

May 7, 2004

PP-568

**APRIL PLANT DISEASES FROM THE
AUBURN PLANT DIAGNOSTIC LAB**

**APRIL PLANT DISEASES FROM THE
BIRMINGHAM PLANT DIAGNOSTIC LAB**

**APRIL INSECT SAMPLES AT THE AUBURN
PLANT DIAGNOSTIC LAB**

DISEASE POSSIBILITIES FOR MAY

LAB NOTES

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Auburn Plant Disease Report-April (J. Mullen)

April was busier than usual at the Auburn lab due to our work on plant samples received from Alabama State Department of Agriculture & Industries Inspectors. Most of these plant samples from state inspectors were camellias which were being sampled for the presence of *Phytophthora ramorum*, the causal agent of sudden oak death (SOD). This survey is going on in many states in an effort to detect any SOD nursery stock that may have been purchased unknowingly by Alabama growers. In March, certain nurseries in California, Oregon, Washington, and British Columbia were found to contain some plants infected with *Phytophthora ramorum*. States that received nursery stock from the infected western nurseries are now trying to detect SOD samples so that the disease can be contained and eradicated before it moves out into the landscape.

See our April issue for more information. We received a total of 174 nursery samples in late March and April for testing by ELISA and culture. We experienced some delays with the purchase of some ELISA materials. Most results are near completion. You can refer to the Alabama State Department of Agriculture & Industries website for updates at <http://www.agi.state.al.us>. Another website to check is the Southern Plant Diagnostic Network site at <http://spdn.ifas.ufl.edu>.

In addition to the nursery samples in April, we received bermuda, zoysia, and centipede grass samples with brown patch; many turf samples with suspect winter stress damage; azalea with the common Exobasidium gall; oak leaf hydrangea with anthracnose and Pythium root rot; Iris with Heterosporium leaf spot; English ivy, Liriope, and southern magnolia with anthracnose leaf spots; Japanese maple with Phytophthora root rot; Bradford pear with fireblight; loblolly pine samples with Coleosporium rust; St. Augustine with take-all patch; tomato with tomato spotted wilt virus; and Leyland cypress with Cercosporidium blight and Seiridium canker.

The Coleosporium rust on loblolly pine develops as small white swellings on the pine needles. Eventually these bodies crack open, revealing the orange spore masses inside. The alternate hosts for this rust are asters or other composite weeds. Generally, this disease is just a curiosity and does not cause any serious damage to the pine. Some needle drop will occur.

We processed a total of 177 plant samples in April, many of which were nursery survey samples and turf grass samples.

In April, Jim Jacobi and I coordinated the IST on First Detector Educators Training on High Risk Plant Pathogens and Insects. I understand that a similar training is being offered at the national meeting for county agents. So, it may be possible for some of you to take advantage of this training this summer, if you had to miss our April session.

Table 1. 2004 April Plant Diseases Seen In The Plant Diagnostic Lab at Auburn.

<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Azalea	Exobasidium Gall	Crenshaw, Lee
Bermuda	Brown Patch	Montgomery
Centipede	Brown Patch	Baldwin, Jefferson, Montgomery
Cypress, Leyland	Cercosporidium Blight	Morgan
	Seiridium Canker	Morgan

<u>Plant</u>	<u>Diagnosis</u>	<u>County</u>
Hydrangea, Oak Leaf	Anthrachnose	*
	Pythium Root Rot	*
Iris	Heterosporium Leaf Spot	*
Ivy, English	Anthrachnose	Jefferson
Magnolia, Southern	Anthrachnose	Dale
Maple, Japanese	Phytophthora Root Rot	*
Monkey Grass	Anthrachnose	Franklin
Pear, Bradford	Fireblight	Russell
Pine, Loblolly	Pine Needle Rust (<i>Coleosporium</i>)	Clarke
St. Augustine	Take-all Patch	Calhoun
Tomato	Tomato Spotted Wilt Virus	Baldwin, Mobile
Zoysia	Brown Patch	Shelby

*County locations for nursery/greenhouse problems are not reported.

Birmingham Plant Disease Report-April (J. Jacobi)

Some of the problems seen last month included Phytophthora root rot on aucuba, Phomopsis gall on forsythia, rust on jack-in-the-pulpit, spiny witch-hazel gall aphid on river birch, (<http://entweb.clemson.edu/cuentres/eiis/turfor/to17.pdf>) leaf and bud gall on horse-sugar, fire blight on ornamental pear, leaf and stem blight on trillium, and Cercospora leaf spot on David viburnum.

A blight was observed on leaves and stems of a trillium sample. Fungal signs included white mycelia and black sclerotia on affected tissues. Based on fungal characteristics and ELISA results, the fungal has been tentatively identified as *Sclerotinia* sp. A similar disease (caused by *Sclerotinia sclerotiorum*) of trillium was described in Louisiana in 1990.

Powdery mildew on sedum causes brown scab-like lesions to develop with little

powdery growth. From a distance, it looks like a leaf spot disease or other problem and appears very different from typical powdery mildew. Fungicides can be used to control disease when symptoms are first detected. Fungicide options include triadimefon and thiophanate-methyl; check label for use directions and precautions.

Leaf gall on azalea and camellia is a common problem in the spring. Last month we received a sample of leaf gall on sweetleaf or horse-sugar (*Symplocos tinctoria*) caused by *Exobasidium symploci*. This was the first time we have seen this disease on horse-sugar. Symptoms seen on horse-sugar were similar to leaf gall on azalea caused by the fungus *Exobasidium vaccinii*, and included thickening and distortion of developing leaves. Both diseases are most severe during cool, wet spring weather and on plants growing in areas with poor air circulation or heavy shade. Removal of galls before they turn white and powdery helps prevent new infections and is the general recommendation for azalea. However, horse-sugar is a small tree (10-20 ft.) making gall removal difficult. For more information see Extension publication ANR-0942, Azalea Gall (<http://www.aces.edu/pubs/docs/A/ANR-0942/ANR-0942.pdf>).

