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PP-555

**AUGUST PLANT PROBLEM REPORT FROM THE
AUBURN PLANT DIAGNOSTIC LAB**

**AUGUST PLANT PROBLEM REPORT FROM THE
BIRMINGHAM PLANT DIAGNOSTIC LAB**

DISEASE POSSIBILITIES FOR SEPTEMBER

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Auburn Plant Disease Report-August (J. Mullen)

Most of our 202 plant samples received in August were lawn and landscape plants. A few soybean samples were received. This reduction in field crop samples seen in the lab in August and earlier this summer was not unique to our lab in Alabama. Most labs in the Southeast have reported seeing over-all fewer samples this summer and fewer field crops. This reduction in plant sample numbers may be a consequence of the excessive moisture we had earlier this season. As a result of the rains and flooding in some areas, homeowners and growers saw varying levels of plant damage early in the summer.

We have seen and had reports of Bradford Pear dieback and early leaf color change from varying sections of the state, including northern, southern, and east central sections. Some of the tree samples contain Botryosphaeria cankers. We suspect the trees have developed root stress damage from excessive moisture earlier this summer. Poor soil drainage would have caused increased damage to the roots. Botryosphaeria cankers are often a problem on stressed trees. There is not much that can be done to remedy tree root problems. Following good horticultural practices (fertilizing appropriately in the spring; watering when conditions are dry) is about all that can be done for the roots. Cankered and dieback areas should be pruned out making cuts three inches beyond the edge of the dead areas. Dip shears into alcohol or a 20% solution of bleach between cuts.

Phytophthora root rot was detected on boxwood, bald cypress, compacta holly, and oak. Pythium root rot was detected on Ivy, Jasmine, nandina, and periwinkle. Wet landscape conditions must have existed

in order for Phytophthora or Pythium to be a problem. Plant removal and correcting the wet condition problem are the usual recommendations in a landscape. If large numbers of plants are involved, a protective fungicide drench program is sometimes involved. See the Alabama Pest Management Handbook for fungicides labeled on specific plants.

Downy mildew was identified on blackberry and fig. Powdery mildew was detected on Japanese maple, tulip tree, and pumpkins. The availability of free moisture and humidity encourage and allow for the developments of downy mildew. High humidity is needed for powdery mildew. Downy mildew is often confirmed by the microscopic presence of downy mildew spores. Leaf spots develop as yellow irregular spots that eventually turn dark. Powdery mildews are often recognized by their typical white powdery fungal appearance on infected plant surfaces. As time passes, the white mold deteriorates and blight develops. Old powdery mildew infections are harder to identify by visual inspection.

We tested peach samples that were suspected of having phony peach disease which is caused by a xylem inhabiting bacteria called *Xylella fastidiosa*. Trees showed phony symptoms of stunting and poor leaf cover. ELISA tests were run on petioles of the leaves. Petiole testing often is effective in detection of *Xylella* in plants. With some trees, root testing for *Xylella* is more effective. It may be possible that other factors, instead of *Xylella*, are causing the stunting. Root damage or nematode problems could be involved.

Table 1. 2003 August Plant Diseases Seen In the Plant Diagnostic Lab At Auburn.

<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Beans, Blue Lake	Rhizoctonia Crown Rot	Elmore
Bentgrass	Bipolaris Leaf Spot	Cullman
	Pythium Blight	Cullman
Bermuda, Common	<i>Bipolaris cyanodontis</i> Leaf Spot & Blight	Monroe
Bermuda	<i>Bipolaris</i> sp. Leaf Spot Blight	Butler
	Dollar Spot (<i>Sclerotinia</i>)	Calhoun
Blackberry	Cercospora Leaf Spot	Madison
	Downy Mildew (<i>Peronospora</i>)	Talladega
<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Boxwood	Phytophthora Root Rot	Cleburne

Centipede	Brown Patch (<i>Rhizoctonia</i>)	Pike
	Take-All Patch (<i>Gaeumannomyces</i>)	Montgomery
Cotton	<i>Botryodiplodia theobromae</i> Boll Rot	Henry
Cypress, Bald	Phytophthora Root Rot	Calhoun
Grape	Black Rot (<i>Guignardia</i>)	Covington
Holly, Burford	Anthracnose Cankers	Dallas
Holly, Compacta	Phytophthora Crown & Root Rot	Cullman
Hosta	Slime Mold	Jackson
Hydrangea	Cercospora Leaf Spot	*
	Possible <i>Bipolaris</i> Leaf Spot	*
Hydrangea, Oak Leaf	Myrothecium Leaf Spot	*
Indian Hawthorn	Entomosporium Leaf Spot	Pike
Ivy	Pythium Root Decay	Montgomery
Japanese Maple	Anthracnose (<i>Colletotrichum</i>)	Lauderdale
	Powdery Mildew	Elmore
Jasmine	Pythium Root Rot	Mobile
Leyland Cypress	Botryosphaeria Canker	Lee
	Cercospora Blight	Limestone
Nandina	Colletotrichum Leaf Spot	Limestone
	Pythium Root Rot	Tallapoosa
<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Oak	Slime Mold	Covington

