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PLANT PATHOLOGY SERIES

TIMELY INFORMATION
Agriculture & Natural Resources

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AUGUST PLANT PROBLEM REPORT FROM THE AUBURN PLANT DIAGNOSTIC LAB

AUGUST PLANT PROBLEM REPORT FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

AUGUST INSECT REPORT FROM THE AUBURN PLANT DIAGNOSTIC LAB

DISEASE POSSIBILITIES FOR SEPTEMBER

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Auburn Plant Disease Report-August (J. Mullen)

Rainfall was deficient in some areas in August and adequate in other locations. We received 99 plant samples in August.

During August, Asian Soybean Rust was found in Crenshaw and Covington Counties. In the first half of September, Asian Soybean Rust was found in 7 more counties (Autauga, Bullock, Clarke, Elmore, Escambia, Pike, & Washington). Prior to August, the disease had been found in Baldwin (July 26) and Mobile (April 11). (E. Sikora, M. Delaney, D. Delaney and others in the Soybean Rust Group)

We saw an abundance of fungal leaf spots including Alternaria, Stemphyllium, Gymnosporangium claviceps, Piricularia, Corynespora, Botrytis, Fabraea leaf spot, Cercospora, Phomopsis, and Melampsora rust. Late summer and early fall is a time when we see many

fungal leaf spots developing on older leaves. These late leaf spots do not seriously affect the health and vigor of shade trees or shrubs.

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

Plant	Disease	County
Apple	Bitter Rot (*Colletotrichum* sp.)	Talladega
	Fly Speck (*Schizothyrium pomi*)	Talladega
	Sooty Blotch (*Gloeodes pomigena*)	Talladega
Bentgrass	Ring Nematode Damage (*Criconemoides*)	Blount
Bermuda	Sting Nematode (*Belonolaimus* sp.)	Lee
Blueberry	Botryosphaeria Canker	Clay, Henry
	Phytophthora Root Rot	Henry (4)
Camellia	*Glomerella cingulata* Canker	Clay
Cotton	*Alternaria* sp. Leaf Spot	Henry
	Alternaria macrospora Leaf Spot	Dallas
	Alternaria prob. *gossypii* Leaf Spot	Dallas
	Stemphyllium Leaf Spot	Elmore, Lamar
Crabapple	Botryosphaeria Canker	Mobile
	Cedar Quince Rust (*Gymnosporangium claviceps*)	Mobile
	Suspect Fireblight (*Erwinia amylovora*)	Mobile
Crabgrass	Blast (*Piricularia grisea*) Leaf Spot	Lamar
Hosta	*Sclerotium rolfsii* Crown Rot	Washington
Hydrangea	*Corynespora* sp. Leaf Spot	Escambia
Okra	Botrytis Blight on Pods	Hale
Pear	Fabraea Leaf Spot (*Entomosporium* sp.)	Mobile

Plant	Disease	County
Oak, Pin	Xylella Bacterial Scorch (*X. fastidiosa*)	Madison
Plum	Bacterial Leaf Spot (*Xanthomonas pruni*)	Cullman
	Botryosphaeria Leaf Spot & Canker	Cullman
Rose	Bacterial Leaf Spot	Houston
	Brown Canker (*Cryptosporella umbrina*)	Tallapoosa
	Cercospora Leaf Spot	Escambia
	Phomopsis Leaf Spot	Escambia
	Phytophthora Root Rot	Houston
Sorghum, Grain	Target Spot (*Bipolaris sorghicola*)	Elmore
Soybeans	Anthracnose (*Colletotrichum* sp.)	Elmore
	Charcoal Rot (*Macrophomina phaseolina*)	Elmore, Jackson
	Downy Mildew (*Peronospora manshurica*)	Henry (3), Montgomery
	Frogeye Leaf Spot (*Cercospora sojina*)	Henry
	Fusarium sp. Associated With Roots	Jackson
	Nematode-Lesion Damage Suspect (*Pratylenchus* sp.)	Elmore
	Stem Canker (*Diaporthe phaseolarum* var. caulivora)	Elmore
	Suspect Sudden Death Syndrome (*Fusarium solani*)	Elmore
Sage	*Phytophthora nicotiana* Root Rot	Lee
St. Augustine	Gray Leaf Spot (*Piricularia grisea*)	Montgomery
	Take-All Patch (*Gaeumannomyces graminis* var. graminis)	Choctaw, Montgomery, Russell

Plant	Disease	County
Sunflower	*Alternaria helianthus* Leaf Spot	Baldwin
Tomato	Bacterial Spot (*Xanthomonas axonopodis* var. vesicatoria)	Madison
Willow, Weeping	Cercospora Leaf Spot	Elmore
	Melampsora sp. Rust	Lee
	Phomopsis Canker	Elmore, Lee

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

Monthly Plant Problem Report From The Birmingham Lab (J. Jacobi)

We received 79 samples during the month of August. The rains from Tropical Storm Faye at the end of the August really helped with the drought stricken areas of North Alabama and especially Northeast Alabama. Some areas in DeKalb and Marshall Counties were nearly as dry this summer as in 2007. The good news is that many areas in North Alabama received from 4 to 9 inches of rain where they needed it the most in the NE part of the state. These rains have helped reduce the drought severity in North Alabama (**http://www.drought.unl.edu/dm/DM_state.htm?AL,SE**). The rains have also helped keep municipal water supplies in good shape compared to last summer. In fact, one of the lakes that supplies water to part of the Birmingham metro area is 98% full and the other lake is 83% full.

Some of the more common problems we received last month were lacebugs on azalea, twospotted spider mites on various ornamentals and tomato, take-all root rot on St. Augustinegrass and zoysiagrass, and damage from the southern purple mint moth on rosemary.

We received a sweet potato sample with pox or soil rot caused by *Streptomyces ipomea*. Soil pox is a bacterial disease common in the major sweet potato production areas of the United States. Conditions leading to more serious disease loss include light, sandy soils, a pH greater than 5.2 and relatively dry soil. In addition, more severe symptoms develop during seasons with hot, dry conditions. In this case, the weather conditions had been abnormally dry in the last two months up till harvest. Symptoms included circular to irregular sunken lesions less than an inch in diameter. The lesions were very similar to circular spot, which is caused by *Sclerotium rolfsii*. Both pathogens can be difficult to nearly impossible to isolate from storage roots, depending on the conditions and how long they have been in storage. One way to distinguish circular spot from pox is by taste. Root lesions affected by circular spot have a bitter taste, while those affected by soil rot or pox have an earthy taste. Pox is very persistent, and heavily infested fields should not be used to produce sweet potatoes unless there is a fairly high level of pox resistance in the cultivar being grown.

We have been evaluating annual vinca cultivars (*Catharanthus roseus*) for resistance to Phytophthora blight in three locations this summer. In two of the three locations we have not seen Phytophthora blight, on either resistant or susceptible cultivars of vinca. However, we have picked up other diseases including tomato spotted wilt, southern blight (*Sclerotium rolfsii*), and web blight (*Rhizoctonia solani*). For more information on diseases other than Phytophthora blight on vinca see the following publication (**http://www.aces.edu/pubs/docs/A/ANR-1023/**).

Table 2. 2008 August Problems Seen In The Birmingham Plant Diagnostic Lab.

Plant	Problems	County
African Violet	Broad Mites	Shelby
Arborvitae	Spruce Spider Mite	Jefferson
Aucuba	Phytophthora Root Rot	Jefferson
Azalea	Azalea Lacebug	Jefferson (2), St. Clair
Bermudagrass	Billbugs	Tuscaloosa
	Bipolaris Leaf Spot	Tuscaloosa
	Curvularia Blight	Shelby
	Dollar Spot	Jefferson
Boxwood, Common	Boxwood Leafminer	Jefferson (2)
	Boxwood Mites	Jefferson
	Fertilizer Injury	*
	Volutella Blight	*
Boxwood, English	Phytophthora Root Rot	Jefferson
Cherry, Japanese Flowering	Cercospora Leaf Spot	Jefferson
Chrysanthemum, Hardy	Leafminer	*
Crape Myrtle	Armillaria Root Rot	Jefferson
	Granulate (Asian) Ambrosia Beetle	Jefferson

Plant	Problems	County
Fig, Common	Rust	Jefferson
Fig, Weeping	Hemispherical Scale	Jefferson
Grape, Wine	Nutrient Deficiency	Madison
	Powdery Mildew	Madison (2)
Hackberry, Weeping Japanese	Asian Wooly Hackberry Aphid	Jefferson
	Virus, Suspected	Jefferson
Hibiscus	Virus, Suspected	Jefferson
Holly, Chinese	Slime Mold	Pickens
Hydrangea, Bigleaf	Corynespora Leaf Spot	Jefferson/Lauderdale
Ivy, Algerian	Phytophthora Root Rot	Jefferson
Lenten Rose	Pythium Root Rot	Shelby
Magnolia, Southern	Tuliptree Scale	Jefferson
Maple, Japanese	Leaf Scorch (Abiotic)	Jefferson
Maple, Red	Girdling Roots	Jefferson
Mondograss	Anthracnose	Jefferson
Pieris	Southern Red Mites	Jefferson
Pomegranate	Fruit Rot	Jefferson
Pumpkin	Squash Vine Borer	Jefferson
Rose	Two-Spotted Spider Mite	Jefferson
Rosemary	Southern Purple Mint Moth	Jefferson (2)
	Spider Mite	Jefferson
St. Augustinegrass	Gray Leaf Spot	Jefferson

