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PP-558

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

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

DISEASE POSSIBILITIES FOR NOVEMBER

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Auburn Plant Disease Report-October (J. Mullen)

October was dry and unseasonably warm in most areas. Most of the 116 plant samples received in October were from landscapes.

In irrigated areas, brown patch disease was active on centipede and St. Augustine grass. When moisture and temperature conditions are favorable, brown patch disease will spread quickly from small areas of leaf spots to large brown areas of total foliage blight. See ANR-492 for more information and disease control comments. Among the fungicides recommended, Immunox may be more readily available at lawn/plant care centers. Lawn diseases at this time of year often cause plants to be more susceptible to additional damage from winter-related stress.

Bermuda samples were seen with *Bipolaris* blight and *Exserohilum* crown rot. These fungi (Helminthosporium-type) are normally active during warm fall-winter months. When leaf spotting is severe, whole leaves are blighted. Crown rots will usually cause dieback and complete collapse of the foliage. These fungi are usually associated with nutrient deficiency - usually potassium deficiency. Correcting the potassium deficiency will often result in disease control. In some lawn situations, fungicides are needed. See ANR-621 for more information.

Ring nematode problems were noted on bermuda. Generally nematode problems on turf begin as small, yellowed, thinning grass areas. Gradually, yellowed, thinned areas will expand. If you suspect a nematode problem, a soil sample should be taken from the edge of the damage area at root zone levels. The best time to sample is in the early-mid fall or before cold weather arrives. At this time, nematode populations are at the highest level. Always package soil in plastic bags. Nematode damage to homeowner turf is managed by cultural methods for stress control. See ANR-523 for more information.

Cercosporidium (formerly called *Cercospora*) blight was a common problem on Leyland cypress this fall. Usually the blight began in the lowest limbs and gradually spread to higher-up foliage. If foliage only was blighted, the branches may produce new foliage growth at branch tips next spring. If branch tips were blighted and killed, then no new foliage will develop on these damaged branches next spring. If disease is detected early in a landscape situation, protective sprays of Halt may be applied to prevent disease spread. For other fungicides labelled to control *Cercosporidium* in commercial settings, see the AL Pest Management Handbook.

There seemed to be an increase in the number of landscape shrubs with root decay and dieback this summer and fall. Many of the shrubs showed extensive root death and with some, *Phytophthora* root damage was present. This past October, holly and ivy samples were received with severe dieback and *Phytophthora* root decay. Phone reports indicated boxwoods in several areas were dying. We suspect that much of this state-wide damage related to the abnormally wet conditions of last spring and early summer. Heavy soils would have increased the root damage, as soils would have remained wet for a longer period of time. By the time significant foliage dieback occurs resulting from root damage, the root damage is usually extensive. These plants will probably not recover next spring. If root disease is not involved and root damage is not too severe, some plant recovery may take place in the spring. If root disease is present, root recovery is unlikely. See the paragraph below for comments specifically on *Phytophthora* and *Pythium* root disease.

Phytophthora and *Pythium* will cause root decay of a wide range of plants when soil conditions are kept continually wet for a prolonged period of time. Of the two fungi, *Phytophthora* is considered to be the more damaging and aggressive pathogen. *Pythium* often develops only on previously weakened/damaged plants. Plants with root rot usually show lower limb dieback with yellowing and browning as initial symptoms. Gradually the browning of limbs will move upward through the tree or shrub. In some situations, upper canopy sections show damage also. Damaged plants should be removed. Water levels in the soil should be reduced. Drainage improvements may be needed. It is a good idea to remove soil attached to damaged roots since the fungal spores will develop in the soil closely associated with the infected roots. Plant replacement with a different plant or cultivar less susceptible to *Phytophthora* infection is a good practice. Protective fungicide drenches may be used with particular plants in some situations of nurseries/greenhouses or large landscape plantings. See the AL Pest Management Handbook regarding recommendations for specific plants.

