



PLANT PATHOLOGY SERIES

TIMELY INFORMATION

Agriculture & Natural Resources

EXTENSION PLANT PATHOLOGY, EXTENSION HALL, AUBURN UNIVERSITY, AL 36849-5624

September 18, 2001

PP-510

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)

August was decidedly wetter than July. Some sections of the state received frequent showers this past month. In most locations, August temperatures were lower than in July. In August we received 153 plant samples.

The most commonly seen disease in August was take-all patch on St. Augustine grass. Stolon and root dark decay lesions result in the characteristic yellowing and dieback of plants. Patch-like areas yellow and thin-out. This continues to be a difficult disease to control. Recent work done by Austin Hagan suggests that raising the mowing height to 2½ inches helps reduce stress and the severity of this disease. Fungicide tests will be conducted in Alabama and Texas. Hopefully, tests will provide some useful information. Some preliminary tests using Heritage in Texas did not provide good control of this disease.

ALABAMA A&M AND AUBURN UNIVERSITIES, AND TUSKEGEE UNIVERSITY, COUNTY GOVERNING BODIES AND USDA COOPERATING

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Rhizoctonia diseases were also common last month. The slightly lower summer-time temperatures were favorable for this fungus which is most active when temperatures are in the 70-80s and moisture is moderate. We saw brown patch in all of our warm season turf grasses last month. Rhizoctonia was also causing problems with fescue and peanut. This disease is usually easily controlled by fungicide treatments, when fungicides are a practical control option.

Cantaloupes collected in Blount County were tested by the Auburn lab and by Agdia. Results showed that cucumber mosaic virus, watermelon mosaic virus 2, potato virus Y, and zucchini yellow mosaic virus were present in the leaves and fruit samples which showed mosaic symptoms. These diseases are difficult (usually impossible) to control once they develop in an area. Damaged plants should be removed quickly. Aphids transmit all of these diseases. Disease control by aphid control is not usually effective due to the rapid transmission of these viruses by their aphid vectors.

An unusual find was tomato spotted wilt virus in annual periwinkle. New growth appeared to be stunted with an irregular blotch pattern. This virus has not been commonly seen on periwinkle but it has been previously reported on this plant.

Daylily rust, caused by *Puccinia hemerocallidis*, was mentioned as a new disease in the U.S. in our report of April and A. Hagan sent out a timely information on this disease in July. The disease occurrence was confirmed in a homeowner location in Jefferson County in July, and in August, we confirmed its presence in a nursery/greenhouse situation. Leaf spots are small (2-4 mm diam) and develop orange coloration when the powdery spore masses are present. When spots are numerous, leaves will become yellow. Old spots are dark brown or black. When disease is severe, leaf drop may occur. See the timely information PP-506 by Austin Hagan for disease control. The alternate host for this rust is *Patrina spp.* but the fungus may spread from infected daylilies to healthy daylilies directly. Hosta may be another alternate host. Studies are in progress in Georgia to determine if Hosta is involved.

Corn samples with Cercospora leaf spot submitted in July and August contained two different species of Cercospora. The usual Cercospora, *C. zea-maydis*, was found on leaf spots sent/brought from Russell County and Jackson County in July and August. The unusual Cercospora species, *C. sorghi*, was found on corn samples collected and sent from Autauga County in late July and early August. Symptoms of *C. zea-maydis* and *C. sorghi* are somewhat similar with typical rectangular lesions (about 2-4 mm x 1-6 cm) on leaves. Early lesions are small necrotic spots with possible yellow halos. Mature leaf spots have parallel sides and are gray or gray-brown in color. Microscopic study is necessary to distinguish the two different species which differ in spore characteristics. *C. zea-maydis* is the usual Cercospora seen and reported as Cercospora leaf spot, but *C. sorghi* has been reported to occur occasionally. For *C. zea-maydis*, corn is the only known host. For *C. sorghi*, reported host plants are listed as sorghum and corn.

Another corn disease seen in August was southern corn leaf blight, caused by *Bipolaris* (formerly *Helminthosporium*) *maydis*. The leaf spots were elongate and of varying sizes ranging from a few mm to 3-5 cm. Some spots were larger than the typical *B. maydis* leaf spots and somewhat resembled Cercospora leaf spot. *B. maydis* leaf spot appearance may vary with weather, corn variety, and fungus strain. The spores seen were typical of *B. maydis*.