Plant	Problems	County
	Take-All Root Rot	Jefferson (3)
Sweet Potato	Soil Pox	*
Tomato	Blossom End Rot	Jefferson
	Two-Spotted Spider Mites	Jefferson
Vinca	Nitrogen Deficiency	Jefferson
	Southern Stem Rot (*Sclerotium*)	Jefferson
	Tomato Spotted Wilt (TSWV)	Jefferson
	Web Blight (*Rhizoctonia*)	Cullman
Wisteria	Twospotted Spider Mite	Jefferson
Zoysiagrass	Curvularia Blight	Jefferson
	Take-All Root Rot	Jefferson

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

Auburn Entomology Report-August (C. Ray)

County	**Host**	**Category**	**Identification**	**Scientific Name**
Houston	Home	Household-Miscellaneous	A Carpenter Ant	*Camponotus decipiens*
Barbour	Trap	Miscellaneous	Southern Yellow Jacket	*Vespula squamosa*
Chilton	Peach	Fruits and Nuts	Fuller Rose Beetle	*Pantomorus cervinus*
Coosa	Flowers	Ornamental	Southern Carpenter Bee	*Xylocopa micans*
Chilton	Home	Household-Miscellaneous	Spiny-Bellied Orb Weaver	*Gasteracantha cancriformis*

County	Host	Category	Identification	Scientific Name
Butler	Home	Household-Miscellaneous	Wolf Spider	*Hognia* sp.
Duval, FL	Camellia	Ornamental	Tea Scale	*Fiorinia theae*
Autauga	Zoysia Grass	Turfgrass	Chinch Bugs	*Blissus* sp.
Lee	Muscadine Grape	Fruits and Nuts	Minor Leaf Miner Damage	
Mobile	Holly	Ornamental	Red-Headed Flea Beetle Damage	*Systena frontalis*
Mobile	Various Nursery Plants	Ornamental	Green June Beetle	*Cotinis nitida*
Baldwin	Swamp-Chestnut Oak	Ornamental	Two-spotted Spider Mite, Oak Lace Bug and an Oak Leaf Skeletonizer	*Tetranychus urticae*, *Corythucha arcuata* & Unidentified Larva
Dallas	Lima Beans	Row Crops	Apparent Stink Bug Damage	
Fayette	Home	Household-Miscellaneous	A Silvanid Bark Beetle, a Small Dung Beetle and Springtails	*Cartharosilvanus* poss. *imbellicis*, *Ataenius* sp. & Collembola
Calhoun	Home	Household-Structural	Worker Termite	Isoptera
Cherokee	Home	Household-Miscellaneous	Odorous House Ant	*Tapinoma sessile*
Russell	Home	Household-Miscellaneous	An Earwig	Dermaptera
Washington	Azalea	Ornamental	Azalea Bark Scale	*Eriococcus azaleae*
Houston	Water-Filled Oak Knothole	Miscellaneous	Rat-Tailed Maggot	*Eristalis tenax*

County	Host	Category	Identification	Scientific Name
Cullman	Nuts	Household-Stored Products	Pecan Nut Casebearer	*Acrobasis nuxvorella*
Perry	Home	Household-Miscellaneous	Smoky Brown Cockroach Hatchlings	*Periplaneta fuliginosa*
Houston	Home	Household-Miscellaneous	Ground Beetle, Sugar Cane Beetles and Dermestid Larva	*Calosoma* sp., *Euetheola humilis*, & Dermestidae
Elmore	Weeping Willow	Ornamental	Imported Willow Leaf Beetle	*Plagiodera versicolora*
Lee	Home	Household-Medical	Brown Widow Spider & Black Widow Spider	*Latrodectes geometricus* & *L. mactans*
Walker	Home	Household-Structural	Dark Southern Subterranean Termite	*Reticulitermes virginicus*
Montgomery	St. Augustine Grass	Turfgrass	Chinch Bug	*Blissus* sp.
Lee	*Clethra alnifolia*	Ornamental	A Tarsonemid Mite	Tarsonemidae
Madison	Alfalfa	Forage Crop	Three-Cornered Alfalfa Hopper Feeding Damage	
Limestone	Zoysia Grass	Turfgrass	White Grub	*Phyllophaga* sp.
Escambia	Soybeans	Row Crops	Thrips Larvae	Thysanoptera
Mississippi	Greenhouse	Household-Miscellaneous	Sugarcane Beetle	*Euetheola humilis*
Jefferson	Centipede Grass	Turfgrass	Ground Pearls	Margarodidae

Disease Possibilities For September

Seasonably cooler conditions are more favorable for powdery mildew and downy mildew. Both of these diseases cause yellow blotches on dicot leaves. With powdery mildew, blotches may be more diffuse and a white dusty layer may be visible on the upper and/or lower leaf surfaces. With downy mildew, yellow spots may begin as more definitive angular yellow spots. These spots may merge resulting in large yellow areas. On lower leaf surfaces when weather is wet, humid and temperatures are 60-80ºF, a brown-gray-colored webbing may be present on lower leaf surfaces. These diseases are often confirmed in the lab by microscopic observation of characteristic spores.

Evidence of bacterial scorch disease may occur in September. Scorch disease, caused by the bacteria *Xylella*, causes leaf edge scorch and dieback of elm, oaks (red and black oaks including northern red, pin, scarlet, southern red, laurel, shingle, and water oaks), sycamore, mulberry, and red maple. Initial symptoms of scorch may first occur in mid-late June, but disease is often not noticed until late summer or early fall when symptoms are more pronounced. Generally, leaf symptoms progress from older to younger leaves, with leaves at branch tips often showing no symptoms. Scorched leaves curl upward and remain attached. Infected trees develop a progressive dieback and general (usually slow, over many years) decline. Scorch can be confirmed with an ELISA test. Disease symptoms may be confused with drought or root problems. In August of 2002, this disease was confirmed in a sycamore sample from Barbour County and in a plum sample from Mobile County. Bacterial scorch was diagnosed in 2006 on sycamore in Montgomery County. It was found in 2007 in plum in Chilton County, oak (Red Group) in Marengo County, American elm in Jefferson, muscadine in Shelby County, and red oak in Shelby County (ELISA tests were positive). This past August, *Xylella* was identified on pin oak in Madison County. The disease is transmitted by leaf hoppers. The only disease control method available is plant removal.

Many fungal leaf spot diseases will develop on pre-senescent shade tree foliage in September. Generally these spots are of no concern. It is, however, always a good idea to remove fallen spotted foliage from the area later this fall or winter. Stressed trees are more susceptible to these leaf spots.

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

Plant	Disease	Description	Control
Abelia	Cercospora Leaf Spot	Small-large brown, circular leaf spots.	Sanitation.
Alfalfa	Summer Black Stem and Leaf Spot (*Cercospora*)	Small brown spots become larger (2-6 mm diam.) and reddish brown or smoky brown. During humid conditions, spots become	Maintain appropriate fertility; harvest frequently.

Plant	Disease	Description	Control
		ashy-gray with spores. Lesions occur on stems; small stems and petioles may die from girdling lesions.	
Ajuga	Cercospora Leaf Spot	Medium brown, circular-irregularly shaped leaf spots of varying sizes.	Sanitation. Cleary's 3336 or Halt may be used.
Almond, Dwarf Flowering	Powdery Mildew	White dusting of fungus on leaf surfaces; later necrosis.	Sanitation; Cleary's 3336, Halt, or OHP 6672.
Althea	Rust (*Puccinia* or *Kuehneola*	Orange, powdery specks on small yellow leaf spots appear.	Sanitation.
Apple	Bitter Rot (*Colletotrichum*)	Initially small gray or brown spots appear on the fruit. These spots enlarge into medium brown circular lesions. Orange spores often develop in concentric rings.	Sanitation. See the Spray Guide for Fruit Crops.
	Black Rot (*Botryosphaeria*)	On young fruit, tiny red flecks appear. As fruit matures lesions become large black and irregular sometimes with a red halo. Sometimes alternating rings of brown & black develop. Limb cankers are red-brown, slightly sunken, cracked. Leaf spots are brown with a purple border (4-5 mm diam.)	Sanitation. See the Spray Guide for Fruit Crops.
	Fly Speck (*Schizothyrium*)	Tiny black dots occur in patches (usually) on the surface (only) of apple fruit.	Sanitation. See the Fruit Spray Guide.
	Sooty Blotch (*Gloeodes*)	Medium gray spots which resemble sooty smudges appear on surface layer of apple skin only.	Sanitation. See the Fruit Spray Guide.
Arbor-vitae	Armillaria Root Rot	Tree dieback; roots are rotted; check for honey-colored mushrooms, thin, white fungal mats under	Sanitation – tree removal. See ANR-907

Plant	Disease	Description	Control
		the bark, and black, thread-like rhizomorphs at crown-soil line area.	
Aucuba	Lasiodiplodia Canker	Black sunken spots or sunken areas on aucuba stems. Dieback of foliage results.	Cleary's 3336, or Domain protective spray labeled for ornamentals; sanitation.
Azalea	Armillaria Root Rot	Dieback. At or near the soil level, a white fungal mat seen under the bark. Brown, honey-colored mushrooms may develop at trunk area.	Sanitation of the whole tree.
	Botryosphaeria Canker	Cracked, sunken lesions on branches.	Pruning.
	Cercospora Leaf Spot	Small dark brown-black, usually circular spots (1-2 mm) scattered over leaf surface.	Sanitation. See the AL Pest Management Handbook.
	Colletotrichum Leaf Spot	Small, round, brown leaf spots.	Sanitation. Protective sprays of Daconil or Cleary's 3336 or Halt could be used.
	Phomopsis Canker/Dieback	Elongated, sunken, elliptical cankers on twigs and branches with resulting dieback.	Sanitation; protective sprays of Cleary's 3336 may help.
	Phytophthora Crown and Root Rot	Lower stem near soil and roots become brown and water-soaked.	Sanitation and proper soil or potting mix drainage are important. See Alabama Pest Management Handbook and ANR-571.
	Rhizoctonia Aerial Blight	Brown, irregular spots and lesions begin on lower leaves. Whole leaves may become blighted; leaf drop occurs.	Sanitation; See AL Pest Management Handbook.
Azalea, Native	Cercospora Leaf Spot	Small, brown, circular spots develop.	Sanitation. Cleary's or Halt may be used.
Bahia Grass	Dollar Spot (*Sclerotinia*)	Pale, cream-colored silver dollar-sized spots appear in grass area. Individual grass blades show cream	Sanitation. See the AL Pest Management Handbook.

