



PLANT PATHOLOGY SERIES

TIMELY INFORMATION

Agriculture & Natural Resources

EXTENSION PLANT PATHOLOGY, EXTENSION HALL, AUBURN UNIVERSITY, AL 36849-5624
August 31, 2004 PP-573

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)

July was warm and busy (We received 160 plant samples in July.) but, over-all, July temperatures were slightly below many previous July months we have experienced. Rains were adequate to abundant in most areas. But, rain showers could be very localized in some areas so that some locations received ample rainfall and some did not.

Field crop samples submitted for diagnoses included corn, cotton, peanuts, and soybeans. Diseases diagnosed were the following: Corn - common rust, southern rust, northern corn leaf blight, southern corn leaf blight, gray leaf spot, and Diplodia ear rot; cotton - seedling diseases included Rhizoctonia and Pythium root rots; peanut - Rhizoctonia crown rot, Aspergillus crown rot, tomato spotted wilt virus; soybean - Cercospora leaf spot, downy mildew, sudden death syndrome.

A variety of common vegetable, fruit, and ornamental plants were submitted with disease

problems, and many commonly-seen summer diseases were diagnosed.

See below and Table 1 for further comments on some noteworthy and/or unusual diseases seen in July.

Several diseases were seen on corn. Fortunately, many of these diseases developed on mature plants or early developing disease just did not ever cause severe infections so the total disease impact on yield was minimal in most areas. Common rust (*Puccinia sorghi*) was noted at a low level in Baldwin County. Southern rust (*Puccinia polysora*) was present in many areas of Central and North Alabama late in the season. The southern rust is typically the more damaging of the two and it is also most prevalent at higher temperatures commonly seen in July in Alabama. Southern corn leaf blight was present in central and southern areas of the state for most of the season. Northern corn leaf blight was observed in all areas of the state. Diplodia ear rot was noted in July in scattered areas of North and Central Alabama. The black fruiting bodies of Diplodia were very abundant and obvious on the outer husks of the corn. A white, thick mold would develop around the kernels. Again, fortunately, this disease began development late in the corn ear development so damage was minimal except in some scattered locations where significant yield loss was seen. Gray leaf spot was observed in North Alabama during most of the season, but damage was mild. An unusual yellow-orange leaf spot appeared in a few scattered areas in July in North, Central, and South Alabama. We have not been able to positively identify the cause of this leaf spot. Culture work could not detect the agent. We will comment more on this leaf spot if we are able to identify it. (Duffield, Sikora, Mullen)

Soybean diseases seen included Cercospora leaf spot, downy mildew, and sudden death syndrome. Sudden death syndrome, caused by the fungus *Fusarium solani*, was a problem on soybean in Alabama and several other states in the 1980's. It is interesting that we see it again after many years of its absence. SDS is a root rot disease which causes plants to die usually over a 2 week period. The *Fusarium solani* spores may remain viable in the soil for many years.

An aster (Stokes Aster) was submitted with some stunting and yellow ring spots on leaves. ELISA testing confirmed the problem to be tomato spotted wilt virus. The only control for this virus is removal of infested plants and thrips control.

Sclerotium rolfsii was not seen as commonly as it usually is during summer months. We're not completely sure why this typically common summer disease was not seen more often. Weather conditions are suspect as the reason for low disease occurrence. Over-all cooler conditions may be involved.

On fig trees, a branch decay/blight was noted in Covington and Washington County. The blight is easily identified because the fungus forms a light pink, dense, thin layer of

mold on the surface of infected branches. Disease control requires pruning with cuts being made 3-4 inches beyond the edge of the mold.

Bacterial leaf scorch, caused by *Xylella fastidiosa*, on sycamore was confirmed by ELISA. This bacterial vascular plugging disease agent causes disease on many plants. We have had race 1 of the bacterial agent present in Alabama and the U.S. for many years. There is added interest in this disease now since race 3 biovar 2 was introduced into the U.S. from Kenya and Guatemala recently on geranium cuttings. Through efforts of USDA, CSREES, the State Departments of Agriculture & Industries and land grant university and/or state department of agriculture diagnostic labs, this highly damaging strain of *X. fastidiosa* was contained and destroyed after recent introduction in 2002 and 2003. The race 3 biovar 2 is reportedly very damaging on Irish potatoes and tomatoes.

