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MARCH PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB

MARCH PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

DISEASE POSSIBILITIES FOR APRIL

ANNUAL REPORT OF THE ACES PLANT DIAGNOSTIC LABS

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[Auburn Plant Disease Report-March \(J. Mullen\)](#)

We can definitely tell that spring is here in the lab with our increased sample numbers! Botrytis, brown patch on centipede, tomato spotted wilt virus, and the usual spring leaf spot problems were seen last month.

Brown patch on centipede seems to be well established in the southern sections of the state. Samples seen in the lab have had abundant microscopic mycelial growth on the lower leaves and stolons with accompanying leaf-stolon blight. Several fungicides are labeled for control of brown patch on turf. It is also important to keep nitrogen fertilization at a low-normal levels, collect clippings and irrigate early in the day. See ANR-492.

Botrytis blight has been seen as a problem on greenhouse rosemary, lavender, and geranium. Also, we recently saw it causing a blossom blight on dogwood. In a greenhouse, Botrytis is controlled by reducing humidity levels, sanitation, and protective fungicide sprays. Several fungicides will control Botrytis. See the 2001 Alabama Pest Management Handbook.

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Tomato spotted wilt virus was confirmed on *Gomphrena globosa*. New growth showed unusual patterns of yellow spots. Thrips were also present. This can be a difficult disease to control. Sanitation and thrips control is important.

Pestalotia leaf spots were seen on azalea, gardenia, holly, and rhododendron. Pestalotia usually causes damage on plants in the early spring following cold damage or other stress situations. This fungus is not often a problem later in the spring, summer, or fall.

Other fungal leaf spot diseases seen included Botryosphaeria and Colletotrichum on holly and Colletotrichum on pepper.

Botryosphaeria canker was noted on oak; Botryosphaeria often causes cankers on stressed or previously damaged trees and shrubs. It is a fairly common occurrence in the spring after cold damage.

Pythium blight was noted as an unusual occurrence on annual periwinkle and Torenia. We believe this fungal damage followed after injury from excess fertilizer salts.

Table 1. 2001 March Diseases Seen In The Auburn Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Azalea	Pestalotia Leaf Spot	Marion
Begonia	Pythium Blight	*
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Covington, Elmore,
Tallapoosa		
Daffodil	Fusarium Basal Bulb Rot	Calhoun
Daylily	Pythium Crown & Root Rot	Pike
Gardenia	Pestalotia Leaf Spot	Lee
Geranium	Botrytis Blight	Lee
Gomphrena	Tomato Spotted Wilt Virus	*
Holly	Botryosphaeria Leaf Spot	Covington
	Colletotrichum Leaf Spot	Covington

<u>Plant</u>	<u>Disease</u>	<u>County</u>
	Pestalotia Leaf Spot	Marion
Lavender	Botrytis Blight	*
Million Belles	Pythium Root Rot	*
Myrica Cuttings	Fusarium Cutting End Rot	*
Oak	Botryosphaeria Canker	Lee
Pepper	Colletotrichum Leaf Spot	*
Periwinkle, Annual	Pythium Blight	*
Rhododendron	Pestalotia Leaf Spot	Marion
Rosemary	Botrytis Blight	*
	Pythium Root Rot	*
Ryegrass	Pythium Blight	Lee
Snapdragon	Colletotrichum Leaf Spot	Lee
	<i>Pythium irregulare</i> Crown & Root Rot	Out-of-State
Tomato	Colletotrichum Leaf Spot	*
Torenia	Pythium Blight	*

*Counties are not reported for greenhouse and nursery samples.

Birmingham Plant Disease Report-March (J. Jacobi)

The first days of spring were cooler and wetter than normal, providing good conditions for certain diseases and an increase in samples received at the lab. We continued to see damage from cold and drought on a wide range of plants including azalea, juniper, rose, and turfgrass. The effects of last summer's severe drought are and will continue to produce dieback and other related problems. Cold damage to Orchid (*Phalaenopsis spp.*) was seen last month. Symptoms are yellow depressed streaks on the leaves that eventually turn tan and then black and become pitted. The streaking is most prominent along the margins of the leaves. Exposure to cold temperatures

(as little as 45°F for two hours on young leaves) or cold water that condenses and falls on newly developing leaves causes the problem. Symptoms show up about six weeks after the cold temperatures. This was a new problem for the lab and was identified with the help of another plant pathologist. Other unique samples seen during March included crown gall on apple and Armillaria root rot on peach. See ANR-944 and ANR-907 for more information on crown gall and Armillaria root rot, respectively.

Mulches and composts have many beneficial side effects including improving soils, conserving moisture, and controlling weeds. However, uncomposted or fresh materials comprised primarily of wood with little bark can result in the development of detrimental and nuisance fungi including different types of mushrooms and slime molds. Last month, a columned stinkhorn (*Linderia columnata*) was brought into the lab– and immediately taken back outside. This and other stinkhorns have a foul odor similar to rotting meat. In this case, the fungus colonized a landscape bed mulched with one of the colored mulches (largely uncomposted wood product with little bark). In addition, some of the mushroom (fungi) that colonize mulch are toxic and should be destroyed when small children have access to the area. Once these fungi have colonized the mulch there may be little that can be done. Removal or spading the affected mulch into the soil and wetting the area may provide some level of control. The best strategy is to purchase composted products low in wood content and prevent a potential problem. Additional information on nuisance and detrimental molds in mulches and composts can be obtained at the following site: <http://www.ag.ohio-state.edu/~ohioline/hyg-fact/3000/3304.html>.