Plant	Disease	Description	Control
		colored spots with brown-black borders.	
	Helminthosporium-type Leaf Spot	Tiny (2-3 mm), elongated brown spots may cover leaf and stem, stolon surfaces. Severe spotting may cause foliage death.	Maintain appropriate fertility; harvest as frequently as possible.
Bald, Cypress	Cercosporidium Blight	Lower foliage becomes brown. Microscopic study usually shows small spore bodies of Cercosporidium.	Pruning. Cleary's 3336 will provide protective disease control.
Basil	Rhizoctonia Stem & Root Rot	Wilt, dieback, brown, dry lesion on lower stems, crown, and roots.	Sanitations; crop rotation.
Beans, Garden	Anthracnose (*Colletotrichum*)	Black, sunken cankers on pods which become red-orange when spores are produced. Similar spots are found on stems. Foliage symptoms involve black, dead portions of veins on the underside of the leaf. Infections of older plants cause damage primarily to pods.	See the AL Pest Management Handbook.
	Pythium Lower Stem Rot	Lower stems near soil-line show brown, wet rot.	See AL Pest Management Handbook.
	Rhizoctonia Aerial Blight	Leaf blight develops. Leaves become brown and tattered.	Sanitation.
	Rhizoctonia Lower Stem Rot	Lower stems near soil-line have dried brown lesions.	See AL Pest Management Handbook.
	Root-Knot Nematode (*Meloidogyne*)	Roots develop round-irregularly shaped galls; plants become yellowed; wilt during dry periods.	Rotate to dwarf French marigolds for 1 year or grasses (such as bahia or centipede) for 3-4 years or solarization.
	Uromyces Rust	Reddish-brown powdery pustules on all above ground plant parts, especially lower leaf surfaces.	Protective fungicide sprays. See the AL Pest Management Handbook.
Begonia	Phytophthora Crown Rot	Crown tissues are dark and wet-rotted.	Sanitation. Reduce watering.

Plant	Disease	Description	Control
	Phytophthora & Pythium Root Rot	Roots become brown and water-soaked, decayed.	Sanitation. Reduce watering. See the AL Pest Management Handbook.
	Rhizoctonia Root Rot	Brown, dry, decayed roots.	Sanitation. Banrot protective drenches.
	Root-knot Nematode (*Meloidogyne*)	Galls on roots; plants stunted and wilted.	Solarization.
	Tomato Spotted Wilt Virus	Yellow mosaic and ring spots present. Sometimes brown spots also present.	Thrips control. Sanitation.
Bentgrass	Anthracnose (*Colletotrichum*)	Brown leaf spots, dieback; yellowing.	Sanitation; collect clippings; Cleary's 3336. Check with A. Hagan.
	Bipolaris Leaf Spot	Tiny brown leaf spots that will coalesce to cause large areas of leaves to be blighted.	See ANR-621 or the AL Pest Management Handbook.
	Fairy Ring	Dead rings or half ring patterns in lawn; mushrooms.	See ANR-372.
	Nematode Damage from Ring (*Criconemoides*) and Sting (*Belonolaimus*) Nematodes	Thinned, blighted, yellowed turf areas.	See ANR-523.
	Pythium Root Rot	Roots become light brown, wet, and rotted; foliage dies.	See ANR-594 and the AL Pest Management Handbook.
Bermuda, Coastal	*Bipolaris* (*Helminthosporium*) Leaf Spot	Tiny (2-3 mm), elongated brown spots may cover leaf and stem, stolon surfaces. Severe spotting may cause foliage death.	Maintain appropriate fertility; harvest as frequently as possible.
Bermudagrass	*Bipolaris* Leaf/Stem Spot & Blight	See Bermuda, Coastal.	Collect grass clippings; See AL Pest Management Handbook.
	Dollar Spot (*Sclerotinia*)	Pale, cream-colored, silver dollar-sized spots appear in grass area. Individual grass blades show cream colored spots with brown-black borders.	Sanitation. See the AL Pest Management Handbook.
	Fairy Ring	Large rings or half rings of dead grass with an outer	See ANR-372. Also see AL Pest Management

Plant	Disease	Description	Control
		border of dark green turf. When conditions are wet, mushrooms will form in the dark green ring area.	Handbook.
	Nematode, Ring (*Criconemoides* sp.)	Irregular patches become thin, yellow and dieback.	See ANR-523.
	Nematode, Sting (*Belonolaimus* sp.)	Irregular patches become thin, yellow and dieback.	See ANR-523.
	Rhizoctonia Brown Patch	Symptoms may vary slightly depending upon the situation. Typically, light-medium brown, large, circular patches occur on lawns. Individual grass blades develop small to large brown lesions. Lesions may involve the whole leaf blade or whole plants.	Collect grass clippings; See AL Pest Management Handbook.
	Rhizoctonia Leaf & Sheath Blight (*R. zea*)	Brown leaf spots; dieback; blight.	Sanitation; collect grass clippings; see ANR-492; See the AL Pest Management Handbook.
	Take-All (*Gaeumannomyces*)	Spots or areas in turf become yellowed and thinned. Roots become decayed in spots.	See ANR-823. Also, see AL Pest Management Handbook.
Bermuda, Tifdwarf	Bermudagrass Decline (*Gaeumannomyces graminis* var. graminis)	Areas yellow and die out.	See take-all patch recommendations, ANR-823.
Bermuda, Tifeagle	Curvularia Blight	Large leaf areas become blighted. This fungus usually develops as a secondary event.	See AL Pest Management Handbook for brown patch recommended fungicides.
Blackberry	Rust (*Gymnoconia*)	Lower leaf surfaces are covered with orange powdery masses of spores; witches brooms may develop. Plants stunted; a systemic disease.	Remove infected plants.
	Septoria Leaf Spot	Reddish-brown angular leaf spots.	See the AL Pest Management Handbook.

Plant	Disease	Description	Control
Blueberry	Phomopsis Canker	Branch dieback to cankers; cankers are elliptical, dry, sunken lesions.	Pruning. Make cuts 3 inches beyond the damage area.
Boxwood	Phytophthora Root Rot	Brown, water-soaked roots.	See AL Pest Management Handbook.
	Volutella Blight	Dieback; canker, small-orange specks that are the fruiting bodies of the fungus.	Sanitation. See the AL Pest Management Handbook.
Boxwood, American	Macrophoma Leaf Spot	Yellow-brown blotches or areas, sometimes with small black specks that are the fungus fruiting bodies.	Correct stress conditions. Cleary's 3336 or Halt may be used.
Cabbage	*Alternaria brassicicola* Stem Blight	Dark brown-black, oval stem lesions; some lesions have a zonate pattern; dieback.	Sanitation; See the AL Pest Management Handbook.
	Black Rot (*Xanthomonas*)	Yellow v-shaped lesions at leaf edges. V-shaped lesions become black; eventually, main stem/stalk become black and soft rotted.	Sanitation; Crop rotation 2 years, see AL Pest Management Handbook.
Cactus, Christmas	Pythium Root Rot	Plant dieback; soft, wet, brown rot at base of stem at soil level.	Remove plant.
Camellia, Sasanqua	Glomerella Canker	Branch dieback; cankers are brown, sunken, sometimes cracked at edges.	Pruning. Make cuts 3 inches beyond the damage.
Celosia	Phytophthora, Pythium, Fusarium Lower Stem Rot & Root Rot	Roots brown and decayed.	Sanitation. Reduce watering. Improve soil drainage.
Centipede	Brown Patch (*Rhizoctonia*) Dollar Spot (*Sclerotinia*)	See bermudagrass. Pale, cream-colored, silver dollar-sized spots appear in grass area. Individual grass blades show cream colored spots with brown-black borders.	See Bermudagrass. Sanitation. See the AL Pest Management Handbook.
	Ring & Spiral Nematode Damage (*Criconemoides* and *Rotylenchus*)	Patches or areas become yellowed and dieback.	See ANR-523.