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

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Aucuba	Phytophthora Root Rot	Shelby
Azalea	Azalea Leaf Gall	Jefferson
	Lacebug Damage	Jefferson
	Phomopsis Dieback	Jefferson
Bermudagrass	Helminthosporium Blight	Jefferson
	White Grubs (Green June Beetle)	Jefferson
Birch, River	Spiny Witch-Hazel Gall Aphid	Jefferson/Shelby
Boxwood, American	Boxwood Leafminer	Jefferson
Cedar	Cedar-Apple Rust (<i>Gymnosporangium</i>)	Lauderdale
Cherrylaurel	Shot Hole	Jefferson
<u>Plant</u>	<u>Problem</u>	<u>County</u>

	Southern Red Mite	Jefferson (2)
Clematis	Aphids	Jefferson
Columbine	Leafminer	Jefferson
	Powdery Mildew (<i>Erysiphe</i>)	Jefferson
Dogwood	Spot Anthracnose	Shelby
	Walnut Scale	Jefferson
Euonymus	Powdery Mildew (<i>Microsphaera</i>)	Jefferson
Forsythia	Phomopsis Gall	Cullman
Gardenia	Whiteflies/Sooty Mold	Jefferson
Holly, Chinese	Cottony Camellia Scale	Jefferson (4)
	Tea Scale	Jefferson
Horse Sugar, or Sweetleaf	Leaf and Bud Gall (<i>Exobasidium</i>)	Randolph
Hydrangea, Oakleaf	Pythium Root Rot/Crown Rot	*
Indian Hawthorn	Entomosporium Leaf Spot	Jefferson
Jack-in-the-pulpit	Rust (<i>Uromyces</i>)	Jefferson
Oak, Pin	Oak Leaf Tier	Shelby
	Vein Pocket Galls	Shelby
Oak, White	Wool Sower Galls	Shelby
Peach	Armillaris Root Rot	Jefferson
Pear, Bradford	Fire Blight (<i>Erwinia</i>)	Jefferson(2), Shelby
Photinia	Entomosporium Leaf Spot	Blount
<u>Plant</u>	<u>Problem</u>	<u>County</u>
Plum	Black Knot (<i>Dibotryon</i>)	Jefferson

	Glyphosate Injury	Shelby
Rhododendron	Cercospora Leaf Spot	Jefferson
Rose	European Rose Slug	Jefferson
Sedum, 'Autumn Joy'	Powdery Mildew (<i>Erysiphe</i>)	Jefferson
St. Augustinegrass	Brown Patch	Jefferson
Aster, Stokes	Aphid Damage	Shelby
Strawberry	Phytophthora Crown Rot	Limestone
Trillium	Leaf and Stem Blight (<i>Sclerotinia</i>)	Walker
Viburnum, David	Cercospora Leaf Spot	Jefferson
Zoysiagrass	Brown Patch	Jefferson(2)

*Counties are not reported for greenhouse and nursery samples.

Table 3. April 2004 Insects Identified at the Auburn Plant Diagnostic Lab (C. Ray).

County	Crop	Category	Specimen Name
Montgomery	Iris	Ornamentals	Green Peach Aphid
Jefferson	Human	Medical	American Dog Tick
Tallapoosa	Apple	Fruits	Woolly Apple Aphid
Lauderdale	Home	Miscellaneous	Millipede
Baldwin	Pear	Fruit	Thrips
Hale	Home	Wood Boring Insects	Eastern Subterranean Termite
Geneva	Home	Miscellaneous	Wolf Spider
Dale	Birch	Ornamental	Saturniid pupae
Butler	Arbor vitae	Ornamental	No arthropods detected
DeKalb	Weeping Mulberry	Ornamental	White Peach Scale
Calhoun	Beans	Vegetable Crops	Ground & Tiger Beetles, cutworm

			suspected
Choctaw	White Oak	Ornamental	Wool Sower Gall
Jefferson	Home	Wood Boring Insects	Fecal pellets - drywood termite
Mobile	Oak	Ornamental	No pests detected
Mobile	Palm	Ornamental	Palmetto Scale
Mobile	Camellia	Ornamental	Camphor Scale
Calhoun	Household	Stored Product	Cigarette Beetle
Coosa	Home	Stored Product	Pyralid Moth
Marion	Home	Stored Product	Pyralid Moth
Henry	Tomato	Vegetables	Aphids
Coffee			Scarab

Disease Possibilities For May

As is usual in May, we are seeing an abundance of turf grass samples. Thus far, many of our turf samples have involved non-infectious situations as is typically the case for turf problems sent to us in April and early May. We have, however, seen brown patch and take-all patch disease thus far this spring. Also, powdery mildew diseases and anthracnose leaf spots have recently been noted on a variety of plants.

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

Table 3. Brief Disease Descriptions and Control Recommendations for Diseases Often Seen in May.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Any	Slime Mold	Not actually a disease; gray, black, pink, or yellow slimy or	powdery masses on plants or soil; plasmodium or slime stage may be

a mass of paper-thin ruffled 'sheets' the consistently of a thinnish layer of 'Jello'; the spore stage is often powdery with the coloration of black, pink, yellow or orange from spore production.

Wash off with a strong stream of water; physical removal.

Apple	Armillaria Root Rot	Dieback; thin, white mycelial layer just under bark, appressed to wood.	Removal of tree and roots; maintain healthy trees.
	Cedar-Apple Rust (<i>Gymnosporangium</i>)	Bright yellow leaf spots (up to ¼ or ½" diam.).	Protective fungicide sprays; Removal of junipers. See ANR-468.
	Fire blight (<i>Erwinia</i>)	Brown irregular blotches beginning on blossoms or at leaf margins; leaf blight; longitudinal, sunken, cracked cankers; twig blight.	Sanitation. Agri-strep at blossoming stage. See the Ala. Pest Management Handbook.
	Frogeye Leaf Spot (<i>Botryosphaeria</i>)	Small (¼"-½" diam.) circular-irregular spots with purple margins and brown centers.	Sanitation in the fall; protective sprays during growing season.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Powdery Mildew (<i>Podosphaera</i>)	Whitish powdery dusting on foliage; leaf deformity; blight.	Sanitation in the fall; protective fungicide sprays.
Armaryllis	Stagnospora Leaf Spot	Fairly large (¼"-½" inch long) oval or elliptical or irregularly shaped red spots.	Sanitation. Protective sprays of Cleary's 3336 or Domain.

