerebella andropogonis*, which develops on the seed heads where the sweet ‘honeydew’ has been produced by plants infected with ergot.

The grass should be mowed or grazed before flowering. Deep plowing or crop rotation for one year to a non-cereal would help eliminate the ergot from the field. Mowing of seed heads now could allow the cattle to feed on the bahia leaves.

Table 1. Plant Diseases Seen At The Auburn Plant Diagnostic Lab in July.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Azalea	Phomopsis, Botryosphaeria Canker	Mobile
Bahia	Ergot (<i>Claviceps</i> sp.)	Henry
	Sooty Mold-Like Fungus (<i>Cerebella andropogonis</i>)	Henry
Bermuda	Bipolaris Blight	Lee, Montgomery
	Exserohilum Blight	Elmore
	Ring Nematode Problem (<i>Criconemoides</i> sp.)	Montgomery
Bermuda (Hay)	Bipolaris Leaf Spot	Marshall
	Drechslera Leaf Spot	Marshall
Camellia	Phytophthora Leaf Spot (Not <i>P. ramorum</i>)	*(2)

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Centipede	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Jefferson
Chrysanthemum	Fusarium Crown Rot	*
	Phytophthora Root Rot	*
	Pythium Root Rot	*
Dracaena	Colletotrichum Leaf Spot	Russell
Gardenia	Phytophthora Root Rot	*
Juniper	Pestalotia Tip Dieback	Baldwin
Kudzu	Cercospora Leaf Spot	Mobile
Leyland Cypress	Seiridium Canker	Cullman
Ligustrum	Pythium Root Rot	*
Liriope	Colletotrichum Crown Rot	Baldwin
	Fusarium Crown Rot	Baldwin
	Fusarium Root Rot	Baldwin
	Phytophthora Crown Rot	Baldwin
	Phytophthora Root Rot	Baldwin
	Pythium Root Rot	Baldwin
Palm, Pony Tail	Rhizoctonia Crown Rot	Baldwin
	Alternaria Leaf Spot	Russell
Palm, Sago	<i>Alternaria alternata</i> Leaf Spot	Montgomery
Peony	<i>Sclerotium rolfsii</i> Crown Rot	Lee
Pepper	Tomato Spotted Wilt Virus	Randolph

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Soybean	Downy Mildew (<i>Peronospora</i>)	Cherokee
St. Augustine	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Covington, Greene, Mobile, Sumter
Tomato	<i>Alternaria alternata</i> Black Mold (On Fruit)	Lee, Lawrence
	Anthracnose Fruit Rot	Lee
	Buckeye Rot (<i>Phytophthora nicotiana</i>) (Fruit)	Lee
	Fusarium Wilt (<i>Fusarium oxysporum</i>)	Jackson, Macon
	Root-Knot Nematode (<i>Meloidogyne</i>)	Covington
	Tomato Spotted Wilt Virus	Macon
Viburnum	Phytophthora Leaf Spot (Not <i>P. ramorum</i>)	*
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Monroe
	Exserohilum Blight	Baldwin
	Ring Nematode Damage (<i>Criconemoides</i> sp.)	Shelby
	Rust (<i>Puccinia</i> sp.)	Colbert, Shelby
	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Baldwin

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

Birmingham Plant Disease Report-July (J. Jacobi)

We received 76 samples for the month of July, which is down about 40% from the previous year. A large proportion of the problems were directly related to the continuing drought. Some of the disease problems seen last month included aster yellows on coneflower, *Cylindrosporium* leaf

spot on weeping mulberry, bacterial wilt on tomato and zinnia, and tomato spotted wilt virus on zinnia.

Aster yellows is a problem we see a few times each summer on purple coneflower. The disease is caused by a phytoplasma, which are microscopic organisms similar to bacteria. Common symptoms include the production of distorted greenish flowers with numerous miniature flowers growing out of the center of each flower in a witch's broom. Phytoplasmas are spread from plant to plant by leafhoppers. Once the plant is infected there is no way to cure it. So, remove and destroy infected plants. Other flowers susceptible to aster yellows include cosmos, blanket flower (*Gaillardia*), marigold, and several others.

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

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Azalea	Azalea Bark Scale	Jefferson
	Azalea Lacebug	Jefferson
	Phomopsis Dieback	Jefferson
Bentgrass	Anthracnose	* (2)
	Brown Patch	*
Bermudagrass	Bermudagrass Scale	Jefferson
	Biopolaris Leaf Spot & Crown Rot	Jefferson (2)
	Slime Mold	Jefferson
Boxwood, Common	Volutella Blight	Jefferson
	Pythium Root Rot	Jefferson
Camellia	Camellia Dieback (<i>Colletotrichum</i>)	Jefferson (2)
	Tea Scale	Jefferson (2)
Cleyera	Cottony Cushion Scale	Jefferson
Coneflower	Aster Yellows	Jefferson
Cyptomeria	Spruce Spider Mite	Shelby
Cypress, Bald	Cypress Twig Midge Gall	Jefferson
Hickory	Long Horned Beetle	Jefferson

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Holly, Chinese	Wax Scale	Jefferson
Hydrangea, Bigleaf	Anthracnose (<i>Colletotrichum</i>)	Jefferson
	Roundup Damage	Jefferson
Juniper	Spruce Spider Mite	Jefferson
Juniper, Andorra	Fletcher Scale	Colbert
Mondograss	Pythium Root Rot	Jefferson
Mulberry, Weeping	Cylindrosporium Leaf Spot	Jefferson
Oak, Willow	Oak Spider Mite	Jefferson
Okra	Alternaria Leaf Spot	Baldwin
Tomato	Bacterial Canker	Cullman
	Bacterial Wilt (<i>Ralstonia</i>)	Jefferson
	Fertilizer Injury	Cullman
	Southern Blight	Tuscaloosa
Zinnia	Bacterial Wilt (<i>Ralstonia</i>)	Baldwin
	Tomato Spotted Wilt Virus	Baldwin
Zoysia	Curvularia Blight	Jefferson (2)

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

Auburn Entomology Report-July (C. Ray)

COUNTY	CROP	CATEGORY	SPECIMEN NAME
Houston	Home	Household-Miscellaneous	Insect debris, probably ant trash pile
Greene	Trap	Miscellaneous	Japanese Beetle, <i>Popillia japonica</i>
Pickens	Trap	Miscellaneous	Japanese Beetle, <i>Popillia japonica</i>
Shelby	Home	Miscellaneous	Oribatid Mites
Elmore	Leyland Cypress	Ornamental	Bagworms, Psychidae
Mobile	Tree	Miscellaneous	Tiphiid Wasp, Tiphiidae
Marion	Lawn	Miscellaneous	Carpenter Ant, <i>Camponotus</i> sp.
Jefferson	Hickory	Ornamental	A Long-Horned Wood Boring Beetle, <i>Neoclytus mucronatus</i>
Limestone	Blueberry	Fruits	Yellow-Necked Caterpillar, <i>Datana ministra</i>
Lee	Home	Household-Miscellaneous	Small Hive Beetle Larvae, <i>Aethina tumida</i>
Russell		Miscellaneous	Southern Yellow Jacket, <i>Vespula squamosa</i>
Elmore	Home	Household-Stored Product	A Granary Weevil, <i>Sitophilus</i> sp.
Geneva	None	Miscellaneous	Trapdoor Spider, <i>Ummidia</i> sp.
Baldwin	"Juniper"	Ornamental	Spider Mite Damage and Maskell Scale, <i>Lepidosaphes pallida</i>

COUNTY	CROP	CATEGORY	SPECIMEN NAME
Jefferson		Miscellaneous	Pale Bordered Cockroach, <i>Pseudomops septentrionalis</i>
Covington	Tomato	Row Crop	Spider Mites, Tetranychidae
Mobile		Miscellaneous	Bumblebee Clearwing Sphinx Moth, <i>Hemaris</i> sp.
Choctaw	Garden	Row Crops	Eastern Lubber Grasshopper, <i>Romalea microptera</i>
Geneva	Okra & Tomatoes	Row Crops	Tiger Beetle, <i>Megacephala caroliniana</i>
Montgomery	Home	Miscellaneous	Great Golden Digger Wasp, <i>Sphex ichneumon</i>
Covington	Sweet Potato	Row Crops	Sweet Potato Weevil, <i>Cylas formicarius</i>
Lee	Home	Household-Miscellaneous	Eastern Yellow Jacket, <i>Vespula maculifrons</i>
North Carolina	Hemlock	Ornamental	Hemlock Woolly Adelgid, <i>Adelges tsugae</i>
Tuscaloosa	Home	Household-Miscellaneous	Ring Legged Earwig, <i>Euborellia annulipes</i>
Mobile	Oak	Ornamental	Bark Lice, Psocoptera
Limestone		Miscellaneous	Lesser Pine Borer, <i>Acanthocinus nodosus</i>