Plant	Disease	Description	Control
Cherry	Septoria Leaf Spot	Small (0.5 cm or less in diam.), angular brown spots.	Sanitation in the fall.
Cherry, Kwanzan	Anthracnose (*Colletotrichum*)	Brown spots and blotches along leaf veins and along leaf edges.	Sanitation. Cleary's 3336 or Halt may be applied.
Cherry Laurel	Phytophthora Root Rot/Overwatering	Roots become brown, wet, decayed.	Sanitation; correct excess water problem.
Chrysanthemum	Ascochyta Stem Blight	Brown, irregular, sunken, stem cankers; dieback; yellowing.	Sanitation; See the AL Pest Management Handbook under Ascochyta ray blight.
	Fusarium Wilt	Plants develop yellowing & wilt that begins with lower foliage and progresses upward; vascular browning in lower stems.	Remove plants. Crop rotation for several years.
	Phytophthora Blossom Blight	Brown, wet blotches and blight on flowers.	Sanitation. Avoid over-head irrigation.
	Phytophthora Root Rot	Roots become brown, wet, decayed.	Sanitation; correct excess water problem. See AL Pest Management Handbook.
	Pythium Root Rot	Wilt, dieback; yellowing of lower leaves; roots become brown and wet rotted.	Sanitation. See the AL Pest Management Handbook.
Clematis	Botrytis Blight	Necrotic blotches. Gray mold may be present when conditions are web.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Crown & Root Rot	Dieback. Root and lower stem develop wet decay.	Sanitation. Reduce water levels in the area.
Cleyera	Phytophthora Root Rot	See Boxwood.	Sanitation. Improve soil drainage.
Collards	*Alternaria* Leaf Spot	Gray-black, sooty spots with ring patterns on older leaves; disease of seedlings is severe.	Sanitation. See the AL Pest Management Handbook.
	Black Rot (*Xanthomonas*)	Dark V-shaped lesion at leaf edge; blackening of leaf veins; black vascular	Rotation for 2-3 years; solarization may help.

Plant	Disease	Description	Control
		ring if stem is cross-wise.	
	Rhizoctonia Wire Stem	The lower stem and major root becomes thin and discolored brown with a dry rot. Plants decline and die.	Remove damaged plants; see the AL Pest Management Handbook.
Coral Bells	Cylindrocladium Root Rot	Brown-black root decay.	Sanitation. Cleary's 3336 or Halt drenches for protective action.
	Pythium Root Rot	Roots become light brown, decayed, and water-soaked.	Sanitation. Reduce water levels in the area.
Coneflower	Phytophthora Root Rot	Dieback. Roots become decayed with a brown, wet rot.	Sanitation. Reduce water levels.
Corn	Charcoal Rot (*Macrophomina*)	Gray lesions develop on lower stems and roots. Under the epidermis, numerous resting structures and fruiting bodies are scattered throughout the stem and root tissues which become dried and separate easily. These tissues appear as though they were sprinkled with finely-ground pieces of charcoal.	Maintain healthy plants with proper fertilization and watering if possible, crop rotation.
Cotoneaster	Phyllosticta Leaf Spot	Round, cream-colored leaf spots with dark borders. When severe, leaf drop.	Sanitation; See AL Pest Management Handbook.
	Phytophthora Root Rot	Dieback; lower foliage dieback and yellowing; roots become brown and wet rotted.	Sanitation – remove damaged plants; remove root associated soil; reduce irrigation; improve drainage.
	Rhizoctonia Aerial Blight	Lower and inner foliage becomes blighted/brown.	Sanitation of damaged foliage. Use protective sprays of Cleary's 3336.
Cotton	Alternaria Leaf Spot	Irregular, or circular, slightly zonate brown leaf spots/blotches.	See Bill Gazaway.

Plant	Disease	Description	Control
	Ascochyta Leaf Spot	Light brown, mostly circular, small to larger spots.	See Bill Gazaway.
	Botryodiplodia Pod Decay	Pods become black and decayed.	Sanitation.
	Cercospora Leaf Spot	Irregularly shaped brown leaf spots develop.	See Bill Gazaway.
	Nematode, Reniform (*Rotylenchulus*)	Irregularly shaped brown leaf spots develop.	See Bill Gazaway.
	Nematode, Root-knot (*Meloidogyne*)	Plants grow poorly; roots have galls.	Crop rotation. See Bill Gazaway.
Crape Myrtle	Cercospora Leaf Spot	Irregular shaped brown leaf spots develop.	Sanitation. See the AL Pest Management Handbook.
Cucumber	Cercospora Leaf Spot	Irregular, light brown spots.	Sanitation. See the AL Pest Management Handbook.
	Downy Mildew	Yellow, irregular spots that become dark. Gray mold on lower leaf surface may develop.	Sanitation. See the AL Pest Management Handbook.
Cypress, Leyland	Botryosphaeria Canker.	Elongated, sunken, cracked lesions on branches.	Pruning.
	Cercosoridium Blight (formerly Cercospora)	Needle and twig blight that usually begins on lower foliage.	Sanitation. Cleary's 3336 protective sprays.
	Phytophthora Crown Rot	Brown, wet lower trunk decay.	Sanitation. See AL Pest Management Handbook.
	Pythium Feeder Root Rot	Light brown feeder root decay.	Sanitation. See AL Pest Management Handbook.
	Seiridium Canker	Elongated, sunken lesions with oozing sap.	Sanitation; pruning; protective sprays of Cleary's 3336.
Daylily	Anthracnose (*Colletotrichum*)	Circular, brown leaf spots.	See the AL Pest Management Handbook.
	Daylily Rust (*Puccinia hemerocallidis*)	Leaves develop small orange, powdery spots and affected leaf areas become yellow, then brown.	Sanitation. Protective fungicide treatments of Banner Maxx or Heritage are available for

Plant	Disease	Description	Control
			commercial situations. Spectracide Immunox or Fertiloam Sysem Fungicide may be used in homeowner situations.
	Leaf Streak (*Kabatiella* sp.)	Elongated brown/yellow streaks on leaves.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Root Rot	Wilt, yellowing of lower foliage; roots become brown and wet rotted.	Sanitation. Remove damaged plants and root associated soil. Reduce irrigation or improve soil drainage. Crop rotate.
	Pythium Root Rot	Wilt, yellowing of lower foliage; roots become light brown & wet rotted.	Sanitation. Remove damaged plants. Reduce irrigation. Improve soil drainage.
Dianthus	Phytophthora Stem Blight	Brown, water-soaked cankers.	Sanitation. Reduce water levels.
	Pythium Root Rot	Slightly brown, water-soaked root decay.	Sanitation. Reduce water levels. Subdue may be used.
Dogwood	Botryosphaeria Canker	Slightly sunken lesion, sometimes with cracks along the margin.	Sanitation.
	Cercospora Leaf Spot	Angular-irregular tan-brown lesions (2-6 mm diam.) sometimes with a thin yellow halo.	Usually sanitation is the only control measure needed.
	Powdery Mildew (*Oidium*; *Microsphaera* or *Phyllactinia*)	White, powdery patches on leaves; affected areas become blighted.	See AL Pest Management Handbook. Sanitation.
	Septoria Leaf Spot	Angular, brown spots, about 1 cm or less in diam; may be confused with Cercospora leaf spot.	Collect and remove fallen leaves this fall.
Dusty Miller	Alternaria Leaf Spot	Dark, angular spots	Sanitation; Cleary's 3336.
Eleagnus	Phytophthora Root Rot	Brown, wet root decay.	Sanitation. Improve soil drainage.
Elm, American	Xylella Bacterial Scorch	Older leaves on branches develop leaf edge scorch.	Remove the damaged tree.

Plant	Disease	Description	Control
		Gradually branches will dieback.	
Euonymus	Anthracnose (*Colletotrichum*)	Small brown spots (about 5 mm or smaller) on foliage.	Sanitation; See the AL Pest Management Handbook for protective fungicide recommendations.
Euonymus, Creeping	Rhizoctonia Root Rot	Plants dieback; yellowing of foliage; roots become dry rotted.	Remove plants and root associated soil.
Fatsia	Colletotrichum Blotch	Brown leaf spots & blotches.	Sanitation of fallen leaves. Cleary's 3336 or Halt would provide protective disease control.
Fern	Anthracnose (*Colletotrichum*)	Gray-brown irregular blotches on fronds. Orange spore masses may be present in humid weather.	Sanitation; See the AL Pest Management Handbook under leaf spot.
	Rhizoctonia Aerial Blight	Gray or brown irregular blotches on fronds; some 'shot-hole'.	Sanitation; See the AL Pest Management Handbook.
Fescue	Brown Patch (*Rhizoctonia*)	See bermudagrass.	See bermudagrass.
	Helminthosporium Leaf Spot	Tiny, elongate brown leaf spots that may be numerous, coalesce and cause blight of entire leaf blade.	See ANR-621 or AL Pest Management Handbook.
Fig	Cercospora Leaf Spot	Gray-brown irregular spots, blotches.	Sanitation of leaves in the fall.
Forsythia	Phytophthora Root Rot	Dieback. Lower foliage yellowing and dieback first. Roots become brown discolored and wet rotted.	Sanitation. Reduce water levels. Protective drenches of Subdue where appropriate.
Gardenia	Phytophthora Crown Rot	Lower stem/trunk at the soil line develops wet decay.	Sanitation. (See the AL Pest Management Handbook under Root Rot for protective treatment.)
Grancy Gray Beard	Algal Leaf Spot (*Cephaleuros*)	Green-reddish, slightly raised spots with wavy edges.	Sanitation.