Ash

Anthracnose (<i>Discula</i>)	Brown irregular spots blotches.	Sanitation of fallen leaves.	
Azalea	Aerial Blight (<i>Rhizoctonia</i>)	Mostly seen in greenhouse-nursery situations; lower leaves become blighted and fall.	Sanitation; protective fungicide sprays.
	Colletotrichum Leaf Spot	Small, brown, circular leaf spots develop.	Sanitation; See the AL Pest Management Handbook.
	Exobasidium Gall	Swollen blossom, leaf, and shoot galls. From mid April - mid May, galls change from a green to a white or pink-white color.	Sanitation; removal of galls while they are still green. Protective fungicide application may be made.
	Phytophthora Root Rot	Roots brown and water-soaked.	Sanitation. Protective fungicide drenches in nursery situations.
Bean, Garden	Alternaria Leaf Spot	Dark brown angular-circular spots (about 5 mm diam.) scattered on leaf surfaces.	Bravo 720 should control this problem.
	Anthracnose (<i>Colletotrichum</i>)	Circular-irregular, reddish-brown pod, leaf & stem spots develop.	Sanitation. See the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Blight	Greasy, dark green irregular spots (1/4" diam.) become black and papery with wet looking margins sometimes surrounded by a yellow zone.	Protective sprays. See the Ala. Pesticide Handbook.
	Mosaic Viruses	Distinct pattern of dark green & light green or yellow on leaves.	Control weeds; control beetles and aphids; Do not save

seed; remove	diseased plants.		
	Pythium Root Rot	Roots are soft, brown, water soaked.	Avoid wet conditions.
	Rhizoctonia Soreshin	Dark reddish-brown sunken lesion(s) on lower stem.	See Ala. Pest Management Handbook for a before-planting soil treatment.
Bee Balm	Powdery Mildew	Powdery white dusting on leaves; blight; distorted new growth.	Cleary's 3336; sanitation.
Begonia	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Dark brown angular spots (about 5 mm diam. or less). Outer edges of spots may appear wet (water-soaked); centers of spots may dry and crack. Spots may coalesce.	See the Ala. Pest Management Handbook; Sanitation.
Bentgrass	Anthracnose	Yellow to brown irregular, elongate spots develop on leaves.	Irrigate in the early morning; collect grass clippings; avoid stress; See the AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	<i>Bipolaris cyanodontis</i> Leaf Spot	Small, elliptical brown spots; spots may coalesce into blighted grass blades.	Sanitation of cut grass blades; good fertility practices; see Alabama Pest Management Handbook for recommended fungicides.
	Pythium Blight	Wet-looking blight of foliage.	See the AL Pest Management Handbook; decrease irrigation.

Bermuda	Algae	Dark green, thin, flat 'sheets' of algae develop on grass foliage.	Promote good drainage and drying out of the area; See the AL Pest Management Handbook.
	Bipolaris Leaf Spot/Blight	Smallish (½ inch or less) elongated brown spots on grass blades. Spots may coalesce.	See Ala. Pest Management Handbook for recommendations under Helminthosporium melting-out.
	Brown Patch (<i>Rhizoctonia</i>)	Circular-irregular patches in lawn become brown. Brown lesions present on individual grass blades.	Reduce nitrogen fertilization. Sanitation. Protective fungicide treatments.
	Dollar Spot (<i>Sclerotinia homeocarpa</i>)	Small pale yellow spots the size of a silver dollar are characteristic; spots often coalesce; leaves show characteristic cream-colored spots with dark brown borders.	Improve fertilization and provide adequate irrigation. In some situations, protective fungicide treatments are needed. See ANR-493 and the Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Exserohilum Blight	Smallish (½ inch or less) elongated brown spots on grass blades. Spots may coalesce.	See Ala. Pest Management Handbook for recommendations under Helminthosporium melting-out.
	Rust	Foliage becomes pale green-brown with an orange tint; orange spores masses will rub off on a finger wiped across leaf surfaces.	See the AL Pest Management Handbook.
	Spring Dead Spot	(<i>Gaeumannomyces</i>)	

<i>graminis</i> pv. <i>graminis</i>)	Large circular areas fail to green-up in the spring.	See the Ala. Pest Management Handbook.	
Blackberry	Anthrachnose (<i>Colletotrichum</i>)	Irregularly-shaped brown spots & blotches on leaves and canes.	See Ala. Pest Management Handbook.
	Double Blossom (<i>Cercospora</i>)	Floral canes develop abnormal flowers with thickened petals. Internodes are shortened. Leaf development at nodes is abnormally abundant.	Sanitation as soon as abnormality is discovered. Protective fungicide treatment.
	Phoma Cane Blight	Large brown lesions on canes; dieback.	Sanitation.
	Septoria Leaf Spot	Small (usually ¼ inch) angular brown spots.	See fungicide recommendations under anthracnose.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Blueberry	Botryosphaeria Blight	Somewhat inconspicuous sunken cankers develop along branches or on lower trunk areas. Dieback results. (Sometimes this condition is associated with soils excessive in phosphorus & calcium.)	Sanitation. Benlate protective sprays.
	Botrytis Blossom Blight and Stem Canker	Blossoms become brown; stems develop sunken lesions.	Sanitation; Benlate protective sprays.
Boxwood	Volutella Blight	Sunken cankers on	stems and

branches. Surface areas of cankers may be covered with orange spore masses of the fungus.

Pruning of cankered stems. After pruning operations are complete, a protective spray treatment of Cleary's 3336 may be helpful. Avoid stressful situations.

Broccoli	Downy Mildew (<i>Pseudoperonospora</i>)	Light yellow spots/blotches on upper leaf surfaces; gray spots on corresponding lower leaf areas.	See the Ala. Pest Management Handbook.
Brussel Sprouts	Black Rot (<i>Xanthomonas</i>)	Black v-shaped lesions on leaf edges; black leaf veins; black decay of inner stems; wilt.	Sanitation; See AL Pest Management Handbook.
	<i>Sclerotium rolfsii</i> Crown Rot	Brown decay at soil line. Brown, mustard seed-like structures of fungus may be present at soil line.	Sanitation. See A. Hagan.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Butter Beans	Anthracnose (<i>Colletotrichum</i>)	Dark brown irregular-circular sunken spots on foliage, pods. Spots become covered with rusty-colored spores.	See Ala. Pest Management Handbook.
	Cercospora Leaf Spot	Medium-light brown irregular spots.	See Ala. Pest Management Handbook under Anthracnose.
Camellia	Exobasidium Gall	See azalea.	Sanitation.
Camellia, Sasanqua	Anthracnose (<i>Glomerella</i> spp.)	Sunken branch lesions, often round or oval; dieback.	Pruning of cankered areas.
Cantaloupe	Bacterial Wilt (<i>Erwinia</i>)	Individual leaves wilt, then lateral	shoots also wilt. Eventually whole

plant wilts and dies.

Sanitation; use insecticide to control cucumber beetles.

