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

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

DISEASE POSSIBILITIES FOR OCTOBER

LAB NOTES

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Auburn Plant Disease Report-September (J. Mullen)

The 97 plant disease samples in September included ornamentals, turf, field crops, and vegetables. Half of the samples consisted of ornamentals and turf with another third of the samples being field crops and the remaining one fifth being vegetables. Rhizoctonia was active with brown patch seen on bermuda, centipede, and zoysia and root rot on peanut. Anthracnose diseases were noted on cantaloupe, cucumber, and soybean. Phytophthora root rot was reported on daylily, gardenia, ivy, and Leyland cypress. Ascochyta was diagnosed as leaf spot on cotton and stem blight on chrysanthemum. Alternaria caused a severe seedling stem blight on cabbage and the bacteria *Xanthomonas* caused dieback of small cabbage transplants.

Rhizoctonia is well known as the cause of brown patch on turfgrasses and also limb and root rot of a variety of plants including peanut. The blight and stem/root decays appear as a brown discoloration and what is usually described as dry rot. Rhizoctonia is typically active during the spring and fall when temperatures are moderately warm (day temperature in the 80's). See ANR-493, and the AL Pest Management Handbook for more information.

The Alternaria stem blight of the cabbage seedlings had caused

a severe, dark gray- brown stem decay and stem collapse on the plants examined. Sanitation was recommended along with protective sprays of Bravo, Dithane, or other labelled fungicides listed in the AL Pest Management Handbook.

The black rot (*Xanthomonas campestris* pv. *campestris*) recently diagnosed and confirmed on cabbage was also on small greenhouse plants. The characteristic leaf edge, V-shaped yellow spots were present with black veins observed in the area of the leaf edge lesions. Bacteria isolated were sent to the research bacteria pathogens lab at Auburn for fatty acid analysis to confirm our diagnosis. Results of the analysis did confirm black rot as the problem. In a greenhouse, diseased plants should be removed and destroyed. Kocide or other copper sprays will help to give protective disease control.

The anthracnose diseases seen on cucurbits and soybean exhibit somewhat different symptoms. Anthracnose diseases are usually leaf spot/foilage blight diseases, and all anthracnose diseases are caused by similar types of fungi, recognized by the cup-shaped fruiting body they produce. Anthracnose diseases on cucumber, cantaloupe, and watermelon caused by *Colletotrichum orbiculare* develop as oval or irregular brown leaf spots that may become water-soaked and fall apart. Stem lesions may also occur. For disease control, sanitation, crop rotation, and protective fungicides are often recommended. On soybean, anthracnose (caused by *Colletotrichum truncatum*, and other species) develops as irregularly shaped brown areas on stems, petioles, and pods. During later stages of disease, lesions become large, and small black fruiting bodies (big enough to be seen with a visual exam) with tiny hair-like structures are abundantly scattered over the lesion surfaces. Disease management recommendations depend upon the particular situation. Purchase of healthy seed, deep plow of crop residue, and fungicide sprays may be recommended. See Ed Sikora for questions on controlling anthracnose of soybean.

Phytophthora root rot diseases appear similarly on most plants. Roots become brown with a water-soaked (wet) decay. After the roots die, the root tissues usually become dried. Herbaceous plant foliage will develop wilt, yellowing of lower leaves, and dieback. Woody plants typically show a yellowing of lower leaves and a dieback. Wilt does not always occur on woody plants. Leaf edge scorch is another foliage symptom that might occur as a result of Phytophthora root rot. Damaged plants should be removed. Wet soil conditions must be corrected. Phytophthora will become active and cause root disease during prolonged periods of wet soil conditions so removing the wet soil problem will prevent continued disease spread. In a landscape, removal of some root-associated soil may help, since Phytophthora spores may remain active in soil for a few years. Nurseries and greenhouses often use protective fungicide drenches to help prevent the spread of Phytophthora root rot disease. Some plant types are resistant to Phytophthora so

when available, resistant varieties or cultivars should be used.

Ascochyta is a fairly common cause of leaf spot disease on cotton. Leaf spots initially are small, pale brown, and circular. Spots may enlarge to become large dead areas (Spot center may become white or bleached out.) with irregular shape and dark brown borders. Brown stem cankers may also occur. Some infection sites become shredded and fall apart. The fungus is typically identified by the fruiting bodies (pycnidia) which contain small one or two celled, colorless spores. Check with Ed Sikora for comments on disease control.

On chrysanthemum, Ascochyta is reported to occur as (1) a blossom blight; (2) as a blossom blight, upper stem blight and leaf spot; or as a lower stem rot. Our plant sample showed 66% of the container plant to be dead. The other 33% of the plant showed live green upper stems and flowers, but symptoms of leaf edge scorch and mid or lower stem canker/decay was present. This mid or lower stem rot/canker disease is not common. A crown decay or lower stem decay has been reported to occur in California. The Ascochyta fungus was identified by its characteristic fruiting body (pycnidia) along with the one or two-celled small spores. Damaged plants such as the one we saw should be destroyed. Healthy plants could be protected by fungicide sprays of one of many fungicides labelled. See the AL Pest Management Handbook for the listing of fungicides.