Table 1. 2001 August Plant Diseases Seen In the Plant Diagnostic Lab At Auburn.

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|-----------------|---|---------------|
| Apple | Bitter Rot (<i>Colletotrichum</i>) | Franklin |
| Arbor-vitae | Phytophthora Root Rot | Montgomery |
| Bahia | Leaf Smut (<i>Ustilago</i>) | Lee |
| Bentgrass | Pythium Root Rot | Jefferson |
| | Ring Nematode Damage (<i>Criconemoides</i>) | Jefferson |
| | Stunt Nematode (<i>Tylenchorhynchus</i>) | Jefferson |
| Bermuda | Brown Patch (<i>Rhizoctonia</i>) | Elmore |
| | Dollar Spot (<i>Sclerotinia</i>) | Montgomery |
| | Ring Nematode Damage (<i>Criconemoides</i>) | Elmore |
| Bermuda, Common | Brown Patch (<i>Rhizoctonia</i>) | Autauga |
| | Helminthosporium Leaf Spot | Covington |
| | Ring Nematode Damage (<i>Criconemoides</i>) | Autauga |
| Bermuda, Tifton | Rust (<i>Puccinia</i>) | Clarke |
| Bermuda, Tifway | Dollar Spot (<i>Sclerotinia</i>) | Autauga |
| Blackberry | Cercospora Leaf Spot | Baldwin |
| Cactus | Fusarium Crown Rot | Lee |
| Cantaloupe | Alternaria Leaf Spot | Blount |
| | Cucumber Mosaic Virus | Blount |
| | <i>Fusarium sp.</i> Crown & Root Rot | Blount |
| | Potato Virus Y | Blount |

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|------------------|--|--------------------|
| | Watermelon Mosiac Virus 2 | Blount |
| | Zucchini Yellow Mosaic Virus | Blount |
| Centipede | Brown Patch (<i>Rhizoctonia</i>) | Washington |
| | Take-all Patch-Suspect Associated Stress (<i>Gaeumannomyces</i>) | Jefferson |
| Cleyera | Pythium Root Rot-Stress Associated | Montgomery |
| Corn | Gray Leaf Spot (<i>Cercospora sp.</i>) | Escambia |
| | Gray Leaf Spot (<i>Cercospora zea-maydis</i>) | Jackson |
| | Rust, Southern (<i>Puccinia polysora</i>) | Escambia |
| | Southern Corn Leaf Blight (<i>Bipolaris maydis</i>) | Shelby |
| Cotton | Alternaria Leaf Spot | Dallas |
| | Cercospora Leaf Spot | Dallas |
| | Fusarium-Associated Root Rot | Dallas, Lee, Macon |
| | Fusarium Wilt | Dallas, Lee, Macon |
| | Root-knot Nematode (<i>Meloidogyne</i>) | Dallas, Lee, Macon |
| Crabgrass | Piricularia Leaf Spot | Blount |
| Cypress, Leyland | Pythium Root Rot | Montgomery |
| Dogwood | Septoria Leaf Spot | Madison |
| Fescue | Anthracnose (<i>Colletotrichum</i>) | Lauderdale |
| | Brown Patch (<i>Rhizoctonia</i>) | Colbert |
| Hydrangea | Anthracnose (<i>Colletotrichum</i>) | Tallapoosa |

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|--------------------|---|--------------------|
| | Pythium Crown & Root Rot | Tallapoosa |
| Ivy | Edema | Barbour |
| Lantana | Pythium Crown & Root Rot | Autauga |
| Magnolia, Japanese | Pestalotia Leaf Spot | Pike |
| Maple | Anthracoise (<i>Colletotrichum</i>) | Russell |
| Oak | Actinopelte Leaf Spot | Lee |
| | Monochaetia Leaf Spot | Franklin |
| | Phoma Leaf Blotch | Cullman |
| | Phyllosticta Leaf Spot | Montgomery |
| | Powdery Mildew | Lee |
| Peanut | Rhizoctonia Limb Rot | Coffee |
| | Rhizoctonia Pod Rot | Pike |
| Pear | Colletotrichum Leaf Spot | Tallapoosa |
| | Entomosporium Leaf Spot | Winston |
| Pecan | Scab (<i>Cladosporium</i>) | Geneva, Greene |
| Pepper | Anthracoise Fruit Rot | Fayette |
| | Helminthosporium Blight | Elmore, Montgomery |
| Periwinkle, Annual | Phytophthora & Pythium Stem Blight and Root Rot | Escambia |
| | Pythium Root Rot | * |
| | Tomato Spotted Wilt Virus | Escambia |