Take-all patch, caused by *Gaeumannomyces graminis* var. *graminis*, was a commonly diagnosed disease on St. Augustine grass. This disease is often associated with St. Augustine grass that has been previously stressed somehow. A. Hagan found that St. Augustine mowed at a short length (approx. 2 inches) was more susceptible to the take-all patch fungus while grass mowed at a higher level developed much less disease. Once the grass becomes infected, it usually begins to yellow and thin out due to black lesions that develop on the roots. Control of this disease can be difficult. See ANR-823 for more information.

A new bacterial leaf spot was detected on Wisteria. The bacteria has been identified as *Pseudomonas syringae* pv *syringae*, using the gas chromatographic method to identify bacteria by their fatty acid profiles. Control of bacterial leaf spot disease in nurseries typically involves strict attention to sanitation and ground level irrigation if possible.

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

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Aster, Stokes	Tomato Spotted Wilt Virus	*
Ajuga	Cercospora Leaf Spot	Elmore
	<i>Sclerotium rolfsii</i> Crown Rot	Elmore
Anise, Florida	Phytophthora Root Rot	Tallapoosa
Azalea	Anthracnose (<i>Colletotrichum</i> sp.)	Lee
	Bacterial Leaf Spot	Lee
	Phytophthora Root Rot	Tallapoosa
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Bermuda	Nematode Damage, Sting Nematode (<i>Belonolaimus</i>)	Montgomery

Camellia	Pythium Crown & Root Rot	*
	<i>Sclerotium rolfsii</i> Crown Rot	Tallapoosa
Cantaloupe	Alternaria Leaf Spot (<i>A. cucumerina</i>)	Limestone
Collard	Alternaria Leaf Spot	Choctaw
	Back Rot (<i>Xanthomonas campestris</i> pv. <i>campestris</i>)	Macon
Corn	Common Rust (<i>Puccinia sorghi</i>)	Baldwin
	Diplodia Ear Rot	North AL, Pickens
	Gray Leaf Spot (<i>Cercospora</i> sp.)	North AL
	Northern Corn Leaf Blight (<i>Bipolaris turcicum</i>)	Baldwin, North AL, Pickens
	Southern Rust (<i>Puccinia polysora</i>)	North AL, Pickens
	Southern Corn Leaf Blight (<i>Bipolaris maydis</i>)	Baldwin, Pickens
	Unknown Leaf Spot Cause	Baldwin, North AL, Pickens
Cotton	Fusarium Root Decay	Autauga
	Pythium Root Decay	Autauga
Dogwood	Powdery Mildew	Lee
Fatsia	<i>Sclerotium rolfsii</i> Crown Rot	Tallapoosa
Fig	Anthraco nose (<i>Colletotrichum</i> sp.)	Washington
<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Botryosphaeria Canker	*
	Limb Blight (<i>Corticum salmonicolor</i>)	Washington

	Rhizoctonia Leaf Blight	Washington
Green Beans	Fusarium Stem Rot, Root Rot	Franklin, Pike
	Root Knot Nematode (<i>Meloidogyne</i> sp.)	Pike
Holly	Phytophthora Root Rot	Tallapoosa
	Pythium Root Rot	*
Hydrangea	Phytophthora Crown Rot	Tallapoosa
	<i>Sclerotium rolfsii</i> Crown Rot	Tallapoosa
Iris	Bacterial Soft Rot	Russell
Mahonia, Chinese	Slime Mold	Tallapoosa
Monkey Grass	Rhizoctonia Crown	Jefferson
Okra	Choanephora Blossom Blight	Washington
Peanut	Aspergillus Crown Rot	Crenshaw
	Rhizoctonia Crown Rot	Jackson
	Tomato Spotted Wilt Virus	Jackson
Peach	Anthracnose Canker (<i>Colletotrichum</i> sp.)	Baldwin
	Phomopsis Canker	Baldwin
Pear	Fireblight (<i>Erwinia amylovora</i>)	Dekalb, Henry
Pepper	Bacterial Wilt (<i>Ralstonia solanacearum</i>)	Franklin
Persimmon, Asian	Botryosphaeria Canker	Lee
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Pine, Long Leaf	Alternaria Crown Decay	*
	Pythium Root Decay	*