Table 2. 2001 March Diseases Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Apple	Crown Gall (<i>Agrobacterium tumefaciens</i>)	*
Azalea	Lace Bugs	Jefferson
Boxwood	Boxwood Leafminer	Jefferson
	Macrophoma Leaf Spot	Jefferson
	Macrophoma Leaf Spot and Pythium Root Rot	Jefferson
Centipede	Brown Patch	Shelby
Evergreen Clematis	Pythium Root Rot	St. Clair
Orchid	Cold Injury	Jefferson

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Peach	Armillaria Root Rot	Shelby
Photinia	Entomosporium Leaf Spot	Jefferson
St. Augustinegrass	May/June Beetle Grubs	Jefferson

*Counties are not reported for greenhouse and nursery samples.

Disease Possibilities For April

April diseases are abundant, and a long list of possibilities for reference purposes is included below.

Rust diseases were not very noticeable in March, but we will see them in April. With fusiforme rust on loblolly and slash pine, the rusty spores will cover the fusiforme swellings that develop on branches and trunks. These spores are wind-carried to oaks where infections occur on the leaves. Tiny black leaf spots on the oak will produce orange spores on lower leaf surfaces March-May. These spores are wind-carried and will cause infection of the loblolly and slash pine. Once infection occurs on the pine needles/twigs, 2-3 years may pass before mature, spore-producing galls are present. Disease control is difficult. In a nursery situation, fungicides are recommended for protective control. (See the Alabama Pest Management Handbook.) In a landscape, usually sanitation is the only practical recommendation. Watch for other rust diseases in April. Cedar-apple rust (also, cedar-quince or cedar-hawthorn rusts) will probably appear in April this year.

Peach leaf curl, caused by the fungus *Taphrina*, is easily recognized by the curling, distortion, and swelling it causes on infected leaves. Spores produced in the spring are carried by wind and rain to near-by peach trees where they fall onto the bark areas of twigs and branches. These spores will over-winter in protective niches in the bark. In the spring the spores may be moved by wind and rain so that they infect new leaves as they emerge and develop. For control, a dormant fungicide treatment is applied once (see the Ala. Pest Management Handbook) in the fall after leaf drop or in the spring before budswell.

Phomopsis canker has been a problem on peach the last few years. It usually develops in April. Typical cankers develop on twigs and small branches as elliptical gray sunken lesions. Lesions will enlarge, and foliage wilt and dieback will result. Check with Ed Sikora for more information.

Dogwood anthracnose is present in Alabama and has been identified in wooded (mostly state park) areas at elevations of 600 ft. and higher in the northern and northeastern sections of the state. The disease first appears as a leaf spot (brown irregular spots with purple margins) problem, usually in the lower foliage canopy. If conditions are favorable for disease development (60-70°F

and wet), leaf spots will spread to involve a leaf blight and eventually a dieback problem. Blighted leaves will typically remain attached to the branches throughout the winter months. Spread of this disease is somewhat restricted in Alabama due to high summer temperatures which are not conducive to disease development and spread. To control this disease in the landscape, sanitation and application of protective fungicide sprays are recommended. See ANR-551 for a list of fungicides.

Dogwood spot anthracnose is a disease that usually is significant only in that it diminishes the beauty of the foliage and blossoms. Tiny red or brown spots may cover the bracts and leaves when weather is wet and warm. When desired, fungicides may be applied for protective disease control. See the Alabama Pest Management Handbook.

Powdery mildews are a problem on a wide variety of plants in the spring when moderate temperatures and high humidity situations exist. The fungus grows in the upper-most epidermal cells of leaves and stems. The white powdery coating on leaves and stems is characteristic of the disease. Infected leaves eventually become yellowed, withered and browned. Control involves sanitation and protective fungicide sprays. See ANR-407 for recommended fungicides. Some of the powdery mildews are also a problem in the summer.

Oedema, another spring problem on a wide variety of plants, develops when plants are subjected to cool, cloudy days and prolonged wet soil conditions. Under these conditions, water uptake by plants may greatly exceed water loss in transpiration. As a consequence, some excessively turgid cells in the leaves burst. These burst cells occur in groups on lower leaf surfaces and they appear as small corky spots. Upper leaf surface areas corresponding to the lower leaf surface corky spots become yellow spotted. The only remedy for oedema is a reduced irrigation schedule and improved soil drainage. Some woody plants damaged by edema are camellia, Eucalyptus, ivy species, jasmine, ligustrum, schefflera, and Fatsia x Fatshedera. Geranium and related plants are also prone to edema when wet, cloudy conditions exist.

Botrytis blight is a common foliage disease when conditions are wet, humid and temperatures are relatively cool (61-73°F). Flowers, leaves and stems may become covered with brown spots and blotches. When conditions are humid and cool, spore production on the spots causes lesions to appear gray with a fine, delicate, superficial, gray fuzzy layer. Disease control can be achieved by sanitation, raising temperatures, increasing air circulation (reducing humidity) and protective fungicide treatments.

While temperatures are still cool in the spring, Thielaviopsis black root rot may be a problem on cotton. Infected roots display black spots, lesions. Often root tips are affected. Infected root systems are poorly developed and top growth is consequently reduced. Control involves crop rotation away from cotton or a Batan seed treatment (1 oz./100 seed wgt). Black root rot may also occasionally be a problem on Helliery holly and pansy.

The list below includes some common disease problems received in the lab during April of the past few years. Comments on control practices are brief. Refer to fact sheets, timely information

sheets, and the Alabama Pest Management Handbook for details.