The common pansy diseases - Thielaviopsis black root rot, Myrothecium crown rot, Cercospora leaf spot, and anthracnose leaf spot - were seen in October. With black root rot, plants are stunted, older leaves become yellowed, and roots develop black lesions. When disease is well established, the whole root system may become black. Diseased plants should be removed. Several fungicides are available for protective disease control in greenhouse/nursery situations. See the AL Pest Management Handbook. Myrothecium crown rot is caused by fungal infection at the lower stem at the soil level. Crown tissues become soft rotted and plants wilt and collapse. Small black fruiting bodies may be seen on the soft rotted crown tissues when a hand lens or magnifying glass is used. Infected plants should be removed. Daconil sprays-drenches may be applied as a chemical protective method. Cercospora leaf spots develop as black, patchy, irregular spots about 0.5-1 cm diameter. Heritage is labeled for disease control. Daconil or Cleary's 3336 will also control Cercospora. Anthracnose leaf spots are usually white and circular. Several fungicides (including Cleary's 3336, Halt, and Daconil) are labeled to control anthracnose on pansy. See the AL Pest Management Handbook.

Melanose, caused by the fungus *Diaporthe citri* (also known as *Phomopsis citri*) was identified as a disease on satsuma. Disease develops as yellow leaf spots on upper leaf surfaces with brown, scabby spots on corresponding lower leaf surfaces. Symptoms of this disease may be confused with greasy spot caused by the fungus *Mycosphaerella citri* (also called *Cercospora citri-grisea*) or a physiological problem caused edema. Culture results confirmed Phomopsis and Melanose. Reports indicate that copper materials are most effective for protective disease control. Check with Ed Sikora for details.

Table 1. 2003 October Plant Diseases Seen In The Auburn Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Bermuda	Bipolaris Blight	Lamar
	Exserohilum Crown Rot	Jefferson
	Nematode Problem, Ring (<i>Criconemoides</i>)	Morgan
Boxwood	Volutella Blight	Madison
Centipede	Anthracnose (<i>Colletotrichum</i>)	Dallas, Mobile
	Brown Patch (<i>Rhizoctonia</i>)	Lee
	Take-All (<i>Gaeumannomyces</i>)	Dallas, Houston
Fig	Cercospora Leaf Spot	Choctaw
Holly	Anthracnose (<i>Colletotrichum</i>)	Cullman

<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Phytophthora Root Rot	Cullman
Ivy, English	Phytophthora Root Rot	Montgomery
Leyland Cypress	Cercosporidium Blight	Coosa, Covington, Lee Montgomery
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Montgomery
	Fusarium Twig Canker	Chambers
Pansy	Anthracnose (<i>Colletotrichum</i>)	*
	Cercospora Leaf Spot	*
	Myrothecium Crown Rot	*
	Thielaviopsis Black Root Rot	*
Periwinkle, Annual	Anthracnose Stem Blight	Autauga
	Phytophthora Aerial Blight	Autauga
Plum	Black Knot (<i>Plowrightia</i>)	Pike
Radish	Fusarium Decay	Lauderdale
	Pythium Decay	Lauderdale
Rescue Grass	Drechslera Leaf Spot	Lauderdale
Rosemary	Fusarium Root Rot	Lee
	Pythium Root Rot	Lee
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Henry, Mobile
	Take-All Patch (<i>Gaeumannomyces</i>)	Henry, Houston, Mobile, Montgomery

Satsuma	Melanose (<i>Phomopsis</i>)	Baldwin
Tomato	Root Knot Nematode (<i>Meloidogyne</i> sp.)	Geneva
<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Tomato Spotted Wilt Virus	Geneva
Turnips	Alternaria Leaf Spot	Winston
	Cercospora Leaf Spot	Lee, Pike
Zinnia	Cercospora Leaf Spot	Russell
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Macon
	Take-all Patch (<i>Gaeumannomyces</i>)	Jefferson

*Counties are not reported for greenhouse and nursery samples.

Birmingham Plant Disease Report-October (J. Jacobi)

After record breaking rainfall this year, the fall has been abnormally dry. The Birmingham airport recorded just less than an inch in October (normal rainfall 3.23 inches). The dry weather has slowed the development on many fungal diseases, but spider mite and other pest problems have been on the increase.

The lab received 53 samples during the month of October. Some of the problems seen last month included: spruce spider mites on evergreens, anthracnose on river birch, dieback on *Sasanqua camellia*, root-knot nematodes on celosia and coleus, *Seiridium* canker on Italian cypress, black root rot on Japanese holly, ash whiteflies on Bradford pear, and *Impatiens* necrotic spot on white snake root.