Centipede	Gummy Stem (<i>Mycosphaerella</i>)	Brown, elongated, cracked lesions with a gummy exudate.	See the AL Pest Management Handbook.
	Anthrachnose (<i>Colletotrichum</i>)	Yellow-brown, irregular-elongate spots; blight.	Keep the area dry; water early in the day; collect grass clippings; see the AL Pest Management Handbook.
	Brown Patch (<i>Rhizoctonia</i>)	Browning patches or rings of grass. Brown, irregular leaf spots may also occur.	Fungicide sprays; collect clippings; avoid excess nitrogen application.
	Take-All Patch (<i>Gaeumannomyces</i>) (Possibly a secondary occurrence or weak pathogen.)	Individual plants yellow and thin out. Stolons and roots develop black lesions.	See PP-312. Bayleton is labelled.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cherry	Peach Leaf Curl & Plum Pockets (<i>Taphrina spp.</i>)	Firm irregular galls or concave-convex gall-swellings on leaves.	Fungicide applications in late winter before bud-swell, and at budbreak.
	Phomopsis Canker	Gray-brown, sunken, elliptical lesions on twigs, small branches.	Sanitation.
	Septoria Leaf Spot	Brown, irregularly shaped spots ($\frac{1}{4}$ - $\frac{1}{2}$ inch diam.) on leaves.	Sanitation.
Christmas Cactus	Rhizoctonia Stem Rot	Dry, brown decay of stem.	Sanitation. Protective sprays of Cleary's 3336 or Halt.

Clematis, Evergreen	Pythium Root Rot	Light brown, decayed roots, dieback; wilt.	Remove damaged plants; Keep the area well drained. Allow areas to dry out.
Cleyera	Phytophthora Root Rot	Dieback, wilt; roots become water- soaked & rotted.	Sanitation. Reduce irrigation &/or improve soil drainage.
Coleus	Phytophthora Root Rot	Roots are brown and water-soaked. Tops collapse.	Sanitation. Avoid poorly drained sites.
	Pythium Root Rot	Plants show poor growth, dieback; roots are discolored to a light brown; root cortex separates easily from the central cylinder.	Sanitation; Improve soil drainage.
Collard	Bacterial Leaf Spot	Dark brown-black angular, vein-bound leaf spots.	Sanitation; do not irrigate over-head. See AL Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Corn	Bacterial Stalk Rot	Brown lesions cause collapse of stem.	Sanitation.
	Fusarium Crown Rot	Crown develops dry, reddish-brown rot; tops wilt and dieback.	Sanitation; crop rotation.
	Smut (<i>Ustilago maydis</i>)	Black powdery galls form on ears, tassels, stalks.	Sanitation, crop rotation, resistant hybrids and varieties.
	Ring Nematode (<i>Criconeoides</i>)	Plants become stunted; may appear nutrient deficient.	Crop rotation; consult with Ed Sikora.
Cotton	Alternaria Leaf Spot	Medium brown,	circular or oval leaf spots, blight.

See Ed Sikora.

	Fusarium Seedling Disease	Red-brown lesions on lower stem near soil line.	Seed Treatment.
	Pythium Root Rot	Roots become brown and water-soaked. Foliage becomes yellowed, wilted and browned.	Seed Treatment.
	Rhizoctonia Seedling Disease	Medium-dark brown lesions on lower stem near soil line.	Seed Treatment.
	Thielaviopsis Root Rot	Black spots/lesions along roots.	---
Crabapple	Botryosphaeria Canker and Frogeye Leaf Spot	Brown circular-irregular leaf spots with dark margins; sunken brown lesions on twigs, branches.	Sanitation; Cleary's 3336, Domain, or a benomyl labeled for ornamentals may help.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Cedar Apple Rust (<i>Gymnosporangium</i>)	Bright yellow circular spots ($\frac{1}{4}$ - $\frac{1}{2}$ inch diam.) on leaves; orange spore masses (circular projections) develop on leaves (lower leaf surfaces) and fruit.	Remove junipers or apply protective fungicide sprays to crabapples. See Ala. Pest Management Handbook.
	Scab (<i>Venturia inaequalis</i>)	Olive, slightly raised small spots develop on leaves and fruit.	Sanitation. See the Ala. Pest Management Handbook for fungicides.
Cucumber	Bacterial Wilt (<i>Erwinia</i>)	Individual leaves become wilted, yellowed and finally brown. Eventually, whole stem sections wilt and die.	Control cucumber beetles.

Cercospora Leaf Spot	Cream-colored, angular spots.	See the Ala. Pest Management Handbook.	
	Pythium Root Rot	Roots become brown and water-soaked; outer cortex slides easily away from root central cylinder.	Sanitation.
Daisy, Gerbera	Powdery Mildew	White powdery dusting on leaf and blossom surfaces; blight.	See the Ala. Pest Management Handbook.
Daylily	Kabatiella Streak	Yellow spots and elongated streaks on leaves.	Sanitation of spotted leaves; Cleary's 3336 or Halt may be used.
	Rust (<i>Puccinia hemerocallidis</i>)	Elongated yellow-brown spots, blight on leaves. Orange pustules evident at early stages of disease.	Sanitation. See TI PP-506. For homeowners, Immunox or Ferti-loam System Fungicide may be used.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Dogwood	Anthracoise (<i>Discula</i>)	Large brown circular-irregular spots (¼-½ inch diam.) with dark brown-purple borders develop first on foliage of lower branches. Leaf spots merge. Dieback will result. Cankers develop.	Sanitation. Protective fungicide sprays.
	Botrytis Blight	Foliage shows grey-brown blotches, spots.	See Ala. Pest Management Handbook under spot anthracnose.
	Phyllosticta Leaf Spot	Small (¼ inch or less) circular brown spots with dark brown margins.	Sanitation of fallen leaves in the fall. See the Ala. Pest Management Handbook under Septoria.

	Phytophthora Crown & Root Rot	Crown and root rot tissues brown discolored and water soaked.	Sanitation. See the Ala. Pest Management Handbook for fungicide recommendations.
	Spot Anthracnose (<i>Elsinoe</i>)	Small (1/16 inch or less diam.) circular reddish spots develop on bracts; spots on leaves are similar in size but brownish red in color and some leaf spots may be irregular in shape.	Sanitation in the fall. Protective fungicide sprays recommended only for specimen trees.
Elm	Powdery Mildew (<i>Phyllactinia</i>)	White powdery patches develop on leaves; some leaf deformity.	Sanitation of fallen leaves. See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Euonymus	Powdery Mildew	See description above for powdery mildew on elm.	See comments for powdery mildew on elm.
Fescue	Net Blotch (<i>Drechslera</i>)	Brown, irregularly pigmented rectangular shaped blotches (1/8 inch or less diam.) on leaf blades. Spots may merge to cover large areas.	See Ala. Pest Management Handbook under Helminthosporium melting out.
Forsythia	Crown Gall (<i>Agrobacterium tumefaciens</i>)	Irregular, rough, somewhat spherical galls on branches and lower trunk.	Sanitation; crop rotation.
Geranium	Bacterial Blight (<i>Xanthomonas</i>)	Black leaf spots and stem rot lesions. Yellow-brown wedges may develop in spotted areas of leaves.	Lower leaves may wilt and die due to systemic infections.