	Trametes Wood Rot	Montgomery
Oak, Cingapin	Phytophthora Root Rot	Baldwin
Peanut	Early Leaf Spot (<i>Cercospora</i>)	Perry
Pear	Entomosporium Leaf Spot	Covington
Pear, Bradford	Alternaria Leaf Spot	Calhoun
	Entomosporium Leaf Spot	Barbour, Calhoun
Pecan	Scab (<i>Cladosporium</i>)	Calhoun
Periwinkle, Annual	<i>Phytophthora nicotiana</i> Blight & Root Rot	Houston
Polar	Cristulariella Leaf Spot	Elmore
Pumpkin	Alternaria Leaf Spot	Cullman, DeKalb
	Plectosporium Scab	DeKalb
	Powdery Mildew	DeKalb
	Watermelon Mosaic Virus	Cullman
Soybean	Anthracnose (<i>Colletotrichum</i>)	Elmore, Pickens
	Pod and Stem Blight (<i>Diaporthe</i>)	Elmore, Pickens
St. Augustine	Gray Leaf Spot (<i>Piricularia</i>)	Etowah
	Take-All Patch (<i>Gaeumannomyces</i>)	Mobile
Tomato	Anthracnose Fruit Rot (<i>Colletotrichum</i>)	Barbour
	Tomato Spotted Wilt Virus	*
Tulip Tree	Powdery Mildew	Montgomery
<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Vinca	Pythium Root Rot	Butler

Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Montgomery
	Take-All Patch (<i>Gaeumannomyces</i>)	Lee, Montgomery

*Locations are not reported for nursery and greenhouse samples.

Birmingham Plant Disease Report-August (J. Jacobi)

The lab received 138 samples for the month of August. Some of the problems seen last month included: anthracnose on river birch, Guignardia blotch on buckeye, cane and leaf rust on blackberry, Alternaria and Stemphyllium leaf spot on cotton, foliar nematode on hosta, Fusarium crown and root rot on Hibiscus, rust on fig and Hypericum, bacterial leaf scorch on oaks, and Cercospora leaf spots on willow and Zelcova.

Alternaria, Stemphyllium and other fungi can cause leaf spot diseases on cotton. Symptoms vary, but in the case of Stemphyllium leaf spot, include circular concentric lesions similar to a target spot. These foliar diseases tend to be more prevalent near crop maturity. Plants suffering from nutrient deficiencies may suffer more damage from these leaf spot diseases.

Symptoms of black spot of elm begin with small white to gray spots, which become 'tar-like' raised black spots later in the season. Often the leaves turn yellow and, if leaf spot is severe, may defoliate prematurely. Protective fungicide sprays can be used in the spring as leaves unfold to protect valuable specimens. Collect and dispose of fallen leaves.

Bacterial leaf scorch is caused by *Xylella fastidiosa*. Frequent hosts of this disease include, include elm, red oaks, and sycamore. Because environmental stress, root injury, and other factors cause leaf scorch, laboratory diagnosis and serological or PCR tests are needed to confirm the presence of the bacterium. We confirmed bacterial leaf scorch on four trees in August. The heavy spring and summer rainfall and lack of stress conditions for the development of abiotic leaf scorch may make it easier to identify trees suffering from bacterial leaf scorch this fall. For more information on this disease and recommended control measures, refer to ANR-1050, Bacterial Leaf Scorch of Shade Trees (www.aces.edu/department/extcomm/publications/anr/anr-1050/anr-1050.htm).

Table 2. 2003 August Diseases Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Azalea	Lacebugs	Jefferson (3)
Bentgrass	Anthracnose (<i>Colletotrichum</i>)	*
<u>Plant</u>	<u>Problem</u>	<u>County</u>

	Pythium Root Rot	*
	Ring Nematode	*
Bermudagrass	Bipolaris Leaf Spot	Chilton
Birch, River	Anthracnose (<i>Cryptocline</i>)	Shelby
Blackberry	Cane and Leaf Rust (<i>Kuehneola</i>)	Jefferson
Black Gum	Sourgum Scurfy Scale	Jefferson
Boxwood, Common	Phytophthora Root Rot	Jefferson
	Pythium Root Rot	Jefferson
Buckeye	Guignardia Blotch	Jefferson
Cabbage	Cross Stripped Cabbageworm	Jefferson
Centipede	Dollar spot (<i>Sclerotinia</i>)	Talladega
	Two-lined Spittlebug	Talladega
Cherry, Ornamental	Cercospora Leaf Spot	Jefferson (2), Shelby
Chrysanthemum	Pythium Root Rot	Cullman
Cotton	Alternaria Leaf Spot	Morgan
	Stemphyllium Leaf Spot	Morgan
Crape Myrtle	Aphids	Jefferson
	Cercospora Leaf Spot	Jefferson
Cypress, Italian	Pestalotia Tip Blight	Jefferson
Dogwood	Cercospora Leaf Spot	Jefferson (4)
	Powdery Mildew	Jefferson (3)
<u>Plant</u>	<u>Problem</u>	<u>County</u>