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|------------------|---|---|
| Pine Seedling | Fusarium & Pythium Associated Root Decay | Escambia |
| Plum | Bacterial Scorch- <i>Xylella</i> | Mobile |
| St. Augustine | Brown Patch (<i>Rhizoctonia solani</i>) | Autauga, Choctaw |
| | Gray Leaf Spot (<i>Piricularia</i>) | Covington, Houston |
| | Take-all Patch (<i>Gaeumannomyces</i>) | Autauga, Baldwin, Butler, Choctaw, Covington, Houston, Washington |
| Sweetgum | Phyllosticta Leaf Spot | Montgomery |
| Sycamore | Xylella Bacterial Scorch | Barbour |
| Tomato | Bacterial Wilt (<i>Ralstonia</i>) | Montgomery |
| | Fusarium Wilt | Marshall |
| | Tomato Spotted Wilt Virus | Russell |
| Weeping Mulberry | Anthracnose | Fayette |
| Zoysia | Brown Patch (<i>Rhizoctonia solani</i>) | Coosa, Montgomery |
| | Rust (<i>Puccinia</i>) | Montgomery |

*Locations are not reported for nursery and greenhouse samples.

Birmingham Plant Disease Report-August (J. Jacobi)

A total of 87 plants were received during the month of August. Some of the more unusual diseases seen last month included: Pythium root and crown rot on begonia, daylily rust, dodder on English ivy, root knot on okra and Pythium root and crown rot on poinsettia. One continuing problem we have seen this summer is Pythium root rot in container-grown dwarf English boxwood. We typically do not see this disease in field-grown boxwoods.

One of the most common problems that concerned homeowners was sooty mold on ornamentals. These common black molds are found on a wide variety of plants in the garden. These are caused by several fungi that grow on the sugary material left by aphids, mealybugs, scales, whiteflies and other insects that suck sap from the plant. The insects are unable to digest all the sugar in the sap and they excrete the excess fluid called honeydew, which drops onto the leaves below. The sooty mold fungi develop on the honeydew, causing the leaves to look black and dirty. Sooty molds are unsightly, but fairly harmless because they do not attack the leaves directly. Extremely heavy infestations prevent light from reaching the leaves and they may turn yellow. The presence of sooty mold indicates the plant or a nearby plant is infested with insects. We have seen a lot of sooty mold related to Asian woolly hackberry aphids on hackberry (*Cletis spp.*) recently. In some of these cases, every plant growing near the hackberry was covered in a thick layer of sooty mold. Sooty mold can be wiped off the leaves or rain will eventually wash it off. Prevent sooty mold by identifying and controlling the insect that is producing honeydew.

Table 2. 2001 August Disease Seen In The Birmingham Plant Diagnostic Lab.

| <u>Plant</u> | <u>Disease</u> | <u>County</u> |
|------------------------|--|---------------|
| Azalea | Azalea Lacebugs | Jefferson(3) |
| | Phomopsis Dieback | Jefferson |
| Begonia | Pythium Root and Crown Rot | Shelby |
| Bentgrass | Pythium Root Rot Curvularia Blight Brown Patch | *(2) |
| Bermudagrass | Helminthosporium Leaf Spot | Jefferson |
| Boxwood, American | Phytophthora Root Rot | Jefferson |
| Boxwood, Dwarf English | Pythium Root Rot | Jefferson(2) |
| Daylily | Rust (<i>Puccinia hemerocallidis</i>) | * |
| Dogwood, Flowering | Powdery Mildew | Jefferson |
| Euonymus | Euonymus Scale | Jefferson |
| Foamflower | Anthracnose (<i>Colletotrichum spp.</i>) | * |
| Hydrangea, Oakleaf | Phytophthora Root Rot | * |