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

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Many Ornamentals	Powdery Mildew	White-buff colored, raised dots or pads of mycelium.	Fungicides; See Cir. ANR-407.
Aglaonema	Bacterial Leaf Spot	Circular-angular, dark, water-soaked leaf spots.	Sanitation. Water at pot level.
Alfalfa	Spring Black Stem and Leaf Spot (<i>Phoma</i>)	Small black spots on leaves, petioles, stems. Stems may be girdled.	Early cutting.
	Leptosphaerulina Leaf Spot	Small black spots on leaves and petioles. Lesions may enlarge to oval-round (1-3 mm diam), light brown spots with dark brown borders. Yellow areas may surround the spots. When conditions are humid, spots may coalesce.	Frequent harvest.
	Stemphyllium Leaf Spot	Spots (3-4 mm) are oval, slightly sunken, dark brown with light centers. Usually spots are surrounded by a yellow halo.	Frequent harvesting.
Apple/Pear	Botryosphaeria Canker	Cankers may be small or large (up to 5 m long). Cankers may be superficial with only a slight roughening of the bark or they may be deep, causing considerable cracking.	See Ala. Pesticide Handbook; Pruning.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fireblight (<i>Erwinia</i>)	Blossom blight; leaf and branch dieback. Blossoms become spotted and then completely black or brown. Infection spreads from the blossoms into twigs, leaves and branches with branch canker development.	Pruning; Streptomycin at bloom.
	Frogeye Leaf Spot (<i>Botryosphaeria</i>)	Small (1/8-1/4 inch diam.) circular-irregular spots with purple margins and brown centers.	Sanitation in the fall; protective sprays during growing season.
Amaryllis	Stagnospora Leaf Spot	Dark red blotches on leaves (5-15 mm long.)	Sanitation; Cleary's 3336 or Domain.
Azalea	Botrytis Petal Blight	Large irregular areas of blossoms turn brown; brown areas are covered with a gray delicate webbing during humid weather.	See Ala. Pest Management Handbook.
	Exobasidium Gall	Swollen blossom, leaf, and shoot galls. From mid-April to mid-May, galls change from a green to a white or pink-white color.	Sanitation; removal of galls while they are still green; see the Ala. Pest Management Handbook.
	Ovulinia Petal Blight	Small white-brown spots enlarge to become large browned areas on the blossoms.	See Ala. Pest Management Handbook.
	Phytophthora Crown & Root Rot	Crowns & roots become brown and water-soaked.	Sanitation; See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>		<u>Description</u>	<u>Control</u>
	Rhizoctonia Blight	Aerial	Lower leaves become spotted and eventually whole leaves become dark brown and fall.	See Ala. Pest Management Handbook.
Barley	Spot Blotch (<i>Bipolaris</i>)		Brown, elongated spots (2-25 mm long) on leaf blades.	Rotation with non-grass species; fungicide treated seed; See Ala. Pest Management Handbook or spray guide.
Beans, Butter	Alternaria Leaf Spot		Gray or dark gray irregularly-shaped spots of variable size.	Sanitation; See the Ala. Pest Management Handbook under Anthracnose.
Beans, Garden	Pythium Disease	Seedling	Lower stems become water-soaked, flaccid, and slightly discolored. Plants eventually collapse with stems dry and shrivelled.	Do not over-water garden or flower bed. See Ala. Pest Management Handbook.
	Fusarium Blight	Seedling	Lower stems and roots become reddish brown and dry rotted.	Sanitation. Crop rotation. Resistant varieties.
	Rhizoctonia Rot	Crown	Brown sunken lesions on the lower stem near the soil line.	See the Ala. Pest Management Handbook. Sanitation.
Bee Balm	Powdery Mildew		Leaf distortions; powdery white dusty patches on foliage leaves (upper leaf surfaces) and stems.	Sanitation.
Begonia	Bacterial Leaf Spot		Dark, black, water-soaked spots and blotches.	Strict sanitation. Do not water overhead.
Bentgrass	Brown Patch (<i>Rhizoctonia</i>)		Circular-irregular patches in lawn become brown. Brown lesions present on individual grass blades.	Reduce nitrogen fertilization. Protective fungicide treatments.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Blight	Foliage becomes pale brown and water-soaked.	See Ala. Pest Management Handbook, spray guide.
Bermuda	Drechslera Leaf Spot	See Helminthosporium Leaf Spot.	
	Helminthosporium-type Leaf Spot/Blight (<i>Exserohilum</i>)	Small brown elongated spots (2-3 mm) which may merge and cause leaf blight.	See Ala. Pest Management Handbook.
	Rhizoctonia Brown Patch	See bentgrass.	See bentgrass comments.
Blackberry	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; see spray guide.
	Orange Rust (<i>Gynoconia</i>)	Young shoots are weak and in clusters. Poor growth results from systemic disease. Black specks with chlorotic halos develop on upper surfaces of pale green-yellow leaves. Three weeks later, tiny orange, powdery pustules develop on lower leaf surfaces.	Sanitation.
Blueberry	Botryosphaeria Stem Canker	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. See the Ala. Pest Management Handbook, or spray guide.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Boxwood	Macrophoma Blight (Stress)	Individual branches become yellowed and brown. Tiny black pin-point dots (fruiting bodies of the fungus) appear scattered on yellowed leaf surfaces; sometimes sunken cankers develop on twigs and branches.	Prune out damaged areas. Cleary's 3336 or Domain protective treatments may be applied. Identify and correct other stress problems.
Cabbage	Black Rot (<i>Xanthomonas</i>)	V-shaped brown-black lesions appear at leaf edges. Veins leading away from lesions become brown-black. Eventually stem vascular system becomes rotted.	Sanitation; rotation away from crucifers for 2 years.
Camellia	Algal Leaf Spot (<i>Cephaleuros</i>)	Red-green-brown raised circular leaf spots with wavy edges.	Sanitation. See Ala. Pest Management Handbook.
	Armillaria Root Rot	Sudden dieback; roots show thin white mycelial layer and sometimes black thread-like structures (Rhizomorpha); honey-colored mushrooms are also a diagnostic sign.	Remove the plant with associated roots.
	Botryosphaeria Canker	Sunken, cracked stem lesions.	Sanitation.
	Cercospora Leaf Spot	Brown circular or irregular spots of variable size.	Sanitation. Cleary's 3336 or Domain protective sprays.
	Exobasidium Gall	See Azalea.	
	Virus Ringspots	Yellow spots and ring spots; may be a reduction in plant growth.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Light brown, large, circular patches occur on lawns; grass blades show medium brown lesions.	See Ala. Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces graminis</i> pv. <i>graminis</i>)	Patches of turf yellowing and dying.	See ANR-823. Bayleton may help. Turf replacement may be necessary.
Cherry	Septoria Leaf Spot	Medium brown, angular spots (about 1 cm or ¼-½ inch long) on leaf surfaces; when severe, defoliation results.	Sanitation.
Chrysanthemum	Rhizoctonia Root Rot	Roots become brown, decayed and dried.	Sanitation. See the Alabama Pest Management Handbook.
Cleyera	Anthrachnose (<i>Colletotrichum</i>)	Reddish, black spots, blotches. Orange pustules develop in spring and summer.	Sanitation; Cleary's 3336 may help.
Corn	Pythium Seedling Disease	Lower stems turn pale brown, become water-soaked, and collapse.	---