Sanitation.	Bordeaux Mixture.		
Gerbera Daisy	Powdery Mildew	White, powdery dusting on upper leaf surfaces.	Sanitation. See the Ala. Pest Management Handbook.
Ginseng	Fusarium Root Rot	Plants wilt and dieback or show poor growth.	Crop rotation.
Grape	Black Rot (<i>Guignardia</i>)	Medium-dark brown circular spots ($\frac{1}{4}$ inch) on leaves and fruit.	Protective fungicide sprays; sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Greenhouse Crops	Tomato Spotted Wilt Virus	Symptoms are variable but include gray-black leaf spots/blotches, yellow ringspot patterns, stunted growth malformed stunted and/or spotted new growth, and wilt.	Sanitation; control thrips.
Hawthorne, Indian	Entomosporium Leaf Spot	Black, red bordered, circular spots.	See Ala. Pest Management Handbook.
Holly	Phytophthora Root Rot	Dieback; roots become water-soaked & rotted.	Sanitation. Reduce irrigation &/or improve soil drainage. See the Ala. Pest Management Handbook.
Holly, Japanese 'Compacta'	Botryosphaeria Canker	Small-large sunken lesions with cracking at lesion edges; dieback.	Pruning.
Hosta	Anthrachnose (<i>Colletotrichum</i>) Leaf Spot	Brown, irregularly-shaped leaf spots.	Sanitation; Cleary's 3336 or Domain protective sprays.

Hydrangea	Botrytis Blossom Blight	Irregular brown spots and blotches on flowers.	Sanitation; Cleary's 3336, Domain, or benomyl product.
	Colletotrichum Blossom Blight	Irregular brown spots blotches on flowers, sometimes orange patches of spores are present.	Sanitation; Cleary's 3336 or Domain, or benomyl.
	Phyllosticta Leaf Spot	Brown circular spots, sometimes with dark border.	Sanitation; Cleary's 3336 or Domain or benomyl product.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Impatiens	Impatiens Necrotic Spot Virus	Irregularly shaped black spots/blotches ($\frac{1}{4}$ inch diam.- usually) which may be confused with bacterial infection. Black ring spots may be present.	Control thrips. Sanitation.
	Rhizoctonia Stem Rot	Lower stems develop brown sunken lesions; plants dieback.	Sanitation; Cleary's protective sprays; crop rotation.
Iris	Heterosporium Leaf Spot	Small-large ($\frac{1}{4}$ - $\frac{1}{2}$ inch long), elliptical or oval shaped medium brown leaf spots.	Sanitation. See Ala. Pest Management Handbook.
	Rust (<i>Puccinia</i>)	Small, red-orange, powdery, raised spots.	Sanitation.
Ivy, English	Anthrachnose (<i>Colletotrichum</i>)	Irregularly-shaped brown leaf spots.	Sanitation; See the Alabama Pest Management Handbook.
	Bacterial Leaf Spot	Dark, brown, wet, angular leaf spots.	Sanitation. See the AL Pest

Management Jacobinia	Handbook. Impatiens Necrotic Spot Virus	Stunting, wilt, leaf spots.	Sanitation; thrips control.
Juniper	Cedar Apple Rust (<i>Gymnosporangium</i>)	Hard, spherical twig or branch galls; some galls produce gelatinous, orange, finger-like projections of spore masses.	Remove galls before spore production. Remove cedar or apple trees; protective fungicide sprays. See ANR- 468.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Kabatinia Tip Blight	Juniper twigs dieback; appears similar to Phomopsis tip blight.	Sanitation; refer to fungicides listed for control of Phomopsis tip blight.
	Pestalotiopsis Blight	Blight of inner foliage of stressed plants.	Sanitation. See the Ala. Pest Management Handbook under Phomopsis Twig Blight for protective fungicides.
	Phomopsis Blight	Tips of twigs on lower branches become brown. The blight spreads down the twig and upward in the plant.	Sanitation. See the Ala. Pest Management Handbook.
	Phytophthora Root Rot	Roots brown, water- soaked.	See Ala. Pest Management Handbook.
Leyland Cypress	Botryosphaeria Canker	Elongate sunken trunk and branch brown lesions.	Sanitation.
	Seiridium Canker	Elongate sunken trunk and branch brown lesions.	Sanitation.
		Pestalotiopsis Canker	Elongate sunken

trunk and branch brown lesions.	Sanitation.		
Ligustrum	Cercospora Leaf Spot	Medium brown, irregularly shaped spots (¼-½ inch long).	Sanitation. See the Ala. Pest Management Handbook.
Lupin	Rhizoctonia Crown Rot	Brown dried lesions on stems near the soil line.	--
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Usually circular, greenish, slightly raised spots. Spot edges slightly more raised than spot center. Edges are irregular.	Sanitation. See the Ala. Pest Management Handbook.
	Bacterial Leaf Spot	Small, angular, water-soaked spots.	Sanitation. Kocide 101 or bordeaux mixture.
	Black Mildew (<i>Meliola</i>)	Black surface mold on lower leaf surface.	--
Maple	Anthracnose (<i>Kabatella</i>)	Brown-black spots/blotches which often follow along leaf veins; sometimes blotchy areas occur along leaf edges.	Sanitation. See Ala. Pest Management Handbook, for small trees.
	Purple Eye Spot (<i>Phyllosticta</i>)	Purple circular spots (about ¼ inch diam.) with dark purple, black border.	Sanitation. See the Ala. Pesticide Handbook.
	Tar Spot (<i>Rhytisma</i>)	Black irregularly-shaped spots.	Sanitation of fallen leaves this fall. See the Ala. Pest Management Handbook.
Maple, Japanese	Phyllosticta Leaf Spot	Brown circular spots with dark brown or purple margins.	Sanitation of fallen leaves this fall. See the Ala. Pest