Privet	Anthrachnose (<i>Colletotrichum</i> sp.)	Lee
Soybean	Cercospora Leaf Spot	Franklin, Pickens
	Downy Mildew (<i>Peronospora</i> sp.)	Pickens
	Sudden Death Syndrome (SDS) (<i>Fusarium solani</i>)	DeKalb
Sycamore	Anthrachnose (<i>Colletotrichum</i> sp.)	Lee
	Bacterial Leaf Scorch (<i>Xylella fastidiosa</i>)	Lee
Tomato	Cucumber Mosaic Virus	Blount
	Early Blight (<i>Alternaria solani</i>)	Lawrence
	Fruit Rot (<i>Alternaria</i>)	Russell
	Fruit Rot (<i>Colletotrichum</i>)	Russell
	Pith Necrosis, Suspect (<i>Pseudomonas corrugata</i>)	Blount
	Root Knot Nematode (<i>Meloidogyne</i> sp.)	Pike
	Suspect Tomato Spotted Wilt Virus	Lauderdale, Lawrence, Pike
Raphiolepis	Scab (<i>Sphacaloma</i>)	*
St. Augustine	Brown Patch (<i>Rhizoctonia solani</i>)	Baldwin
	Gray Leaf Spot (<i>Piricularia grisea</i>)	Barbour, Covington, Jefferson, Mobile
<u>Plant</u>	<u>Disease</u> Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	<u>County</u> Baldwin, Barbour, Covington, Jefferson, Mobile
Wisteria	Bacterial Leaf Spot (<i>Pseudomonas</i>)	*

syringae pv. *syringae*)

Zoysia	Bipolaris Leaf Spot & Crown Rot	Colbert
	Rust (<i>Puccinia</i>)	Elmore
Watermelon	Gummy Stem Blight (<i>Mycosphaerella</i>)	Pickens
	Watermelon Mosaic Virus	Blount

*Counties are not reported for greenhouse and nursery diseases.

Birmingham Plant Disease Report-July (J. Jacobi)

We recorded 110 samples during the month of July. Some of the diseases we saw last month included Phytophthora root and crown rot on begonia, cane blight and rosette on blackberry, and liriopie scale on liriopie.

Blackberry rosette or double blossom is caused by the fungus *Cercospora rubi*. Symptoms appear in the spring as bunches or clusters of foliage at terminals or along fruiting canes. Flower buds are larger and redder than normal. Petals may be purplish, and sepals are much elongated. No fruit is produced from infected flowers causing a considerable yield reduction. Control rosette by removing infected canes as soon as they become noticeable. Remove and burn all fruiting canes soon after harvest and keep plants adequately spaced for good air circulation. The thornless varieties, Navaho, Apache and Arapaho, are reported to be resistant.

Table 2. 2004 July Problems Seen In the Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Apple Cedar Apple Rust (<i>Gymnosporangium</i>)		Jefferson
Arborvitae	Spruce Spider Mite	St. Clair/Jefferson
Basil	Beet Armyworm	Shelby
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Begonia, Wax	Phytophthora Root and Crown Rot	Jefferson
	Pythium Root Rot	Jefferson
Bentgrass	Anthracnose (<i>Colletotrichum</i>)	*

	Pythium Root Rot	*(5)
Bermudagrass	Dollar Spot	Jefferson
	Phosphorus Deficiency	Jefferson
Blackberry	Cane Blight (<i>Leptosphaeria</i>)	Chilton
	Leaf Rust (<i>Kuehneola</i>)	Chilton
	Rosette (<i>Cercospora</i>)	Chilton
Boxwood, Common	Boxwood Leafminer	Jefferson
	Boxwood Miner	Shelby
	Macrophoma Leaf Spot	Jefferson
	Volutella Blight	Jefferson
Centipedegrass	Two-lined Spittlebugs	Jefferson
Cherry, Flowering	Armillaria Root Rot	Jefferson
Cherry laurel	Cercospora Leaf Spot	Jefferson
	Crown Gall (<i>Agrobacterium</i>)	Jefferson
	Pythium Root Rot	Jefferson (2)
Coneflower	Botrytis Blight	Jefferson
	Suspect Aster Yellow	Jefferson (3)
Crabapple	Fire Blight (<i>Erwinia</i>)	Jefferson
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Crape Myrtle	Cercospora Leaf Spot	Jefferson
Cypress, Leyland	Botryosphaeria Canker	Shelby
Euonymus	Euonymus Scale	Shelby
Fig, Creeping	Rust	Jefferson