	Spot Anthracnose	Jefferson (2)
Eggplant	Early Blight (<i>Alternaria</i>)	St. Clair
Elm, American	Black Spot (<i>Stegophora</i>)	Jefferson
Euonymus	Euonymus Scale	Jefferson
Fig	Rust (<i>Physopella</i>)	Jefferson
Forsythia	Phytophthora Root Rot	Cullman
Ginger, Upright	Pythium Root Rot	Jefferson
Hibiscus	Fusarium Root and Crown Rot	Jefferson
Holly, Chinese	Cottony Camellia Scale	Jefferson
Holly, Foster	Two-Lined Spittlebug Damage	Jefferson
Honeylocust	Cercospora Leaf Spot	Jefferson (2)
Hosta	Foliar Nematode (<i>Aphelenoidies</i>)	Jefferson
Hydrangea, Bigleaf	Anthracnose (<i>Colletotrichum</i>)	Cullman
Hydrangea, Oakleaf	Pythium Root Rot	Jefferson
Hypericum	Rust (<i>Uromyces</i>)	Jefferson
Juniper, Shore	Phytophthora Root Rot	Jefferson
Maple, Japanese	Asian Ambrosia Beetle	Jefferson
Maple, Red	Phyllosticta Leaf Spot	Jefferson
	Oystershell Scale	Jefferson
	Zonate Leaf Spot (<i>Cristulariella</i>)	Jefferson (4)
Oak, Chestnut	Slime Flux	Jefferson
<u>Plant</u>	<u>Problem</u>	<u>County</u>

Oak, Pin	Bacterial Leaf Scorch (<i>Xylella</i>)	Jefferson
Oak, Red	Bacterial Leaf Scorch (<i>Xylella</i>)	Jefferson (3)
Okra	Phyllosticta Leaf Spot	Cullman
Pecan	Scab (<i>Cladosporium</i>)	Chilton
Peony	Cladosporium Leaf Blotch	Jefferson
Pepper	Bacterial Spot (<i>Xanthomonas</i>)	Blount
	Phytophthora Root Rot	Blount
Plumaria	Two-Spotted Spider Mite	Jefferson
Rhododendron	Phytophthora Root Rot	Jefferson
Rose	Black Spot	Jefferson
Rosemary	Phytophthora Root Rot	Jefferson
St. Augustine	Gray Leaf Spot (<i>Pyricularia</i>)	Jefferson
	Two-Lined Spittlebug	Jefferson
Sweetgum	Cercospora Leaf Spot	Jefferson
Tomato	Bacterial Spot (<i>Xanthomonas</i>)	Blount
	Cloudy Spot (Stink bug damage)	Jefferson
	Early Blight (<i>Alternaria</i>)	Jefferson
Watermelon	Gummy Stem Blight (<i>Mycosphaerella</i>)	Cullman
Willow, Curly	Cercospora Leaf Spot	Jefferson
Zelcova, Japanese	Cercospora Leaf Spot	Jefferson

*Counties are not reported for samples from commercial nurseries, greenhouses, and golf courses.

Disease Possibilities For September

In late August and early September, we have seen drier and hotter conditions with occasional rain in some sections of the state. Wet conditions with frequent rains have occurred in some sections especially southern areas.

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 60-80°F, 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.

We have recently seen dieback on soybeans and cotton. The soybean problems identified involved *Cercospora* leaf spot (minor problem), pod and stem blight (*Diaporthe phaseolarum* var. *sojae*) damage on pods and stems, anthracnose (*Colletotrichum*) damage to stems, and stem canker (*Diaporthe phaseolarum* var. *caulivora*). The cotton dieback problem was related to a small and shallow root system which was a consequence of the very wet conditions earlier this year (D. Monks).

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 last year, this disease was confirmed in a sycamore sample from Barbour County and in a plum sample from Mobile County.