Management	Handbook.		
Marigold	Anthraco nose (<i>Colletotrichum</i>)	Circular, cream-colored spots (1-3mm diameter) on leaves.	Sanitation. Cleary's 3336 would control anthracnose and it is labeled on marigold.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium Wilt	Lower leaves wilt and turn yellow. Yellowing and wilt slowly progress up the plant. Vascular tissues burn brown.	Sanitation. Rotate away from marigolds for 10-16 years.
	Pythium Root Rot	Roots become light brown, water-soaked, and tissues pull apart easily.	Sanitation. Reduce soil water content. See the Ala. Pest Management Handbook.
Million-Bells	Pythium Root Rot	Dieback, wilt, roots are light brown and decayed.	Sanitation. Reduce water in the area.
Mondograss	Anthraco nose (<i>Colletotrichum</i>)	Gray-brown spots, blotches, often at leaf tips, margins.	Sanitation. Cleary's or Domain.
Muscadine	Black Rot (<i>Guignardia</i>)	See Grape.	See Ala. Pest Management Handbook.
Nectarine	Brown Rot	See Peach.	
Oak	Anthraco nose (<i>Apiognomon ia</i>)	Medium-brown blotches along leaf veins, in interveinal areas and along leaf margins.	Sanitation. See Ala. Pest Management Handbook for small trees.
	Oak Leaf Blister (<i>Taphrina</i>)	Concave-convex spot areas that are slightly swollen and slightly discolored.	Sanitation. See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Oats	Loose Smut (<i>Ustilago avenae</i>)	Plants shorter than normal; the grain is replaced by dark-brown to black powdery masses of smut spores. Usually all the grain on an infected plant is smutted.	Treated seed with fungicide.
	Rust (Crown or leaf) { <i>Puccinia coronata</i> }	Bright orange-yellow round or oblong powdery pustules on leaves, sheaths, stems, panicles. Plants are weakened when infection is severe.	Deep plow.
Okra	Rhizoctonia Crown & Root Rot	A brown, dry decay of crown & roots.	Sanitation. Crop rotation.
Oxalis	Kuehneola Rust	Orange powdery pustules on leaves.	Sanitation.
Peach	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small (2-6 mm diam.) circular, brown-black spots with wet-looking margins and dry-sometimes shot-hole centers. Older spots often have reddish margins. Spots may be surrounded with a yellow zone or halo.	Sanitation; protective bactericide sprays for commercial growers.
	Brown Rot (<i>Monilinia</i>)	Twig blight; canker; fruit rot develops as fruits mature.	Protective fungicide sprays. Sanitation.
	Peach Tree Short Life	Dieback of limbs. Poor growth.	Tree removal. Fumigation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

	Root-Knot Nematode (<i>Meloidogyne</i>)	Trees, unthrifty, poor growth; roots have galls.	See Ala. Pest Management Handbook.
	Twig Blight (<i>Phomopsis</i>)	Twig dieback with brown-black cankers (Some cankers have a zonate pattern.)	Sanitation.
Pear	Entomosporium Leaf Spot (<i>Fabraea</i>)	Roughly circular brownish-black spots (½ inch wide).	Sanitation. Spray schedule as described in the Ala. Pest Management Handbook.
	Fire blight (<i>Erwinia amylovora</i>)	Black discoloration dieback; often infection begins in the blossoms and moves down into the branch. Blighted branch tips often curve downward. Sunken cankers develop on branches.	Sanitation. See ANR-542 or Ala. Pest Management Handbook.
	Frogeye Leaf Spot (<i>Botryosphaeria</i>)	Brown, circular spots with dark borders.	Sanitation. See the Ala. Pest Management Handbook.
Peanut	Rhizoctonia Seedling Disease & Root Rot	Dry, brown lesions on roots and stems.	Soil or seed treatment before planting.
Pea, Southern	Anthracoise (<i>Colletotrichum</i>)	Gray, brown circular-oval spots on leaves and stems.	See the Alabama Pest Management Handbook.
	Fusarium Crown Rot	Lower stems & crowns become reddish-brown and dry rotted.	Sanitation; crop rotation.
	Rhizoctonia Seedling Disease; Lower Stem Rot	Medium-dark brown blotches or elongated lesions	on lower stem near the soil line.

Fungicide treatment prior to planting.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pecan	Scab (<i>Cladosporium</i>)	Dark olive-green to brown to dark brown slightly raised spots on leaves and nut shucks. Defoliation where disease is severe.	See the Ala. Pest Management Handbook. Sanitation.
Peony	Anthracnose	Circular, light brown spots (2-3mm diam.) on leaves.	Sanitation. See the Ala. Pest Management Handbook.
Pepper	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Dark, angular green-black, water-soaked spots ($\frac{1}{4}$ inch diam.); older spots become dry and white; leaf drop.	Sanitation; protective sprays.
	Cucumber Mosaic Virus	Leaves are malformed and distorted, sometimes shoestring-shaped. Leaves sometimes show yellow patterns.	Sanitation. Control aphids.
	<i>Phytophthora capsici</i> Crown/Root Rot	Brown lesions on lower stems, crowns mostly; some root rot.	Sanitation; Ridomil.
	Pythium Root Rot	Brown, water-soaked lesions.	Sanitation; improved soil drainage; See Ala. Pest Management Handbook.
Petunia	Phytophthora Aerial Blight	Brown lesions on leaves and stems; dieback.	See the Ala. Pest Management Handbook.
	Phytophthora Root Rot	Roots brown, wet, easily pulled apart.	Sanitation. Avoid wet soils.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Phlox	Alternaria Leaf Spot	Dark brown irregularly-shaped spots.	Sanitation; Cleary's 3336 or Domain or an ornamental benomyl product.
Photinia	Entomosporium Leaf Spot	Red-black circular-irregularly shaped spots which often coalesce; leaf drop.	Sanitation. Protective fungicide sprays.
Pine	Needlecast Diseases	Older needles turn brown, drop.	See Ala. Pesticide Handbook.
	Needle Rust (<i>Coleosporium</i>)	Cream-orange-colored pustules up to 1/8" or 2-3 mm in size occur on needles only of pine.	Remove asters from the area.
	Pitch Canker	Sunken, cracked lesions on branches, trunks where resinosis is common.	Sanitation. See the Ala. Pest Management Handbook for comments.
Pine, Japanese Black Pine	Needlecast (<i>Ploioderma</i> spp.)	Older needles turn brown, drop.	See AL. Pesticide Handbook.
Plum	Bacterial Leaf Spot (<i>Xanthomonas</i>)	See Peach Bacterial Leaf Spot.	See Peach.
	Black Knot (<i>Dibotryon</i>)	Rough elongated branch galls which begin as greenish swellings but soon develop into hard black elongated branch swellings or galls.	Sanitation; protective sprays of Captan in early spring.
	Botryosphaeria Canker	Dry, sunken, brown lesions that are often cracked around the edges; dieback.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>