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|--------------------|--|---------------|
| Holly, Japanese | Botryosphaeria Canker | Jefferson |
| Holly, Hybrid | Phytophthora Root Rot | Jefferson |
| Ivy, English | Dodder (<i>Cuscuta sp.</i>) | Jefferson |
| Juniper | Phytophthora | Jefferson |
| Leyland Cypress | Seiridium Canker | Jefferson |
| | Spider Mites | Jefferson |
| Maple, Japanese | Botryosphaeria Canker | Jefferson |
| Maple, Red | Anthracnose | Jefferson(2) |
| Maple, Silver | Leaf Spot | Jefferson |
| Oak, Black | Oak Leaf Blister | Jefferson |
| | Hypoxylon Canker | Talladega |
| Oak, Red | Oak Leaf Blister | Jefferson |
| Okra | Root-Knot (<i>Meloidogyne spp.</i>) | Jefferson |
| Pear, Asia | Sooty Mold | Jefferson |
| Poinsettia | Pythium Root & Crown Rot | * |
| Smilax, Greenbrier | Cercospora Leaf Spot | Jefferson |
| Squash, Summer | Papaya Ringspot (Virus) (Unconfirmed) | Jefferson |
| St. Augustinegrass | Chemical Injury | Jefferson(2) |
| | Chinch Bugs | Jefferson(4) |
| | Gray Leaf Spot | Jefferson |

| <u>Plant</u> | <u>Diagnosis</u> | <u>County</u> |
|--------------------------|-------------------------------|---------------|
| | Take-all Root Rot | Jefferson |
| Violet, African | Phytophthora Root & Crown Rot | Jefferson |
| Walnut White Peach Scale | Jefferson | |
| Watermelon | Blossom End Rot | Jefferson |
| Zoysia Dollar Spot | Jefferson(4) | |
| | Leaf Rust | Jefferson |

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

Disease Possibilities For September

Thus far in September, we have seen dry conditions with occasional rain in some sections of the state. But wet conditions with frequent rains have occurred in some sections. Day temperatures have been slightly lower than August, and nights have been noticeably cooler with temperatures in the 60s and occasionally 50s.

These cooler conditions are favorable for powdery mildew and downy mildew and we have recently seen both diseases on pumpkin leaves from Jackson County. Both of these diseases cause yellow blotches to occur on dicot leaves. With powdery mildew, blotches may be more diffuse and a white dusty thin 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 in the 60-70s, 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.

Another disease recently diagnosed was *Rhizoctonia* aerial blight or web blight on Helli holly from a nursery. A. Hagan noted that this disease is may occur on some dwarf-type woody ornamentals, especially Satsuki azaleas, *Ilex crenata*, and Indian hawthorn in July-August and possibly September if frequent showers occur and temperatures are warm with days at 85⁺F and nights at 70⁺F. Aerial blight usually begins as a blight of lower foliage. This blight will easily spread if moisture and humidity are high. See PP-359 by A. Hagan.

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, 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.