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. Disease Descriptions and Brief Control Comments on Some Common Diseases Often Seen in September.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Alfalfa	Summer Black Stem and Leaf Spot (<i>Cercospora</i>)	Small brown spots become larger (2-6 mm diam.) and reddish brown or smoky brown. During humid conditions, spots become ashy-gray with spores. Lesions occur on stems; small stems and petioles may die from girdling lesions.	Maintain appropriate fertility; harvest frequently.
Ajuga	Cercospora Leaf Spot	Medium brown, circular-irregularly shaped leaf spots of varying sizes.	Sanitation. Cleary's 3336 or Halt may be used.
Althea	Rust (<i>Puccinia</i> or <i>Kuehneola</i>)	Orange, powdery specks on small yellow leaf spots appear.	Sanitation.
Apple	Bitter Rot (<i>Colletotrichum</i>)	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 (<i>Botryosphaeria</i>)	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	Sanitation. See the Spray Guide for Fruit Crops.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		cankers are red-brown,	slightly sunken,

cracked. Leaf spots are brown with a purple border (4-5 mm diam.)

	Fly Speck (<i>Schizothyrium</i>)	Tiny black dots occur in patches (usually) on the surface (only) of apple fruit.	Sanitation. See the Fruit Spray Guide.
	Sooty Blotch (<i>Gloeodes</i>)	Medium gray spots which resemble sooty smudges appear on surface layer of apple skin only.	Sanitation. See the Fruit Spray Guide.
Aucuba	Lasioidiplodia Canker	Black sunken spots or sunken areas on aucuba stems. Dieback of foliage results.	Cleary's 3336, or Domain protective sprays labelled for ornamentals; sanitation.
Azalea	Cercospora LeafSpot	Small dark brown-black, usually circular spots (1-2 mm) scattered over leaf surface.	Sanitation. See the AL Pest Management Handbook.
	Phomopsis Canker/ Dieback	Elongated, sunken, elliptical cankers on twigs and branches with resulting dieback.	Sanitation; protective sprays of Cleary's 3336 may help.
	<i>Phytophthora</i> 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/or ANR-571.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		<i>Rhizoctonia</i> Aerial Blight	Brown, irregular spots and lesions begin on lower leaves. Whole leaves may become blighted; leaf drop

occurs.	Sanitation; See Ala. Pest Management Handbook.		
Azalea, Native	Cercospora Leaf Spot	Small, brown, circular spots develop.	Sanitation. Cleary's or Halt may be used.
Bahia Grass	D o l l a r S p o t (<i>Sclerotinia</i>)	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.
	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.
Basil	Rhizoctonia Stem & Root Rot	Wilt, dieback; brown, dry lesion on lower stems, crown, and roots.	Sanitations; crop rotation.
Beans, Garden	Anthrachnose (<i>Colletotrichum</i>)	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 Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Lower Stem Rot	Lower stems near soil-line show brown, wet rot.	See Ala. Pest Management Handbook.

	Rhizoctonia Lower Stem Rot	Lower stems near soil-line have dried brown lesions.	See Ala. Pest Management Handbook.
	Root-Knot Nematode (<i>Meloidogyne</i>)	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 Ala. Pesticide Handbook.
Begonia	Phytophthora Crown Rot	Crown tissues are dark and wet-rotted.	Sanitation. Reduce watering.
	Phytophthora & Pythium Root Rot	Roots become brown and water-soaked, decayed.	Sanitation. Reduce watering. See the Ala. Pest Management Handbook.
	Rhizoctonia Root Rot	Brown, dry, decayed roots.	Sanitation. Banrot protective drenches.
	Root-Knot Nematode (<i>Meloidogyne</i>)	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 (<i>Colletotrichum</i>)	Brown leaf spots, dieback; yellowing.	Sanitation; collect clippings; Cleary's 3336. Check with A. Hagan.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.

	Nematode Damage from Ring (<i>Criconeimoides</i>) and Sting (<i>Belonolaimus</i>) 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 Ala. Pest Management Handbook.
Bermuda, Coastal	<i>Bipolaris</i> (<i>Helminthosporium</i>) 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	<i>Bipolaris</i> Leaf/Stem Spot & Blight	See Bermuda, Coastal.	Collect grass clippings; See Ala. Pest Management Handbook.
	Dollar Spot (<i>Sclerotinia</i>)	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 Ala. Pest Management Handbook.
	<i>Rhizoctonia</i> 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 Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Rhizoctonia Leaf & Sheath Blight (<i>R. zea</i>)	Brown leaf spots; dieback; blight.	Sanitation; collect grass clippings; see ANR-492; See the AL Pest	M a n a g e m e n t Handbook.