Potato, Irish

Bacterial Wilt (<i>Pseudomonas</i>)	Green plants wilt suddenly. Vascular system is brown in the lower stem area. Outer vascular ring of tubers may be discolored.	Rotation away from potato, peppers, tomato and eggplant for several (4-5 yrs.) years or fumigation.	
	Blackleg (<i>Erwinia</i>)	Large areas of stems become black and watersoaked. Plants wilt and die. Tubers are also rotted.	Use disease-free seed pieces; treat seed pieces; clean equipment with solutions of bleach or formaldehyde or allow for good suberization before planting in well-drained areas; crop rotation 2-3 years; control seed corn maggots with insecticides. See the Ala. Pest Management Handbook.
	Early Blight (<i>Alternaria</i>)	Black, zonate, roughly circular or oval spots (4-10 mm or ¼-½ inch diam.). Spots may also develop on stems & tubers.	Follow spray schedule recommended.
	Late Blight (<i>Phytophthora infestans</i>)	Brown blotches on leaves and stems; eventually whole leaves and stem sections become severely decayed.	See the Ala. Pest Management Handbook. See Ed Sikora for commercial plantings.
	Rhizoctonia Stem Rot	Lower stem shows sunken, brown rotted areas.	Sanitation; See Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Scab (<i>Streptomyces scabies</i>)	Slightly raised, scabby circular or circular-irregular	lesions on surface of tubers.

It may help to keep soil slightly acid;	crop rotation; see Ed Sikora.		
Rhododendron	Exobasidium Gall	Fleshy, swellings of leaves, flowers. Swellings initially are green but become white or pink when spore production occurs.	Sanitation; Bayleton in some circumstances. See Ala. Pest Management Handbook.
Rose	Black Spot (<i>Diplocarpon</i>)	Black spots (1/4 inch diam., 4-8 mm) with feathery margins.	Follow a regular spray schedule; sanitation.
	Botrytis Blossom Blight	Blossoms develop small-large brown blotches. A gray delicate webbing of the fungal mycelium and spores may develop over blotches.	Sanitation. Protective fungicide sprays.
	Brand Canker (<i>Coniothyrium</i>)	Gray, cracked, irregular canker on canes.	Sanitation; fungicides that are recommended for black spot will help.
	Mosaic	Distinct pattern of dark green & light green or yellow on leaves.	Control weeds; control insects; remove diseased plants.
	Powdery Mildew (<i>Sphaerotheca</i>)	White powdery patches on foliage; some leaf deformity may occur on new growth.	See the Ala. Pest Management Handbook.
	Tobacco Ringspot Virus	Plants stunted, mottled.	Sanitation; Control nematodes.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sedum	Colletotrichum Leaf Spot	Circular-oval, brown leaf spots.	Sanitation; Cleary's 3336 or Halt.
Spirea	Powdery Mildew	White, powdery dusting on surface of leaves; some leaf	distortion; leaf blight.

Sanitation; Cleary's	3336.		
Squash	Choanephora Wet Rot	Large sections of fruit become wet rotted sometimes with black spore structures covering the fruit surface.	Decrease humidity.
	Mosaic Virus	Distinct pattern of dark green and light green or yellow on leaves.	Control weeds; control insects; remove diseased plants; do not save seed.
	Pythium Seedling Disease	Roots become brown and watersoaked.	---
Squash, Yellow	Watermelon Mosaic Virus	Patterned patches of light and darker green or yellow pigmentation on leaves.	Sanitation; control aphids.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	Leaf blades develop brown blotches; whole leaves become browned.	See the Ala. Pest Management Handbook.
	Gray Leaf Spot	Gray-brown spots on foliage. Disease may be severe.	See ANR-492 or Pest Management Handbook.
	Take-All (<i>Gaeumannomyces</i>)	Individual plants yellow and areas thin out. Black lesions occurs on roots, stolons.	See PP-312 or Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Strawberry	Angular Leaf Spot (<i>Xanthomonas</i>)	Angular, black spots in interveinal areas. Spotting may be severe.	See the Ala. Pest Management Handbook.
	Anthracnose-Crown Rot (<i>Colletotrichum</i>)	Lower stems and crowns become brown, and rotted.	Use healthy transplants. Sanitation. See Ed Sikora.

	Mycosphaerella Leaf Spot	Small (½ inch) red-brown circular spots.	See Ala. Pest Management Handbook.
Sweet Potato	Black Rot (<i>Ceratocystis fimbriata</i>)	Black lesions on root surface which extend to but not beyond the vascular ring. Secondary bacteria will sometimes invade tissues and cause rotting beyond the vascular system.	Sanitation. See the Ala. Pest Management Handbook.
Sycamore	Anthracnose (<i>Apiognomonia</i>)	Gray-brown blotches on leaves; sometimes blotches follow leaf veins or leaf margins.	Sanitation. Protective fungicide sprays for small trees.
	Scorch (<i>Xylella</i>)	Leaves become brown and dried at the margins; dieback during summer months.	Tree pruning or removal.
Tomato	Bacterial Canker (<i>Clavibacter</i>)	Dark brown, black, slightly sunken, large lesions (1-4 cm or larger) develop on stems.	See the Ala. Pest Management Handbook.
	Bacterial Spot (<i>Xanthomonas</i>)	Small, dark green or black, wet-looking, angular spots.	Sanitation. Protective sprays.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Wilt (<i>Ralstonia solanacearum</i>)	Plants wilt suddenly while still green. Lower stem areas are black (decayed) beneath the green outer layers.	Rotate the area away from tomato, potato, eggplant and pepper for 4-5 years or fumigate the soil.
	Blossom End Rot	Black, hard, circular, slightly sunken spots at stem end of fruit.	See Ala. Pest Management Handbook.