Crabapple	Cedar Apple Rust (<i>Gymnosporanium</i>)	Light yellow spots (1 cm or 0.5 inch diam.) on leaves; leaf fall when spots are numerous.	See the Ala. Pest Management Handbook.
Daylily	Kabatiella Leaf Spot	Numerous small (5 mm or ¼ inch long) brown spots; leaf yellowing around spotted areas. The disease is often associated with stress.	Sanitation.
Dianthus	Fusarium Crown Rot	Brown, dried rotted tissues on lower stems. Top dieback.	Sanitation. Crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Dogwood	Spot Anthracnose (<i>Elsinoe</i>)	Small (1-2 mm) red-brown spots with reddish borders occur on bracts, leaves, and young twigs. Spotting may be severe and new leaves may appear reduced in size; foliage death may result.	Sanitation; See Ala. Pest Management Handbook.
	Anthracnose (<i>Discula</i>)	This disease is characterized by leaf necrosis, twig and branch cankers and stem dieback which all begin in the lower branches and progress to the upper canopy. The disease generally begins as purple-rimmed brown spots on leaves. Spots soon develop into a general blight of infected leaves. Leaf death is followed by progressive infection and death of associated twigs and then branches.	See ANR-551 or the Ala. Pest Management Handbook.
Euonymus	Powdery Mildew (<i>Microsphaera</i>)	A white powdery dusting appears on upper leaf surfaces; when disease is severe some leaf distortion occurs.	See the Ala. Pest Management Handbook.
Exacum	Impatiens Necrotic Spot Virus	New growth was stunted. Brown spots and blotches were present on the newly matured foliage.	Sanitation. Control thrips.
Fern, Boston	<i>Colletotrichum</i> Leaf Spot	Brown spots/blotches on fronds.	Sanitation. Protective sprays of Cleary's 3336.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Fescue	Brown Patch (<i>Rhizoctonia</i>)	Light brown, often large, circular patches occur on lawns; grass blades, show medium brown irregular lesions.	See the Ala. Pest Management Handbook.
	Net Blotch (<i>Drechslera</i>)	Typically, short, square rectangular or elongated blotches (5-10 mm or larger) with longitudinal or horizontal dark line patterns develop on leaves. Line patterns resemble a net.	See Ala. Pest Management Handbook under Helminthosporium Leaf Spot and Crown rot (melting out).
Forsythia	Crown Gall	Woody Galls on lower stem/trunk near the soil line.	Sanitation; crop rotation to boxwood, holly, redbud or other nonsusceptible plants. See ANR-944.
Geranium	Botrytis Blight	Gray blotches occur on the foliage. Whole leaves may become involved and die. When weather is cool and moist with a high relative humidity, a delicate webbing of spores and hyphae can be seen.	See the Ala. Pest Management Handbook. Sanitation.
	Bacterial Leaf Spot/Stem Rot (<i>Xanthomonas</i>)	Black spots on leaves and stems; total collapse of stem may occur; bacteria may develop in vascular system and become systemic.	Strict sanitation. Bordeaux mixture protective sprays.
Grape	Anthrachnose (<i>Gloeosporium</i>)	Circular-irregular brown blotches/spots (3-5 mm diam.) with brown-black margins. Spot centers may become light colored & dry. Damage may	See the Ala. Pest Management Handbook or spray guide; Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		be severe with fruit rot and dieback.	
	Black Rot (<i>Guignardia</i>)	Medium-dark brown irregular spots (approx. 5 mm diam.) on leaves and fruit.	See Ala. Pest Management Handbook. Sanitation or spray guide.
Hawthorn, Indian	Phytophthora Root Rot	Roots become brown and decayed. Outer tissues easily pull away from the root central core. Foliage wilts and dieback occurs.	See the Ala. Pest Management Handbook.
Holly, Helli	Phytophthora Root Rot	Roots become brown and decayed. Outer tissues easily pull away from the root central core.	See the Ala. Pest Management Handbook.
Holly	Colletotrichum Leaf Spot	Black circular spots (about 5mm diam.) sometimes with cream-colored spores covering centers of spots.	Sanitation; protective sprays of Cleary's 3336 or Domain may be used.
	Phyllosticta Leaf Spot	Small (1-2mm diam.) black spots sometimes with a whitish center.	Sanitation; protective sprays of Cleary's 3336 or Domain may be used.
Hydrangea	Botrytis Blossom Blight	Blossoms are brown-gray spotted/blotched.	Sanitation. See ANR-912 for fungicide recommendations.
Hydrangea, Oak Leaf	Bacterial Leaf Spot	Small (2-5mm), dark, angular spots on leaves.	Sanitation; irrigate at soil level.
Impatiens	Alternaria Laf Spot	Dark brown-black, angular leaf spots.	Sanitation; Kocide 101.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots become pale brown and decayed. Outer tissues easily pull away (separate) from the inner central core. Foliage is stunted, wilted.	
Iris	Heterosporium Leaf Spot	Small-large (1/4-1/2 inch long), elliptical or oval shaped medium brown leaf spots.	Sanitation. See Ala. Pest Management Handbook.
	Borers/Soft Rot (<i>Erwinia</i>)	Leaves and rhizomes become decayed with a wet, foul-smelling rot; wounds are often evident in the rhizome rotted areas. Wounds are often caused by the iris borer, but other insects may be involved.	Sanitation. Especially in the fall, all diseased rhizomes should be destroyed. To further prevent & control borers, an insecticide dust may be applied weekly in the spring from new growth initiation to the beginning of June.
Ivy, English	Botryosphaeria Canker	Elongated, sunken, cracked stem lesions.	Pruning. Protective sprays of Cleary's 3336.
	Anthrachnose (<i>Colletotrichum</i>)	Brown irregular spots (3 mm diam. & larger) that sometimes occur along veins.	Sanitation. See the Ala. Pesticide Handbook. Use Cleary's 3336 or Domain.
	Bacterial Leaf Spot	Small (2-4mm diam.), angular, dark leaf spots with wet looking edges on leaves.	Sanitation. See the Ala. Pest Management Handbook.
	Edema	Small, brown, corky spots on lower leaf surfaces.	Reduce irrigation.
	Fusarium/Pythium Root Decay	Roots become brown decayed, dried and also wet rotted.	Sanitation. Banrot protective treatments.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Japanese Pagoda Tree	<i>Nectria</i> Canker	Sunken canker with tiny orange raised specks scattered over lesion.	Sanitation.
Juniper	Phomopsis Tip Blight	Dieback.	Pruning; Fungicide application. See the Ala. Pesticide Handbook.
	Cedar-Apple Rust (<i>Gymnosporangium</i>)	Large woody spherical galls (2-5 cm diam.) become covered with orange, jelly-like finger-like projections.	See ANR-468.
	Cedar-Quince or Hawthorn Rust (<i>Gymnosporangium</i>)	Orange powdery sunken cankers.	See ANR-468.
Leyland Cypress	<i>Cercospora</i> Needle Blight	Beginning with lower branches and inner needles, blight develops and spreads upward & outward.	Sanitation; protective sprays of Cleary's 3336.
	Seiridium Canker	Elongated sunken lesions on trunk usually with sap oozing around lesion edge.	Pruning. See Ala. Pest Management Handbook.
Ligustrum	<i>Macrophoma</i> Leaf Spot	Brown circular or oval leaf spots.	Sanitation; Cleary's 3336 or Domain protective sprays.
Lilac	Bacterial Leaf Spot	Dark angular spots.	Sanitation. Do not water overhead.
Liriope	Anthracnose (<i>Colletotrichum</i>)	Brown lesions on leaves, some on leaf tips.	Sanitation. Protective sprays with Cleary's 3336.
Lupin	<i>Rhizoctonia</i> Lower Stem Decay	Dark brown, black lower stem dry rot.	---