Ash whiteflies were seen on Bradford pear leaves last month. This unusual looking whitefly has caused problems for fruit growers in Europe and California. They were first discovered in North Carolina in 1993. Immature ash whiteflies have a row of lollipop-like setae around the edge of their bodies and mounds of wax on their backs. See the following publication for more information on this pest (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note113/note113.html>). Disposing of infested leaves this fall is an important step to reducing the potential for problems next summer.

Arborvitaes have been a common plant sample during the last month and a half.

Many of these samples have shown no signs of insect or diseases and are related to normal leaf drop. The normal senescence of older leaves (first turning yellow, then straw colored, and finally brown before dropping) is often mistaken for a disease or pest problem. However, mixed in with these healthy samples we have also found spruce spider mites and fungal dieback diseases. Spruce spider mites can cause considerable damage during cooler weather in spring and fall and have been very common this year (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/ort077e.htm>). Homeowners can use horticultural oil (Sunspray Ultra-Fine, Ortho Volck Oil Spray, and others), insecticidal soap, or Ortho Systemic Insect Killer to control mite infestations. Read and follow all precautions when using horticultural oil and other pesticides.

As flower beds are being converted from warm to cool season annuals, examine the roots of the summer annuals for galls that signal the presence of root-knot nematodes (*Meloidogyne* sp.). We have seen root-knot nematode damage on begonia, celosia, coleus, and impatiens this year. Rotation to nematode resistant plants next summer is one effective control method. See the following publications for a list of resistant plants and other control strategies (http://edis.ifas.ufl.edu/BODY_IN469 and http://www.ces.ncsu.edu/depts/pp/notes/Ornamental/nematodes/odin31_nematodes.htm).

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

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Arborvitae	Botryosphaeria Dieback	Jefferson
	Spruce Spider Mites (<i>Oligonychus</i>)	Jefferson(2)
Birch, River	Anthrachnose (<i>Cryptocline</i>)	Jefferson
Boxwood, Common	Pythium Root Rot	Jefferson
Camellia, Sasanqua	Dieback (<i>Colletotrichum</i>)	Jefferson
Celosia	Root Knot Nematode (<i>Meloidogyne</i>)	Jefferson
Cherry Laurel	White Peach Scale (<i>Pseudaulacaspis</i>)	Jefferson
Cleyera	Phytophthora Root Rot	Jefferson
Coleus	Root Knot Nematode (<i>Meloidogyne</i>)	Jefferson
Crape Myrtle	Aphids	Jefferson
Cypress, Italian	Seiridium Canker	Shelby

	Spruce Spider Mites	Shelby
Daisy, Gerbera	Powdery Mildew	Jefferson
Gardenia <u>Plant</u>	Citrus Whitefly (<i>Dialeurodes</i>) <u>Disease</u>	Jefferson <u>County</u>
	Sooty Mold	Jefferson
Holly, Japanese	Black Root Rot (<i>Thielaviopsis</i>)	Blount
	Wax Scale	Jefferson
Holly, Yaupon	Dieback (<i>Colletotrichum</i>)	Jefferson
Hydrangea, Bigleaf	Powdery Mildew	Jefferson
Impatiens, Garden	Alternaria Leaf Spot	Jefferson
	Rhizoctonia Crown and Root Rot	Jefferson
Juniper, Creeping	Phytophthora Root Rot	Jefferson
Lamb' s Ear	Aphids	Jefferson
Liriope	Anthracnose (<i>Colletotrichum</i>)	Jefferson
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Jefferson
	Black Twig Borer (<i>Xylosandrus</i>)	Jefferson
	Phyllosticta Leaf Spot	Jefferson
Maple, Red	Gloomy Scale	Jefferson
Pear, 'Bradford'	Ash Whiteflies (<i>Siphoninus</i>)	Jefferson
Pine, White	Sooty Mold (<i>Capnodium</i>)	Jefferson
Snake Root (<i>Eupatorium</i> sp.)	Impatiens Necrotic Spot Virus	Jefferson
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Jefferson
Sweetgum	Cercospora Leaf Spot	Jefferson

*Locations are not reported for nursery and greenhouse samples.

Disease Possibilities For November

During the first half of November, temperatures remained warm and conditions have been dry. Forecasted cooler temperatures may result in some cold damage as the temperature change may be abrupt in some areas.

If November conditions are mild, we will typically see Helminthosporium (Bipolaris, Drechslera, and Exserohilum) leaf spots on small grains and grasses. Rust may be seen on small grain crops. A variety of pansy diseases may be seen. Turnips and other related plants often develop Cercospora leaf spots. Greenhouse crops may develop Botrytis and a variety of other fungal and bacterial diseases.