We received two samples of large oak trees with branch samples showing dieback and leaf edge scorch. Dieback diseases of large trees can be difficult to diagnose. Dieback and leaf scorch may be the result of trunk or root damage which causes reduced water flow to the leaves. The fungus *Ceratocytis fagacearum* (oak wilt) or the bacterium *Xylella fastidiosa* (bacterial scorch) could cause a vascular disease (plugging of xylem vessels) that would produce dieback and scorch symptoms with tree death resulting. There are other factors that could cause the same dieback and scorch of foliage. Several fungal canker diseases, wood rots, and root rots could cause these symptoms. Drought or a fluctuating water table could cause oak trees to dieback with leaf scorch. Diagnosis of these problems is difficult, often due to the problems associated with collecting samples for large trees. Oak wilt (*C. fagacearum*) typically will cause a vascular brown streaking symptom where infection sites are located. Our two samples did not show vascular streaking, but it is possible that the vascular streaking (and plugging) was present at a low level on major branches or trunk areas where bark beetles may have introduced the fungus. Both oak samples were tested (ELISA) for the presence of the bacteria *Xylella fastidiosa* (bacterial scorch), and one sample (from Chilton County) tested positive for this bacteria. Testing involves ELISA testing of leaf petioles. *X. fastidiosa* is believed to be spread from diseased trees to healthy trees by leaf hoppers. Infected trees typically develop dieback and scorch during mid- to late

summer with older leaves showing symptoms before young leaves. The following spring, more dieback areas will be noticed in an infected tree. With both oak wilt and bacterial scorch diseases, the only effective control to prevent spread of disease is removal of the infected tree(s). Diagnosis of canker, wood, and root rot diseases requires that appropriate samples be sent for study. Sections of damaged wood or roots must be collected. See ANR-923 for more information on Armillaria root rot. Also, it is well-known that drought over the last several years has and is causing the decline of many oak trees. Unfortunately, the above problems usually require that the dying trees be removed.

Table 1. 2002 September Plant Diseases Seen In The Plant Diagnostic Lab At Auburn.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Arborvitae	Phoma Dieback	Russell
Begonia	Root Knot Nematode (<i>Meloidogyne</i>)	Cullman
Bermuda	Brown Patch (<i>Rhizoctonia</i>)	Montgomery
	Exserohilum Blight	Pike
Cabbage	<i>Alternaria brassicicola</i> Stem Blight	*
	Black Rot (<i>Xanthomonas campestris</i> pv. <i>campestris</i>)	*
Cantaloupe	Anthrachnose (<i>Colletotrichum</i>)	Geneva
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Mobile, Pike
Chrysanthemum	Ascochyta Stem Blight	*
Cotton	Suspect Ascochyta Leaf Spot	Henry
Crape Myrtle	Cercospora Leaf Spot	Montgomery
Cucumber	Anthrachnose (<i>Colletotrichum</i>)	Elmore
Daylily	Phytophthora Crown & Root Rot	*
Gardenia	Phytophthora Root Rot	*
Indian Hawthorn	Cercospora Leaf Spot	Washington
Ivy	Phytophthora Root Rot	*

Juniper, Andorra		Cercosporella Blight Tuscaloosa
Leyland Cypress	Cercosporella Blight	Butler, Calhoun, Pike
	Phytophthora Root Rot	Calhoun
Oak, Sawtooth	Phomopsis Leaf Spot	*
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Oak, White	Xylella Bacterial Scorch	*
Peanut	Diplodia Collar Rot	Escambia
	Early Leaf Spot	Henry
	Late Leaf Spot	Baldwin
	Pepper Spot (<i>Leptosphaerulina</i>)	Henry
	Rhizoctonia Root Rot	Escambia
	Rust (<i>Puccinia</i>)	Baldwin
	Tomato Spotted Wilt Virus	Escambia, Henry
Pepper	Phoma & Fusarium Stem Blight	Macon
Rose	Common Canker (<i>Coniothyrium fuckelii</i>)	Colbert
Soybean	Anthracnose (<i>Colletotrichum</i>)	Pickens
	Charcoal Rot (<i>Macrophomina</i>)	Pickens
	Pod & Stem Blight (<i>Diaporthe phaseolarum</i> var. <i>sojae</i>)	Pickens
Sweet Potato	Fusarium Surface Rot	Choctaw
Tomato	Bacterial Spot (<i>Xanthomonas axonopodis</i> pv. <i>vesicatoria</i>)	Lee
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	Coffee

*Locations are not reported for nursery and greenhouse samples.

Birmingham Plant Disease Report-September (J. Jacobi)

September rainfall and temperatures were much above normal. The reported rainfall total was 9.95 inches at the Birmingham International Airport (5.90 inches above normal). Some of the more unusual diseases seen last month included: rust on native azalea, leaf and sheath blight on bermudagrass, foliar nematodes on royal fern, and root knot nematode on impatiens. The lab received 96 samples during the month of September.

Leaf rust was seen on a new planting of native azaleas at the Birmingham Botanical Gardens. Rust (*Pucciniastrum vaccinii*) can be a serious disease on deciduous azaleas where the alternate host, hemlock, is present. Small, yellow flecks or spots on the upper leaf surface are the first symptom of rust. Small yellow to orange pustules develop on the lower surface of the leaf in late summer or early fall. Considerable defoliation can occur on susceptible azaleas. Refer to extension publication ANR-484, Controlling Insects and Diseases on Azaleas and Rhododendrons, for more information.

With the heavy rainfall and overcast conditions during late September, we have seen large patches of brown patch on zoysiagrass and St. Augustinegrass in the last few weeks. Heritage, Prostar and Bayleton have performed best in University Research Studies. Research by Dr. Ned Tisserat at Kansas State University has shown that spray volumes of at least 2.5 gallons/1000-sq. ft. are needed for best control. In most studies one application in fall provided excellent control of brown patch. Refer to fact sheet ANR-492 for a complete discussion of this disease.

Table 2. 2002 September Diseases Seen In the Birmingham Plant Diagnostic Lab.