COUNTY	CROP	CATEGORY	SPECIMEN NAME
Baldwin	<i>Erythrina</i> sp.	Ornamental	A Pyralid Moth, <i>Agathodes designalis</i>
Montgomery	None	Miscellaneous	Cicada Killer Wasp, <i>Sphecius speciosus</i>
Elmore	None	Miscellaneous	Cicada Killer Wasp, <i>Sphecius speciosus</i>
Montgomery	Human	Medical	A Juvenile Orb Weaver Spider
Mobile	Trap	Miscellaneous	Spangled Flower Beetle, <i>Euphorbia</i> sp., & a Long-Horned Wood Boring Beetle, <i>Strangalia luteicornis</i>
Washington	Trap	Miscellaneous	Spangled Flower Beetle, <i>Euphorbia</i> sp.
Marshall	Ivy	Ornamental	Lady Beetle Pupae, Coccinellidae
Lee	Home	Household-Miscellaneous	Hatchling Periplaneta Cockroaches
Barbour	Warehouse	Miscellaneous	A Theridiid Spider, <i>Argyrodes</i> sp.
Baldwin	Willow Oak	Ornamental	Pineapple Beetle, <i>Urophorus humeralis</i>
Calhoun	Unknown	Stored Products	A Darkling Beetle, <i>Sitophagus hololeptoides</i>
Choctaw	Pittosporum	Ornamental	Cottony Cushion Scale, <i>Icerya purchasi</i>

COUNTY	CROP	CATEGORY	SPECIMEN NAME
Mobile	Lauropetalum	Ornamental	Yellow Mites, Tarsonemid Mites, Flat Mites, Eriophyid Mites and Phytoseiid Mites
Dallas	Cryptomeria	Ornamental	Eastern Subterranean Termite, <i>Reticulotermes flavipes</i>
DeKalb			Cicada Killer Wasp, <i>Sphecius speciosus</i>

Disease Possibilities For August & Late Summer

So far in August, scattered thunderstorms have brought some moisture to very dry situations. Temperatures have fluctuated between the 80's and mid-90's. Many plant problems we are receiving relate to drought stress. Late summer is typically a time when we see a large increase of fungal leaf spots on foliage of woody ornamentals.