The list below includes some common disease problems received in the lab during November of the past few years. Comments on control practices are brief. Refer to the Ala. Pest Management Handbook or appropriate fact sheet for details on disease control.

Table 3. Disease Descriptions and Brief Control Comments on Some Common Diseases Often Seen in November.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Alfalfa	Leptosphaerulina Leaf Spot	Leaf spots on young leaves and petioles; small, black, pepper spots or 1-3mm eyespots with tan centers, dark brown borders and diffuse halos.	None.
Allspice (<i>Pimenta dioica</i>)	Rust	Yellow-brown leaf spots sometimes with red-orange powdery spore masses.	Sanitation.
Arbor-vitae	Pestalotiopsis Tip Blight	Branch tips turn brown; browning gradually progress down the branch.	Pruning. Halt may provide some disease control.
	Phytophthora Root Rot	Roots become brown, decayed. When disease is active, roots are water-soaked.	Sanitation; protective fungicide drenches. See Ala. Pesticide Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Asparagus	Helminthosporium Stem Spots	Brown elongated, usually about ½ inch long, somewhat rectangular stem lesions.	Sanitation. Mancozeb fungicides.
Azalea	Powdery Mildew (<i>Microsphaeria</i>)	Whitish powdery dusting on leaves; some leaf deformity if infection occurs on new growth; infected leaves eventually become yellowed.	See the Ala. Pest Management Handbook.
Azalea (Cuttings, Liners)	Aerial Web Blight (<i>Rhizoctonia</i>)	Lower leaves become brown spotted or blighted; when conditions are humid, a delicate mycelial webbing may occur on infected leaves; eventually, infected, blighted leaves drop.	See the Ala. Pest Management Handbook.
	Phytophthora Root Rot	See Arbor-vitae.	See Arbor-vitae comments.
Azalea (Cutting)	Rhizoctonia Cutting End Rot	Cutting ends develop brown lesions which may completely encircle the stem. Plant death results.	Sanitation.
Barley	Net Blotch (<i>Drechslera</i>)	Narrow, dark brown, longitudinal and transverse net-like streaks on leaves and leaf sheaths. Severely infected leaves may completely die.	Rotation.
Bentgrass	Pythium Blight/Root Rot	Foliage becomes yellowed and then brown as a result of the decaying roots which appear brown and water-soaked.	See the Ala. Pest Management Handbook for recommendations.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

	Rhizoctonia Aerial Blight	Foliage develops brown spots and blight areas. Dieback.	See the Ala. Pest Management Handbook.
Bermuda	Helminthosporium-Type Leaf Spot	Small elongated spots; spot coalescence and blight of whole leaf blades when disease is severe.	See the Ala. Pest Management Handbook.
Boxwood	Macrophoma Blight	Leaves are yellow with tiny black specks.	Collect all fallen leaves and remove them from the area; identify and eliminate stress factors; Cleary's 3336 or Halt may be used if desired.
	<i>Nectria cinnabarina</i> Canker	Sunken lesions on branches, sometimes with orange pin-point bodies of the fungus; dieback.	Pruning at least 3 inches beyond the canker edge.
	Phytophthora Root Rot	Lower foliage turned yellow and brown; roots are rotted with tissues water-soaked and brown.	Remove plants. Improve soil drainage. See the AL Pest Management Handbook if a large planting or nursery.
	Pythium Root Rot	This is often a secondary problem on plants previously weakened by other factors. Roots become light brown and soft rotted. Lower foliage will initially turn yellow and brown. Foliage browning will gradually spread upward through the plant.	Remove dying plants; improve soil drainage; reduce water levels in soil. Eliminate stress.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Broccoli, Cabbage	Black Rot	(<i>Xanthomonas</i>)	Yellow or brown V-

shaped patches occur at leaf edges. Later, leaf veins in the yellowed areas become black. The black leaf veins extend down the leaf and eventually the vascular elements in stem become black.

Hot water seed treatment or plant certified disease-free seeds. When disease is present, rotate area away from crucifers for 2-3 years.