<u>Plant</u>		<u>Problem</u>	<u>County</u>
Azalea	Lacebugs		Jefferson
	Phomopsis Dieback		Shelby
	Phytophthora	Root Rot,	Poor Drainage
Jefferson			
	Tip Midge		Jefferson
Azalea, Native	Rust		Jefferson
Basil			Rhizoctonia Stem & Root RotShelby
Bentgrass	Anthracnose		*(2)

Pythium Root Rot

*

<u>Plant</u>		<u>P r o b l e m</u>
<u>County</u>		
Bermudagrass	Leaf & Sheath Blight (<i>Rhizoctonia zeae</i>)	Jefferson
	Low pH	Jefferson
	White Grubs	Jefferson
Boxwood, Common	Volutella Blight	Jefferson
Boxwood, Dwarf English	Phytophthora Root Rot	Jefferson
Cherrylaurel	Southern Red Mites	Jefferson
	White Peach Scale	Jefferson
Cleyera	Phytophthora Root Rot, Poor Drainage	Jefferson
Cotoneaster	Lacebugs	Jefferson
	Phyllosticta Leaf Spot	Jefferson(2)
Crape Myrtle	Aphids/Sooty Mold	Jefferson
Cypress, Leyland		S e r i d i u m C a n k e r Jefferson
Dogwood, Flowering		P o w d e r y M i l d e w Jefferson
Dogwood, Kousa	Leaf Scorch (Drought)	Jefferson
Dogwood, Red Twig		S e p t o r i a L e a f S p o t Jefferson
Eleagnus	Southern Red Mite	Shelby
Euonymus	Anthracnose (<i>Colletotrichum</i>)	Jefferson
	Euonymus Scale	Jefferson
Fern, Royal	Foliar Nematodes	Jefferson
Franklin Tree	Mites	Jefferson

Hickory	Gnomonia Leaf Spot	Jefferson
<u>Plant</u>		<u>P r o b l e m</u>
<u>County</u>		
Hydrangea	Cercospora Leaf Spot	Jefferson
Ivy	Phytophthora Leaf & Stem Rot	Jefferson
Leucothoe, Drooping 'Rainbow'	Cercospora Leaf Spot	Jefferson
Impatiens	Root Knot Nematode (<i>Meloidogyne</i>)	Jefferson
Myrtle, Wax	Botryosphaeria Canker	Jefferson(2)
Oak, Black	Hypoxylon Canker	Jefferson
Oak, Shumard	Vein Pocket Galls	Jefferson
Oak, Southern Red		Hypoxylon C a n k e r Jefferson
	Powdery Mildew	Shelby
Pear, Callery	Fire Blight	Jefferson
Sugarberry	Asian Woolly Hackberry Aphid/Sooty Mold	Jefferson
Tomato	Brown Patch	Jefferson
	Tomato Fruitworm/Early Blight	Jefferson

*Locations are not reported for nursery and greenhouse samples.

Disease Possibilities For October

Disease plant samples usually decline in October. As temperatures drop, the summer field and garden crop season is largely over, and the fall-winter plantings of small grains have not yet begun or are just beginning. But, we still commonly see forage problems, landscape ornamental problems, greenhouse/nursery crop problems, vegetables from fall gardens, and field plantings of vegetables in the southern-most sections of the state. With ornamentals, watch for black root rot on pansies. Also, *Myrothecium* crown rot may be a problem. See page 21 for more on pansy diseases.

Cercospora or *Cercospora* leaf spots are a common problems on turnips and other crucifers in the fall. Leaf spots are circular or angular, cream or light brown-colored. Spotting may be severe.

Control involves sanitation. Some crucifers can be treated with copper preparations. See the 2002 Vegetable Spray Guide.

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

Table 3. Disease Description and Brief Control Comments on Some Common Diseases Seen in October.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Arbor-vitae	Cercosporella Blight	Infection usually begins with lower, inner foliage where needles become brown and fall off. Microscopic study usually allows for spore observations.	Sanitation and Cleary's 3336 helps control the disease.
	Pestalotia Blight	Brown dying sections of foliage, stress related.	Sanitation; Cleary's 3336; Remove stress condition.
	Phoma Blight	Tip dieback.	Sanitation; Cleary's 3336 may give protective control; eliminate stress situations.
Aster	Rust		Small yellow leaf spots followed by

s m a l l
o r a n g e -
c o l o r e d
p o w d e r y
m a s s e s t h a t
d e v e l o p i n
c e n t e r s o f
t h e s p o t s .
E v e n t u a l l y ,
s p o t s t u r n
b r o w n . I f
d i s e a s e i s
s e v e r e ,
i n f e c t e d
l e a v e s w i l l
t u r n
c o m p l e t e l y
b r o w n .

Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Aucuba	Botryosphaeria Blight	Black elongated lesions on stems cause a dieback. Also, black irregular lesions may develop on leaves.	Sanitation; Cleary's, Domain or a benomyl labelled on ornamentals may help.
Azalea	Cercospora Leaf Spot	Brown circular or angular leaf spots of variable size.	See the Ala. Pest Management Hand-book under Rhizoctonia web blight.
	Colletotrichum Leaf Spot	Brown circular-irregular spots (2-3 mm diameter).	Sanitation; usually this is a stress related problem which develops in the fall.

	Phomopsis Canker	B r o w n , s u n k e n , e l o n g a t e d s t e m l e s i o n s .	Pruning 3 i n c h e s b e y o n d t h e c a n k e r m a r g i n s . C l e a r y ' s p r o t e c t i v e s p r a y s a f t e r p r u n i n g m a y h e l p .
	Phytophthora Root Rot	B r o w n , w a t e r - s o a k e d r o o t d e c a y .	Sanitation; p r o t e c t i v e f u n g i c i d e t r e a t m e n t s . S e e A N R - 5 7 1 .
A z a l e a L i n e r s a n d C o n t a i n e r s	Rhizoctonia Root Rot	B r o w n , d r i e d d y i n g r o o t s .	Sanitation. S e e A l a . P e s t M a n a g e m e n t H a n d b o o k .
	Phytophthora Root Rot	B r o w n , w a t e r - s o a k e d d y i n g r o o t s .	Sanitation. S e e A l a . P e s t M a n a g e m e n t H a n d b o o k .
Begonia	Pythium Root Rot	R o o t s b e c o m e l i g h t b r o w n , w a t e r - s o a k e d , d e c a y e d . P l a n t f o l i a g e w i l l w i l t , y e l l o w , a n d d i e b a c k .	Sanitation. S e e t h e A L P e s t M a n a g e m e n t H a n d b o o k .
Bentgrass	<i>Bipolaris cyanodontis</i> Leaf Spot	S m a l l , n a r r o w (1 m m x 2 - 3 m m) b r o w n s p o t s o n g r a s s b l a d e s w h i c h w i l l c a u s e b r o w n i n g o f w h o l e l e a f b l a d e w h e n s p o t s a r e	numerous.