Plant	Disease	Description	Control
Grape	Cercospora Leaf Spot	Angular medium brown leaf spots.	Recommendations for anthracnose should help.
Hickory	Scab (*Cladosporium*)	Small, dark brown, slightly raised leaf spots.	Sanitation in the fall.
Holly, Blue Maid	Botryosphaeria Canker	Brown or black sunken, cracked lesions (cankers) on branches.	Sanitation. Protective sprays of Cleary's 3336, Domain or a WP benomyl labelled for ornamentals.
	Phytophthora Root Rot	Feeder roots become water-soaked, decayed.	See the AL Pest Management Handbook.
Holly, Helleri	Rhizoctonia Aerial Blight	Lower foliage becomes blighted.	Sanitation. See the AL Pest Management Handbook.
Holly, Japenese	Black Root Rot (*Thielaviopsis*)	Dieback; lower foliage often shows yellowing & dieback first. Roots develop black lesions and black tips.	Sanitation. Protective drenches of Cleary's 3336. See the AL Pest Management Handbook.
	Pythium Root Rot	Foliage becomes yellowed on lower branches. Roots become slightly discolored and rotted.	Sanitation. Reduce soil/media water levels. See the AL Pest Management Handbook.
Honeylocust	Crcospora Leaf Spot	Round, brown leaf spots.	Sanitation.
Hosta	Antrhacnose	Brown, circular-oval leaf spots; may show some zonation.	Sanitation; Cleary's 3336 will provide some control.
	Southern Blight (*Sclerotium rolfsii*)	Lower stems become rotted. A white mold may develop. Small, brown or black mustard seed sized overwintering bodies may appear.	Sanitation. (Removal of soil in root zone, if a small area.)
Hydrangea	Armillaria Root Rot	Sudden dieback; white, thin fungal layer may be present under bark; black thread-like structures may be present over or under bark near roots; honey-colored mushrooms may be present near base of shrub.	Sanitation.

Plant	Disease	Description	Control
	Cercospora Leaf Spot	Relatively large (0.5-1.0 cm) dark brown circular spots with reddish borders.	Sanitation. See the AL Pest Management Handbook.
	Corynespora Leaf Spot	Brown, somewhat circular spots; sometimes spots have zonate pattern.	Sanitation.
	Phytophthora & Pythium Root Rot	Roots become brown and water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Powdery Mildew	White dusting on leaves. Necrosis follows.	See the AL Pest Management Handbook.
Hypericum	Rust (*Uromyces*)	Yellow leaf spots; brown powdery pustules on lower leaf surfaces.	Sanitation of infected plant parts.
Impatiens	Alternaria Leaf Spot	Small circular or angular dark brown spots.	Sanitation; a mancozeb product such as Duosan or Zyban.
Indian Hawthorn	Cercospora Leaf Spot	Angular, vein-bound brown-red spots.	Sanitation. Cleary's 3336 may be used.
	Entomosporium Leaf Spot	Red-black, circular-irregular spots.	Sanitation. See the AL Pest Management Handbook.
Iris	Bacterial Soft Rot	Soft, wet, watery rot of rhizome.	Sanitation. Control insect problems.
	Fusarium Rhizome Rot	Areas of the rhizome exhibit a dry, brown rot.	Sanitation. See the AL Pest Management Handbook.
Irish Potato	Rhizoctonia Black Scurf	Small, black, crusty bodies on tuber surface.	See the AL Pest Management Handbook.
Ivy, English	Alternaria Leaf Spot	Round or oval, brown leaf spots.	Sanitation. Protect T/O or other labeled mancozeb product.
	Anthracnose (*Colletotrichum*)	Circular or irregularly-shaped brown leaf spots develop.	Sanitation. See the AL Pest Management Handbook.
	Cercospora Leaf Spot	Brown, irregular leaf spot.	Sanitation. Cleary's 3336, Halt, or OHP 6672 may be used.

Plant	Disease	Description	Control
	Phytophthora Crown & Root Rot	Tissues dark and water-soaked.	Sanitation; reduce irregular or improve drainage.
	Phytophthora Leaf & Stem Rot	Dark, water-soaked, irregular lesions that become dry.	Sanitation; avoid over-head irrigation; Heritage or Protect T/O.
	Pythium Root Rot	Light brown rotted roots.	See Phytophthora Root Rot.
Juniper	Cercosporella (formerly Asperisporium and Cercospora) Blight	Blight of needles beginning with lower foliage.	Sanitation. Cleary's 3336 protective sprays.
	Pestalotia Needle Blight	Lower foliage needle blight associated with plant stress.	Sanitation.
	Phomopsis Dieback	Juniper branch tips become brown. Cankers develop on twigs and dieback continues down the twig.	See the AL Pest Management Handbook.
	Phytophthora Root Rot	See Holly.	See AL Pest Management Handbook.
Kudzu	Bacterial Leaf Spot (*Pseudomonas* sp.)	Circular, dark spots with a yellow halo.	---
	Cercospora Leaf Spot	Brown, irregular leaf spots.	---
Leucothoe 'Drooping Rainbow'	Cercospora Leaf Spot	Brown circular to irregular spots.	Sanitation; Cleary's 3336 or Halt.
Ligustrum	Cercospora Leaf Spot	Brown irregular spots (about 1 cm diam.) on foliage; when leaf spot is severe, defoliation may result.	Sanitation; See the AL Pest Management Handbook.
Lilac	Phyllosticta Leaf Spot	Brown or light brown leaf spots with dark margins.	Sanitation. Cleary's 3336 or Halt would provide protective disease control.
Liriope	Anthracnose (*Colletotrichum*)	Brown irregular blotches on leaf blades; often, leaf tip areas are involved.	Sanitation; See the AL Pest Management Handbook.
London Plane Tree	Bacterial Leaf Scorch	Inner leaves first develop a leaf scorch. Gradually all	Remove infected trees.

Plant	Disease	Description	Control
		foliage become scorched, dieback follows.	
Loquat	Botryodiplodia Canker	Sunken, dried lesions with cracked edges.	Sanitation. Make cuts 3 inches beyond the damage.
Loripetalum	Pythium Root Rot	Light brown, water-soaked, rotted roots.	Sanitation. Reduce irrigation or improve soil drainage.
Magnolia	Black Mildew	Black mold develops on lower leaf surfaces.	Reduce high humidity levels by increasing air circulation; pruning suggested.
Magnolia, Saucer	Phytophthora Leaf Spots	Brown, water-soaked spots develop.	Sanitation; for small trees, do not irrigate over-head.
Maple	Anthracnose (*Kabatiella*)	Brown spots and blotches on foliage; enlarged spots may involve more than half of individual leaves.	Sanitation. See the AL Pest Management Handbook.
	Phyllosticta Leaf Spot	Gray circular spots (¼ inch diam. Approx.) with dark brown or reddish brown borders.	Sanitation. See the AL Pest Management Handbook.
Maple, Red	Botryosphaeria Canker	Elongated, sunken, often cracked lesions.	Sanitation. Remove stress factors.
Marigold	Alternaria Leaf Spot	Small (0.2-0.3 cm diam.) dark brown-black spots. Numerous spots cause death of plants.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Crown Rot	Crowns become brown, decayed, water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Pythium Crown Rot	Crowns become brown, decayed, water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Rhizoctonia Crown Rot	Tissues become brown and dry rotted.	Sanitation. Banrot may be used as a protective treatment.
Millet	*Piricularia* Leaf Spot	Irregular, 3-6 mm diameter gray-brown leaf spots.	Crop rotation.
Mondograss	Anthracnose	Light brown blotches, leaf spots on leaves; often	Cut foliage back. Cleary's 3336 will help.

Plant	Disease	Description	Control
		spots have dark brown borders.	
Muscadine	Anthracnose (*Colletotrichum*)	Circular or angular, brown lesions on leaves or stems, which may coalesce. Centers of lesions may become gray-white. Lesion borders are dark purple-brown-black. Cracking may occur. Similar-looking lesions may occur on fruit. Fruit lesions extend into fruit pulp.	Sanitation. See AL Pest Management Handbook.
	Black Rot (*Guignardia*)	Brown circular spots with dark brown borders on foliage and fruit. Spots may coalesce to involve large area of tissue.	See the AL Pest Management Handbook.
	Xylella Bacterial Scorch	Older leaves on branches develop leaf edge scorch. Gradually branches will dieback.	Remove the damaged tree.
Mustard	Cercospora Leaf Spot	Irregularly-shaped brown leaf spots.	Sanitation.
Myrtle, Wax	Botryosphaeria Canker	Sunken, cracked lesions on stems.	Pruning 3-4 inches from edge of decay.
Nandina	Cucumber MosaicVirus	Plants show stunted new growth; some mosaic, leaf distortion, mottle and/or curling/puckering may be present.	Sanitation; aphid control may help a small amount.
Nectarine	Brown Rot	Brown, soft rot sometimes with gray spore masses.	Sanitation. See AL Pest Management Handbook under 'peach'.
	Phomopsis Canker	Brown, sunken, dry decay lesions on twigs and branches.	Sanitation. See AL Pest Management Handbook under 'peach'.
Oak	Bacterial Scorch (*Xylella*)	Inner leaves first develop a leaf edge scorch. Gradually all foliage becomes scorched; dieback follows.	Removal of infected trees.