Table 3. Brief Disease Descriptions and Control Recommendations for Diseases Often Seen in August and Late Summer.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ageratum	<i>Sclerotium rolfsii</i> Crown Rot	Dieback, wilt, crown rot; a white mold with brown mustard-seed sized sclerotia present.	Sanitation. (Replace some soil.)
Ajuga	<i>Sclerotium rolfsii</i> Crown Rot	Stems collapse at soil line; a white mold with brown mustard-seed sized sclerotia present.	Sanitation; Solarization may help; See the AL Pest Management Handbook.
Apple	Bitter Rot on Fruit (<i>Colletotrichum</i>)	Small, circular, light-brown spots on the fruit. Spots enlarge and become sunken in the center. Concentric rings of pink pustules may occur. Rotted flesh is watery but not mushy.	Regular fungicide sprays. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Black Rot (<i>Botryosphaeria</i>)	<u>Fruit</u> : A brown spot on fruit that enlarges and usually becomes black; rotted flesh is firm. <u>Leaf</u> : Brown or yellowish-brown spots (1/8-1/4 inch diameter) with purple margins and irregular shape. <u>Canker</u> : Lesions on branches or trunk are slightly sunken, reddish-brown and show concentric rings of cracked bark.	Sanitation; recommend fungicide treatments.
	Fireblight (<i>Erwinia</i>)	During mid to late summer, fireblight bacteria are spread during wet conditions by insects and water droplets from blighted twigs and cankers to the edges of young leaves which develop black V-shaped and circular edge spots which slowly spread downward.	Prune affected areas 14 inches beyond damage. (Streptomycin is only recommended for protection of blossom infections.)
	Fly Speck (<i>Microthyriella</i>)	Tiny black dots occurring in groups on the surface of the apple skin.	Sanitation; see AL Pest Management Handbook or Fruit Spray Guide.
	Sooty Blotch (<i>Gloeodes</i>)	Blotches of gray (sooty appearance) on the apple skin; often associated with fly speck.	Sanitation; see AL Pest Management Handbook or Fruit Spray Guide.
	Southern Blight (<i>Sclerotium rolfsii</i>)	Sunken, water-soaked canker at base of the trunk; dieback.	Sanitation; solarization; fumigation; deep plowing to displace sclerotia away from root zone.
Arbor-vitae	Phomopsis Canker	Small brown, sunken lesions on small branches.	Sanitation. Cleary's 3336 or Halt.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phytophthora Root Rot	Roots show a wet, brown decay.	Sanitation. See AL Pest Management Handbook.
Arugula	Anthrachnose	Small, circular white leaf spots.	Sanitation. (See Ed Sikora.)
Aucuba	Botryosphaeria Canker (Blotch)	Black, large, irregular lesions on leaves and stems; dieback beyond cankers.	Sanitation; Cleary's 3336, Domain, or benomyl labeled for ornamentals.
	Helminthosporium Leaf Spot	Brown, elongate leaf lesion.	Sanitation. Cleary's 3336.
Azalea	Botryosphaeria Canker	Sunken stem lesions which often have cracking around lesion edges.	Sanitation. Cleary's 3336 or Halt.
	Phomopsis Dieback	White, powdery or dusty spots; later, spots are necrotic.	Pruning; See the AL Pest Management Handbook.
	<i>Phytophthora nictiana</i> Aerial Blight	Brown blotches develop on leaves. Brown lesions may develop on small twigs.	Sanitation. See the AL Pest Management Handbook under Phytophthora Shoot Blight.
	Phytophthora Crown/Root Rot	Crowns/roots become brown and wet or water-soaked.	See the AL Pest Management Handbook.
	Powdery Mildew	White dusty spots; later spots are necrotic.	See the AL Pest Management Handbook.
Bahia Grass	Dollar Spot (<i>Sclerotinia</i>)	White spots/lesions on leaf blades; whole sections of turf - beginning with dollar spot size areas - may become blighted. A problem during dry periods.	Frequent cutting.
Basil	Rhizoctonia Aerial Blight	Blight of foliage, esp., lower foliage.	-----
Beans, Garden	Anthrachnose (<i>Colletotrichum</i>)	Circular and irregular reddish spots develop on leaves and pods.	See the AL Pest Management Handbook or Vegetable Spray Guide.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium Wilt	Plants wilt easily when water is restricted; yellowing of lower leaves spreads up the plant.	Rotate the area away from beans for 10 years or solarization.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants are yellowed and stunted. Roots are galled.	Homeowners should use pre-plant treatment of solarization or crop rotation.
Beans, Butter	Mosaic Virus	Regular yellow blotches or patterns on foliage.	Remove diseased plants. Do not save seed. Control insects.
	Rhizoctonia Lower Stem Rot	Dark brown decay of lower stem.	Sanitation. See AL Pest Management Handbook.
Begonia	Pythium Root Rot - Rhizoctonia/Fusarium Lower Stem/Root Rot	Lower stem brown and decayed.	See the AL Pest Management Handbook.
	Ring Nematode (<i>Criconemoides</i>)	Areas of turf yellow and die.	Avoid stressful situations. Commercial turf areas may apply treatment.
	Root Knot Nematode (<i>Meloidogyne</i>)	Spherical-irregular galls on roots; stunted, non-vigorous plants.	Sanitation; crop rotation. See ANR-856.
	<i>Sclerotium rolfsii</i> Crown Rot	Dieback, wilt, crown rot.	Sanitation. (Replace root-associated soil.)
Bentgrass	Anthracnose (<i>Colletotrichum</i>)	Leaf spot and blight.	Collect grass clippings; apply protective sprays of Cleary's 3336.
	Pythium Blight	Grass blades become browned, wet, water-soaked, sometimes greasy-looking.	See the AL Pest Management Handbook.
	Pythium Root Rot	Dieback; root decay.	See the AL Pest Management Handbook.
	Rhizoctonia Brown Patch	Brown, irregular blotches on leaves; dead patches (1 or more feet diameter) in lawn.	See ANR-492 or the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Ring Nematode (<i>Criconemoides</i>)	Areas of turf yellow and die.	Avoid stressful situations. Commercial turf areas may be treated with protective nematicides.
	Sting Nematode Damage (<i>Belonolaimus</i>)	Areas of turf yellow and die.	Avoid stressful situations. commercial turf areas may be treated with protective nematicides.
	Stunt Nematode (<i>Tylenchorynchus</i>)	High levels of nematode can cause enough root damage to result in yellowing, stunting, and dieback.	Avoid stressful situations. Commercial turf areas may be treated with protective nematicides.
Bermuda	Bipolaris Leaf Spot/ Blight	Small, brown, elongate lesions. When numerous lesions cause entire leaf browning.	See ANR-621.
	Brown Patch (<i>Rhizoctonia</i>)	Brown, irregular blotches on leaves; dead patches (1 or more feet diameter) in lawn.	See ANR-492 or the AL Pest Management Handbook.
	Decline (<i>Gaeumannomyces</i>)	Thinning out of grass in patches.	Sanitation; Keep pH at 6.0; do not use nitrate fertilizers.
	Dollar Spot (<i>Sclerotinia</i>)	Silver dollar-sized, bleached-out spots appear in lawn. Spots enlarge. Individual grass blades develop white lesions with brown borders.	See the AL Pest Management Handbook.
	Exserohilum Crown Rot	Plants turn yellow and dieback. Crowns become decayed.	See ANR-621.
	Helminthosporium Blight/Leaf Spot	Leaf lesions are irregular shaped and brownish-green; old lesions become tan or white.	Sanitation; See ANR-621.
	Ring Nematode (<i>Criconemoides</i>)	Areas of turf yellow and die.	Avoid stressful situations. Commercial turf areas may be treated with protective nematicides.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Spiral Nematode (<i>Helicotylenchus</i>)	Areas of turf yellow and die.	Avoid stressful situations. Commercial turf areas may be treated with protective nematicides.
	Take-All Patch (<i>Gaeumannomyces</i>)	Yellowing of individual plants followed by dieback; thinning out of grass in patches.	See the AL Pest Management Handbook.
Birch, River	Anthracnose	Brown leaf spots and blotches; some times lesions follow along veins.	Sanitation of fallen leaves in the fall.
Blackberry	Cane & Leaf Rust (<i>Kuehneola</i>)	Canes & leaves develop yellow blotches and small yellow-orange powdery spots develop on the yellowed tissue areas.	Sanitation. See ANR-50 or the AL Pest Management Handbook.
	Downy Mildew (<i>Peronospora</i>)	Yellow leaf spots that will become dark gray or brown. When humidity levels are high, a thin, webby, gray mold appears on the lower leaf surface.	See ANR-50 for homeowner blackberries.
	Septoria Leaf Spot	New infection spots are greenish black and circular-angular. Older spots are gray-white with well-defined margin, 1-2 mm diameter; some shot-hole, defoliation.	Sanitation of fallen leaves; See AL Pest Management Handbook.
Blueberry	Botryosphaeria Canker	Dark, brown-black lesions on current year's growth. Foliage beyond the canker turns yellow and eventually the branch will die.	Pruning; Benlate sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phomopsis Cane Canker	Elongated, cracked, sunken cankers.	Prune out cankers, making cut 3-4 inches beyond the lesion edge.
	Septoria Leaf Spot	Small, circular, white-tan spots with purple borders; stem lesions are sunken with tan or gray centers with red-brown margin.	Follow recommendations for anthracnose on blueberry.
	Summer Stress Chlorosis	Plants become yellowed and sometimes leaves develop small red spots.	Increase irrigation and nitrogen application.
Boxwood	Macrophoma Blight	Leaves turn reddish or yellow; small black bodies are scattered on surface of off color leaves.	Pruning; eliminate stress; See the AL Pest Management Handbook.
	Phytophthora Root Rot	Roots are cream-colored; outer cortex slips readily away from the central core.	Sanitation. Improve water relations. See AL Pest Management Handbook.
	Pythium Feeder Root Rot	Roots are cream-colored; outer cortex slips readily away from the central core.	Sanitation. Improve water relations. See AL Pest Management Handbook.
	Volutella Blight	Twig and branch cankers develop; die-back; orange masses of spores may be visible.	Sanitation and pruning; remove stress factors; See the AL Pest Management Handbook.
Butterfly Bush	Dodder	A yellow, leafless vine on plant; sometimes small yellow-white flowers are present.	Remove vine before it produces flowers.
Cabbage, Ornamental	Fusarium Wilt	Plants leaves turn yellow; oldest leaves become yellow first. Wilt also occurs.	Remove damaged plants. Do not plant cabbage and related plants for 10 years.
Cactus	Fusarium Crown Rot	Crown area shows brown dried decay.	Sanitation; protective drenches of Cleary's 3336 or Halt.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Volutella Blight	Sunken elongated lesions on branches of twigs which may be covered by orange fruiting bodies of the fungus.	Improve growing conditions; eliminate any environmental stresses; See AL Pest Management Handbook.
Caladium	Pseudomonas Leaf Spot	Small, black, circular-angular leaf spots.	Sanitation; do not water overhead.
Cantaloupe	Alternaria Leaf Spot	Large circular or irregular gray-brown leaf spots.	Sanitation. See the AL Pest Management Handbook.
	Cucumber Mosaic Virus	Plants are stunted with some leaf mottle, curling, puckering.	Sanitation. Aphid control may help.
	Fusarium Crown & Root Rot	Crowns and roots are brown, shriveled, dry, decayed.	Sanitation. Long crop rotations. Resistant varieties if available.
	Fusarium Wilt	Plants yellow and wilt from base of plant up.	----
	Potato Virus Y	Plants are stunted with some leaf mottle, curling, puckering.	Sanitation. Aphid control may help.
	Watermelon Mosaic Virus	Usually a regular mosaic pattern of yellow and green on leaves.	Sanitation. Control of aphids may help some.
	Zucchini Yellow Mosaic Virus	Usually a regular mosaic pattern of yellow and green on leaves.	Sanitation. Control of aphids may help some.
	Exserohilum Blight	See Bermuda with Helminthosporium Blight.	See AL Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces graminis</i> pv. <i>graminis</i>)	Patches of grass yellow and die; may be stress-related.	See ANR-823; Bayleton is labeled.
Cherry	Bacterial Canker (<i>Pseudomonas</i>)	Sunken cankers (often with ooze); often a foul smell is associated.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Cercospora Leaf Spot	Irregular, brown leaf spots.	Sanitation. This leaf spot often develops during late summer-fall.
	Coccomyces Leaf Spot	Circular or irregular black spots that may become shot holes.	Sanitation. See the AL Pest Management Handbook.
	Septoria Leaf Spot	Medium brown angular spots (about 1 cm diameter).	Sanitation in the fall.
Cherry, Weeping Higan	Shot Hole (<i>Xanthomonas</i>)	Reddish, water-soaked spots develop; centers of older spots fall out.	Sanitation.
Chrysanthemum	Ascochyta Blight	Blossom and leaf brown spots/blight.	Sanitation. See the AL Pest Management Handbook.
	Bacterial Leaf Spot (<i>Pseudomonas</i>)	Dark brown/black, small (2-4 mm diameter), angular spots; sometimes with water-soaked edges.	Sanitation.
	Botrytis Blight	Brown spots, blotches.	See AL Pest Management Handbook.
	Fusarium Stem Rot and/or Wilt	Yellowing/wilt of leaves, beginning at the bottom of the plant and moving upward.	Sanitation; See the AL Pest Management Handbook; Rotation for 7-10 years or solarization; Reduce irrigation.
	Phytophthora Root Rot	Foliage dieback; roots become brown and water-soaked.	Sanitation; protective fungicide drench; See the AL Pest Management Handbook; Solarization or crop rotation; Reduce irrigation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Foliage dieback; roots become brown and water-soaked.	Sanitation; protective fungicide drench; See the AL Pest Management Handbook; Solarization or crop rotation; Reduce irrigation.
	Watermelon Mosaic Virus	Usually a regular mosaic pattern of yellow and green leaves.	Sanitation. Control of aphids may help some.
	Zucchini Yellow Mosaic Virus	Usually a regular mosaic pattern of yellow and green leaves.	Sanitation. Control of aphids may help some.
Coleus	Phytophthora Crown Rot	Roots become brown & water-soaked.	Sanitation.
Collards	Alternaria Leaf Spot	Dark gray-brown irregular shaped spots.	See AL Pest Management Handbook.
	Black Rot (<i>Xanthomonas</i>)	Dark V-shaped lesion at leaf edge; blackening of leaf veins; black vascular ring if stem cut crosswise.	Rotation for 2-3 years; solarization.
	Cercospora Leaf Spot	Tan or whitish circular-irregular spots.	See AL Pest Management Handbook.
Corn	Corn Smut (<i>Ustilago maydis</i>)	White fleshy galls on ears and stalks. Older galls crack open and expose black powdery spores within.	Sanitation. See ANR-601.
	Gray Leaf Spot (<i>Cercospora</i>)	Gray, rectangular spots; may be confused with Helminthosporium-type spots.	Sanitation; deep plow; resistant varieties.
	Southern Corn Leaf Blight (<i>Bipolaris maydis</i>)	Brown, elliptical spots, usually less than 3 inches long.	---