See the Ala.
P e s t
Management
Hand-book.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Blight	Patches of turf become water-soaked and brown.	See the Ala. P e s t Management Hand-book.
	Rhizoctonia Blight	F o l i a g e blight.	See the Ala. P e s t Management Hand-book.
	S p i r a l Nematode Damage	Patches of turf yellow and dieback; roots are p o o r l y developed with poor feeder root development.	M a i n t a i n good turf. Management practices. See ANR-523. There are no pre- or post p l a n t nematicides labelled for home use except for Clandosan. See the AL Pest Manage- m e n t Handbook.
Bermuda	Bipolaris a n d Helminthosporium Leaf Spot (Drechslera)	S m a l l , narrow (1 mm x 2-3 mm) brown spots on grass blades which will cause browning of whole leaf blade when spots are numerous.	See the Ala. P e s t Handbook.
	Dollar Spot (Sclerotinia)	Spot-areas b e c o m e blighted.	B l e a c h e d leaf spots with dark

borders are usually evident. Sometimes tiny black, flat sclerotia are present at the base of leaves.

See the Ala. Pest Management Hand-book.

R i n g
N e m a t o d e
(*Criconemoides*)

Patches or areas of turf become yellowed.

See the Ala. Pest Management Hand-book.

R u s t
(*Puccinia*)

Orange, powdery dusting on leaves; affected areas develop into brown blotches.

See ANR-621 and the Ala. Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Bermuda , Coastal	Helminthosporium Leaf Spot	Small , narrow (1 mm x 2-3 mm) brown spots on grass blades which will cause browning of whole leaf blade when spots are numerous.	Frequent cutting; maintaining good fertility, especially with potassium levels.
Blackberry	Coniothyrium Cane Blight	Reddish brown sunken lesions.	Sanitation.
	Septoria Leaf Spot	Circular or almost circular	cream colored spots with

red borders.	Sanitation. See the Ala. P e s t Management Handbook.		
Boxwood	Macrophoma Leaf Spot	Leaves turn yellow with numerous small black spots; leaf drop follows; dieback.	Follow recommended horticultura l practices to maintain healthy boxwoods. Prune out dieback areas of plant. See the AL Pest Management Hand-book.
	Volutella Blight	Brown stem cankers and leaf blight; orange wet spore masses.	Sanitation; Cleary's 3336; remove stress.
Cactus, Christmas	Fusarium Crown Rot	Lower trunk becomes decayed with brown dried tissues.	Sanitation. Do not save soil.
Calendula	R u s t (<i>Coleosporiu m</i>)	Yellow - orange brown spots (0.3- 0.8 cm diam.) with a yellow halo of 1-2 mm wide.	Removal of calendula from close proximity to black pine and Scots pine (alternate hosts) may help.
Camellia Japonica	C a n k e r (<i>Glomerella cingulata</i>)	Sunken elliptical- oval shaped lesions on branches;	dieback.

Pruning off dieback branch sections. Cleary's 3336 or Halt will provide protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cedar	Armillaria Root Rot	Rapid or slow dieback; thin white mycelial mat under bark at soil line; thin black threads may be present under bark.	Sanitation.
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Browning patches in lawn; brown, irregular leaf spots.	Sanitation; See Ala. Pest Management Handbook.
	Take-All Patch (<i>Gaeumannomyces</i>)	Areas or patches of turf become thinned as individual plants yellow and die.	See the Ala. Pest Management Hand-book.
Chrysanthemum	Alternaria Blight	Dark brown, irregular spots on foliage.	Sanitation; See Ala. Pest Management Handbook.
	Fusarium	Crown Rot	Lower stem

becomes reddish brown, dried and dead; lesion may be one-sided on stem or may extend around entire stem.

Sanitation;
See Ala. Pest Management Handbook under Fusarium wilt.

Stem Blight, *Pseudomonas syringae* and *Erwinia carotavora*.

Black, wet rotting of stem.

Strict Sanitation.

Coleus

Anthrachnose (*Colletotrichum*)

Circular-irregular brown lesions on foliage.

Sanitation; Cleary's 3336.

Collards

Alternaria Leaf Spot

Irregular, medium-brown spots (3 x 6 mm) on foliage.

Sanitation; rotation.

Black Rot (*Xanthomonas*)

Black V-shaped lesions on leaf edges; internal, black rot of lower stem.

See AL Pest Management Handbook.

Plant

Disease

Description

Control

Cercospora Leaf Spot

Irregular, light brown spots (3-10 mm diam.) on foliage.

Sanitation; rotation.

Crape Myrtle

Cercospora Leaf Spot

Brown angular leaf spots of

variable size.

Sanitation
and
protective
sprays of
Cleary's
3336.

Cucumber	Downy Mildew (<i>Pseudoperonospora</i>)	Irregular yellow spots with indefinite margins on upper leaf surfaces. When conditions are humid, a gray fungal webbing may be seen on lower leaf surfaces (under yellow spots) with a hand lens.	Sanitation. See the AL Pest Management Handbook.
Cypress, Leyland	Cercospora (Asperisporium or Cercospora) <i>sequoiae</i> Lower Limb/Needle Blight.	Lower limbs browned in spots with abundant (microscopic) sporulation of <i>C. sequoiae</i> .	Sanitation.
	Seiridium Canker	Sunk lesion on stem/branches.	Sanitation.
Daylily	Rust (<i>Puccinia hemerocallidis</i>)	Leaves develop small yellow spots or flecks. Yellow spots become covered with orange powdery	masses. Leaves eventually die.