	Fairy Ring	Large rings or half rings of dead grass with an outer border of dark green turf. When conditions are wet, mushrooms will form in the dark green ring area.	See ANR-372. Also, see AL Pest Management Handbook.
	Take-All (<i>Gaeumannomyces</i>)	Spots or areas in turf become yellowed and thinned. Roots become decayed in spots.	See ANR-823. Also, see AL Pest Management Handbook.
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 (<i>Gymnoconia</i>)	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 Ala. Pest Management Handbook.
Boxwood	Phytophthora Root Rot	Brown, water-soaked roots.	See AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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.
Boxwood, Common	Volutella Blight	Dieback; canker; small	orange specks that are

the fruiting bodies of the fungus.	Sanitation; See the AL Pest Management Handbook.		
Cabbage	<i>Alternaria brassicicola</i> Stem Blight	Dark brown-black, oval stem lesions; some lesions have a zonate pattern; dieback.	Sanitation; See the AL Pest Management Handbook.
	Black Rot (<i>Xanthomonas</i>)	Yellow v-shaped lesions at leaf edges. V-shaped lesions become black and leaf veins become black; eventually, main stem/stalk becomes black and soft rotted.	Sanitation; Crop rotation 2 years, see AL Pest Management Handbook.
Celosia	Phytophthora, Pythium, Fusarium Lower Stem Rot & Root Rot	Roots brown and decayed.	Sanitation. Reduce watering. Improve soil drainage.
Centipede	Brown Patch (<i>Rhizoctonia</i>)	See Bermudagrass.	See Bermudagrass.
	Dollar Spot (<i>Sclerotinia</i>)	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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Ring & Spiral Nematode Damage (<i>Criconemoides</i> and <i>Rotylenchus</i>)	Patches or areas become yellowed and dieback.	See ANR-523.
Cherry	Septoria Leaf Spot	Small (0.5 cm or less in diam.), angular brown spots.	Sanitation in the fall.

Cherry, Kwanzan	Anthracnose (<i>Colletotrichum</i>)	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.
	Phytophthora Blossom Blight	Brown, wet blotches and blight on flowers.	Sanitation. Avoid overhead irrigation.
	Phytophthora Root Rot	Roots become brown, wet, decayed.	Sanitation; correct excess water problem. See AL Pest Management Handbook.
Cleyera	Phytophthora Root Rot	See Boxwood.	Sanitation. Improve soil drainage.
Collards	<i>Alternaria</i> Leaf Spot	Gray-black, sooty spots with ring patterns on older leaves; disease of seedlings is severe.	Sanitation. See the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Black Rot (<i>Xanthomonas</i>)	Dark V-shaped lesion at leaf edge; blackening of leaf veins; black vascular ring if stem is cut cross-wise.	Rotation for 2-3 years; solarization may help.
	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 Ala. 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.
Corn	Charcoal Rot (<i>Macrophomina</i>)	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.
Cotton	Alternaria Leaf Spot	Irregular, or circular, slightly zonate brown leaf spots/blotches.	See Ed Sikora.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Cercospora Leaf Spot	Irregularly shaped brown leaf spots develop.	See Ed Sikora.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants grow poorly; roots have galls.	Crop Rotation. See Ed Sikora.
Crape Myrtle	Cercospora Leaf Spot	Irregular shaped brown leaf spots develop.	Sanitation. See the AL Pest Management Handbook.

Cypress, Leyland	<i>Cercospora</i> Blight (formerly <i>Cercospora</i>)	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	Daylily Rust (<i>Puccinia hemerocallidis</i>)	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 commercial situations. Spectracide Immunox or FertiFoam System Fungicide may be used in homeowner situations.
Dianthus	Phytophthora Stem Blight	Brown, water-soaked cankers.	Sanitation. Reduce water levels.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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.
	<i>Cercospora</i> 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 (<i>Oidium</i> ; <i>Microsphaera</i> or <i>Phyllactinia</i>)	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 <i>Cercospora</i> 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.
Euonymus	Anthracnose (<i>Colletotrichum</i>)	Small brown spots (about 5 mm or smaller) on foliage.	Sanitation; See the Ala. Pest Management Handbook for protective fungicide recommendations.
Fern	Anthracnose (<i>Colletotrichum</i>)	Gray-brown irregular blotches on fronds. Orange spore masses may be present in humid weather.	Sanitation; See the Ala. Pest Management Handbook under leaf spot.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rhizoctonia Aerial Blight	Gray or brown irregular blotches on fronds; some 'shot-hole'.	Sanitation; See the Ala. Pest Management Handbook.
Fescue	Brown Patch (<i>Rhizoctonia</i>)	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 Ala. Pest Management Handbook.

Fig	Cercospora Leaf Spot	Gray-brown irregular spots, blotches.	Sanitation of leaves in the fall.
Gardenia	Phytophthora Crown Rot	Lower stem/trunk at the soil line develops wet decay.	Sanitation. (See the Ala. Pest Management Handbook under Root Rot for protective treatment.)
Grape	Cercospora Leaf Spot	Angular medium brown leaf spots.	Recommendations for anthracnose should help.
Hickory	Scab (<i>Cladosporium</i>)	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 Ala. Pest Management Handbook.
Holly, Helli	Rhizoctonia Aerial Blight	Lower foliage becomes blighted.	Sanitation. See the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Hosta	Anthracnose	Brown, circular-oval leaf spots; may show some zonation.	Sanitation; Cleary's 3336 will provide some control.
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.