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Southern Rust (<i>Puccinia polysora</i>)	Orange pustules develop on upper leaf surfaces. Leaves become blighted.	See the AL Pest Management Handbook.
Cotton	Alternaria Leaf Spot	Round brown spots up to ½ inch in diameter. This is usually not a serious problem.	----
	Cercospora Leaf Spot	Brown, somewhat circular spots.	---
	Fusarium Wilt	Plants begin to yellow on lower sections. Gradually, yellowing spreads upwards and plants wilt.	----
	Phomopsis Canker	Elongated, brown, sunken canker.	Prune out cankers, making cuts 3-4 inches away from edge of lesion.
	Reniform Nematode (<i>Rotylenchulus</i>)	Plants stunted, poor growth.	Rotation.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Irregular galls present on roots; reduced plant growth.	Sanitation; crop rotation.
	Stemphyllium Leaf Spot	Small, circular, brown spots with concentric rings give a target-like pattern.	---
Cottonwood	Septoria Leaf Spot	Irregular, brown spots.	Sanitation.
Cowpea	Bacterial Leaf Spot	Irregular, black spots.	Sanitation
	Cercospora Leaf Spot	Irregular, brown spots.	Sanitation.
Crabapple	Scab (<i>Venturia</i>)	Olive-brown circular, slightly raised spots (4-5 mm diameter) develop on leaves and fruit.	See AL Pest Management Handbook.
Cucumber	Anthracoise (<i>Colletotrichum</i>)	Angular, brown, water-soaked spots on leaves, stems.	See the AL Pest Management Handbook.
	Watermelon Mosaic Virus 1	Yellow-green mosaic pattern; slight reduced growth.	Sanitation.
Cypress, Leyland	Cercospora Blight	Inside and lower limbs become blighted.	Sanitation; See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Seiridium Canker	Elongated, sunken lesions on branches and trunk; sap (resin) oozes onto bark.	Sanitation; See AL Pest Management Handbook.
Daisy, Gerbera	Phytophthora Leaf Blight/Crown Rot	Leaves develop brown blotches; lower stem develop brown lesions; plants collapse.	See the AL Pest Management Handbook.
Daylily	Kabatiella Leaf Spot	Yellow leaf spots and streaks on leaves. Leaf blight will follow.	Sanitation. Remove damaged foliage. Protective sprays of Cleary's 3336 or Halt will help.
	Phytophthora Root Rot	Plants become non-vigorous and stunted; dieback.	Sanitation. Remove damaged plants and root associated soil. Keep area well drained. Replant with different daylily variety or different plant type.
	Rust (<i>Puccinia hemerocallidis</i>)	Yellow-orange small spots on leaves; diseased leaves eventually turn brown and die.	Sanitation. Apply protective sprays of Banner Maxx or Heritage.
	Southern Blight (<i>Sclerotium rolfsii</i>)	A wet rot at soil line; sometimes a white mat of fungus at soil line.	Sanitation; Heritage may be used as a protective treatment. Remove root-associated soil.
Dogwood	Cercospora Leaf Spot	Leaf spot on lower leaves of tree; angular to irregular leaf spots (2-6 mm) which are light brown or gray in the center and dark brown or purple on borders.	Sanitation.
	Powdery Mildew (<i>Phyllactinia</i>)	Powdery white dusting on leaves; foliage distortion and death.	Sanitation in the fall; See AL Pest Management Handbook.
	Septoria Leaf Spot	Leaf spots on lower leaves of tree; angular to irregular tan or brown spots (2-6 mm) sometimes with faint yellow halos.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Spot Anthracnose (<i>Elsinoe</i>)	Tiny red spots on flowers, leaves.	Sanitation in fall; See AL Pest Management Handbook.
Eggplant	Early Blight (<i>Alternaria</i>)	Brown oval spots on leaves & stems. Sometimes spots have target patterns.	Sanitation. See the AL Pest Management Handbook.
Elm	Bacterial Leaf Scorch (<i>Xylella</i>)	Dieback of branches; leaf scorch.	Tree removal.
	Cristulariella Zonate Leaf Spot	Large (¼-½ inch diameter) oval, zonate spots.	Sanitation of leaves in the fall.
Euonymus	Anthracnose (<i>Colletotrichum</i>)	Small, whitish spots (1/16 inch diameter) on foliage.	Recommend fungicide sprays. See AL Pest Management Handbook.
Fatsia	Anthracnose	Brown leaf spots and blight.	Collect all fallen leaves; apply protective sprays of Cleary's 3336 or Halt. See label directions.
	Phytophthora Root Rot	Roots become brown, water-soaked, decayed; outer cortex slips easily away from the central core of the root.	Sanitation; improve moisture levels in the soil.
Fern	Rhizoctonia Root Rot	Dark brown, dried, decayed roots.	Sanitation; See AL Pest Management Handbook.
Fescue	Anthracnose (<i>Colletotrichum</i>)	Brown spots and blotches develop on grass blades.	See AL Pest Management Handbook for brown patch recommendations.
	Bipolaris (<i>Helminthosporium</i>) Crown Rot	Stolons/crowns become browned and dry rotted. Leaf blades become yellowed and then brown.	See the AL Pest Management Handbook.
	Brown Patch (<i>Rhizoctonia</i>)	Brown, irregular blotches on leaves; dead patches appear in lawn; patch size after 1-2 ft. diameter.	See ANR-492 and the Alabama Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Fig	Rhizoctonia Aerial Blight	Leaves develop irregular brown lesions that become torn and tattered.	Sanitation.
	Phytophthora Root Rot	Recently infected roots are brown & water-soaked; older infection areas are dried and brown. Foliage shows wilt, dieback.	----
	<i>Sclerotium rolfsii</i> Crown Rot	Necrosis at crown with white mycelial mat and mustard sized sclerotia.	Sanitation; See AL Pest Management Handbook.
Floamflower	Anthrachnose (<i>Colletotrichum</i>)	Brown, circular-irregularly-shaped spots on leaves & stems.	Sanitation. Protective sprays of Cleary's or Halt would help.
Forsythia	Anthrachnose	Brown, leaf spots/blotches.	Sanitation. See AL Pest Management Handbook.
	Phomopsis Gall	Hard, woody, spherical swellings on twigs.	Sanitation. Pruning. Make cuts 3-4 inches beyond the gall.
<i>Gomphrena glabosa</i>	Fusarium Crown Rot	Brown, dried, decayed lower stem.	Sanitation; Crop rotation.
Grape	Anthrachnose (<i>Colletotrichum</i>)	Circular (1-5 mm diameter)-angular lesions have brown-black edges and gray-white centers; lesions may be numerous and coalesce; lesions on shoots may cause cracking. Disease most severe on new growth. Lesions on fruit have a dark brown-black margin and gray center, fruit rot follows.	Sanitation; recommend fungicide sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Black Rot (<i>Guignardia</i>)	<u>Leaves</u> : Reddish-brown spots with black margins (2-5 mm diameter); spots circular or slightly lobed. <u>Shoots</u> , <u>Cane</u> : Purple or black elongated, elliptical lesions; bark splits along lesion length. <u>Fruit</u> : White spots (2-3 mm diameter) with brown edges; spots enlarge and fruit becomes wrinkled, black, rotted.	Sanitation; recommend fungicide sprays.
Holly, Japanese	Black Root Rot	Poor growth; dieback; plants stunted; lower foliage yellowing; root segments are black.	Sanitation. Remove damaged plants. Do not replant holly for approximately 3-5 years.
	Botryosphaeria Canker	Elongated, sunken, cracked cankers.	Sanitation.
	Phytophthora Root Rot	Roots become brown and water-soaked; plants become yellowed with dieback.	See the AL Pest Management Handbook.
Holly, Hybrid	Phytophthora Root Rot	Roots become brown, water-soaked, pull apart easily.	Sanitation; reduce water levels in the area. See AL Pest Management Handbook.
Hosta	Foliar Nematode (<i>Aphelenchoides</i>)	Angular yellow leaf spots that become black.	Sanitation.
	Impatiens Necrotic Spot Virus	Yellow ring spots on leaves; plants become stunted.	Sanitation. Control thrips.
	White Mold (<i>Sclerotium rolfsii</i>)	Lower trunk or stem is rotted and generally soft and limp.	Sanitation; possibly solarization.