Sanitation.
 Banner Maxx
 or Heritage
 are effective
 fungicides for
 protective
 disease control
 in commercial
 situations.
 In home-owner
 situations,
 Ferti-loam
 System Fungicide
 and Spectricide
 Immunoz may
 be applied to help
 provide protective
 disease control.

Dianthus	Pythium Crown Rot	Lower stem becomes dark, and water-soaked.	See the Ala. Pest Management Hand-book.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rhizoctonia Crown Rot	Lower stems become brown and dry rotted.	Sanitation. See the Ala. Pest Management Handbook.
Dogwood	Cercospora Leaf Spot	Small (3-5 mm), brown, irregular spots scattered over leaf	surfaces.

Sanitation.

	Phyllosticta Leaf Spot	Small, light brown, cream- colored spots with dark brown borders develop on leaves.	Sanitation.
Eleagnus	Phytophthora Root Rot	Roots become brown, water- soaked, and decayed. Foliage develops dieback and older leaves turn yellow.	Sanitation. Correct wet situations. Subdue may be used in nursery situations, following label directions.
Elm	Powdery Mildew (<i>Phyllactinia</i> or <i>Uncinula</i>)	White, powdery dusting on leaves.	Sanitation of leaves in the fall.
Euonymus	Crown Gall (<i>Agrobacteri- um tumefaciens</i>)	Woody irregular gall that encircles lower stem area.	Sanitation; crop rotation.
Fatsia	Phytophthora and <i>Pythium</i> Root Rot	Roots become brown and water- soaked; the outer cortex will slip easily off the root central cylinder.	Sanitation; remove wet conditions.
Fescue	<i>Helminthosporium</i> Leaf Spot	Small, brown elongated spots (1 or	2 x 3 or 4 mm).

See the Ala.
P e s t
Management
Hand-book.

Fern, Boston	Pythium Root Rot	Outer root c o r t e x easily slips from inner core; plants yellow and dieback.	Sanitation. See Ala. P e s t Management Handbook.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Fig	Anthracnose (<i>Colletotric hum</i>)	Circular - a n g u l a r brown leaf spots.	Sanitation.
	Cercospora Leaf Spot	B r o w n angular leaf spots of variable size.	Sanitation.
Gardenia , Dwarf	Phytophthora Root Rot	Roots become b r o w n , w a t e r - soaked, and rotted ; f o l i a g e dieback.	Sanitation ; remove wet conditions. See AL Pest Management Handbook.
Grape	P h o m o p s i s Leaf Spot	Light green or yellow circular - irregular spots with d a r k centers ; shot holes.	Sanitation ; captan or m a n e b product may be used for protective control . See AL Pest Management Hand-book.
Holly	Botryosphaer ia Canker/Dieba	ck	S u n k e n , c r a c k e d lesions with

brown decay under bark.	Sanitation.		
	Oedema	Small (1-2 mm), raised, corky, light-medium brown spots on lower leaf surfaces.	Reduce watering during cloudy weather; improve soil drainage.
	Phyllosticta Leaf Spot	Small (2-4 mm diam.) irregular or circular brown leaf spot.	Sanitation; See Ala. Pest Management Handbook.
Holly, Japanese	Black Root Rot (<i>Thielaviopsis basicola</i>)	Roots develop black lesions and root tips; plants show poor growth and development; yellowing of lower foliage.	Sanitation. See AL Pest Management Handbook.
Hollyhock	Pythium Root Rot	See comments for Dianthus.	Sanitation. Improve soil drainage.
	Rhizoctonia Root Rot	See comments for Dianthus.	Sanitation; Cleary's 3 3 3 6 protective drenches.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Hosta	Root-Knot Nematode (<i>Meloidogyne</i>)	Plants grow poorly. Root galls evident.	Solarization of the area before replanting.

Hydrangea	Cercospora Leaf Spot	B r o w n angular leaf spots of variable size.	Sanitation. See the Ala. P e s t Management Handbook.
	Alternaria Leaf Spot	Brown oval leaf spots.	Sanitation.
Impatiens	P y t h i u m Crown Rot	Lower trunk becomes brown and soft - decayed.	Sanitation; correct wet soil problem; see Ala. Pest Management Handbook.
I r i s , Japanese	Rhizoctonia Root Rot	Brown, dry root lesions and root rot develops.	Sanitation. P C N B , Cleary's 3336, or Halt may help provide protection from infection.
Ivy, English	Anthracnose (<i>Colletotric hum</i>)	I r r e g u l a r brown leaf spots (3-10 mm diam.) and dark b r o w n elliptical lesions on stems.	Sanitation; See Ala. P e s t Management Handbook.
	Phytophthora Stem, Root, and Leaf Rot	B r o w n , water-soaked dying stems, roots, leaf area.	Sanitation. See the Ala. Pest Manage- m e n t Handbook.
Juniper	Pestalotia Blight	Sections of foliage turn brown and dead; stress related.	Sanitation; <u>remove</u> <u>stress</u> <u>condition.</u>

Phomopsis Tip Blight	Tip ends of branches turn brown. Blight moves from twig tips into inner foliage. Lower foliage may be affected first; seen more in nurseries than landscapes.	Sanitation; Cleary's 3 3 3 6 protective sprays. See the Ala. Pest Management Handbook.
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phytophthora Root Rot	Feeder roots become brown and wet rotted. They eventually dry out.	Sanitation. Solarization before replant may help. Improve water drainage.
	Seiridium Canker	Sunken, brown lesion on branches.	Pruning 3-4 inches beyond the edge of canker; after pruning, protective Cleary's sprays may help.
Kiwi	Alternaria Leaf Spot	Brown, irregular, small-large (2-5 mm spots).	Sanitation.
Leucothoe	Phytophthora cinnamomi Root Rot	Roots develop a brown,	water-soaked root decay. Plants

develop dieback and yellowing of lower foliage.	Sanitation. Remedy wet soil conditions.		
Loquat	Anthracnose (<i>Colletotrichum</i>)	Brown irregular-circular spots on leaves and stems; some large blotch areas along veins.	Removal of fallen leaves; pruning of disease stem areas; Cleary's protective sprays.
Magnolia, Japanese	Powdery Mildew	Leaves develop a powdery white dusting or coating on upper leaf surfaces or young twig surfaces, buds. New leaves may be distorted.	Sanitation of fallen leaves. Prune to help decrease humidity levels.
Magnolia, Southern	Phyllosticta Leaf Spot	Circular to oval light colored spots with dark brown margins.	Sanitation. See the AL Pest Management Handbook.