Hawthorn, Indian	Entomosporium Leaf Spot	Jefferson
Holly, Winterberry	Fall Web Worm	Jefferson
Juniper	Suspect Insect Damage	Jefferson
Liriope	Liriope Scale	Jefferson
	Rhizoctonia Crown Rot	Jefferson
Maple, Red	Marginal Leaf Scorch	Jefferson
Marigold	Botrytis Blight	Jefferson
Oak, Willow	Spider Mites	Jefferson
Pear	Fire Blight (<i>Erwinia</i>)	Jefferson
Rose	Common Canker (<i>Coniothyrium</i>)	Jefferson
St. Augustine	Gray Leaf Spot	Jefferson (2)
Tomato	Fusarium Wilt	Jefferson
	Septoria Leaf Spot	Jefferson
	Tomato Spotted Wilt Virus	Jefferson (2)
Vinca	Phytophthora Blight	Bibb
Zinnia	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Jefferson
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Zoysiagrass	Two-Lined Spittlebug	Jefferson

*Counties are not reported for greenhouse and nursery samples.

Auburn Entomology Report-July (C. Ray)

County	Crop	Category	Specimen Name
Mobile	Home	Structural	Formosan Subterranean Termite
Jefferson	Oak	Ornamental	Putnam Scale
Jefferson	Home	Household-Misc	Ants
Bibb	Home	Structural	Eastern Subterranean Termites
Houston	Human	Medical	No pest detected
Geneva	Lawn	Turf	Cicada Killer Wasp
Cullman	Lawn	Turf	Nymphal Burrower Bugs
Russell	Human	Medical	Lone Star Tick
Blount	Cucumbers	Vegetable	Spider Mites
Limestone	Potted Plants	Ornamental	Brown Soft Scales
Jefferson	Home	Structural	Carpenter Ant
Tallapoosa	Blueberries	Small Fruits	Fruitworms (Cherry & Cranberry)
Baldwin	Home	Household-Misc.	Scud
Cullman	Home	Miscellaneous	Housefly Mite
Talladega	Home	Miscellaneous	Burrowing Bugs
Madison	Day Lily	Ornamental	Aphids
Marion	Home	Household-Mis.	Collembola
Montgomery	Okra	Vegetable	Caterpillar Damage
Talladega	Elephant Ear	Ornamental	Mammal Damage?
Talladega	Japanese Red Maple	Ornamental	Leaf Skeletonizer
Talladega	Cherry	Ornamental	Leaf Skeletonizer
Talladega	Gardenia	Ornamental	None - Suspect Caterpillar
Talladega	Dwarf Gardenia	Ornamental	Citrus Whitefly & Cyclamen Mites
Etowah	Poultry Feed	Stored Grain	Yellow Mealworm
Walker		Miscellaneous	Giant Resin Bee
Walker		Miscellaneous	Giant Resin Bee

County	Crop	Category	Specimen Name
Walker		Miscellaneous	Bee Fly
Lee		Miscellaneous	Giant Resin Bee
Montgomery	Ornamentals	Ornamental	Glassy-winged Sharpshooter
Marengo	Ornamental	Ornamental	Whitefly Adults
Butler	Pine	Ornamental	Honey Bee
Henry		Stored Grain	Maize Weevil
Montgomery	Rosemary	Row Crop	Pyralid Caterpillar
Lee	Home	Medical	Baldfaced Hornet
Tallapoosa	Taxus	Ornamental	Soft Scale
Montgomery	Shamrock	Ornamental	Slugs
Montgomery	Rose	Ornamental	Mites
Tallapoosa	Watermelon	Row Crops	Spider Mites
Coosa	Home	Medical	Lone Star Tick
Lamar			Japanese Beetle
Montgomery	Lawn	Turf	Chinch Bug
Limestone	Home	Stored Product	Book Lice
Lee	Red Maple	Ornamental	Mites
Russell	Sycamore	Ornamental	Sycamore Tussock Moth and a Leaf Roller
? - Photo		Miscellaneous	Land Planarian
Elmore-Photo	House	Household-Misc.	Bald-Faced Hornet
Franklin	Oak	Ornamental	European-Fruit Lecanium
Jefferson	Home	Household-Misc.	Wolf Spider
Crenshaw	Hibiscus	Ornamental	Glassywinged Sharpshooter