Hydrangea	Anthrachnose (<i>Colletotrichum</i>)	Brown, irregular leaf spots and sometimes cankers. Leaf spots may follow along leaf veins.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Armillaria Root Rot	Hydrangea dies suddenly. Thin white fungal may be seen under the bark; black thread-like rhizomorphs may be seen on or under bark; honey-colored mushrooms may develop.	Sanitation; See ANR-907.
	Bacterial Leaf Spot	Water-soaked, dark, angular leaf spots.	Damaged leaves should be removed. Do not water overhead.
	Cercospora Leaf Spot	Brown, circular or angular leaf spots.	Sanitation. See AL Pest Management Handbook.
	Colletotrichum Blossom Blight	Blossoms become covered with brown spots.	Sanitation. Cleary's 3336 may be applied for protective disease control.
	Corynespora Leaf Spot	Brown, oval, zonate leaf spots.	Sanitation.
	Phytophthora Root Rot	Roots become brown water-soaked and pull apart easily.	Sanitation. See the AL Pest Management Handbook.
	Powdery Mildew	White powdery dusting on leaf & stem surfaces.	Sanitation. See AL Pest Management Handbook.
	Pythium Crown/Root Rot	Wet, water-soaked brown lesions on crowns and roots.	See the AL Pest Management Handbook.
Impatiens	Phytophthora Root Rot	Wet, water-soaked brown lesions on roots.	See the AL Pest Management Handbook.
	Rhizoctonia Crown and Root Rot	Crowns and roots become brown and dry rotted.	Sanitation; solarization may help.
Indian Hawthorn	Entomosporium Leaf Spot	Dark red-black circular spots.	Sanitation; pruning; see the AL Pest Management Handbook.
Ivy, English	Anthracoese	Irregular or circular dark brown or black leaf spots.	Sanitation; See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Leaf Spot	Dark brown-black angular leaf spots.	Sanitation. Do not water overhead. See AL Pest Management Handbook.
	Colletotrichum Leaf Spot	Brown leaf spots that are circular or irregular.	See the AL Pest Management Handbook.
	Dodder (<i>Cuscuta</i> sp.)	A yellow vine with small white flowers; vine attaches to stems of ivy.	Sanitation.
	Edema	Yellow spots with indistinct borders develop on leaves; corresponding spots on lower leaf surfaces contain light brown corky lesions.	Reduce water levels.
	Phomopsis Canker	Brown, gray lesions on stems; dieback.	Sanitation; Cleary's or benomyl protective sprays.
	Phytophthora Root Rot	Roots become brown and water-soaked.	See the AL Pest Management Handbook.
Juniper, Blue Rug	Armillaria Root Rot	Dieback; crown & root decay; white mycelial mat under the bark.	Remove plant.
Juniper	Pestalotiopsis Needle Blight	Needles turn brown in patchy areas on branches.	Sanitation; see AL Pest Management Handbook; avoid stress.
	Phomopsis Tip Blight	Tips of lower branches dieback.	See the AL Pest Management Handbook.
	Phytophthora Root Rot	See Holly, Japanese.	See Holly, Japanese.
Kiwi	Phytophthora Root Rot	Roots become brown and water-soaked; foliage shows yellowing and dieback.	Sanitation.
Kudzu	Asian Soybean Rust	Small, yellow-dark leaf spots; rust spores develop on upper leaf surfaces.	---
Laurel, Cherry	Blumeriella Leaf Spot	Brown, roundish leaf spots that often fall out.	Sanitation. Remove all fallen leaves.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Lantana	Foliar Nematode Blight (<i>Aphelenchoides</i>)	Angular, yellow to brown leaf spots.	Remove the damaged plants. Replace soil in the area if possible.
Leyland Cypress	Botryosphaeria Canker	Elongated, sunken lesions with cracked bark around leaf edges.	Sanitation. Cleary's 3336 or Halt sprays may help.
	Cercosporidium Blight (Formerly Cercospora)	Needles of lower branches become brown. Disease may gradually spread through higher branches.	Sanitation. See the AL Pest Management Handbook.
Liatris (Blazing Star)	Southern Blight (<i>Sclerotium rolfsii</i>)	Crown rot develops & causes plant to die-back.	Sanitation; Solarization; root-associated soil removal.
Ligustrum, Japanese	Cercospora Leaf Spot	Brown, slightly angular leaf spots.	Collect all fallen leaves this fall. See the AL Pest Management Handbook under leaf spot.
Liriope	Phytophthora Crown Rot	Crowns become brown and wet rotted. Plants wilt, turn yellow, and die.	Remove plants. Remove soil associated with roots. Improve soil drainage.
Magnolia	Algal Leaf Spot	Brown-red, circular, slightly raised leaf spots.	Sanitation. Prune to reduce humidity. See the AL Pest Management Handbook.
Maple	Anthrachnose (<i>Kabatella</i>)	Small-large brown blotches develop on leaves, often following along veins &/or leaf edges.	See the AL Pest Management Handbook.
	Phyllosticta Leaf Spot	Small (4-8 mm diameter) leaf spots develop with brown- purple borders and brown-cream centers.	See the AL Pest Management Handbook, under 'Leaf Spot'.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Maple, Japanese	Anthracnose (<i>Kabatella</i>)	Small-large brown blotches develop on leaves, often following along veins &/or leaf edges.	See the AL Pest Management Handbook.
	Botryosphaeria Canker	Sunken, cracked lesions on branches.	Sanitation.
Maple, Red	Anthracnose (<i>Colletotrichum</i>)	Irregular brown spots/blotches on leaves which may follow along veins.	Sanitation. Gather & remove all leaves this autumn.
	Cristulariella Zonate Leaf Spot	Brown, oval, zonate leaf spots.	Sanitation of leaves in the fall.
Maple, Sugar	Armillaria Root Rot	Dieback; crown rot & root rot; white mycelial mat under bark.	Remove tree.
	<i>Monastichella hysterioidea</i> Leaf Spot	Brown irregular spots.	Sanitation.
Marigold	Alternaria Leaf Spot	Black irregular spots 0.5-2 mm diameter. When spots numerous, plant death may result.	See AL Pest Management Handbook, under 'Leaf Spot'.
Mondgrass	Anthracnose (<i>Colletotrichum</i>)	Gray, brown spots on leaves.	Sanitation; See AL Pest Management Handbook.
Morning Glory	Rust (<i>Coleosporium</i>)	Yellow spots; white and orange spore masses on upper leaf surface.	Sanitation.
Muscadine	Black Rot (<i>Guignardia</i>)	Reddish-brown leaf spots, irregular circular with tiny black specks on spots, bordering the outer edge of the spots.	Sanitation; See the AL Pest Management Handbook.
Oak	Anthracnose (<i>Apiognomonina</i>)	Small to large brown blotches develop on leaves, often following along veins &/or leaf edges.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Scorch Disease (<i>Xylella</i>)	Leaf edge turn brown in scattered locations in tree; gradual die-back over 2-3 years.	Remove tree.
	Hypoxylon Canker	Dark gray to black, hard fungal layer develops under and at level of the bark on tree; dieback.	Pruning; improve tree vigor.
	Monochaetia Leaf Spot	Light cream-colored, flat, irregular blotches & spots.	Sanitation of fallen leaves this fall.
	Oak Leaf Blister (<i>Taphrina</i>)	Light brown leaf spots that are circular and concave-convex.	Sanitation; See AL Pest Management Handbook.
	Powdery Mildew	White powdery areas on leaves; areas eventually become necrotic.	Sanitation.
Oak, Black	Hypoxylon Canker	Gray-black hard stroma develops under the bark and causes the bark to crack and fall off.	Sanitation.
Oak, Chestnut	Slime Flux	Slightly sunken areas on trunks with sap oozing.	No remedy. Maintain healthy trees. Installation of drain pipe.
Oak, Pin	Bacterial Leaf Scorch	See under "Oak".	
Oak, Post	Tubakia Leaf Spot	Black, irregularly shaped, hard, slightly raised leaf spots.	Collect and remove all fallen leaves this fall.
Oak, Red	Bacterial Leaf Scorch	See Under "Oak".	
	Monochaetia Leaf Spot	Brown, roughly circular, flat leaf spots.	Collect and remove all fallen leaves this fall.
Oak, Shumard	Anthracnose (<i>Colletotrichum</i> or <i>Apiognomonia</i>)	Brown blotches on leaves; spots may develop along veins.	Sanitation of fallen leaves.
	Bacterial Leaf Scorch (<i>Xylella fastidiosa</i>)	Leaf scorch begins on oldest leaves; die-back.	Tree removal.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Okra	Root Knot Nematode (<i>Meloidogyne</i> sp.)	Irregular galls on roots.	Sanitation; grow nematode resistant vegetable variety; crop rotation to some grasses, marigolds, etc. See ANR-856.