Plant Disease Description Control

	Pythium Root Rots	Roots become light brown, water-soaked, rotted. Foliage shows wilt, dieback, yellowing of older leaves, leaf edge scorch.	Sanitation. Reduce soil water levels. See the AL Pest Management Hand-book.
	Rhizoctonia Root Rot	Roots become brown and dry rotted. Foliage shows wilt, dieback, yellowing of older leaves, leaf edge scorch.	Sanitation.
Maple	Anthracnose (<i>Colletotrichum</i>)	Irregular, spreading, brown lesions on leaves and small twigs. Leaf lesions may occur and develop along veins.	Collect and remove all fallen leaves. Protective fungicides used only when trees are small.
	Cristulariella Zonate Leaf Spot	Brown-gray zonate circular-oval leaf spots.	Sanitation in the fall.
	Phyllosticta Leaf Spot	Circular brown spots with dark brown or purple margins.	Sanitation in the fall.
Maple, Red	Tar Spot (<i>Rhytisma</i>)		Black, hard,

irregularly-shaped leaf spots.	Sanitation.		
Marigold	Alternaria Leaf Spot	Angular or round black spots.	Sanitation.
Monkeygrass	Anthracnose (<i>Colletotrichum</i>)	Brown blotches on leaves; sometimes blotches begin at leaf tips; black fruiting bodies may be visible as tiny black dots in lesions.	Sanitation; Cleary's 3336 or Domain protective sprays.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Muscadine	Anthracnose (<i>Colletotrichum</i>)	Circular gray-white spots with black margins; shot holes.	See AL Pest Management Handbook.
Mustard	Cercospora Leaf Spot	Light brown, irregular spots (3-10 mm) on foliage.	Sanitation; rotation.
Oak	Fusiform Rust (<i>Cronartium quercuum fusiforme</i>)	Small, black, circular spots develop on leaves. In the spring, tiny orange spore masses (aeciospores) develop on the surface of leaf	spots. Also brown thread-like structures (teliospores) protrude from the spots on lower leaf surfaces in early-mid summer.

Sanitation
of fallen
leaves ;
removal of
infested
pine trees
or branches
with canker.

Oak, Pin	Xyllella Scorch Disease	Dieback with leaf edge scorch.	Sanitation.
Oak, Red	Hypoxylon Canker	Hard gray or black fungal bodies (flattened, thick, stromatic masses of fungal tissue (stroma)) develop under the bark on trunks or branches. The swollen stromatic growth causes bark to break apart and fall off of tree, exposing the gray or black, hard stroma.	Sanitation.
Oak, Water	Botryodiplod ia Canker	Sunken, elliptical-	oval lesions,

often with
cracked
margins.

Sanitation.
Make cuts
approximately
4 inches
beyond the
edge of the
cankers.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Taphrina Leaf Blister	Light brown or gray, puckered leaf spots or 'blisters'.	Sanitation. See the AL Pest Management Handbook.
Okra	Alternaria Leaf Spot	Brown , circular- oval leaf spots.	Sanitation.
Orchid , <i>Oncidium sp.</i>	Colletotrich um Leaf Spot	Brown irregular spots.	Sanitation; Cleary's 3336.
Pansy	Anthracnose (<i>Colletotric hum</i>)	Brown stem lesions (cankers) on lower stems. Also brown circular- irregular leaf spots of variable size.	Sanitation; See the Ala. Pest Management Handbook.
	Cercospora Leaf Spot	Leaf spots are black, circular areas of feathery patterned discoloratio n.	Sanitation.
	Myrothecium Crown Rot	Crowns brown and decaying with tiny	black capped white spore masses.

Sanitation.
See A.
Hagan.

	Pythium Crown Rot and Root Rot	Light-medium brown, water-soaked crowns and roots.	Sanitation; See Ala. Pest Management Handbook.
	Phytophthora Root Rot / Crown Rot	See e description for Pythium	See Pythium.
	Thielavopsis Root Rot	Black spots (lesions) on roots.	Sanitation; Cleary's 3 3 3 6 protective treatment.
Pear	Anthracnose Fruit Rot (<i>Colletotric hum</i>)	Sunken spots.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pecan	Powdery Mildew	White or light gray- colored dusting or coating of upper leaf surfaces, twig tips, and buds. Infected areas become blighted. Some leaf deformity of new leaves.	Sanitation of fallen leaves in the fall. See the AL Pest Manage- ment Handbook.

	S c a b (<i>Cladosporium</i>)	Spots begin an olive roughened spots. Older spots are brown-black colored, again with a roughened surface.	See ANR-50 (Homeowners) or AL Pest Management Handbook.
Peony	Leaf Spot (<i>Cladosporium</i>)	Spots begin an olive roughened spots. Older spots are brown-black colored, again with a roughened surface.	Sanitation. Cleary's 3336 or Halt will provide some protective disease control.
Pepper	Early Blight (<i>Alternaria</i>)	Circular-oval brown lesions; sometimes zonate.	See AL Pest Management Handbook.
Periwinkle (<i>Vinca</i>)	Stem Canker (<i>Colletotrichum</i>); May be secondary	Sections of lower stems become brown and dead.	Sanitation; Cleary's 3336.
	Pythium Root Rot	Roots become brown, soft & rotted.	Sanitation.
	Phytophthora Aerial Blight	Sections of foliage become blighted. Stems develop brown lesions.	Sanitation.