Disease Possibilities For August & Late Summer

August has been seasonably warm with day temperatures in the high 80s and low 90s. The last two weeks of August have been warmer with temperatures in the mid 90s. Humidity has generally been high and showers have been frequent in most of the state. These conditions are very favorable for fungal and bacterial foliage diseases and fungal root diseases. 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>
Ajuga	<i>Sclerotium rolfsii</i> Crown Rot	Stems collapse at soil line; a white mold with brown mustard-seed sized sclerotia present.	Sanitation; Solarization.
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> Black Rot (<i>Botryosphaeria</i>)	<u>Description</u> <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 (¼ inch diam.) with purple margins and irregular shape. <u>Canker</u> : Lesions on branches or trunk are slightly sunken, reddish-brown and show concentric rings of cracked bark.	<u>Control</u> 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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.
	Phytophthora Root Rot	Roots show a wet, brown decay	Sanitation. See AL Pest Management Handbook.
Aucuba	Botryosphaeria Canker (Blotch)	Black, large, irregular lesions on leaves and stems; dieback beyond cankers.	Sanitation; Cleary's 3336, Domain, or benomyl labelled 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	Elongated sunken lesions on branches and twigs.	Pruning; Cleary's 3336 protective sprays.	
	Phytophthora Crown/Root Rot	Crowns/roots become brown and wet or water-soaked.	See the AL Pest Management Hand- book.
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.	----
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Beans, Garden	Anthracnose (<i>Colletotrichum</i>)	Circular and irregular reddish spots develop on leaves and pods.	See the AL Pest Management Hand- book or Vegetable Spray Guide.
	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 Hand- book.
	Ring Nematode (<i>Criconemoides</i>)	Areas of turf yellow and die.	Avoid stressful situations. Com- mercial 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.
Bentgrass	Anthracnose (<i>Colletotrichum</i>)	Leaf spot and blight.	Collect grass clippings; apply protective sprays of Cleary's 3336.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Blight	Grass blades become browned, wet, water-soaked, sometimes greasy-looking.	See the AL Pest Management Handbook.
	Rhizoctonia Brown Patch	Brown, irregular blotches on leaves; dead patches (1 or more feet diam.) in lawn.	See ANR-492 or the AL Pest Management Handbook.
	Ring Nematode (<i>Criconeoides</i>)	Areas of turf yellow and die.	Avoid stressful situations. Commercial turf areas may be treated with protective nematicides.
	Sting Nematode Damage (<i>Belonolimus</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 diam.) in lawn.	See ANR-492 or the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

	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>Criconeoides</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	Anthraxnose	Brown leaf spots and blotches; some times lesions follow along veins.	Sanitation of fallen leaves in the fall.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
	Phomopsis Cane Canker	Elongated, cracked, sunken cankers	Prune out cankers, making cuts 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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Summer Stress Chlorosis	Plants become yellowed and sometimes leaves	develop small red spots.

Increase irrigation and

nitrogen application.

Boxwood

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.

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.

Volutella Blight

Sunken elongated lesions on branches or twigs which may be covered by orange fruiting bodies of the fungus.

Improve growing conditions; eliminate any environmental stresses; See Ala. Pest Management Handbook.

Cantaloupe

Alternaria Leaf Spot

Large circular or irregular gray-brown leaf spots.

Sanitation. See the AL Pest Management Handbook.

Plant

Disease

Description

Control

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, shrivelled,

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.
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Dark brown irregular lesions on leaves, generally. Dead patches (1 or more feet diam.) in lawn.	See ANR-492 or Pest Management Handbook.
	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 labelled.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cherry	Bacterial Canker (<i>Pseudomonas</i>)	Sunken cankers (often with ooze); often a foul smell is associated.	Sanitation.
	Septoria Leaf Spot	Medium brown angular spots (about 1 cm diam.).	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	Bacterial Leaf Spot (<i>Pseudomonas</i>)	Dark brown/black, small (2-4 mm diam.), angular spots; sometimes with water-soaked edges.	Sanitation.
	Botrytis Blight	Brown spots, blotches.	See AL Pest Management Handbook.
	Fusarium Wilt	Yellowing/wilt of leaves, beginning at the bottom of the plant and moving upward.	Sanitation; rotation for 7-10 years or solarization.
	Pythium Root Rot	Roots become brown and water-soaked.	Sanitation; protective fungicide drenches of Captan, Subdue, or Banol; solarization or crop rotation.
	Watermelon Mosaic Virus	Usually a regular mosaic pattern of yellow and green leaves.	Sanitation. Control of aphids may help some.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 cross-wise.