Pansy	Bacterial Spot	Shot hole spots on leaves, often with a reddish border; sunken dark brown spots on fruit.	Sanitation. See AL Pest Management Handbook.
	Pythium Root Rot	Roots become brown and water-soaked; plants become yellowed and finally die.	See the AL Pest Management Handbook.
Pea, Field	Fusarium Stem & Root Rot	Dry, brown, decay of stem and roots.	Sanitation. Long crop rotation away from peas & beans.
	Mosaic Virus	Yellow spots & blotches (mosaic pattern) on puckered and sometimes distorted leaves.	Sanitation; Control insects.
	Charcoal Root Rot (<i>Macrophomina</i>)	The major tap root at and just below the soil-line becomes dry, shredded and sprinkled with tiny black pepper-sized spots. These bodies of the fungus are a diagnostic sign. The “pepper spots” are present on the root surface and scattered throughout the inner tissues. Spots are usually very numerous and give the root a gray-black appearance. This is a problem during dry periods.	Sanitation. Rotation.
	Fusarium Root Rot	Red-brown lesions on lower stems, upper root areas; dieback wilt.	Rotation for 10-15 years.
Peach	Bacterial Spot (<i>Xanthomonas</i>)	Small red, angular spots develop into shot holes.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Brown Rot (<i>Monilinia fructicola</i>)	Sunken lesions on twigs; brown fruit rot.	Sanitation. See the AL Pest Management Handbook.
	Phony (<i>Xylella</i>)	Trees are stunted with bunched growth.	Tree removal.
	Scab	Dark brown, small, round, slightly raised and soft leaf spots.	See the AL Pest Management Handbook.
Peanut	Cylindrocladium Root Rot	Stems near the soil-line are black; orange minute dots may be evident on decay area.	Crop rotation; See A. Hagan.
	Diplodia Collar Rot	Wilt, dieback, crown and root rot.	See Austin Hagan.
	Early Leaf Spot (<i>Cercospora</i>)	Brown spots, often with a yellow halo; spores are produced on the upper leaf surfaces of spots.	See AL Pest Management Handbook; also Folicur.
	Late Leaf Spot (<i>Cercosporidium</i>)	Brown to dark-brown spots; spores are produced on the lower leaf surface.	See Alabama Pest Management Handbook; also Folicur.
	Rhizoctonia Stem Rot and Pod Rot	Dark brown, sunken, dried lesions on stems and pods.	Folicur.
	Root Knot Nematode	Irregular swellings of pods and roots.	See ANR-393.
	Southern Blight (<i>Sclerotium</i>)	Stems at the soil line become brown-decayed and soft. A white, fan-shaped mycelial growth may develop at the soil line.	See the AL Pest Management Handbook; also Folicur.
	Tomato Spotted Wilt Virus	Stunted plants; leaves show ring spot patterns; new leaves small; internodes abnormally shortened.	Control thrips.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pear	Entomosporium Leaf Spot (<i>Fabraea</i> Leaf Spot)	Black circular spots (4-6 mm diameter) develop on leaves, fruit and shoots. A small black pustule often develops in the spot centers.	Sanitation of leaves/fruit in the fall. Follow spray guide recommendations in ANR-50.
	Fireblight (<i>Erwinia</i>)	Prune out dieback; make cuts 14 inches beyond damage.	Blossom blight; dieback, cankers.
Pear, Bradford	Alternaria Leaf Spot	Brown, roughly circular or oval leaf spots.	Collect and remove all fallen leaves this fall.
	Fabraea Leaf Spot	Dark brown circular leaf spots.	Collect and remove all fallen leaves this fall. See ANR-50.
Pecan	Fungal Leaf Scorch	Brown or gray-brown lesions begin at the base of the leaflet and spread toward the leaflet midrib. Early leaf drop follows.	See fungicides recommended for scab control.
	Powdery Mildew	White, dusty spots on leaves; necrosis develop later.	See the AL Pest Management Handbook.
	Scab (<i>Cladosporium</i>)	<u>Leaves</u> : Slightly elevated, olive-brown, circular spots. <u>Nuts</u> : Slightly elevated, olive-brown, circular to irregular spots.	Sanitation; recommended fungicide sprays.
Peony	Cladosporium Leaf Blotch	Irregular brown leaf spots/blotches.	Sanitation.
Pepper	Anthracnose (<i>Colletotrichum</i>)	Fruit develops water-soaked, sunken areas; black dots (fruiting bodies of the fungus) may develop in sunken area.	Sanitation; see the AL Pest Management Handbook.
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Dark, angular spots with water-soaked edges; spot centers may dry out; leaf drop.	Sanitation.
	Cucumber Mosaic Virus	Foliage mottled; new growth stunted.	Sanitation. Control aphids.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Periwinkle	Fusarium Wilt	Plants turn yellow and wilt with symptoms beginning at lower sections of plant.	Sanitation; long rotation away from peppers and other solanaceous crops.
	Pythium Root Rot	Roots become brown and water-soaked.	Rotation; improve water drainage.
	Tomato Spotted Wilt Virus	Foliage mottled; new growth stunted.	Sanitation; control thrips.
	Anthracnose (<i>Colletotrichum</i>)	Brown, sunken cankers on stem sections.	Sanitation; Cleary's 3336, Domain, or a benomyl WP labeled for ornamentals.
	Phytophthora Aerial Blight	Dark brown lesions appear on stems; die-back.	Sanitation; Aliette.
	Phytophthora Root Rot	Roots become dark brown decayed and water-soaked; foliage shows yellowing/ die-back.	Sanitation; solarization.
	Pythium Root Rot	Roots become light brown and water-soaked, decayed, pull apart easily.	Sanitation. Reduce water levels. Protective treatments of Subdue may be used in commercial situations.
	Rhizoctonia Aerial Blight	Lower stems and leaves become browned and dry rotted. Some mycelial webbing may occur. Whole plants will eventually die.	Sanitation. Protective sprays of Cleary's 3336, Domain, or a benomyl WP labeled for ornamentals.
Petunia	Rhizoctonia/Fusarium Crown Root Rot	Dried, brown lesions on lower stem and roots.	Cleary's drenches will help provide some protection.
	Tomato Spotted Wilt Virus	Plants are stunted; yellow mottle may be present.	Sanitation. Control thrips.
	Phytophthora & Pythium Root Rot	Roots brown and water-soaked, & rotted.	Sanitation. See AL Pest Management Handbook.
Pine, Seedlings	Pythium Root Rot	Plants are stunted, yellowed, die; roots are light brown and wet decayed.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pine, Virginia	Fusarium Pitch Canker	Sunken lesions that ooze sap.	Sanitation.
	Lophodermium (<i>Ploioderma</i>) Needle Cast	Last year's needles become spotted and browned; eventually they drop. Needles have tiny football-shaped, hard black bodies scattered over their surfaces.	See the AL Pest Management Handbook.
	Rhizosphaeria Needle, Twig Blight (Suspect Stress Related)	Needles and twigs become brown and dead.	Apply Bravo 720 at rate of 5½ pints per 100 gallons or Bravo 500 at 8 pints per 100 gallons after shearing when growth is 2 inches long.
Plum	Bacterial Scorch (<i>Xylella</i>)	Leaf edges of (often) older leaves become scorched. Leaves die and remain on the tree; branches dieback; eventual tree death.	Infected trees should be removed.
	Botryosphaeria Canker	Sunken, cracked dry, dead area on branch or trunk.	Pruning. Make cuts 3-4 inches beyond the edge of the lesion.
Poinsettia	Bacterial Stem Rot (<i>Erwinia</i>)	Lower stem becomes blackened and rotted; usually occurs on small plants.	Sanitation.
	Fusarium Root Rot	Roots become dry and decayed. Symptoms may be confused with Rhizoctonia.	Sanitation; Cleary's 3336 protective sprays/ drench.
	Pythium Root and Crown Rot	Roots water-soaked, decayed.	Sanitation; protective drenches fungicides; See AL Pest Management Handbook.