	Cercospora Leaf Spot	Relatively large (0.5-1.0 cm) dark brown circular spots with reddish borders.	Sanitation. See the Ala. Pest Management Handbook.
	Phytophthora & Pythium Root Rot	Roots become brown and water-soaked.	Sanitation. See the Ala. Pest Management Handbook.
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; Possible Bacterial Leaf Spot Involvement	Angular, vein-bound brown-red leaf spots.	Sanitation.
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.
Ivy, English	Alternaria Leaf Spot	Round or oval, brown leaf spots.	Sanitation. Protect T/O or other labelled mancozeb product.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Anthracnose (<i>Colletotrichum</i>)	Circular or irregularly-shaped brown leaf spots develop.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Crown & Root Rot	Tissues dark and water-soaked.	Sanitation; reduce irrigation or improve drainage.
	Phytophthora Leaf & Stem Rot	Dark, water-soaked, irregular lesions that become dry.	Sanitation; avoid overhead irrigation; Heritage or Protect T/O.
	Pythium Root Rot	Light brown rotted	roots.

See Phytophthora Root Rot.

Juniper	Cercospora (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 Ala. Pest Management Handbook.
	Phytophthora Root Rot	See Holly.	See Ala. Pest Management Handbook.
Leucothoe 'Drooping Rainbow'	Cercospora Leaf Spot	Brown circular to irregular spots.	Sanitation; Cleary's 3336 or Halt.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ligustrum	Cercospora Leaf Spot	Brown irregular spots (about 1 cm diam.) on foliage; when leaf spot is severe, defoliation may result.	Sanitation; See the Ala. Pest Management Handbook.
Liriope	Anthracnose (<i>Colletotrichum</i>)	Brown irregular blotches on leaf blades; often, leaf tip areas are involved.	Sanitation; See the Ala. Pest Management Handbook.
Loripetalum	Pythium Root Rot	Light brown, water-soaked, rotted roots.	Sanitation. Reduce irrigation or improve soil drainage.
Maple	Anthracnose	(<i>Kabatiella</i>)	Brown spots and

blotches on foliage; enlarged spots may involve more than half of individual leaves.

Sanitation. See the Ala. 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 Ala. 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.

Plant

Disease

Description

Control

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

Anthrachnose

Light brown blotches, leaf spots on leaves; often spots have dark brown borders.

Cut foliage back. Cleary's 3336 will help.

Muscadine

Anthrachnose

(*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 Ala. Pest Management Handbook.

	Black Rot (<i>Guignardia</i>)	Brown circular spots with dark brown borders on foliage and fruit. Spots may coalesce to involve large area of tissue.	See the Ala. Pest Management Handbook.
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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Nandina	Cucumber Mosaic Virus	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 Ala. Pest Management Handbook under 'peach'.
	Phomopsis Canker	Brown, sunken, dry decay lesions on twigs and branches.	Sanitation. See Ala. Pest Management Handbook under

'peach'.

Oak	Bacterial Scorch	Inner leaves first develop a leaf edge scorch. Gradually all foliage becomes scorched; dieback follows.	Removal of infected trees.
	Hypoxyton Canker	Bark cracking and sloughing off; gray or black hard stroma layer develops under bark layer.	Sanitation.
	Oak Leaf Blister (<i>Taphrina</i>)	Brown puckered spots.	Sanitation.
	Powdery Mildew (<i>Microsphaera</i>)	White dusty coating on upper leaf surfaces. Some distortion of new leaves.	Collect and remove fallen leaves this fall.
Oak, Black	Hypoxyton Canker	Dark brown or gray, hard, flat, fungal bodies form under the bark; bark cracks and fall off.	Sanitation - pruning.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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, Shumard	Hypoxyton Canker	Dark brown or gray, hard, flat, fungal bodies	form under the bark; bark cracks and fall off.

Sanitation - pruning.

Pansy	Anthracnose (<i>Colletotrichum</i>)	Small, round, light brown, cream-colored spots.	Sanitation. Cleary's 3336.
	Myrothecium Crown Rot	Dieback; decayed crowns.	Sanitation; See A. Hagan.
	<i>Phyllosticta</i> 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 labelled for ornamentals.
	Phytophthora & Pythium Root Rot	Brown, wet-rotted roots.	Sanitation. See Ala. Pest Management Handbook.
	Phytophthora Root Rot	Roots become brown and water-soaked.	Sanitation. See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots become brown and water-soaked.	Sanitation; See the Ala. Pest Management Handbook.
	Thielaviopsis Root Rot	Roots become covered with black spots/lesions.	Sanitation; Cleary's, or Domain protective drenches.
Peanut	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 (<i>Cercospora</i>)	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 (<i>Cercosporidium</i>)	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.
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Lesion Nematode Pod Damage (<i>Pratylenchus</i>)	Pods shrivelled, sunken lesions.	See A. Hagan.
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Pepper Spot (<i>Leptosphaerulina</i>)	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.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rust (<i>Puccinia</i>)	Orange pustules on foliage.	See A. Hagan.
	Peanut Mottle Virus	Plants stunted with regular green, light green color pattern.	See A. Hagan.
	<i>Rhizoctonia</i> 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 Ala. Pest Management Handbook and PP-350; Careful water management.
	<i>Rhizoctonia</i> 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 Ala. 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.