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.	---
	Southern Rust (<i>Puccinia polysora</i>)	Orange pustules develop on upper leaf surfaces. Leaves become blighted.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.	---
Crabapple	Scab (<i>Venturia</i>)	Olive-brown circular, slightly raised spots (4-5 mm diam.) develop on leaves and fruit.	See AL Pest Management Handbook.
Cucumber	Anthracnose (<i>Colletotrichum</i>)	Angular, brown, water-soaked spots on leaves, stems.	See the AL Pest Management Handbook.
	Watermelon Mosaic Virus I	Yellow-green mosaic pattern; slight reduced growth.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cypress, Leyland	Cercospora Blight	Inside and lower limbs become blighted.	Sanitation; See AL Pest Management Handbook.
	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 (*Puccinia hemerocallidis*)

Yellow-orange small spots on leaves; diseased leaves eventually turn brown and die.

Sanitation. Apply protective sprays of Banner Maxx or Heritage.

Southern Blight (*Sclerotium rolfsii*)

A wet rot at soil line; sometimes a white fluffy mat of fungus at soil line.

Sanitation; solarization.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
	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.
Euonymus	Anthracnose (<i>Colletotrichum</i>)	Small, whitish spots (1/16 in. diam.) 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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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. diam.	See ANR-492 and the Alabama Pest Management Handbook.
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.	---

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	<i>Sclerotium rolfsii</i> Crown Rot	Necrosis at crown with white mycelial mat and mustard sized sclerotia.	Sanitation; See AL Pest Management Handbook.
Floamflower	Anthracnose (<i>Colletotrichum</i>)	Brown, circular-irregularly-shaped spots on leaves & stems.	Sanitation. Protective sprays of Cleary's or Halt would help.
Forsythia	Anthracnose	Brown, leaf spots/blotches.	Sanitation. See AL Pest Management Handbook.
<i>Gomphrena glabosa</i>	Fusarium Crown Rot	Brown, dried, decayed lower stem.	Sanitation; Crop rotation.
Grape	Anthracnose (<i>Colletotrichum</i>)	Circular (1-5 mm diam.) - 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.
	Black Rot (<i>Guignardia</i>)	<u>Leaves:</u> Reddish-brown spots with black margins (2-5 mm diam.); spots circular or slightly lobed. <u>Shoots, Cane:</u> Purple or black, elongated, elliptical lesions; bark splits along lesion length. <u>Fruit:</u> White spots (2-3 mm diam.) with brown edges; spots	Sanitation; recommend fungicide sprays.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Holly, Japanese		enlarge and fruit becomes wrinkled, black, rotted.	
	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>Aphelencooides</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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Hydrangea	Anthracnose (<i>Colletotrichum</i>)	Brown, irregular leaf spots and some-times cankers. Leaf spots may follow along leaf veins.	Sanitation. See the AL Pest Management Handbook.
	Armillaria Root Rot	Hydrangea dies suddenly. Thin white fungal mat 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.
	Phytophthora Root Rot	Roots become brown watersoaked 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
Ivy, English	Anthracnose	Irregular or circular dark brown or black leaf spots.	Sanitation; See AL Pest Management Handbook.
	Bacterial Leaf Spot	Dark brown-black angular leaf spots.	Sanitation. Do not water over-head. 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
Laurel, Cherry	Blumeriella Leaf Spot	Brown, roundish leaf spots that often fall out.	Sanitation. Remove all fallen leaves.
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 dieback.	Sanitation; Solarization; root-associated soil removal.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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, 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	Anthracnose (<i>Kabatiella</i>)	Small-large brown blotches develop on leaves, often following along veins +/- leaf edges.	See the AL Pest Management Handbook.
	Phyllosticta Leaf Spot	Small (4-8 mm diam.) leaf spots develop with brown-purple borders and brown-cream centers.	See the AL Pest Management Handbook, under 'Leaf Spot'.
Maple, Japanese	Anthracnose (<i>Kabatiella</i>)	Small-large brown blotches develop on leaves, often following along veins +/- 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Maple, Sugar	<i>Monastichella hysteroidea</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'.
Mondograss	Anthracnose (<i>Colletotrichum</i>)	Gray, brown spots on leaves.	Sanitation; See AL Pest Management Handbook.
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 +/- leaf edges.	See the AL Pest Management Handbook.
	Bacterial Scorch Disease (<i>Xylella</i>)	Leaf edge turn brown in scattered locations in tree; gradual dieback 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.
Okra	Root Knot Nematode (<i>Meloidogyne sp.</i>)	Irregular galls on roots.	Sanitation; grow nematode resistant vegetable variety; crop rotation to some grasses, marigolds, etc. See ANR-856.
Pansy	Pythium Root Rot	Roots become brown and water-soaked; plants become yellowed and finally die.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Spot	Shot hole spots on leaves, often with a reddish border; sunken dark brown spots on fruit.	Sanitation. See AL Pest Management Handbook.
Pea, Field	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	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 & 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 diam.) 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.
	<i>Fabraea</i> 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.
	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; recommend fungicide sprays.
Peony	Cladosporium Leaf Blotch	Irregular brown leaf spots/blotches.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
	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.
Periwinkle	Anthracnose (<i>Colletotrichum</i>)	Brown, sunken cankers on stem sections.	Sanitation; Cleary's 3336, Domain, or a benomyl WP labelled for ornamentals.
	Phytophthora Aerial Blight	Dark brown lesions appear on stems; dieback.	Sanitation; Aliette.
	Phytophthora Root Rot	Roots become dark brown decayed and water-soaked; foliage shows yellowing/dieback.	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 labelled for ornamentals.
	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.
Petunia	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.
Pine, Virginia	Fusarium Pitch Canker	Sunken lesions that ooze sap.	Sanitation.
	Lophodermium (<i>Ploioiderma</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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 pts. per 100 gallons after shearing when growth is ½ inch and again when new 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.
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 fungicide; See AL Pest Management Handbook.
Poplar	Alternaria Leaf Spot	Brown, irregular spots (8-15 mm diam.) develop on leaves.	Sanitation. Chemical treatment not usually recommended.
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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Scab (<i>Streptomyces scabies</i>)	Rough, circular, irregular lesions on	tubers.