Cucumber Mosaic Virus	Plants become stunted with misshaped leaves (often strap shaped) that may be puckered and show a mosaic pattern.	Sanitation; Aphid control.
Early Blight (<i>Alternaria</i>)	Black or brown spots ($\frac{1}{4}$ - $\frac{1}{2}$ inch diam. or 4-10 mm diam.) on leaves, stems, fruit. Spots often have a concentric pattern.	Fungicide sprays; sanitation.
Fusarium Wilt	Lower leaves turn yellow and wilt. Yellowing progresses up the plant.	Crop rotate away from tomatoes 10-16 years on resistant varieties.
Late Blight (<i>Phytophthora infestan</i>)	See Irish Potato.	See the Ala. Pest Management Handbook.
Pythium Root Rot	Roots develop brown-colored, soft rot.	Sanitation. Do not irrigate excessively; provide well-drained soil area. See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Root-Knot Nematode (<i>Meloidogyne</i>)	Irregular root galls which involve the whole root circumference. Gall size varies from small (2-3 mm diam.) to large (1-1.5 cm diam.).	Soil fumigation (commercial) or rotation to dwarf French marigold or pasture grasses.
	Septoria Leaf Spot	Small ($\frac{1}{4}$ inch diam.) roughly circular gray-brown spots.	Protective fungicide sprays. See Ala. Pest Management Handbook.

	Southern Blight (<i>Sclerotium rolfsii</i>)	A wet, brown rot develops at the soil line; with humid conditions, a thick white mold may develop, often with hard, brown, spherical sclerotia (over-wintering bodies) present.	Sanitation; see Disease Note ANR-863.
	Tomato Pith Necrosis (<i>Pseudomonas corrugata</i>)	Sections of stem may show a black discoloration; plant parts above the lesion wilt and die; inside the stem, hollow 'chambers' are delimited by 'strands' of pith tissue.	Sanitation.
	Tomato Spotted Wilt Virus	Bronzing of newest growth; spots and ring patterns on older leaves and fruit; wilt; plants stunted.	Sanitation; control thrips.
Vegetables	Seedling Diseases (<i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Pythium</i>)	Seedlings fall over at the soil line; small stems are weak and limp; brown discoloration may be evident.	Soil treatments (in some situations) or seed treatments before planting. See Ed Sikora.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Vinca, Annual Periwinkle (<i>Catharanthus</i>)	Alternaria Leaf Spot	Circular-angular dark brown-black spots.	Sanitation. Cleary's 3336 or Domain should give protective control.
	Botrytis Blight	Brown-gray leaf spots & blight	Sanitation. Make adjustments to decrease humidity levels. Cleary's 3336 or Domain should give protective control.

Phytophthora Stem Rot	Sections of stems become brown, wet, and collapsed, shrivelled.	Sanitation. In some cases Aliette WDG may be used as a protective treatment. See Ala. Pest Management Handbook.	
	Rhizoctonia Aerial Blight	Dark brown dried cankers on stems. Tops dieback.	Sanitation. Cleary's 3336 may be used in some situations. See the Ala. Pest Management Handbook.
Watermelon	Anthracnose (<i>Colletotrichum</i>)	Foliage spots begin as small yellow or water-soaked irregular areas which become larger and eventually black. Whole leaf areas may become covered with the coalesced spotting/blotches. On the fruit, small water-soaked spots become dark green and then brown-black sunken spots (1/4-2 inches x 1/2 inch deep). With high humidity the spots may become	See the Ala. Pest Management Handbook.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		covered with gelatinous masses of orange spores.	
	Fusarium Root Rot	Roots become dry, rotted; wilt, dieback.	Crop rotate for 10-16 years.
	Fusarium Wilt	Lower leaves turn yellow and wilt slowly develops.	Rotation; resistant varieties.
	Gummy Stem (<i>Mycosphaerella</i>)	Brown, black spots occur interveinally in the lobes of leaves.	Usually older leaves near the center of the hill are

affected initially. As the season progresses, elongated, water-soaked, light-brown to gray lesions occur on vines, often near the crown of the plant. As lesions age, cracking occurs and a reddish-yellow gummy substance oozes around the crack. Plants gradually yellow and turn brown.

See the Alabama Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots become brown-colored and soft rotted.	Sanitation. Avoid wet conditions, especially with poorly draining soil. Contact Ed Sikora if you have questions.
	Rhizoctonia Seedling Blight	Brown lesions on lower stems; seedlings collapse.	Sanitation. Crop rotation.
	Suspect Ozone Damage	Older leaves with whitish, nitted interveinal areas of upper leaf surfaces. Old damage may become black.	---
Wheat	Bipolaris Leaf Spot	Brown irregular spots.	Fungicides in some situations; refer to Bill Gazaway.
	Black Chaff (<i>Xanthomonas</i>)	Gray-brown-black discoloration of seed heads and leaves. Discoloration starts at tip of seed.	Use healthy seed.

Fusarium Scab (Head Blight)	Head blight with a pinkish cast due to presence of spores.	Use healthy seed. Deep plowing, crop rotation of one year. Some cultivar differences in disease susceptibility have been noted.	
	Leaf Rust (<i>Puccinia</i> sp.)	Orange powdery spots.	Fungicides in some situations; refer to Bill Gazaway.
	Powdery Mildew (<i>Erysiphe</i> sp.)	Buff-colored spots and patches.	Fungicides in some situations; refer to Bill Gazaway.
	Septoria Glume Blotch/Leaf Spot	Gray-brown patches of discoloration on glumes; gray-brown leaf spots (¼_ inch diam.).	--
	Take-All (<i>Gaeumannomyces</i> sp.)	Stem at the soil-line becomes black. Plants die.	Rotation.
	Tan Spot (<i>Drechslera tritici-repentis</i>)	Circular to oval brown leaf spots.	---
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Willow	Leaf Rust (<i>Melampsora</i>)	Yellow orange pustules on leaves.	Sanitation.
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	See Centipede.	See Centipede.
	Rust (<i>Puccinia</i>)	Areas of turf become yellow-brown with tiny spots of orange powdery spores.	See the Ala. Pest Management Handbook or ANR-621.
	Take-All Patch (<i>Gaeumannomyces</i> sp.)	Individual plants turn yellow and die. Roots show dark brown or black lesions.	See PP-312 and the Ala. Pest Management Handbook.

Lab Notes

Plant Samples

As we move into our busiest time of year, please take care when filling out the blue sheet or when advising clients in filling out the information. Soil analysis (pH, minerals) results will come back to the client more quickly if sent directly. If the client would like us to forward soil to the Soil Test Lab--if we believe a soil problem exists--he/she must indicate yes on the form. We will not forward soil when a charge is involved unless the client gives approval. Also, please indicate whether the sample is a client charge or an educational (ACES) charge by checking the appropriate blank in the box at the top of the form. Thanks!

Soil Samples For Nematode Analysis

Please be sure you are using the current soil nematode sample submission form which indicates a service charge of \$10.

Insects

Usually insects for identification should be sent in alcohol. If you send live insects, please clearly indicate this on your paperwork.