Poplar	Alternaria Leaf Spot	Brown, irregular spots (8-15 mm diameter) develop on leaves.	Sanitation. Chemical treatment not usually recommended.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Potato, Irish	Root-Knot Nematode (<i>Meloidogyne</i>)	Irregular galls on roots and on tuber surfaces.	Sanitation; crop rotation to nematode suppressive crops; resistant varieties; See ANR-856.
	Scab (<i>Streptomyces scabies</i>)	Rough, circular, irregular lesions on tubers.	See the AL Pest Management Handbook.
Pumpkin	Cucumber Mosaic Virus	Leaves may develop a mosaic, mottle, puckering, distorted shapes, curling.	Sanitation. Weed Control; Insect Control; See ANR-809.
	Downy Mildew (<i>Pseudoperonospora</i>)	Yellow diffuse spots on upper leaf surface; gray mold on corresponding lower leaf surface.	See AL Pest Management Handbook.
	Plectosporium Blight	Raised, corky, brown, irregularly shaped lesions on stem, petioles, leaves, and fruit surfaces.	Sanitation. See Ed Sikora.
	Watermelon Mosaic Virus I	Leaves and fruit show a yellow-green mosaic pattern; new growth is stunted.	Sanitation; control insects and weeds.
Red Cedar	Phomopsis Blight	Tips of branches become brown with damage spreading into the lower sections of the branches.	See the AL Pest Management Handbook.
Rose	Aerial Blight (<i>Rhizoctonia</i>)	Brown, irregular blotches on leaves.	Sanitation; Cleary's 3336 would give protective control.
	Black Spot (<i>Diplocarpon rosa</i>)	Black feathery-edged leaf spots.	See AL Pest Management Handbook.
Rosemary	Fusarium & Pythium Root Rot	Dried, decayed roots.	Sanitation; avoid environmental stresses.
	Phytophthora Root Rot	Brown, water-soaked roots become dried.	Sanitation. Reduce irrigation.
	Web Blight (<i>Rhizoctonia</i>)	Small-large brown blotches on leaves.	Pruning; Cleary's 3336, Halt, or OHP 6672.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Web Blight (<i>Rhizoctonia</i>)	Small-large brown blotches on leaves.	Pruning; Cleary's 3336, Halt or OHP 6672.
Sesame	Fusarium, Pythium Wilt/ Root Rot	Brown water-soaked rots.	----
	Fusarium Associated With Stem Cankers	Brown dried, elongated cankers.	----
	Leaf/Pod Blotch (<i>Colletotrichum</i> , <i>Fusarium</i>)	Brown circular, oval spots.	Sanitation.
Smoketree	Powdery Mildew	White powdery dusting on leaves; leaf blight.	Sanitation; Cleary's 3336 protective sprays if desired.
Sorghum	Anthrachnose (<i>Colletotrichum</i>)	Small to large circular lesions with yellowish centers and red, black or brown edges. Spots may coalesce. Stalk rot shows bleached surface lesions with reddish edges; head rot may also occur.	Rotation. Plow under crop residues.
	Charcoal Rot (<i>Macrophomina</i>)	See comments for field pea. This is usually a dry weather problem.	Rotation. Plow under crop residue.
	Rhizoctonia Crown & Root Rot	Lower stems and roots develop a dry, brown decay.	Rotation. Plow under crop residue.
Soybean	Aerial Blight Root Rot (<i>Rhizoctonia</i>)	Lesions may appear on leaves, stems and pods usually beginning on the lower or middle sections of the plant. At first the spots or blotches appear water-soaked and black. Soon the spots appear greenish-brown or reddish-brown. Older spots and blighted areas become tan, brown or black. Older lesions often become dried and fall apart.	See AL Pest Management Handbook or Soybean Pest Management Circular ANR-413.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Anthrachnose (<i>Colletotrichum</i>)	Irregularly shaped brown lesions on stems, pods, petioles. In late stages of disease black fruiting bodies with minute black spines may be seen covering the lesions. (Usually a hand lens is needed to view the fruiting bodies.)	Rotation. Plow under crop residues.
	Bacterial Leaf Spots (<i>Xanthomonas</i> ; <i>Pseudomonas</i>)	Small, black, circular raised or sunken, angular spots. Yellow halos may be present.	---
	Charcoal Root Rot (<i>Macrophomina</i>)	See comments for field pea. This may be a problem when conditions are dry.	Rotation. Deep plow.
	Cyst Nematode (<i>Heterodera</i>)	Plants are stunted and yellow. Root systems are reduced and show a low incidence of Rhizobium nodules. White-yellow and brown cysts about the size of a small pin head may be seen on roots with the aid of a hand lens.	Rotation; resistant cultivars; See Soybean Pest Management, Circular ANR-413.
	Downy Mildew (<i>Peronospora</i>)	Yellow spots develop on upper leaf surfaces. On corresponding areas of lower leaf surfaces, gray-purple tufts of mycelium/spores develop.	See the AL Pest Management Handbook or Soybean Pest Management, Circular ANR-413.
	Frogeye Leaf Spot (<i>Cercospora</i>)	<u>Leaves</u> : Circular-angular spots with a dark red-brown border. <u>Stems</u> : Elongated gray lesions with red-brown margins. <u>Pod</u> : Circular to irregular, slightly sunken gray spots with dark red-brown borders.	See AL Pest Management Handbook and ANR-413.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	<i>Fusarium solani</i> Root Rot	Tap root becomes brown and dried.	Crop rotation for 10-15 years.
	Nematode, Sting (<i>Belonolaimus</i>)	Plants become yellowed and stunted. Roots first develop dark sunken lesions at root tips or on young roots. Lesions often cause root breakage which gives root ball a stubby appearance.	See AL Pest Management Handbook or ANR-413.
	Nematode, Stunt (<i>Tylenchorhynchus</i>)	Plants are yellowed, stunted, unthrifty; roots are abnormally shortened.	See AL Pest Management Handbook.
	Pod & Stem Blight (<i>Diaporthe</i>)	Pods and stems develop blight areas. Black fruiting bodies of the fungus develop in straight lines on the infected tissue areas.	Rotation. See the AL Pest Management Handbook.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants are stunted and yellowed. Roots develop knots or galls of variable shape and size.	Crop rotation; Use resistant cultivars. See AL Pest Management Handbook.
	Rust, Asian Soybean	Very small yellow spots become necrotic. Light orange-white spore masses develop on lower leaf surface side of spots.	Protective fungicides. See E. Sikora.
	Stem Canker (<i>Diaporthe</i>)	Small, red-brown lesions at nodes develop into large longitudinal gray-brown cankers with red-brown margins. Leaves develop interveinal browning.	Crop rotation.
	Southern Blight (<i>Sclerotium rolfsii</i>)	A wet rot of the crown area. Tissues become brown and wet rotted. A white mold may develop at the soil line.	Deep plow.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Sudden Death Syndrome (<i>Fusarium solani</i>)	The tap root becomes brown and dry-rotted. Small feeder roots may also become decayed. Foliage develops interveinal browning.	Rotation.
	Target Spot (<i>Corynespora cassicola</i>)	Brown, irregular or circular shaped spots that sometimes show a target pattern.	See Ed Sikora.
Squash	Microdochium (<i>Plectosporium</i>) Blight	Cream-colored, slightly raised, corky spots on fruit and stems mostly.	Sanitation. See Ed Sikora.
	Mosaic Virus	Leaves develop a mottled green-yellow or dark green-light green mosaic or regular patterned coloration; new growth is stunted.	Remove affected plants; Control insects and weeds.
	Powdery Mildew	White dusting evident on foliage.	See AL Pest Management Handbook.
	Pythium Crown Rot	Lower stems become soft and water-soaked, rotted.	Sanitation. Reduce irrigation if appropriate, avoid low, wet areas.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	See Centipede.	---
	Dagger Nematode (<i>Xiphenema</i> sp.)	Plants stunted; roots poorly developed, stunted.	Solarization or crop rotation.
	Gray Leaf Spot (<i>Piricularia</i>)	Gray spots and blotches on grass blades.	See the AL Pest Management Handbook.
	Root Knot Nematode (<i>Meloidogyne</i>)	Areas grow poorly and become stressed easily.	Avoid stressful situations. Commercial turf situations may apply protective treatment.