See the AL Pest	Management Hand-	book.	
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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phytophthora Root Rot	Brown, water-soaked roots become dried.	Sanitation. Reduce irrigation.
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	Anthracnose (<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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
	Anthracnose (<i>Colletotrichum</i>)	Irregularly shaped brown lesions on stems, pods, petioles. In later 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.
	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	Rotation; resistant cultivars; See Soybean Pest Management, Circular ANR-413.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		roots with the aid of a	hand lens.

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.
<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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.
	Stem Canker (<i>Diaporthe</i>)	Small, red-brown lesions at nodes develop into large longitudinal gray-brown cankers with red-brown margins. Leaves develop inter-veinal 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.
	Sudden Death Syndrome (<i>Fusarium solani</i>)	The tap root becomes brown and dry-rotted. Small feeder roots may also become decayed. Foliage develops inter-veinal browning.	Rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Squash	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 sp.</i>)	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.
Strawberry	Common Leaf Spot (<i>Mycosphaerella</i>)	Reddish-bordered spots with gray centers.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 die-back 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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>campestris</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.
	Bacterial Wilt (<i>Pseudomonas solanacearum</i> <i>Ralstonia solanacearum</i>)	Green healthy plants wilt and collapse rapidly.	Sanitation.
	Cucumber Mosaic Virus Complex	Plants become stunted; new growth becomes 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 (1/4-1/2 inch diam.) 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.
	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.	Solarization or fumigation.
	Tomato Spotted Wilt Virus	New growth becomes abnormally small; yellow spots appear. Young leaves become bronzed in spots, patches or whole leaf area 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
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	Anthracnose	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.
	Cercospora Leaf Spot	Circular-irregular pale brown leaf spots with black margins (2-10 mm diam.).	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		Gummy Stem	(<i>Mycosphaerella</i>)

Elongate, brown, wet and some- times 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	Anthracnose (<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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Curvularia Blight	Foliage develops brown leaf spots and blight.	See Austin Hagan.
	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 dieback. Crown areas become brown and dry decayed.	See ANR-621 and the AL Pest Management Handbook.
	Rhizoctonia Brown Patch	Brown blotches on leaves; roughly circular patches (1 or more feet diam.) turn brown in lawn.	See ANR-492.
	Ring Nematode Damage (<i>Criconemoides</i>)	Poor root system; poor top growth; dieback.	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 pv 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.