Camellia	Phyllosticta Spot	Leaf	Dark purple-brown circular-oval leaf spots.	Sanitation in the fall. Protective fungicide sprays (Cleary's 3336) if disease appears early in the season.
Centipede	Brown Patch (<i>Rhizoctonia</i>)		A light brown circular patch; crowns and leaf blades become brown and dead.	See Ala. Pest Management Handbook.
	Ring Nematode (<i>Criconemoides</i> sp.)		Patches of lawn show yellowing and thinning.	See ANR-523.
Cherry Laurel 'Otto Lukin'	Botryosphaeria Canker		Elongated sunken branch lesions, often with cracks along the margin.	Sanitation.
Chrysanthemum	Pythium Root Rot		Roots brown and water-soaked. Foliage yellows and shows poor growth, dies.	Sanitation; protective fungicide drench treatments; see Ala. Pest Management Handbook.
Collards	Anthracnose		White-cream, circular-irregular leaf spots.	Copper fungicides.
	Black Rot (<i>Xanthomonas</i>)		See Broccoli.	---
<u>Plant</u>	<u>Disease</u>		<u>Description</u>	<u>Control</u>
	Cercospora Spot	Leaf	Light brown irregular spots (about 0.6 cm or ¼ inch diameter), sometimes with a darker brown border.	Sanitation.

Coneflower	Aster Yellows (Suspect)	Plants become stunted with green flowers and some abnormal foliage development.	Sanitation.
Daylily	Rust (<i>Puccinia hemerocallidis</i>)	Yellowing spots and blight of leaves. Orange powder may wipe off on fingers.	See the AL Pest Management Handbook.
Dianthus	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small, black, angular, wet-looking spot.	Sanitation; Kocide may help.
	Colletotrichum Leaf Spot	Irregular brown, sometimes circular spots.	Sanitation; protective sprays of Cleary's will help.
Fescue, Tall	Pythium Blight	Brown, water-soaked lesions, blight on foliage.	Reduce watering schedule. Apply protective fungicides. See the Ala. Pest Management Handbook and ANR-1168.
	Rust (<i>Puccinia</i>)	Yellowing spots and blight of leaves. Orange powder may wipe off on fingers.	See the AL Pest Management Handbook.
Gardenia	Phytophthora Root Rot	Brown discolored, decayed, water-soaked roots.	Sanitation; reduce soil moisture; Banrot or Banol may be used--usually in a nursery situation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Gardenia, Dwarf	Pythium Root Rot	Lower foliage becomes yellow and then brown. Foliage damage spreads upward. Roots become light brown and wet-rotted. This fungus usually is a problem only on weakened plants.	Remove damaged plants. Improve soil drainage. Reduce water levels in the soil. See AL Pest Management Handbook if fungicide treatment is needed.
Geranium	Oedema	Corky brown spots	(2-3 mm) on lower

leaf surfaces. Corresponding upper leaf surfaces become yellow spotted.

Reduce watering schedule when weather is cool and cloudy.

Helleri Holly liners and containers

Black Root Rot (*Thielaviopsis*)

Roots develop black tips and black lesions and sections.

Sanitation; See Ala. Pest Management Handbook.

Rhizoctonia Aerial Blight

Lower leaves become spotted and blighted. Leaf fall occurs.

See Ala. Pest Management Handbook.

Holly

Pythium Root Rot

Lower foliage becomes yellow and then brown. Foliage damage spread upward. Roots become light brown and wet-rotted. This fungus usually is a problem only on weakened plants.

Remove damaged plants. Improve soil drainage. Reduce water levels in the soil. See AL Pest Management Handbook if fungicide treatment is needed.

Holly, Compacta and Helleri

Colletotrichum Leaf Spot

Brown-black circular spots.

Sanitation. Cleary's 3336 may be used as a protective treatment.

Plant

Disease

Description

Control

Phytophthora Root Rot

Lower foliage becomes yellowed and brown. Foliage damage spreads upward in plant. Roots become brown rotted & water-soaked. The outer root cortex can be easily slipped off of the inner central root cylinder.

Remove damaged plants. Correct water problem in soil. See the Ala. Pesticide Handbook; Sanitation.

Hydrangea

Anthracnose

White-cream colored irregular-oval leaf spots.

See the AL Pest Management Handbook. See

ANR-1212.