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Green or red-brown, slightly raised, circular spots (1 cm diam.) with slightly wavy margins.	Usually none. Sanitation.
	Phyllosticta Leaf Spot	Brown irregular spots (3 mm diam. and larger) which often become brown bordered with lighter centers as spots age.	Sanitation. Protective sprays of Cleary's 3336 or Domain.
Magnolia	Stress	Many older leaves become yellow and then brown; excessive leaf drop. (Some leaf senescence is normal during April-June.)	Water when conditions are droughty.
Maple, Japanese	Anthracnose (<i>Kabatiella</i>)	Brown, irregularly-circular spots which often follow along leaf veins. Spots begin small, but may develop to involve larger portions of leaves.	See Ala. Pest Management Handbook.
	Phomopsis Canker	Brown-gray elliptical sunken lesions on smaller branches, twigs.	Sanitation.
Maple, Red	Phyllosticta Leaf Spot	Circular pale brown spots with darker brown borders (about ¼ inch diam.).	--
	Pythium Root Rot (Seedlings)	Roots brown, water-soaked, rotted.	Sanitation. Reduce watering schedules.
Marigold	Alternaria Leaf Spot	Black circular or irregular leaf spots (1-3 mm diam.).	See Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Mayhaw (Hawthorn)	Cedar-Quince Rust (<i>Gymnosporangium</i>)	Yellow irregular spots with tiny white-orange aecial cups (spore masses) developing on lower leaf surfaces opposite upper leaf yellow spots.	Removal of cedar cankers. See ANR-468.
Mondograss	Root Knot Nematode (<i>Meloidogyne</i>)	Poor growth; root galls.	Sanitation. See ANR-689 and ANR-856.
Monkey Grass (<i>Liriope</i>)	Anthracnose (<i>Colletotrichum</i>)	Pale brown blotches and spots on foliage. Blotch margins are sometimes dark brown or red-brown. Spots may involve large sections of leaves. Often leaf tips are involved.	Sanitation; Protective sprays of Cleary's 3336 or Domain may be used.
Oak	Anthracnose (<i>Apiognomonia</i>)	Brown-black spots and irregular blotches which often develop along leaf edges and/or leaf veins.	Sanitation. See Ala. Pest Management Handbook.
	Algal Leaf Spot (<i>Cephaleuros</i>)	Gray-green or brown-red spots with irregular margins (1 cm or ¼ inch diam.) on leaves; spots may coalesce.	See Ala. Pest Management Handbook.
	Hypoxyton Canker	Environmental stressed oak may develop a dieback where Hypoxyton acts to hasten the dieback problems. The fungus causes decay of inner bark and sapwood and silver gray or coal black stroma develops in the decay area, causing the bark to crack and fall away.	Pruning and tree removal.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Oak Leaf Blister (<i>Taphrina</i>)	Concave-convex spots (10-15 mm or ¼-½ inch diam.) on leaves. As spots age, they change from a light green-brown color to a medium-dark brown.	See Ala. Pest Management Handbook.
	Powdery Mildew	White powdery dusting on leaves; infected new growth may be deformed.	Sanitation of leaves in the fall.
Oats	Barley Yellow Dwarf Virus	Leaves are yellowish red; stunting; excessive tillering.	---
	Loose Smut (<i>Ustilago</i>)	The seed heads of oats become filled with the black sooty masses of fungal spores.	Seed treatment.
Pansy	Cercospora Leaf Spot	Black superficial, slightly raised spots with ropey appearance and irregular feathery spot edges.	Sanitation. See Ala. Pest Management Handbook.
	Colletotrichum Leaf Spot	Circular gray spots with dark borders.	See the Ala. Pest Management Handbook.
	<i>Thielaviopsis</i> Black Root Rot	Black lesions on roots. Plants are stunted.	Sanitation. See the Ala. Pest Management Handbook.
Peach	Bacterial Canker-Gummosis (<i>Pseudomonas</i>)	Sunken, wet blackened areas on trunk/branches. There is usually excessive gum production associated with the canker. A characteristic sour-foul smell is often present when the canker is cut.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Circular black spots (2-5 mm) develop on leaves. As spots age, they dry out and fall out, leaving circular 'shot holes' in the leaves.	See the Peach Spray Guide, ANR-8.
	Brown Rot (<i>Monilinia</i>)	A gray-brown blossom blight with subsequent twig blight and canker development. Fruit rot follows. Spore production gives rotted tissues a gray powdery covering.	See Ala. Pest Management Handbook or spray guide.
	Peach Leaf Curl (<i>Taphrina</i>)	Concave-convex spots develop on leaves. Often, early 'spots' are the color of normal leaf tissue. Severe disease causes leaves to be excessively puckered and deformed and curled and somewhat thickened.	Sanitation. See the Ala. Pest Management Handbook or spray guide.
	Phomopsis Twig Canker	Gray, sunken, elliptical or oval cankers (lesions) (4 mm long or longer) on twigs and small branches.	Sanitation.
	Ring Nematode (<i>Criconemoides</i>)	Roots poorly developed; top growth is reduced.	Sanitation; crop rotation or fumigation. See Ed Sikora.
Peanut	Tomato Spotted Wilt Virus	Poor growth; new growth stunted and mottled, sometimes with ring spots or/and mosaic.	Thrips control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pear	Botryosphaeria Canker	Sunken, elliptical or oval cracked cankers on branches and trunks.	Sanitation.
	Entomosporium Leaf Spot	Red-black circular spots (5-10 mm diam.).	Sanitation. See the Ala. Pest Management Handbook.
	Fireblight (<i>Erwinia</i>)	Black blotches beginning at leaf edges; leaf blight; longitudinal, sunken, cracked cankers with droplets of bacterial ooze during humid, wet weather; twig blight; limb blight.	Sanitation. See the Ala. Pest Management Handbook.
	Frogeye Leaf Spot (<i>Botryosphaeria</i>)	Small purple flecks usually enlarge to circular brown lesions 4-5 mm in diam. Lesion margins are purple; centers are tan or brown.	See Ala. Pest Management Handbook.