Plant

Disease

Description

Control

Pear, Apple

Bitter Rot (*Colletotrichum*)

Brown, circular spots develop on the fruit surface. Orange dots of spore masses in a circular pattern develop on the surface of the discolored fruit skin. A brown rot extends through the fruit in a v-shaped area.

Sanitation. See Ala. Pest Management Handbook for fungicide sprays. Follow recommendations for Black Rot.

Black Rot (*Botryosphaeria obtusa*)

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 Ala. 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	<i>Fusarium</i> Wilt	Vascular tissues of lower stem are discolored reddish-brown.	Rotate peas out of the area for 10+ years.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 (<i>Cladosporium</i>)	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 (<i>Cristulariella</i>)	On upper leaf surfaces, gray-brown concentric-ring spots (up to 2 cm	diam.) appear. On lower leaf surfaces, spots are paler brown

with dark brown borders.

Sanitation; protective fungicide sprays. See the Pecan Spray Guide.

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 Ala. Pest Management Handbook.

Plant

Disease

Description

Control

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 Alabama 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 Crown & Root Rot	Crowns & roots become decayed and water-soaked.	Sanitation. See the AL Pest Management Handbook.
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Pythium Crown Rot	Crown water-soaked and decayed.	Sanitation. Reduce water in the area. See the AL Pest Management Handbook.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Photinia	<i>Armillaria</i> 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.
	<i>Phytophthora</i> Root Rot	See Azalea.	--
Pine, Virginia	Lophodermium (<i>Ploioderma</i>) 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 Ala. Pest Management Handbook.
	Rhizosphaeria Needle Cast	Needles become gray-brown. Twig blight may develop.	Sanitation. See the Ala. Pest Management Handbook.
Pittosporum	Southern Blight (<i>Sclerotium rolfsii</i>)	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 (<i>Plowrightia morbosum</i>)	Branches exhibit elongated black-surfaced, irregular galls that may involve a long (10 cm or more) distance of the branch.	Sanitation of galls. See Ala. Pest Management Hand- book.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Poinsettia	<i>Rhizoctonia</i> Stem Rot & Root Rot	Lower stems develops dry medium-dark brown surface lesions; roots may become brown and dried.	See Ala. Pest Management Handbook.
	<i>Pythium</i> Root Rot	Roots become medium brown, soft, water-soaked and rotted.	See Ala. Pest Management Handbook.
	<i>Rhizopus</i> 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.
	Bacterial (<i>Erwinia</i>) Stem Rot	Black, water-soaked spots or lesions on stems. Lesions may girdle stems.	Sanitation; pot-level irrigation; See Ala. Pest Management Handbook.
Pumpkin	Downy Mildew (<i>Pseudoperonospora</i>)	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 Ala. 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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Plectosporium Blight	Cream-colored, raised, scabby lesions on stems, leaves, fruit, and peduncles.	Sanitation. Check with Ed Sikora.
	Root Knot Nematode (<i>Meloidogyne</i>)	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 Ala. Pest Management Handbook.
Rhododendron	Phytophthora Root Rot	Dieback; roots become brown, water-soaked initially then dried, decayed.	Sanitation; correct excess water problem; see Ala. Pest Management Handbook under azalea.
Rose	Botrytis Blight	Brown-gray irregular blotches develop on leaves.	Sanitation. See AL Pest Management Handbook.
	Phytophthora Root Rot	Dieback; active infections are wet-rotted; old infections	are dried.

Sanitation; reduce watering.	reduce	Rosemary	Phytophthora Root Rot	Roots become brown, decayed, water-soaked.
Sanitation. watering.	Reduce			
		Rhizoctonia Web Blight	Lower foliage becomes blighted.	Sanitation. Increase air circulation.
<u>Plant</u>		<u>Disease</u>	<u>Description</u>	<u>Control</u>
Salvia		Rhizoctonia Crown Rot	Crowns become brown & dry-rotted.	Sanitation. Cleary's 3336 or Halt may be used.
Schip Laurel		Bacterial Leaf Spot (<i>Xanthomonas</i>)	Angular brown spots with water-soaked margins; shot-holes develop.	Sanitation.
Scuppernong		Black Rot (<i>Guignardia</i>)	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.
Snapdragon		Cercospora Leaf Spot	Pale brown angular leaf spots of variable size.	Cleary's 3336, Domain, or a benomyl labelled for ornamentals.
Sorghum, Grain		Anthracnose (Red Rot) (<i>Colletotrichum</i>)	Red spots and lesions on leaves and stalks. Heads may become infected, reddish and rotted.	Sanitation.
		<i>Fusarium</i> Head Blight	Entire seed head may rot and become covered by cream-pink fungal spore masses.	Sanitation.
		Gloeocercospora Blight (Zonate Leaf Spot)	Zonate spots on leaves; red-purple bands alternate with yellow	bands.