Plant	Disease	Description	Control
	Hypoxylon Canker	Bark cracking and sloughing off; gray or black hard stroma layer develops under bark layer.	Sanitation.
	Oak Leaf Blister (*Taphrina*)	Brown puckered spots.	Sanitation.
	Powdery Mildew (*Microsphaera*)	White dusty coating on upper leaf surfaces. Some distortion of new leaves.	Collect and remove fallen leaves this fall.
Oak, Black	Hypoxylon Canker	Dark brown or gray, hard, flat, fungal bodies form under the bark; bark cracks and fall off.	Sanitation – pruning.
Oak, Pin	Xylella Scorch	Lower and oldest leaves show leaf edge scorch; problem progresses upward through the tree canopy. Dieback develops; eventual tree death.	Remove dying trees.
Oak, Red	Tubakia Leaf Spot	Round or irregular-round spots or blotches.	Sanitation of fallen leaves in the fall.
Oak, Sawtooth	Tubakia Leaf Spot (Formerly *Actinopelte*)	Circular, brown leaf spots may have tiny black specks scattered on leaf spot surface.	Sanitation of fallen leaves in fall.
Oak, Shumard	Bacterial Leaf Scorch (*Xylella*)	Inner leaves develop leaf scorch; gradually all foliage becomes scorched; dieback follows.	Remove infected trees.
	Hypoxylon Canker	Dark brown or gray, hard, flat, fungal bodies form under the bark; bark cracks and fall off.	Sanitation – pruning.
Okra	Fusarium Wilt	Plant wilts, beginning with lower foliage. Vascular system at lower stems is brown or brown streaked.	Sanitation. Do not plant okra for 10 or more years.
	Nematode, Root Knot (*Meloidogyne* sp.)	Poor growth; plants are stunted; roots have small-large galls.	Sanitation; See ANR-523.
Pansy	Anthracnose (*Colletotrichum*)	Small, round, light brown, cream-colored spots.	Sanitation. Cleary's 3336.

Plant	Disease	Description	Control
	Myrothecium Crown Rot	Dieback; decayed crowns.	Sanitation; See A. Hagan.
	Phyllosticta Leaf Spot	Relatively small (2-3 mm diam.) medium brown, roughly circular spots. Spot centers may become gray.	Sanitation. Protective sprays of Cleary's 3336, Domain, or a benomyl WP labeled for ornamentals.
	Phytophthora & Pythium Root Rot	Brown, wet-rotted roots.	Sanitation. See AL Pest Management Handbook.
	Phytophthora Root Rot	Roots become brown and water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Pythium Root Rot	Roots become brown and water-soaked.	Sanitation; See the AL Pest Management Handbook.
	Rhizoctonia Brown Rot	Lower stem develops a brown, dry rot.	Sanitation. Cleary's 3336 or chlorothalonil products.
	Thielaviopsis Root Rot	Roots become covered with black spots/lesions.	Sanitation; Cleary's, or Domain protective drenches.
Peace Lily	Pythium Root Rot	Lower foliage turns yellow first; plants wilt; roots become light brown and wet rotted.	Remove plants. Remove root associated soil; reduce irrigation; improve soil water drainage.
Peanut	Cylindrocladium Black Rot	Lower stems develop a black rot decay.	See A. Hagan.
	Diplodia Collard Rot	Wilt; plant collapse and death; brown lesions with dark brown margins at lower stems/collar; roots become gray-black and shred.	See A. Hagan.
	Early Leaf Spot (*Cercospora*)	Brown spots with halos develop on lower leaf surfaces; spore production usually on upper leaf surface.	Protective fungicide sprays. See Peanut Spray Guide and Timely Information PP-350 on Folicur.
	Late Leaf Spot (*Cercosporidium*)	Brown to black spots, sometimes difficult to distinguish from early leaf spot unless spores are observed microscopically; spore production usually on lower leaf surface.	Protective fungicide sprays. See Peanut Spray Guide and PP-350.

Plant	Disease	Description	Control
	Lesion Nematode Pod Damage (*Pratylenchus*)	Pods shriveled, sunken lesions.	See A. Hagan.
	Pepper Spot (*Leptosphaerullina*)	Tiny, black spots scattered on upper leaf surfaces; another symptom is a brown wedge-shaped lesion at upper surface leaf tip area; a yellow halo is usually present.	See A. Hagan.
	Rust (*Puccinia*)	Orange pustules on foliage.	See A. Hagan.
	Peanut Mottle Virus	Plants stunted with regular green, light green color pattern.	See A. Hagan.
	Rhizoctonia Limb Rot	Oval to elliptical, brown spots develop on stems. Young spots may have a target ring pattern. Whole limbs or stems become blighted.	See AL Pest Management Handbook and PP-350; Careful water management.
	Rhizoctonia Pod Rot	Dull, light or dark brown, sunken lesions. Dark brown fungal threads (hyphae) may be seen on seed surface and inside wall of the shell.	See Rhizoctonia Limb Rot.
	Root-Knot Nematode (*Meloidogyne*)	Plants are stunted and grow poorly; galls develop on roots.	Crop rotation. See Timely Information, Nematode Suppressive Crops, PP-341.
	Southern Blight (White Mold)	Soft decay spots on stems near the soil usually become covered with white mold that sometimes contains tiny black spherical fungal bodies.	See the AL Pest Management Handbook.
	Tomato Spotted Wilt Virus	Stunted plants; leaves show ring spot and mosaic patterns; new leaves small with abnormally shortened internodes.	Control thrips and weeds; Sanitation.
Pear, Apple	Bitter Rot (*Colletotrichum*)	Brown, circular spots develop on the fruit surface. Orange dots of spore masses in a circular	Sanitation. See AL Pest Management Handbook for fungicide sprays. Follow recommendations

Plant	Disease	Description	Control
		pattern develop on the surface of the discolored fruit skin. A brown rot extends through the fruit in a v-shaped area.	for Black Rot.
	Black Rot (*Botryosphaeria obtuse*)	Brown, circular lesions (4-5 mm diam.) with purple borders on leaves; leaf yellowing and drop may occur; surface lesions on fruit show black-brown concentric rings which remain firm. Branch cankers may be small, long (5 m), sunken and/or cracked, superficial or deep.	Sanitation. See AL Pest Management Handbook for fungicide sprays.
Pear, Bradford	Alternaria Leaf Spot	Oval or round, brown leaf spots.	Sanitation of leaves in the fall. Protect T/O will help provide protective disease control.
	Fabraea Leaf Spot	Black circular spots (about 0.2-0.4 cm diam.)	Sanitation of fallen leaves in the fall. Regular spray schedule may help. See AL Pest Management Handbook.
Peas, Southern	*Fusarium* Wilt	Vascular tissues of lower stem are discolored reddish-brown.	Rotate peas out of the area for 10+ years.
	Mosaic Virus	Leaves show a yellow-green mosaic color pattern; sometimes green bands occur along the veins; plants are stunted.	Sanitation; control insects. Use resistant varieties such as Corona, Pinkeye Purplehull-BVR, Texas Pinkeye, Genegreen, Grant Blackeye or Royal Blackeye.
Pecan	Scab (*Cladosporium*)	Small, circular, olive-green or black, slightly raised spots develop on leaves, petioles, and nut shuck tissue. Lesions may coalesce causing terminals to die.	See the Pecan Spray Guide; Sanitation.
	Zonate Leaf Spot (*Cristulariella*)	On upper leaf surfaces, gray-brown concentric-ring spots (up to 2 cm diam.) appear. On lower	Sanitation; protective fungicide sprays. See the Pecan Spray Guide.

Plant	Disease	Description	Control
		leaf surfaces, spots are paler brown with dark brown borders.	
Peony	Botrytis Leaf Spot	Irregularly-shaped brown-gray blotches.	Sanitation. Pruning to increase air circulation. Cleary's 3336, Halt.
Pepper	Bacterial Blight	Leaves develop dark brown angular spots which are often water-soaked along the edges. Leaf yellowing and drop often occurs on spotted leaves.	See AL Pest Management Handbook.
	Fusarium Wilt (*Fusarium oxysporum*)	Plant wilts, beginning with the lower foliage. Vascular browning present in the lower stem.	Rotate away from pepper and other solanaceneous plants.
Pepper & Other Vegetables	Southern Blight (*Sclerotium rolfsii*)	Initially a dark brown lesion forms on the stem just below the soil surface. Plants wilt and turn yellow. The lower stem rot may also become a root rot. Coarse white fungal threads develop at the soil line around the stem. Eventually small tan, spherical fungal mustard seeds develop around and in bodies (resembling the coarse white fungal threads).	Use Terraclor 75WP on pepper. See AL Pest Management Handbook.
Petunia	Myrothecium Crown Rot	Crowns become decayed, brown and soft.	Sanitation. Protective sprays of Daconil may be used.
	Phytophthora Aerial Blight	Stems & leaves develop brown, water-soaked decay.	Sanitation. Reducing water levels. See the AL Pest Management Handbook.
	Phytophthora Corwn & Root Rot	Crowns & roots become decayed and water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Pythium Crown Rot	Crown water-soaked and decayed.	Sanitation. Reduce water in the area. See the AL Pest Management Handbook.