Peas, Field	Pythium Seedling Disease	Lower stems become soft, water-soaked and pale brown. Plants fall over.	See Ala. Pest Management Handbook or spray guide.
	Rhizoctonia Stem/Root Rot	Lower stems develop reddish-brown or brown dried lesions. Dieback may result.	Sanitation; crop rotation. See the Pest Management Handbook.
Pepper	Bacterial Leaf Spot	Dark, small (2-5mm), angular leaf spots with wet looking edges.	Sanitation. See the Ala. Pest Management Handbook.
Periwinkle	Botrytis Blight	Brown gray spot/blight.	Sanitation. Increase air circulation. Increase temperature. See the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phyllosticta Leaf Spot	Medium-brown, circular-oval spots (5 mm diam.).	Sanitation; Protective sprays of Cleary's 3336 or Domain.
	Phytophthora Blight	Brown lesions on leaves and stems.	Sanitation. See Ala. Pest Management Handbook.
	Thielaviopsis Root Rot	Plants grow poorly. Roots have black lesions, sections, and tips.	Sanitation. Cleary's 3336 protective drenches.
Petunia	Thielaviopsis Root Rot	Plants grow poorly. Roots have black lesions, sections, and tips.	Sanitation; Cleary's 3336 protective drenches.
Photinia	Anthracnose (<i>Colletotrichum</i>)	Light-brown, zonate spots (10-15 mm or 1/2 - 1 inch long) sometimes associated with leaf margins.	Sanitation; See Ala. Pest Management Handbook under Entomosporium Leaf Spot.
	Entomosporium Leaf Spot	Red-black spots (5-10 mm diam.) on upper & lower leaf surfaces. Spots generally have dark red-black borders. Spots may coalesce.	Pruning; Fungicide treatment; See Cir. ANR-392.
	Armillaria Trunk Rot	Sudden wilt and dieback; thin white mycelial layer beneath bark; sometimes black thread-like rhizomorphs and/or honey-colored mushroom present.	Sanitation--removal of plants.
Pine, Loblolly	Fusiforme Rust (<i>Cronartium quercuum</i> <i>f. sp. fusiforme</i>)	Spindle-shaped (fusiform) swellings (galls) develop on branches and trunks. In March-April the orange spore masses (aecia) of the fungus develop on the bark	Sanitation; removal of galled branches and/or trees when galls occur on trunks. See the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		surface. The powdery spores cover the whole gall area. (Oaks are the alternate host for this fungus.)	
	Lophodermium (<i>Ploioderma</i>) Needle Cast	Last year's needles become spotted, blighted, and fall off. Tiny, black football-shaped fungal fruiting bodies can be seen on needles with hand lens.	Fungicide applied in spring and fall. See Ala. Pest Management Handbook.
	Rhizosphaeria Needle Blight, Twig Blight	Needles and small twigs turn brown, die.	Sanitation. See spray recommendations for needle cast; may need to continue in summer.
Pine, Slash	Rhizosphaeria Needle Blight	See Pine, Loblolly.	
Pine, Virginia	Lophodermium Needle Cast	See Loblolly Pine.	
Pine	Needle Rust (<i>Coleosporium</i>)	Needles covered with numerous cream-color pustules (2-3 mm).	Remove asters and other composite plants/weeds in the area.
Plum	Bacterial Canker (<i>Pseudomonas</i>)	See Peach.	
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small (2-5 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.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Black Knot (<i>Dibotryon</i>)	Sections of branches become swollen and covered with black, swollen, hard, fungal growth.	Prune; fungicide treatment. See Cir. ANR-217 or the Ala. Pest Management Handbook.
Potato, Irish	Bacterial Soft Rot (<i>Erwinia spp.</i>)	Cream-tan colored, wet rot of tubers. As rot ages, secondary bacteria cause foul smell.	Sanitation; avoid wounds.
	Early Blight (<i>Alternaria</i>)	Small (1-2 mm) brown spots develop into larger (10-15 mm long) irregular spots which are brown-black and often have a target pattern. Spots occur on leaves and stems.	See Ala. Pest Management Handbook.
	Fusarium Tuber Rot	A black wet rot or a drier, brown rot of tuber; sometimes center of rot area is hollow, sometimes with white mycelium.	Sanitation. Avoid wounds.
	Late Blight (<i>Phytophthora infestans</i>)	Foliage becomes brown spotted, blotched. Dead areas may spread to cause death of the whole plant.	See Alabama Pest Management Handbook.
Raphiolepis	Colletotrichum Leaf Spot	Brown, circular-irregular shaped leaf spots.	Sanitation. Protective sprays of Cleary's 3336.
Red Cedar	Armillaria Root Rot	Dieback and total death of tree. Mushrooms or black thread-like structures may develop at base of tree and just under the bark, respectively.	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Rose	Botrytis Blight	Gray-brown irregular areas on flowers and leaves; gray mycelium and spores give spots/blotches a gray, cloudy appearance.	Lower humidity levels; increase temperatures; prune out diseased plant parts; fungicides.
	Black Spot (<i>Diplocarpon</i>)	Black spots (1/4 inch diam. or 4-8 mm) with feathery margins.	Follow a regular spray schedule; sanitation.
	Downy Mildew (<i>Pernospora</i>)	Irregular pale yellow spots on upper leaf surfaces; grayish-sometimes with thread-like growth-spots on lower leaf surfaces. Leaves eventually become brown, withered and drop.	Sanitation. See Ala. Pest Management Handbook. Decrease humidity.
	Powdery Mildew (<i>Sphaerotheca</i>)	Whitish powdery growth on leaf surfaces; new growth may be distorted; leaves dry & turn yellow then brown; leaf drop.	See Ala. Pest Management Handbook.
Ryegrass	Helminthosporium (<i>Bipolaris</i>) Leaf Spot	Small, brown, elliptical spots which may coalesce.	See ANR-621 or the Alabama Pest Management Handbook.
Shasta Daisy	Alternaria Leaf Spot	Gray-brown, roughly circular spots.	Sanitation. Cleary's 3336 or a benomyl fungicide should give some protective control.
Snapdragon	Pythium Root Rot	Foliage wilt; roots brown and water-soaked.	Sanitation. See Ala. Pest Management Handbook.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	See Centipede.	--