	Powdery Mildew	Patchy leaf areas with white dusty coating. Necrosis develops later.	See the AL Pest Management Handbook. See ANR-1212.
Indian Hawthorne	Entomosporium Leaf Spot	Black spots with red borders develop on the foliage.	Sanitation; protective fungicide sprays. See the Ala. Pesticide Handbook.
Ivy, English	Nectria Canker	Sunken lesions on branches/stems; sometimes diagnostic red pin-point fruiting bodies are present.	Pruning lesions making cuts at least 3 inches beyond lesions edges. Cleary's may help.
Juniper	Phomopsis Tip Blight	Dieback.	Sanitation. See the Ala. Pest Management Handbook.
	Phytophthora Root Rot	See Arbor-vitae.	See Arbor-vitae comments.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Kalanchoe	Powdery Mildew (<i>Sphaerotheca</i>)	Leaves and stems are covered with a white powdery dusting. Some distortion of new growth may be present. Some foliage yellowing and browning may be present.	Sanitation. Maintain even day-night temperatures if possible. Apply protective sprays of a recommended fungi-cide. See Ala. Pest Management Hand-book.
Lavender	Fusarium Stem Rot/Pythium	Stems develop brown decay areas.	Sanitation. Reduce water levels in the area. Move lavender to a new area.
Leucothoe	Phytophthora Root Rot	Lower foliage becomes yellowed and brown. Foliage damage spreads	upward in plant. Roots become brown rotted & water-soaked.

Remove damaged plants. Correct	water problem in soil. Apply Subdue if		a protective fungicide treatment	is desired.
	Powdery Mildew		Leaves develop white superficial dusting on surfaces. Affected leaf areas later turn brown.	Improve air circulation. See the AL Pest Management Handbook.
Leyland Cypress	Botryosphaeria Canker		Small-large sunken, cracked branch/trunk lesions.	Sanitation - pruning.
	Cercosporidium Blight		Lower foliage becomes pale green and then brown.	Sanitation; Improve air circulation; See the AL Pest Management Handbook for protective fungicide treatments.
	Seiridium Canker		Small-large elongated, sunken lesions with oozing sap.	Pruning. See the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>		<u>Description</u>	<u>Control</u>
	Phytophthora Rot	Root	Roots become brown, and wet-rotted. Plants show dieback.	Sanitation; tree removal; correct water problems.
Ligustrum	Cercospora Spot	Leaf	Relatively large, circular, dark brown leaf spots develop.	Collect & remove all fallen leaves from the area. Apply Cleary's 3336 or Halt for protective disease control.
Lupin	Pythium Rot/Seedling Disease	Root	Roots become brown and watersoaked.	—
	Rhizoctonia Rot	Root	Roots become brown and dried.	---
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Spot	Green or reddish-colored, slightly raised, usually circular or oval spots with wavy margins develop on upper	leaf surfaces.

Sanitation.

Marigold Plugs	Alternaria Leaf Spot	Small, dark brown, irregular spots (1-3 mm) on leaves and stems.	See Ala. Pest Management Hand-book.
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Oak	Ganoderma Wood/Root Rot	Tree dieback. Conks developing on the trunks of infected trees are non-gilled, poroid, with or without a lateral stalk, with a distinctive reddish-brown or gray-brown varnish-like crust on the upper surface.	Sanitation.
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	Powdery Mildew (<i>Phyllactinia</i>)	Powdery white dusting on upper leaf surfaces with blight following.	Sanitation. If tree is small, protective sprays of Cleary's 3336.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
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Oak, Red	Powdery Mildew (<i>Phyllactinia</i>)	Leaves develop white superficial dusting on surfaces. Affected leaf areas later turn brown.	Improve air circulation. See the AL Pest Management Handbook.
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Oats	Crown Rust (<i>Puccinia coronata</i>)	Bright orange, round to oblong, powdery pustules on leaves, sheaths, stems, and panicles.	Resistant cultivars.
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	<i>Drechslera avenae</i> Leaf Spot	Small brown flecks become longitudinal strips of dead tissue. Outer edges of the brown strips have diffuse areas of yellow or red which may involve the entire leaf blade. Diseased leaves often die.	Rotation; deep plowing; resistant cultivars. See Ala. Pest Management Hand-book.
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Pansy	Anthracnose (<i>Colletotrichum</i>)	Small, cream-colored, circular spots with dark borders.	
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Sanitation; See the Ala. Pest	Management Handbook; also	ANR-1214.	
	Black Root Rot (<i>Thielaviopsis</i>)	Black root tips and black root lesions and areas.	Cleary's 3336; See Ala. Pest Management Handbook and ANR-1214.
	Cercospora Leaf Spot	Gray-black round leaf spots about ¼-½ cm.	Sanitation. Daconil or Cleary's 3336 may be used for protective disease control, also ANR-1214.
	Myrothecium Crown Rot	Collapse of petioles or lower stems. Tiny black and white pin-head sized bodies on collapsed tissues.	Sanitation. Daconil protective sprays. See ANR-1214.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phytophthora Crown Rot	Crowns, roots become brown and water-soaked.	Sanitation. See the Ala. Pest Management Handbook and ANR-1214.
	Pythium Crown/Root Rot	Crowns, roots become brown and water-soaked.	See the Ala. Pest Management Handbook and ANR-1214.
	Rhizoctonia Crown Rot	Crowns develop a dry, brown, sometimes shriveled decay.	Sanitation. Cleary's 3336 would provide some protection. See ANR-1214.
Pear, Bradford	Black Rot (<i>Botryosphaeria obtusa</i>)	Leaf spots are black or brown, sometimes with a dark border. May be confused with <i>Fabraea</i> leaf spot.	Sanitation. Protective sprays of Cleary's 3336 will help.
	<i>Fabraea</i> (<i>Entomosporium</i>) Leaf Spot	Leaf spots are usually black and somewhat circular. May be confused with black rot leaf spots.	Sanitation. See Ala. Pest Management Handbook.