	Phytophthora Root Rot	Roots become brown, soft and rotted.	Sanitation.
<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
P i n e , Virginia	<i>Lophodermium</i> (<i>Ploioderma</i>) Needle Cast	O l d e r needles turn brown and drop; very small (1-2 mm or 1/32 i n c h) f o o t b a l l s h a p e d , b l a c k f r u i t i n g b o d i e s develop on b r o w n i n g needles.	Protective fungicide sprays in the fall & spring. See Ala. Pest Management Hand-book.
Poinsettia	Bacterial (<i>Erwinia</i>) Stem Rot	B l a c k , water-soaked spots or lesions on s t e m s . Lesions may g i r d l e stems.	Sanitation; pot-level irrigation; See Ala. P e s t Management Handbook.
	<i>Fusarium</i> Root and Lower Stem Rot	Roots and lower stems b e c o m e reddish- brown, dried and dead.	Sanitation; B a n r o t drenches.
	<i>Pythium</i> Stem and Root Rot	Lower stems and roots b e c o m e m e d i u m brown, soft, watersoaked and rotted.	See Ala. Pest Manage- m e n t Handbook.
	<i>Rhizoctonia</i> Stem Rot &	Root Rot	Lower stems develop dry,

medium-dark
brown
surface
lesions;
roots may
become brown
and dried.

See Ala.
Pest
Management
Hand-book.
Use Cleary's
3336 or
Topsin M.

Rhizopus
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.P
oplar

Anthracnose

Brown,
circular-
irregular
leaf spots
which may
follow along
leaf veins.

Sanitation
of fallen
leaves in
the fall.

Pumpkin

Fusarium
Fruit Rot

Brown,
sunken, soft
rot with
white-orange
fluffy
fungal
growth.

Sanitation.
Crop
rotation
away from
pumpkin.

Plant

Disease

Description

Control

Gummy Stem
(*Mycosphaere
lla*)

Brown,
cracked,
oozing
lesions on
stems.

At this time
of year,
sanitation,
rotation.

	P a p a y a R i n g s p o t V i r u s	Mosaic on leaves and fruits; abnormal leaf development.	Sanitation. Crop rotation away from cucurbits.
	Plectosporium Blight	Light brown, corky, raised, irregularly- shaped lesions on fruit, stems, petioles.	Sanitation. Quadrise alternated with Bravo Ultra provided some disease control (E. Sikora).
	Powdery Mildew (Erysiphe)	White, dusty coating on leaves, stems, fruit.	At this time of year, sanitation, rotation.
	Pythium Fruit Rot	Watery soft rot.	Sanitation. Avoid wet planting areas.
	Watermelon Mosaic Virus II	Mosaic pattern.	Sanitation; control aphids.
Rhododendron	Cercospora Leaf Spot	Relatively large (5-15 mm diam.) irregular, brown spots.	Sanitation; Use Cleary's 3336 or Topsin M or a WP benomyl (not Benlate).
	Phytophthora Crown Rot	Dark brown, wet decay at lower stem area.	Sanitation. See Ala. Pest Management.
	Pythium Crown Rot	Dark brown, wet decay at lower stem area.	Sanitation. See Ala. Pest Management Handbook.
Rose	Black Spot	(Diplocarpon rosa)	

Black ,
 circular
 spots with
 irregular
 (feathery)
 edges ;
 spotted
 leaves turn
 yellow and
 drop.

Sanitation
 of fallen
 leaves. See
 ANR-401 and
 the AL Pest
 Management
 Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Cercospora Leaf Spot	B r o w n angular leaf spots of variable size.	Sanitation; See the Ala. P e s t Management H a n d b o o k under black spot.
	Phomopsis Cane Canker	B r o w n s p i n d l e - s h a p e d s u n k e n lesions.	Sanitation.
Sorghum , Grain	Fusarium Head Blight	Infection of the panicle branches causes their collapse and wilt and eventual death.	--
	Gray Leaf S p o t (<i>Piricularia</i>)	Small red spots on l e a v e s become large red blotches and leaf death may result.	Sanitation; c r o p rotation.
Soybean	Anthracnose (<i>Colletotric</i>	<i>hum</i> <i>truncatum</i>)	Irregularly shaped brown

blotches on stems, pods, leaves sometimes with tiny black specks.

Use disease free seed. Deep plow crop residues.

Pod & Stem Blight (*Diaporthe phaseolarum*; *Phomopsis sojae*)

Large areas of lower stem and petioles & pods become brown and eventually tiny black bodies develop in linear rows.

Plant disease-free seed. Crop rotation or deep plowing of residue. Consult resistance differences among cultivars.

Squash, Summer

Potato Virus Y - fruit sample (ELISA test)

Fruit was small and mosaic present. Only fruit was seen.

Sanitation. Control of aphids may help some.

Watermelon Mosaic Virus II - fruit sample (ELISA test)

Yellow-green mosaic patterns on fruit.

Control aphids; Do not save seed (There is some evidence that seed transmission may occur in some situations.)

Plant

Disease

Description

Control

St. Augustine

Brown Patch (*Rhizoctonia*)

Browning patches in lawn; brown irregular leaf

spots/blotches on grass blades.

See the Ala.
P e s t
Management
Hand-book.

Gray Leaf
S p o t
(*Piricularia*
)

G r a y
irregular
spots of
variable
size. Whole
leaf blades
may be
blighted.

See the Ala.
P e s t
Management
Hand-book.

Take - All
Patch
(*Gaeumannomy-
ces*)

Individual
grass plants
become
yellowed and
die. Areas
of turf
yellow and
thin out.

See ANR-823,
Take - All
Root Rot, A
New Disease
of St.
Augustine.