Plant	Disease	Description	Control
Photinia	*Armillaria* Root Rot	Plant may decline slowly or suddenly; lower trunk under the bark and roots may be covered with closely appressed white fungal mat with black, threadlike structures.	Sanitation. See ANR-907.
	Phytophthora Root Rot	See Azalea.	--
Pine, Virginia	Lophodermium (*Ploioderma*) Needle Cast	Older needles turn brown and drop; very small (1-2 mm or 1/32 inch) football shaped, black fruiting bodies develop on brown needles.	Protective fungicides spray. See AL Pest Management Handbook.
	Rhizosphaeria Needle Cast	Needles become gray-brown. Twig blight may develop.	Sanitation. See the AL Pest Management Handbook.
Pittosporum	Southern Blight (*Sclerotium rolfsii*)	Lower trunk becomes rotted and softened. White mycelial mats and tiny black spherical bodies (sclerotia) may be present on trunk at soil surface.	Sanitation.
Plum	Black Knot (*Plowrightia morbosum*)	Branches exhibit elongated black-surfaced, irregular galls that may involve a long (10 cm or more) distance of the branch.	Sanitation of galls. See AL Pest Management Handbook.
Poinsettia	Bacterial (*Erwinia*) Stem Rot	Black, water-soaked spots or lesions on stems. Lesions may girdle stems.	Sanitation; pot-level irrigation; See AL Pest Management Handbook.
	Pythium Root Rot	Roots become medium brown, soft, water-soaked and rotted.	See AL Pest Management Handbook.
	Rhizoctonia Stem Rot & Root Rot	Lower stems develop dry medium-dark brown surface lesions; roots may become brown and dried.	See AL Pest Management Handbook.
	Rhizopus Stem Rot	Stem sections become glassy and water-soaked; a delicate black mass of fungal threads and small black spherical structures may develop over the lesions.	Sanitation.

Plant	Disease	Description	Control
Pumpkin	Downy Mildew (*Pseudoperonospora*)	Yellow spots/blotches develop on upper leaf surfaces; gray spots appear on corresponding areas of lower leaf areas. When temperature are cool-moderate and humid, a gray mycelium/spore layer will develop on lower leaf surface spots.	See the AL Pest Management Handbook.
	Mosaic Virus	Leaves develop a yellow mosaic pattern on dark green background. New growth is stunted.	Sanitation. Control insects. Do not save seed.
	Plectosporium Blight	Cream-colored, raised, scabby lesions on stems, leaves, fruit, and peduncles.	Sanitation. Check with Ed Sikora.
	Root Knot Nematode (*Meloidogyne*)	Plants become stunted. Roots are galled.	Sanitation. Solarization. See ANR-713.
Raspberry	Septoria Leaf Spot	See Blackberry, under leaf spot.	See Blackberry, under leaf spot.
Red Cedar	Phomopsis Tip Blight	Tips of twigs become yellowed and browned. Dieback may spread down the twig-branch. Lower foliage is affected first.	Sanitation. See the AL Pest Management Handbook.
Rhododendron	Cercospora Leaf Spot	Brown, round leaf spots.	Sanitation. Cleary's 3336 or Halt may be used for protective control.
	Phytophthora Root Rot	Dieback; roots become brown, water-soaked initially then dried, decayed.	Sanitation; correct excess water problem; see AL Pest Management Handbook under azalea.
	Rust (*Puccinastrum*)	Golden brown spore pustules on lower surfaces of leaves is followed by leaf blight.	Remove hemlock from the area. Remove infected rhododendron plant parts. See the AL Pest Management Handbook.
Rose	Armillaria Root Rot	Roots become dry rotted. Honey-colored mushrooms may develop. A thin white mold may develop under the bark.	Sanitation. See ANR-907.

Plant	Disease	Description	Control
	Phytophthora Root Rot	Dieback; active infections are wet-rotted; old infections are dried.	Sanitation; reduce watering.
Rosemary	Phytophthora Root Rot	Roots become brown, decayed, water-soaked.	Sanitation. Reduce watering.
	Rhizoctonia Web Blight	Lower foliage becomes blighted.	Sanitation. Reduce watering.
Salvia	Pythium Root Rot	Foliage turns yellow, yellowing on lower foliage first; roots become light brown and rotted.	Sanitation. Reduce soil water levels.
	Rhizoctonia Crown Rot	Crowns become brown & dry-rotted.	Sanitation. Cleary's 3336 or Halt may be used.
Satsuma	Greasy Spot (*Mycosphaerella-Cercospora*)	A yellow mottle develops on upper leaf surface with a yellow-brown blister on the lower leaf surface. Later spots become brown-black and greasy looking. Leaf drop follows.	Sanitation; copper protective sprays.
Schip Laurel	Bacterial Leaf Spot (*Xanthomonas*)	Angular brown spots with water-soaked margins; shot-holes develop.	Sanitation.
Scuppernong	Black Rot (*Guignardia*)	Vines & fruit develop black decay/rot. Leaves develop brown, irregular spots with circles of small black specks.	Sanitation. See AL Pest Management Handbook under grapes.
Sequoia, Giant	Cercosporidium Needle Blight	Lower foliage become brown.	Pruning off dying branch areas. Cleary's 3336 or Halt may be applied.
Snapdragon	Cercospora Leaf Spot	Pale brown angular leaf spots of variable size.	Cleary's 3336, Domain, or a benomyl labeled for ornamentals.
Sorghum, Grain	Anthracnose {Red Rot} (*Colletotrichum*)	Red spots and lesions on leaves and stalks. Heads may become infected, reddish and rotted.	Sanitation.
	Fusarium Head Blight	Entire seed head may rot and become covered by cream-pink fungal spore masses.	Sanitation.

Plant	Disease	Description	Control
	Gloeocercospora Blight (Zonate Leaf Spot)	Zonate spots on leaves; red-purple bands alternate with yellow bands.	Sanitation.
Soybean	Aerial Blight (*Rhizoctonia*)	Small spots or large areas of leaves, stems, or pods may become brown and blighted; leaves may become tattered; leaf drop; disease favored by high humidity.	See Soybean Spray Guide.
	Anthracnose (*Colletotrichum*)	Large, irregular, brown areas on stems, pods, petioles.	Deep plow.
	Asian Soybean Rust (*Phakopsora pachyrhizi*)	Leaf spots, leaf yellowing, leaf drop, reduced yield.	See Ed Sikora.
	Bean Pod Mottle Virus	Most noticeable as abnormally green stems at harvest time; leaf mottle, reduced yield and reduced seed quality possible.	See Ed Sikora.
	Brown Spot (*Septoria*)	Irregular dark brown spots (1-4 mm diam.) on upper and lower leaf surfaces. Usually spots begin on lower leaves first.	See Soybean Spray Guide.
	Cercospora Leaf Spot	Leaf spots are circular, light brown with dark brown edges often called frog eye leaf spot.	---
	Charcoal Rot (*Macrophomina*)	A light grey discoloration of tap root and lower stem. Inner stem tissues appear shredded and gray as if sprinkled with finely powdered charcoal. A disease of hot, dry conditions.	Rotation; proper fertilization.
	Pod and Stem Blight (*Diaporthe*, *Phomopsis*)	Stems, petioles, pods, seeds become just slightly discolored. During wet, warm conditions, linearly arranged black dots (fruiting bodies) appear on infected tissues.	See Soybean Spray Guide.

Plant	Disease	Description	Control
	Root-Knot Nematode (*Meloidogyne*)	Irregularly-shaped galls appear on roots. Plants grow poorly.	Rotation; Fumigation; See Soybean Spray Guide.
	Stem Canker (*Diaporthe*)	Reddish brown, slightly sunken cankers that girdle stems and kill plants.	See the Soybean Control Recommendations ANR-413.
	Sudden Death Syndrome (*Fusarium solani*)	Leaves become yellowed and then browned in interveinal areas; browned leaves fall from plants; the tap roots and often lateral roots become browned and decayed. Rotting may extend to the crown area at the soil line.	Sanitation and deep plowing of plant residue; rotation; call Ed Sikora if more information is needed.
	Target Leaf Spot (*Corynespora cassiicola*)	Oval or circular, slightly zonate brown leaf spots.	See Ed Sikora.
Squash, Summer	Cercospora Leaf Spot	Irregular medium-brown spots (0.2-0.6 cm diam., usually).	See the AL Pest Management Handbook.
	Cucumber Mosaic Virus	Plants develop mosaic, stunting and abnormal shoestring leaves.	Sanitation. Aphid control may help a little.
	Papaya Ringspot Virus	Plants develop mosaic and stunting.	Sanitation. Aphid control may help a little.
	Watermelon Mosaic Virus II	Pronounced mosaics of green and yellow.	Sanitation. Aphid control may help a little. Virus may be transmitted mechanically. Control weeds. WMV is not seed transmitted.
	Zucchini Yellow Mosaic Virus	Foliage and fruit develops mosaic and may be stunted.	Sanitation. Aphid control may help a little.
St. Augustine	Brown Patch (*Rhizoctonia*)	See Bermudagrass.	--
	Grey Leaf Spot (*Pircularia*)	Small spots usually develop into large 4-8 mm diam.), brown or gray lesions with purple or brown borders. A yellow halo or general chlorosis may develop around spots. When severe entire foliage may turn gray-brown.	Collect clippings; See AL Pest Management Handbook.