Sanitation.

Soybean	Aerial Blight (<i>Rhizoctonia</i>)	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.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Anthracnose (<i>Colletotrichum</i>)	Large, irregular, brown areas on stems, pods, petioles.	Deep plow.
	Brown Spot (<i>Septoria</i>)	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.
	Charcoal Rot (<i>Macrophomina</i>)	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 (<i>Diaporthe</i> , <i>Phomopsis</i>)	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.
	Root-Knot Nematode (<i>Meloidogyne</i>)	Irregularly-shaped galls appear on roots. Plants grow poorly.	Rotation; Fumigation; See Soybean Spray Guide.

Stem Canker (<i>Diaporthe</i>)	Reddish brown, slightly sunken cankers that girdle stems and kill plants.	See the Soybean Control Recommendations ANR-413.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Sudden Death Syndrome (<i>Fusarium solani</i>)	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.
Squash, Summer	Cercospora Leaf Spot	Irregular medium-brown spots (0.2-0.6 cm diam., usually).	See the Ala. 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.

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.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Scurf (<i>Monilochaetes</i>)	A brown patchy discoloration of the root which usually begins as small, brown specks or spots. The discoloration is entirely superficial, but cracks will cause roots to dry out.	See Ala. Pest Management Handbook.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	See Bermudagrass.	-
	Grey Leaf Spot (<i>Pircularia</i>)	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 Ala. Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces</i>)	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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Strawberry	Anthracnose (<i>Colletotrichum</i>)	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.
	Phomopsis Leaf Blight	Brown spots/blotches often associated with leaf edges.	See the Ala. Pest Management Handbook.
Thrift	Rhizoctonia Blight	Stem and leaf browning.	Sanitation; Cleary's 3336.
Tomato	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Dark, water-soaked, irregular and somewhat circular leaf spots (usually 1-3 mm diameter).	Sanitation. See the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial (Pith Necrosis) Canker (<i>Pseudomonas</i>)	Sunken, dark-colored, dried or water-soaked cankers appear on (usually) lower stems. When the stem is split lengthwise, the hollow stem shows a network of cross tissue 'threads'. Adventitious root initials may develop on surface areas of cankers.	Sanitation. See Ala. Pest Management Handbook.
	Bacterial Wilt (<i>Ralstonia</i>)	Plants 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 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.	Sanitation.

Late Blight (<i>Phytophthora infestans</i>)	Dark brown-black blotches/spots on leaves/stem.	See the Ala. Pest Management Handbook.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	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 Ala. 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 (<i>Meloidogyne</i>)	Plants are stunted. Roots are galled.	Sanitation. Resistant varieties or solarization.
	Septoria Leaf Spot	Small gray circular-angular spots.	See the Ala. 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.
	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.
Turnip	Black Rot (<i>Xanthomonas</i>)	See Collards.	Sanitation; crop rotation; See the AL Pest Management

Handbook.

	<i>Cercospora</i> Leaf Spot	Irregular gray-brown leaf spots with whitish centers and brown margins.	See Ala. Pest Management Handbook.
Verbena	Anthracnose (<i>Colletotrichum</i>)	Circular black spots on foliage.	Sanitation; Cleary's 3336.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Lower Stem Rot	Brown water-soaked lesions.	Sanitation; reduce irrigation.
Vinca (Annual Periwinkle)	Anthracnose (<i>Colletotrichum</i>)	Brown irregular areas, blotches develop on leaves and stems.	Sanitation. Protective sprays of Cleary's or Domain or a WP benomyl labelled 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 labelled on ornamentals may help.
Watercress	<i>Cercospora</i> 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 (<i>Mycosphaerella</i>)		Leaves develop black

spots at leaf edges.
Stem develop oozing,
gummy cankers.

See Ala. Pest Management Handbook.

Papaya Ringspot Virus

Leaves develop a mosaic (yellow-green); stunting.

Sanitation. Control of aphids may help a small amount.

Plant

Disease

Description

Control

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 Ala. Pest Management Handbook.

Willow

Cercospora Leaf Spot

Irregularly shaped brown spots.

Sanitation of leaves in the fall.

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 which become whitish-gray with dark borders.

See the Ala. Pest Management Handbook or ANR-493.

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 Ala. 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.