	Take-All Patch (<i>Gaeumannomyces</i>)	Patch areas thin and individual plants turn yellow and die; affected plants show dark brown/black lesions on roots/stolons.	Adjust soil pH to 5.5-6.0; Use only ammonium-based nitrogen in fertilizers.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Strawberry	Common Leaf Spot (<i>Mycosphaerella</i>)	Reddish-bordered spots with gray centers.	Sanitation. See the AL Pest Management Handbook.
	Phomopsis Leaf Spot	Brown blotches that often develop along leaf edges. Spots usually have purple-red edges.	Sanitation. See the AL Pest Management Handbook.
Sweet Gum	Cercospora Leaf Spot	Oval, irregular brown leaf spots.	Sanitation.
	Phyllosticta Leaf Spot	Circular leaf spots with dark borders.	Sanitation of leaves this fall.
Sycamore	Anthracnose (<i>Discula</i>)	Brown irregular blotches develop along leaf veins and/or along leaf edges. Defoliation may follow.	See the AL Pest Management Handbook.
	Scorch (<i>Xylella</i>)	Leaf edges become browned. Foliage dies but usually remains on the tree. The following year leaves may be smaller than normal, some dieback may occur. Leaf edge browning occurs mid-late summer.	Remove diseased trees.
Tomato	Anthracnose (<i>Colletotrichum</i>)	Fruit spots begin as small sunken colorless spots but they develop into larger sunken areas with blackish centers where fungal spores (orange) develop.	See the AL Pest Management Handbook or Vegetable Spray Guide.
	Bacterial Canker (<i>Clavibacter</i>)	Elongate, brown, wet-looking lesions or cankers on stems; center of cankers dry and look white.	Protective sprays; Sanitation.
	Bacterial Leaf Spot (<i>Xanthomonas axonopodis</i> pv. <i>campetris</i>)	Very small, brown or black angular leaf spots; outer edges of spots may appear wet or water-soaked.	Sanitation; See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Wilt (<i>Pseudomonas solanacearum</i> , <i>Ralstonia solanacearum</i>)	Green healthy plants wilt and collapse rapidly.	Sanitation.
	Cristulariella Zonate Leaf Spot	Relatively large (¼ inch diameter and larger), light brown zonate spots.	Sanitation.
	Cucumber Mosaic Virus Complex	Plants become stunted; new growth become stunted; foliage shows mosaic, twisting, curling, shoe-string deformity on leaves.	See Ed Sikora. Control aphids and weeds.
	Early Blight (<i>Alternaria</i>)	Black or brown spots (¼-½ inch diameter) on leaves, stems, fruit. Spots often have a concentric pattern.	Fungicide sprays; Sanitation.
	Fusarium Wilt	Plant foliage turns yellow and dies. Often yellowing begins at lower sections of the plant or on one side of the plant. Gradually the whole plant dies. Vascular system is brown.	Resistant varieties; Rotation.
	Pith Necrosis (<i>Pseudomonas</i>)	Sometimes brown cankers are evident and sometimes they are not present. Dieback. When stem cut longitudinally, pith is hollow with step like strands present.	Sanitation.
	Potato Virus Y	Foliage mottled, distorted; new growth stunted.	Sanitation; control aphids.
	Pythium Root & Stem Rot	Lower stem and roots become dark and wet looking. Dead tissues dry out.	Sanitation. Reduce irrigation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Septoria Leaf Spot	Small (2-3 mm) gray, circular leaf spots with dark borders. Wet weather and moderate temperatures favor disease.	Apply protective fungicide sprays. Rotation.
	Southern Blight (<i>Sclerotium</i>)	White fungal mat occurs at soil line; plants die due to death of lower stem.	Terraclor and/or deep turn the root area soil.
	Tomato Spotted Wilt Virus	New growth becomes abnormally small; yellow spots appear. Young leaves become bronzed in spots, patches or whole leaf areas involved. Fruit spotted or with ring spots. Plant wilt and die.	Sanitation; Control thrips.
Viburnum	Southern Blight (<i>Sclerotium rolfsii</i>)	Plants wilt, dieback. A white mold may develop at the soil line.	Sanitation. Deep plow.
Vinca Minor	Alternaria Leaf Spot	Dark brown angular leaf spots; leaf blight.	Sanitation; Chipco 26019.
	Rhizoctonia Aerial blight	Leaves or stems become blighted, spotted.	Sanitation; Cleary's or benomyl protective treatments.
	<i>Sclerotium rolfsii</i> Crown Rot	Brown lesion at the lower stem; white mold may develop with brown, small spherical sclerotia.	Sanitation. Replace root associated soil.
Violet, African	Phytophthora Crown & Root Rot	Crowns and roots develop brown, wet, rotted tissues.	Sanitation. Reduce water levels. See the AL Pest Management Handbook.
Watermelon	Anthracoese	Black circular spots on leaves, stems; dieback.	Sanitation; See AL Pest Management Handbook.
	Blossom End Rot	Blossom ends of fruit develop black, hard, sunken areas.	Apply irrigation to keep the soil evenly moist. Apply calcium chloride sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Cercospora Leaf Spot	Circular-irregular pale brown leaf spots with black margins (2-10 mm diameter).	Sanitation; fungicide sprays.
	Cucumber Mosaic Virus	Leaves become mottled green-yellow, distorted, wrinkled with curled edges; abnormally shortened internodes.	Control weeds; control aphids and cucumber beetles; do not save seed.
	Fusarium Wilt	Lower leaves turn yellow; whole plant wilts; lower stem vascular system is brown.	Rotate 7-12 years and then plant a resistant variety such as Crimson Sweet or Jubilee.
	Gummy Stem (<i>Mycosphaerella</i>)	Elongate, brown, wet and sometimes cracked lesions; black leaf spots may develop on leaf edges; plant sections beyond cankers dieback.	Protective fungicide sprays; Sanitation in the fall.
	Watermelon Mosaic Virus I (Papaya Ringspot Virus)	See comments for Cucumber Mosaic Virus (CMV).	Sanitation.
	Watermelon Mosaic Virus II	See comments for CMV.	Sanitation.
Weeping Mulberry	Anthracoise (<i>Colletotrichum</i>)	Brown spots and blotches on leaves; often blotches develop along leaf veins.	Sanitation of fallen leaves.
Weeping Willow	Crown Gall (<i>Agrobacterium tumefaciens</i>)	Rounded, woody gall on lower trunk and possibly large roots.	Sanitation; solarization. Root zone soil replacement; control soil insects.
Willow, Curly	Cercospora Leaf Spot	Oval-irregular brown leaf spots.	Sanitation.
Wisteria	Phomopsis Stem Blight	Dieback and brown, dried sunken lesions.	Sanitation; Cleary's 3336.
Zelcova, Japanese	Cercospora Leaf Spot	Oval-irregular brown spots.	Sanitation.
Zoysia	Bipolaris Leaf Spot and Crown Rot	Brown, small elongated leaf spots; yellowing and dieback.	See ANR-621 and the AL Pest Management Handbook.
	Curvularia Blight	Foliage develops brown leaf spots and blight.	See Austin Hagan.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Dollar Spot (<i>Sclerotinia</i>)	Silver dollar-sized, bleached-out spots appear in lawn. Spots enlarge. Individual grass blades develop white lesions with brown borders.	See the AL Pest Management Handbook.
	Exserohilum Crown Rot	Yellowing and die-back. Crown areas become brown and dry decayed.	See ANR-621 and the AL Pest Management Handbook.
	Fairy Ring	Circular or half circular rings of dead grass develops.	See ANR-372.
	Rhizoctonia Brown Patch	Brown blotches on leaves; roughly circular patches (1 or more feet diameter) turn brown in lawn.	See ANR-492.
	Ring Nematode Damage (<i>Criconemoides</i>)	Poor root system; poor top growth; die-back.	See ANR-523.
	Rust (<i>Puccinia</i>)	Grass blades show chlorotic areas on one side of leaf and orange, rusty powder (spores) on the other side.	Sanitation; recommend fungicide sprays in some situations.
	Take-All Patch (<i>Gaeumannomyces graminis</i> pv <i>graminis</i>)	See St. Augustine grass.	Cultural practices; fungicides including Bayleton.

LAB NOTES

Remember that August-early October is the best time to sample for soil nematode analysis. The charge for nematode analysis is \$10 per sample. Remember to enclose the soil in a plastic bag. Remember to tell us what crop is to be grown!