Plant	Disease	Description	Control
	Take-All Patch (*Gaeumannomyces*)	Spots/areas of turf become thinned and yellowed. Eventually plants die and the problem area becomes larger.	See Timely Information PP-312.
St. John's Wart	Pythium Root Decay	Roots are slightly brown, water-soaked, rotted; tissues pull apart easily.	Sanitation; correct excess water problem.
Strawberry	Anthracnose (*Colletotrichum*)	Lesions on stolons are brown-black, longitudinal and sunken. During high humidity cream-pink spore masses may form on lesions. Crown rot appears as reddish-brown firm rot or streaks of rot; plants wilt and die when crown rot is severe.	Protective fungicide sprays; Sanitation.
	Cylindrocladium Petiole & Crown Rot	Petioles & lower stems become brown & dry rotted; lower foliage become yellowed and yellowing/dieback spread upward.	--
	Phomopsis Leaf Blight	Brown spots/blotches often associated with leaf edges.	See the AL Pest Management Handbook.
	Phytophthora Crown Rot	Lower foliage yellowing first, then whole plant collapse. Lower stem at soil line develops internal red-brown wet, decay.	Sanitation. See the AL Pest Management Handbook.
	Powdery Mildew	White, powdery patches on foliage which eventually become irregular, dead areas.	Sanitation. See the AL Pest Management Handbook for commercial crop or ANR-50 for homeowner.
Sunflower	Alternaria Leaf Blight	Brown-gray oval spots and cankers.	Sanitation.
Sweet Potato	Fusarium Surface Rot on Roots	Lesions are circular, light-dark brown, firm, and dry; rot does not extend beyond vascular ring. In storage lesions eventually become shrunken, cracked; roots dry out.	Avoid wounding.

Plant	Disease	Description	Control
	Scurf (*Monilochaetes*)	A brown patchy discoloration of root which usually begins as small, brown specks or spots. The discoloration is entirely superficial, but cracks will cause roots to dry out.	See AL Pest Management Handbook.
Sycamore	Bacterial Scorch (*Xylella fastidiosa*)	Older leaves on branches develop leaf edge scorch. Gradually branches will dieback.	Remove the damaged tree.
Thrift	Rhizoctonia Blight	Stem and leaf browning.	Sanitation; Cleary's 3336.
Tomato	Bacterial Leaf Spot (*Xanthomonas*)	Dark, water-soaked, irregular and somewhat circular leaf spots (usually 1-3 mm diameter).	Sanitation. See the AL Pest Management Handbook.
	Bacterial (Pith Necrosis) Canker (*Pseudomonas*)	Sunken, dark-colored, dried or water-soaked cankers appear on (usually) lower stems. When the stem is split lengthwise, the hollow stems show a network of cross tissue 'threads'. Adventitious root initials may develop on surface areas of cankers.	Sanitation. See AL Pest Management Handbook.
	Bacterial Wilt (*Ralstonia*)	Plant wilt rapidly. Lower stem vascular system and surrounding tissues may be brown. Ooze is visible from cut lower stem suspended in water.	Sanitation. Crop rotation away from susceptible crops. See ANR-797.
	Cladosporium Leaf Mold	A dark gray surface mold develops on leaves in blotches areas.	Sanitation. See the AL Pest Management Handbook.
	Cucumber Mosaic Virus	Plants stunted with mosaic, leaf distortions.	Sanitation. Aphid control may help a small amount.
	Double Virus Streak (Combination of Tobacco Mosaic Virus and Potato Virus X)	Leaves first show a light green mottle followed by numerous small (2 mm) gray-brown spots; severely damaged leaves may die. Later, leaves become dwarfed, curled, yellowed	Sanitation.

Plant	Disease	Description	Control
		with small brown spots. Narrow, dark brown streaks develop on petioles and stems. Shoot tips may die. Plants are stunted. Fruit set reduced; fruits develop greasy, brown lesions.	
	Early Blight (*Alternaria solani*)	Oval or circular spots on leaves and stems.	Sanitation. See the AL Pest Management Handbook.
	Late Blight (*Phytophthora infestans*)	Dark brown-black blotches/spots on leaves/stem.	See the AL Pest Management Handbook.
	Phytophthora (Buckeye) Fruit Rot	Medium-brown, slightly sunken, zonate patterned with concentric rings, small to large spots develop on fruit. Brown discoloration may extend to fruit center.	Keep fruit away from the ground. See AL Pest Management Handbook.
	Potato Virus Y	Plants stunted with some mosaic patterns, vein clearing.	Sanitation. Aphid control may help a small amount.
	Root Knot Nematode (*Meloidogyne*)	Plants are stunted. Roots are galled.	Sanitation. Resistant varieties or solarization.
	Septoria Leaf Spot	Small gray circular-angular spots.	See the AL Pest Management Handbook.
	Tobacco Etch Virus	Plants stunted with some mosaic patterns, vein clearing, yellowing, sometimes necrotic rings.	Sanitation. Aphid control may help a small amount.
	Tobacco Mosaic	Plants grow poorly. Leaves develop a mottle or mosaic of green and light green.	Remove damaged plants. Wash hands well before handling healthy plants.
	Tomato Spotted Wilt Virus	New growth stunted, leaves spotted and/or with ring spots; whole plant stunting and wilting; ringspots on fruit.	Sanitation. Thrips control will help in some situations.
Tumeric	Anthracnose	Circular-irregular light brown spots.	Sanitation. For commercial samples, see

Plant	Disease	Description	Control
			the AL Pest Management Handbook.
Turnip	Anthracnose	Irregular, light brown spots.	Sanitation.
	Black Rot (*Xanthomonas*)	See Collards.	Sanitation; crop rotation; see AL Pest Management Handbook.
	Cercospora Leaf Spot	Irregular gray-brown leaf spots with whitish centers and brown margins.	See AL Pest Management Handbook.
Verbena	Anthracnose (*Colletotrichum*)	Circular black spots on foliage.	Sanitation; Cleary's 3336.
	Pythium Lower Stem Rot	Brown water-soaked lesions.	Sanitation; reduce irrigation.
Veronica	Fusarium Crown Rot	Lower stems become dry rotted.	Sanitation Cleary's 3336, Halt, or OHP 6672.
	Pythium Crown & Root Rot	Wilt & dieback. Roots become slightly brown and wet rotted.	Sanitation. Protective drenches of Subdue may be used.
Viburnum	Anthracnose (*Colletotrichum* sp.)	Circular-irregularly shaped, brown leaf spots.	Sanitation. See the AL Pest Management.
	Cercospora Leaf Spot	Irregular, gray-brown leaf spots.	Sanitation. Protective sprays of Cleary's 3336 may be used.
Vinca (Annual Periwinkle)	Anthracnose (*Colletotrichum*)	Brown irregular areas, blotches develop on leaves and stems.	Sanitation. Protective sprays of Cleary's or Domain or a WP benomyl labeled on ornamentals may help.
	Phytophthora Stem Rot and/or Crown/Root Rot	Stems and/or lower stems near soil line and roots become browned and water-soaked.	Sanitation; improve soil drainage.
	Pythium Root Rot	Roots become brown decayed and water-soaked.	Sanitation. Reduce watering schedule. Rotate to different crop.
	Rhizoctonia Aerial Blight	Lower leaves become blighted; a thin mycelial webbing may develop.	Sanitation; Cleary's, Domain or a WP benomyl labeled on ornamentals may help.

Plant	Disease	Description	Control
Watercress	Cercospora Leaf Spot	Brown, circular-irregular leaf spots.	Sanitation.
	Pythium Stem & Root Rot	Stems and roots develop brown, water-soaked lesions.	Sanitation.
Watermelon	Fusarium Wilt	Plants show wilt & leaf yellowing beginning at base of plant.	Sanitation. Resistant varieties.
	Gummy Stem (*Mycosphaerella*)	Leaves develop black spots at leaf edges. Stem develop oozing, gummy cankers.	See AL Pest Management Handbook.
	Papaya Ringspot Virus	Leaves develop a mosaic (yellow-green); stunting.	Sanitation. Control of aphids may help a small amount.
Wax Myrtle	Anthracnose (*Colletotrichum*)	Brown, irregular spots, blotches develop on leaves.	Sanitation. If disease is severe, protective sprays of Cleary's 3336 or Domain or a WP benomyl may help.
	Gummy Stem Blight (*Mycosphaerella*)	Black lesions/spots at leaf edges; elongate cracking on stem with amber-colored ooze.	See AL Pest Management Handbook.
Willow	Cercospora Leaf Spot	Irregularly shaped brown spots.	Sanitation of leaves in the fall.
Yaupon	Volutella Blight	Cankered, sunken stem areas, dieback, sometimes orange spore masses give the sunken areas and orange color.	Sanitation. Cleary's 336 or Halt protective sprays.
Zinnia	Alternaria Leaf Spot	Circular-oval, gray-brown spots. Zonate pattern sometimes seen.	Sanitation of diseased foliage. See the AL Pest Management Handbook.
Zoysia	Brown Patch (*Rhizoctonia*)	See Bermudagrass.	See the AL Pest Management Handbook.
	Dollar Spot (*Sclerotinia*)	Small spots in lawn (silver-dollar sized) become a white-gray colored. Individual grass blades develop dark water-soaked irregular spots	See the AL Pest Management Handbook or ANR-493.

Plant	Disease	Description	Control
		which become whitish-gray with dark borders.	
	Rust (*Puccinia*)	Small (1-3 mm), yellow-orange-red flecks on grass blades; yellow-orange-red powder will wipe off on fingers. When severe, leaf blades will yellow and eventually die.	This is usually only a problem in shaded areas; fungicides may be applied when disease is severe; See the AL Pest Management Handbook or ANR-621.
	Take-All Patch (*Gaeumannomyces*)	Individual plants yellow, wither, die; black lesions on roots and stolons.	Keep soil pH at 5.5-6.0; use only ammonium-based fertilizer; avoid frequent irrigation.

NOTE

Now is the best time of year to take soil samples for nematode analysis. Please use current submission forms. The charge is $10 per sample.