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. |
| 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|--|---|--|
| | 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 cankers are red-brown, slightly sunken, cracked. Leaf spots are brown with a purple border (4-5 mm diam.) | Sanitation. See the Spray Guide for Fruit Crops. |
| | Fly Speck (<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 | Lasiodyplodia 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 Leaf Spot | Small dark brown-black, usually circular spots (1-2 mm) scattered over leaf surface. | Sanitation and Cleary's 3336 protective sprays. |
| | Phomopsis Canker/ Dieback | Elongated, sunken, elliptical cankers on twigs and branches with resulting dieback. | Sanitation; protective sprays of Cleary's 3336 may help. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|---------------|--|---|--|
| | <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. |
| | <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. |
| Bahia Grass | 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. |
| Beans, Garden | Anthracnose (<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. |
| | Pythium Lower Stem Rot | Lower stems near soil-line show brown, wet rot. | See Ala. Pest Management Handbook. |
| | <i>Rhizoctonia</i> Lower Stem Rot | Lower stems near soil-line have dried brown lesions. | See Ala. Pest Management Handbook. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|---|--|
| | 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 | 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>Criconemoides</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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|------------------|--|---|--|
| 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. |
| | 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. |
| | Take-All (<i>Gaeumannomyces</i>) | Spots or areas in turf become yellowed and thinned. Roots become decayed in spots. | See ANR-823. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|---------------|---|---|---|
| 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. |
| 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. | -- |
| Cherry | Septoria Leaf Spot | Small (0.5 cm or less in diam.), angular brown spots. | Sanitation in the fall. |
| Cherry Laurel | Phytophthora Root Rot/Overwatering | Roots become brown, wet, decayed. | Sanitation; correct excess water problem. |
| Chrysanthemum | Phytophthora Blossom Blight | Brown, wet blotches and blight on flowers. | Sanitation. |
| 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. |
| | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|------------------|---|--|--|
| | 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. |
| 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. |
| Cotton | Alternaria Leaf Spot | Irregular, or circular, slightly zonate brown leaf spots/blotches. | See Ed Sikora. |
| | Root-Knot Nematode (<i>Meloidogyne</i>) | Plants grow poorly; roots have galls. | Crop Rotation. See Ed Sikora. |
| 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|--|---|---|
| Dogwood | Botryosphaeria Canker | Slightly sunken lesion, sometimes with cracks along the margin. | Sanitation. |
| | Cercospora Leaf Spot | Angular-irregular tan-brown lesions (2-6 mm diam.) sometimes with a thin yellow halo. | Usually sanitation is the only control measure needed. |
| | Septoria Leaf Spot | Angular, brown spots, about 1 cm or less in diam; may be confused with Cercospora leaf spot. | Collect and remove fallen leaves this fall. |
| Dusty Miller | Alternaria Leaf Spot | Dark, angular spots | Sanitation; Cleary's 3336. |
| Eleagnus | Phytophthora Root Rot | Brown, wet root decay. | Sanitation. Improve soil drainage. |
| 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. |
| | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|------------------|------------------------------|---|--|
| 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. |
| 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|-----------------|--|---|---|
| | 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 | Phytophthora Crown & Root Rot | Tissues dark and water-soaked. | Sanitation; reduce irrigation or improve drainage. |
| | 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. |