Strawberry

Anthracnose
(*Colletotric-
hum*)

Fruit rot
begins as
tan or
brown,
water-soaked
lesions on
unripe or
ripe fruit.
Pink or
cream-
colored
spore masses
may cover
the lesions.
Fruits may
dry and
become
shriveled
and hard.
One species
of
*Colletotrich-
um* will
cause both
fruit rot
and stolon,
crown
rotting, and

leaf spot.
Stolons
develop
brown-black,
sunken
lesions
which cause
subtended
plant parts
to die.
Petioles
develop
similar
lesions.
Crown
rotting
appears as a
red-brown
firm rot or
red-brown
streaking.
Plants with
crown rot
typically
wilt and
die. Leaf
spots are
black,

(some-times gray), 1-2mm diam., and may be numerous.

Sanitation.
See the Ala.
P e s t
Management
Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Phomopsis Leaf Blight	Spots begin as red-purple circular lesions, sometimes with gray centers. Later, three zones may develop in the spots with (1) the outer zone red, purple, or yellow; (2) the middle zone light brown in color; (3) and the central zone dark brown sometimes with black dots of fruiting bodies. Older spots along veins develop into V-shaped lesions. Usually this disease is of minor importance with older leaves becoming damaged	during late summer. Occasionally fruit rot may occur. Ripening or ripened fruit develop round, pink, water-soaked lesions that become brown and crusty with black dots (fruiting bodies).

Sanitation.
See the Ala.
P e s t
Management
Handbook.

Phytophthora & Pythium C r o w n Rot/Root Rot	A reddish- b r o w n decayed area in crowns develops. The roots typically develop a dark surface discoloratio n while the i n n e r tissues are r e d - discolored. Plants may be stunted, depending upon the severity of the crown, root damage. Wilting and dieback is a c o m m o n symptom.	--
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<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sweet Potato	Black Rot (<i>Ceratocystis</i> s)	Surface lesions are firm, black, dry. When wet, lesions appear greenish- black.	A v o i d w o u n d s . F o l l o w p r o p e r c u r i n g p r o c e d u r e s b e f o r e s t o r a g e .
	Fusarium Surface Rot	Surface lesions are initially circular, b r o w n	(l i g h t - dark), firm and dry. Lesions usually stop

at the vascular ring. In storage, affected roots become shrunken & hard. (This is distinguished from Fusarium root rot as root rot involves extensive areas of the internal tissues.)

Avoid wounding roots at harvest time.

Scurf (*Monilochaetes*)

At harvest, brown or black spots are noticed on the potato skin. Surface spots may merge so that the whole root surface is involved. Lesions do not extend below the outermost periderm layer. Scurfy sweet potatoes placed into storage may be okay or cracks may develop around the lesions. These cracks cause the root to dry-out and

shrink. Secondary decay organisms may become established in cracked areas.

Rotate area
away from
sweet
potatoes for
3-4 years.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Tomato	Anthracnose Ripe Rot (<i>Colletotric hum</i>)	Symptoms appear on ripe fruit as small, slightly depressed, circular spots. Lesions of normal coloration may enlarge to 12 mm diam., become more sunken with a concentric ring pattern. Tissue below the surface lesion is light colored and granular. Lesion surfaces eventually develop brown centers, sometimes with tiny black dots (sclerotia), and masses of orange	spores pustules. (Occasionall y leaf/stem spot [small circular spots with yellow halos] and a brown lesion root rot may occur.)

Sanitation.
See the Ala.
P e s t
Management
Handbook.

B a c t e r i a l
S p o t
(*Xanthomonas*
)

Small (1-4
mm diam.),
angular,
black water-
soaked spots
or dried
spots with
water-soaked
edges on
leaves. On
fruit, small
(2 - 4 m m)
s c a b b y ,
brown spots
develop.

Sanitation.
See the Ala.
P e s t
Management
Handbook.

Turnip

Alternaria
Leaf Spot

Gray-brown,
oval, or
slightly
irregular
s p o t s
appear.

Sanitation.
See the AL
P e s t
Management
Handbook for
commercial
r e c o m -
mendations.

Anthracnose
(*Colletotric*
hum)

Irregular,
medium-brown
spots (3-10
m m o r
larger) on
l e a v e s .
Sometimes
s p o t s
d e v e l o p
along veins.

Sanitation.
Rotation;
See comments
in the Ala.
P e s t
Management
Handbook.

Plant

Disease

Description

Control

B a c t e r i a l
Leaf Spot

Very small
(1 mm) dark,
water-soaked
angular -
circular
spots.

Sanitation.

	Black Rot (<i>Xanthomonas</i>)	Leaf edges develop V-shaped black spots; lower stem shows blackening of vascular system when stem is cut transversely	Sanitation; rotate out of crucifers 4-5 years.
	Cercospora Leaf Spot	White, tan, or light brown irregular spots, 2-10 mm diam.	See Ala. Pest Management Handbook; sanitation; rotation; copper sprays.
Willow	Cercospora Leaf Spot	Small circular, brown spots.	Sanitation of leaves in the fall. See the Ala. Pest Management Handbook.
	R u s t (<i>Melampsora</i>)	Rust-colored powdery spots that later become brown-colored.	Sanitation of leaves in the fall.
Zoysia	Brown Patch (<i>Rhizoctonia</i>)	See Centipede Brown Patch.	--
	Dollar Spot (<i>Sclerotinia homeocarpa</i>)	Small whitish spots in lawn. Individual leaves show bleached-out lesions with dark borders.	See ANR-493 or the Ala. Pest Management Handbook.

R u s t (<i>Puccinia</i> <i>zoysiae</i>)	Red-brown s p o r e p u s t u l e s s c a t t e r e d o v e r l e a f s u r f a c e s .	See AL Pest Manage-ment Handbook.
T a k e - A l l P a t c h (<i>Gaeumannomy</i> <i>ces</i>)	B l a c k l e s i o n s o n r o o t s . P l a n t s y e l l o w a n d d i e .	See ANR-823, Take-All on S t . Augustine Grass.

Lab Notes

Soil samples for nematode analysis should be submitted soon before freezing temperatures occur. Clients in the northern sections of the state, especially, should not delay in collecting these samples.