Periwinkle	Rhizoctonia Crown Rot	Crowns, roots become dried, brown, rotted.	Sanitation. See the Ala. Pest Management Handbook.
Phlox	Black Root Rot (<i>Thielaviopsis</i>)	See Pansy.	See Pansy.
Photinia	Entomosporium Leaf Spot	Black spots with dark red borders; spot coalescence; leaf drop.	Protective fungicide sprays; sanitation.
Pine, Virginia	Ploioderma (<i>Lophodermium</i>) Needle Cast	Older needles become yellow and then brown in spots; eventually whole needles turn brown and drop. Small black football shaped lesions (1-2 mm long) develop on brown needles.	Protective fungicide sprays. See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium Canker Pitch	Elongated cankers. Some resin flow.	Sanitation. See comments in the Ala. Pest Management Handbook.
	Rhizosphaeria Needle Cast	Needles turn brown. Tiny black dots (fruiting bodies) occur in a linear arrangement on browning needles.	---
Plum	Brown Rot (<i>Monilinia</i>)	Fruit tissues become brown & rotted. A gray mold may develop on the fruit surface.	Sanitation. Captan. See Ed Sikora.
<i>Poa trivialis</i>	Pythium Blight	Grass leaves become wet, brown, and decayed.	Decrease irrigation. See the Ala. Pesticide Handbook and A. Hagan.
Poinsettia	Phytophthora Root Rot	See Pythium Root Rot.	See Pythium Root Rot.
	Pythium Stem and Root Rot	Lower stem and roots become brown,	soft, water-soaked, and rotted.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Rose, Miniature	Cylindrocladium Root Rot	Roots show black lesions and rotted areas.	Sanitation.
Ryegrass	Pythium Blight	Crowns and leaf blades become wet and greasy-looking.	See Ala. Pest Management Handbook.
Rye	<i>Bipolaris sorokiniana</i> Leaf Spot	Brown, elongated spots on leaf blades.	None.
Snapdragon	Pythium Root Rot	Roots become water-soaked and light brown.	Sanitation. See the Ala. Pest Management Handbook.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	See Centipede.	See Centipede.
	Take-All Patch (<i>Gaeumannomyces</i>)	Black decay areas on stolons and roots. Yellowing and dying of plants.	See AL Pest Management Handbook and ANR-823.
Strawberry	Botrytis Fruit Rot	Fruit tissue becomes brown and watery, decayed. A gray mold may develop	on fruit surface.