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Take-All Patch (<i>Gaeumannomyces</i>)	Sections of turf thin out. Lesions (black) develop on stolons and roots; plants yellow and die.	Soil pH and fertilizer management. See ANR-823. Bayleton may help.
Strawberry	Angular Leaf Spot (<i>Xanthomonas</i>)	Small black, water-soaked, angular spots.	Sanitation. Kocide protective sprays.
	Anthracnose-Crown Rot (<i>Colletotrichum</i>)	Lower stems (crowns) become brown and rotted. Leaf edges turn brown; plants wither and die.	Use healthy transplants.
	Anthracnose Fruit Rot (<i>Colletotrichum</i>)	Fruit develops dark brown, irregular surface spots/rot areas which extend into the inner flesh. When humidity is high, orange spore masses form on the fruit.	See Ala. Pest Management Handbook.
	Botrytis Gray Mold	Light-brown irregular spots, blotches on blossoms, leaves, petioles, stems, fruit. In humid weather, fungus produces a gray powdery growth over lesions.	See Ala. Pest Management Handbook.
	Mycosphaerella Leaf Spot (Common)	Deep purple small spots become 3-6 mm diam. with white centers and reddish edges.	See Ala. Pest Management Handbook.
Tomato	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small black circular or angular spots that become cream-colored with age.	See Ala. Pest Management Handbook.
	Early Blight	See Irish Potato.	
	Late Blight	See Irish Potato.	