| <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. |
| 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. |
| Millet | <i>Piricularia</i> Leaf Spot | Irregular, 3-6 mm diameter gray-brown leaf spots. | Crop rotation. |
| Mondograss | Anthracnose | Light brown blotches, leaf spots on leaves; often spots have dark brown borders. | Cut foliage back. Cleary's 3336 will help. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|--|--|--|
| Muscadine | Anthracnose (<i>Colletotrichum</i>) | 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. |
| 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 | Hypoxylon 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|--|---|
| | 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, 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. |
| 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. |
| | Phytophthora & Pythium Root Rot | Brown, wet-rotted roots. | Sanitation. See Ala. Pest Management Handbook. |
| | <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 Root Rot | Roots become brown and water-soaked. | Sanitation. See the Ala. Pest Management Handbook. |
| | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|---|---|
| Peanut | 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. |
| | Lesion Nematode Pod Damage (<i>Pratylenchus</i>) | Pods shrivelled, sunken lesions. | See A. Hagan. |
| | Rust (<i>Puccinia</i>) | Orange pustules on foliage. | -- |
| | 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 <i>Rhizoctonia</i> Limb Rot. |
| | Root-Knot Nematode (<i>Meloidogyne</i>) | Plants are stunted and grow poorly; galls develop on roots. | Crop rotation. See Timely Information, Nematode Suppressive Crops, PP-341. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|----------------|--|---|---|
| | 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. |
| Pear, Apple | Bitter Rot (<i>Colletotrichum</i>) | 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. |
| Pear, Apple | Black Rot (<i>Botryosphaeria obtusa</i>) | 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 | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|----------------|--|--|--|
| Peas, Southern | <i>Fusarium</i> Wilt | Vascular tissues of lower stem are discolored reddish-brown. | Rotate peas out of the area for 10+ years. |
| | Mosaic Virus | Leaves show a yellow-green mosaic color pattern; sometimes green bands occur along the veins; plants are stunted. | Sanitation; control insects. Use resistant varieties such as Corona, Pinkeye Purplehull-BVR, Texas Pinkeye, Genegreen, Grant Blackeye or Royal Blackeye. |
| Pecan | Scab (<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. |
| 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|---------------------------|--|---|---|
| Pepper & Other Vegetables | Southern Blight (<i>Sclerotium rolfsii</i>) | 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 | Phytophthora Root Rot | Roots water-soaked, decayed. | Sanitation. |
| 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 PP-145. |
| | <i>Phytophthora</i> Root Rot | See Azalea. | -- |
| Pine, Virginia | Lophodermium (<i>Ploioiderma</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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|--|--|--|
| 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 Handbook. |
| 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 Stem Rot (<i>Erwinia</i>) | Black, water-soaked spots or lesions on stems. Lesions may girdle stems. | Sanitation; pot-level irrigation; See Ala. Pest Management Handbook. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|---|--|
| 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. |
| Raspberry | Septoria Leaf Spot | See Blackberry. | -- |
| 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 | Phytophthora Root Rot | Dieback; active infections are wet-rotted; old infections are dried. | Sanitation; reduce watering. |
| Schip Laurel | Bacterial Leaf Spot (<i>Xanthomonas</i>) | Angular brown spots with water-soaked margins; shot-holes develop. | Sanitation. |
| Sesame | Cercospora Leaf Spot | Brown circular-angular spots. | ---- |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|----------------|---|--|---|
| 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. |
| | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|---|---|
| | 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. |
| | 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 | Cercospora Leaf Spot | Irregular medium-brown spots (0.2-0.6 cm diam., usually). | See the Ala. Pest Management Handbook. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|-----------------|--|---|--|
| | Watermelon Mosaic Virus II | Pronounced mosaics of green and yellow. | Control aphids. Virus may be transmitted mechanically. Control weeds. WMV is not seed transmitted. |
| St. Augustine | Brown Patch (<i>Rhizoctonia</i>) | See Bermudagrass. | – |
| | Grey Leaf Spot (<i>Piricularia</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. |
| Strawberry | Anthrachnose (<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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|--|--|
| | Phomopsis Leaf Blight | Brown spots/blotches often associated with leaf edges. | See the Ala. Pest Management Handbook. |
| 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. |
| | 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. |
| 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. |
| | 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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|--|---|---|
| | 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. | -- |
| | 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. |
| | 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. | -- |
| | Septoria Leaf Spot | Small gray circular-angular spots. | See the Ala. Pest Management Handbook. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------------|--|--|---|
| | Tobacco Etch Virus | Plants stunted with some mosaic patterns, vein clearing, yellowing, sometimes necrotic rings. | -- |
| | Tomato Spotted Wilt Virus | New growth stunted, leaves spotted and/or with ring spots; whole plant stunting and wilting; ringspots on fruit. | -- |
| Turnip | Black Rot (<i>Xanthomonas</i>) | See Collards. | -- |
| | <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. |
| | Pythium Lower Stem Rot | Brown water-soaked lesions. | Sanitation; reduce irrigation. |
| Vinca (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. |

| <u>Plant</u> | <u>Disease</u> | <u>Description</u> | <u>Control</u> |
|--------------|---|---|--|
| Watercress | Cercospora Leaf Spot | Brown, circular-irregular leaf spots. | Sanitation. |
| | Pythium Stem & Root Rot | Stems and roots develop brown, water-soaked lesions. | Sanitation. |
| Watermelon | Fusarium Wilt | Plants show wilt & leaf yellowing beginning at base of plant. | -- |
| | 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 aphids. |
| Wax Myrtle | Anthracnose (<i>Colletotrichum</i>) | 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 (<i>Mycosphaerella</i>) | Black lesions/spots at leaf edges; elongate cracking on stem with amber-colored ooze. | See Ala. Pest Management Handbook. |
| Zoysia | Dollar Spot (<i>Sclerotinia</i>) | 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. |
| | <i>Rhizoctonia</i> Brown Patch | See Bermudagrass. | -- |

Plant

Disease

Description

Control

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.