Sanitation. See the	Ala. Pest	Management	Handbook.
	Phytophthora Root & Crown Rot	Crowns and roots become brown and soft-rotted. Plants develop yellowed lower leaves, dieback, and wilt.	See the AL Pest Management Handbook and ANR-906.
Sweet Potato	Black Rot (<i>Ceratocystis</i>)	Gray-black, slightly sunken lesions or blotches. Underlying tissues between periderm and vascular system become black, firm, dry.	See Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium Surface Rot (<i>F. oxysporum</i>) (A Storage Decay)	Surface lesions are initially circular, light-dark brown, firm and dry. Decay usually stops at the vascular ring. Roots with lesions in storage may become shrunken and hardened.	Avoid wounding roots; harvest when soils are dry and temperatures are above 55°F. Follow proper curing procedures.
	Fusarium Root Rot (<i>F. solani</i>) (Primarily a Storage Decay)	Symptoms often appear similar to Fusarium surface rot except that lesions and decay will extend beyond the vascular ring. If infected roots are planted, the fungus may spread into the sprout causing a stem canker.	Avoid wounding roots. See comments above for Fusarium surface rot. Do not take cuttings from infected roots.
	Scurf (<i>Monilochaetes</i>)	A superficial brown-black spotting and blotch of the storage root periderm.	See the Ala. Pest Management Handbook.
Tomato	Anthrachnose (<i>Colletotrichum</i>) (Usually, a Ripe Fruit	Disease)	Lesions are colorless, circular, slightly sunken and

may develop to a size of ½ inch (1.2 cm). Just below the skin, there is a thin layer of white, dry tissue. The center of the lesion may become black, and orange spore masses may develop during moist conditions.

See the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Speck (<i>Pseudomonas</i>)	Immature, green fruit tissue is most susceptible. Small (1 mm diam.), slightly raised black specks develop on green or ripe fruit. Spots on leaves & stems are small (2-3 mm or ¼ inch or less diam.), angular, black, water-soaked with no halo. Leaf spots may coalesce and some leaf tearing may occur.	See the Ala. Pest Management Handbook.
	Early Blight (<i>Alternaria</i>)	On seedlings, rapid plant death may occur as a result of crown rot. On older plants, spots occur on leaves, stems, fruits. Leaf spots usually occur first on oldest leaves. These spots are circular, brown, up to ½ inch or 1.2 cm diam. with a target board pattern of concentric rings. Spotted leaves become yellow and	then brown. Fruit spots are brown-black, up to 2.4 cm or 1 inch in diam., firm, depressed, usually with concentric rings. Typically fruit spots develop at the stem end of the fruit.

See the Ala. Pest	Management Hand-	book.	
	<i>Fusarium solani</i> Damping-Off.	Seedling lower stem rot.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Gray Wall (Blotchy Ripening) (Environmental Stresses Involved)	Green fruit has gray-brown blotches; internal wall tissue is brown. As fruit ripens, brown blotches become yellow on the reddish fruit.	Remove stress situations. Avoid high nitrogen levels and low potassium levels.
	Powdery Mildew	Foliage develops faint white dusty patches which later become necrotic.	----
Turnip	Alternaria Leaf Spot	Gray-Brown Leaf Spots, irregular in shape.	See the Ala. Pest Management Handbook.
	Black Rot (<i>Xanthomonas campestris</i> pv. <i>campestris</i>)	Leaf edges develop v-shaped brown-black lesions. Leaf veins darken near lesions. Eventually, lower stems develop control soft rot.	Sanitation. Rotate away from cole crops for 2-3 years.
	Cercospora Leaf Spot	Light brown irregularly-shaped spots (about 0.6 cm or ¼ inch diameter) sometimes with a darker brown margin.	See the Ala. Pest Management Handbook. Also, Benlate recently obtained a label for Cercospora on turnips.
	Pythium Root Rot	Roots become brown and water-soaked.	Reduce irrigation, if possible. Improve soil drainage. Crop rotation for 1 year.
Wheat	<i>Bipolaris sorokiniana</i> Leaf Spot	Brown elongated spots and strips on leaf blades.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Leaf Rust (<i>Puccinia recondita</i>)	Orange-red dots and patches of spore masses on leaves. Plants yellow and show poor growth/head production if infection is severe.	See AL Pest Management Handbook.
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Leaf blades and sometimes crowns become blighted and decayed. Often, patches of brown foliage develop in lawn area.	See AL Pest Management Handbook and ANR-492.
	Ring Nematode (<i>Criconeoides</i> sp.)	Areas of the lawn develop spots with yellowing and thinning.	See ANR-523.
	Rust (<i>Puccinia</i>)	Orange powdery dusting (spores) gives an orange tint over green or green-yellow blotched leaves.	See AL Pest Management Handbook.