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots slightly off-color (brown); cortex may easily pull away from root central cylinder.	Sanitation; See the Alabama Pest Management Handbook. Improve soil drainage.
	Tomato Spotted Wilt Virus	Plants stunted, wilted with yellow or brown spots or blotch.	Sanitation. Control thrips.
Tulip Poplar	Alternaria Leaf Spot	Medium-brown, circular-irregular spots (1-2 cm or $\frac{1}{2}$ inch long).	Sanitation.
Turnips	Cercospora Leaf Spot	White-light gray, circular-irregular, small-large (1 cm) spots on foliage.	Sanitation. See the Ala. Pest Management Handbook.
Watermelon	Fusarium Root Rot	Lower leaves yellowed; yellowing and wilt spreads upward in plant.	Crop rotation or plant resistant varieties.
Wheat	Barley Yellow Dwarf Virus	Foliage yellows, becomes stunted and root systems are abnormally shallow. Leaves may become distorted.	Delay planting date in the fall; some varieties show moderate resistance.
	Bipolaris Leaf Spot	Brown irregular spots.	Fungicides in some situations; Refer to A. Hagan.
	Fusarium Head Scab	Seed heads bleached, shriveled and covered with a pink-orange mold.	Crop rotation for at least one year.
	Loose Smut (<i>Ustilago</i>)	Spikelets become filled with brown-black masses of spores.	Seed treatment; resistant varieties.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Powdery Mildew (<i>Erysiphe</i>)	Leaves become covered with a white-buff colored powdery coating. Infected leaves eventually yellow and die.	See Ala. Pest Management Handbook.
	Puccinia Leaf Rust	Orange-red, powdery, raised pustules (1-5 mm diam.) scattered over leaf blades.	See Ala. Pest Management Handbook or spray guide.
	Puccinia Stem Rust (<i>Puccinia graminis f. sp. tritici</i>)	Yellow flecks and orange elongated pustules on leaves and stems; leaf blight.	Resistant varieties; fungicide protective sprays; See Ala. Pest Management Handbook.
	Septoria Leaf Spot	Yellow flecks on lower leaves become irregular (1-5 - 4-15 mm), lens-shaped, brown spots.	Use disease-free seed. See Ala. Pest Management Handbook or spray guide.
	Septoria Leaf & Glume Blotch (<i>S. nodorum</i>)	Yellow, tan, or brown, oval or lens-shaped spots (about 1 cm long) on leaves. On glumes, a general gray-brown discoloration begins at glume tip and moves downward. Tiny black fruiting bodies may be sprinkled on browned glume areas.	See Ala. Pest Management Handbook or spray guide.
	Soilborne Wheat Mosaic Virus	Stunting; leaves develop yellow streaks and a 'short line' or 'dash' type of mosaic pattern.	Crop rotation.
	Take-All (<i>Gaeumannomyces</i>)	Plants are stunted and yellow with few tillers. Roots and lower stems become black, rotted and brittle.	Crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Wheat Spindle Streak Mosaic Virus	Elongated yellow streaks, mosaic on leaves.	Rotate wheat out of area as it is soilborne by Polymyxa fungus.
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	See Bentgrass.	
	<i>Exserohilum rostratum</i> Leaf Spot and Crown Rot	Small brown, elliptical leaf spots which may coalesce.	See ANR-621 or the Alabama Pest Management Handbook.
	Rust (<i>Puccinia</i>)	Grass blades become covered with orange-brown dusty pustules of spores.	See the Ala. Pest Management Handbook or ANR-621.
	Take-All (<i>Gaeumannomyces</i>)	See St. Augustine.	
All	Slime Mold	Wet-looking thin sheets of fungus material which may be green, reddish or brown in color. When the spore stage is present, plant material may be covered with a powdery coating of black, brown, red or yellow spores.	Fungal sheets or masses may be physically removed; spore masses may be washed off with a strong stream of water; when conditions become dry, slime molds will disappear. These fungi do not cause damage to plants except for a shading effect.

Annual Report of the ACES Plant Diagnostic Labs

The annual reports of the Auburn and Birmingham Plant Diagnostic Labs are almost completed. As usual, we will send one copy per county, addressed to the County Agent Coordinator.