

TIMELY INFORMATION

Agriculture & Natural Resources

December 12, 2006

PP-618

NOVEMBER PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB

NOVEMBER PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

NOVEMBER INSECT REPORT FROM THE AUBURN PLANT DIAGNOSTIC LAB

DISEASE POSSIBILITIES FOR DECEMBER

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Auburn Plant Disease Report-November (J. Mullen)

In November, we received 40 plant samples for problem diagnosis. Due to the warm fall weather into late November, we continued to receive landscape, turf, and vegetable plants for problem diagnosis. Diseases included ring nematode damage on zoysia and centipede grass; suspect *Pseudomonas* bacterial canker on sunflower; *Cercospora* leaf spot (white spot) on turnips; suspect *Fusarium* crown rot on Liriope; *Pythium* root decay on Liriope; black rot on sweet potatoes; *Macrophoma* blight, *Volutella* dieback, and *Pythium* root rot on boxwood; take-all patch on St. Augustine grass; and *Cladosporium* leaf mold on tomato.

John Olive and I have been investigating what is probably a bacterial canker on sunflower. *Pseudomonas syringae* pv. *helianthi* has been reported as a leaf spot on sunflower, but I have not seen a report of a canker stem disease by this pathovar. I have heard reports of *Pseudomonas cichorii* on sunflower, but at this time I have not investigated the literature for details. Our gas chromatography analysis reported that our stem lesion

produced bacteria most similar to the *Pseudomonas syringae* pv. *syringae* pathogen. John McInroy at the Auburn research bacteria lab also did GC analysis of an isolate from the sunflower canker and his analysis produced the identification of *Pseudomonas cichorii*. John Olive and I agree the bacteria isolated is a fluorescent Pseudomonad. We have not done pathogenicity tests or further analysis as yet.

Crown rot on Liriope has been noted recently from various sources. Fungi isolated have been Pythium and/or Fusarium. (John Olive is familiar with many of the samples.) Work is in progress in Mobile to determine if one or both of these fungi are primary disease agents in these situations.

White spot (*Cercospora brassicae*) on turnips is a common disease at this time of year. Spotting may become severe. Disease control involves sanitation of badly damaged foliage (if possible) and application of protective treatments of copper (Top Cop Tribasic is labeled). Please note that copper formulations may burn the leaves in hot weather.

Black rot (*Ceratocystis fimbriata*) was detected on sweet potatoes in storage. Dark brown-black surface blotches were present. The decayed tissues did not extend into the roots beyond the vascular tissues. Culture work produced Ceratocystis-like isolates. Fusarium was not produced. Sanitation is an important part of disease control in storage. See ANR-917 for more information.

Boxwood shrubs with dieback and root decay were received at the lab. Exams and further laboratory work (cultures & ELISA) showed that Macrophoma blight (yellowed, reddish, or brown leaves with relatively large, black fungal fruiting bodies), Volutella dieback/blight (dieback, cankers, leaf blight with damaged plant parts being covered with the orange, moist, sporodochia small bodies of the fungus), and Pythium root decay (roots slightly brown and wet-deteriorated) were problems present. The above three fungi are often associated with stressed boxwoods. See the Alabama Pest Management Handbook for protective fungicides listed for Macrophoma and Volutella. For Pythium, reduce water levels and refer to the Alabama Pest Management Handbook under Phytophthora on boxwood. Sanitation of damaged plant material is always an important part of disease control.

Table 1. 2006 November Plant Diseases Seen In The Plant Diagnostic Lab at Auburn.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Boxwood	Macrophoma Leaf Blight	*
	Pythium Root Rot	*
	Volutella Dieback	*
<u>Plant</u>	<u>Disease</u>	<u>County</u>
Celosia	Fungal Leaf Spot/Blight	*
Centipede	Ring Nematode Damage (<i>Criconemoides</i>)	Montgomery
Liriope	Pythium Root Rot	Mobile
	Suspect Fusarium Crown Rot	*

<u>Plant</u>	<u>Disease</u>	<u>County</u>
St. Augustine	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Montgomery
Sunflower	Suspect Bacterial Canker (<i>Pseudomonas</i> sp.)	*
Sweet Potato	Black Rot (<i>Ceratocystis fimbriata</i>)	Baldwin
Tomato	Cladosporium Leaf Mold	Clay
Turnip	Cercospora Leaf Spot	Choctaw
Zoysia	Ring Nematode Damage (<i>Criconeoides</i>)	Cullman

*Counties are not reported for greenhouse, nursery, or golf course samples.

Birmingham Plant Disease Report-November (J. Jacobi)

We received 27 samples during the month of November. Some of the problems seen last month included Pestalotiopsis tip blight and dieback on arborvitae and juniper, spruce spider mites on arborvitae and cypress, and large patch (*Rhizoctonia*) on zoysiagrass.

Pestalotiopsis (or Pestalotia) tip blight is a relatively common problem on arborvitae and occasionally on juniper, Leyland cypress and other members of the cypress family. On arborvitae, the tips of the foliage turn brown to a sooty gray and have scorched appearance. Pestalotiopsis is primarily a secondary pathogen on dead and dying tissues and is weakly parasitic infecting wounds under moist conditions. Plants are predisposed to infection by drought, sunscald, winter injury, and other stress factors. With the increased popularity of arborvitae in recent years we have seen a corresponding increase in problems such as tip blight. Plant health care practices that minimize plant stress by utilizing proper planting, site selection, and watering practices will minimize future problems. Prune and discard infected foliage during dry weather.

Table 1. 2006 November Plant Problems Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Apple	Frogeye Leaf Spot (<i>Botryosphaeria</i>)	Jefferson
	Leafminer Damage	Jefferson
Arborvitae	Pestalotiopsis Tip Blight	Jefferson
	Spruce Spider Mite	Jefferson
Azalea	Phomopsis Dieback	Jefferson

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Bermudagrass	Bipolaris Leaf Blight	Jefferson
Boxwood, Dwarf English	Phytophthora Root Rot	Jefferson
Cypress, Hinoki	Spruce Spider Mite	Jefferson
Hickory	Heart Rot (<i>Phellinus</i>)	Jefferson
Juniper	Pestalotiopsis Dieback (Secondary)	Jefferson
Pear	Fire Blight (<i>Erwinia</i>)	Jefferson
St. Augustinegrass	Large Patch (<i>Rhizoctonia</i>)	Etowah

November Insect Report (C. Ray)

County	Crop	Category	Specimen Name
Tallapoosa	Home	Household-Miscellaneous	House Spider, <i>Achaeranea tepidariorum</i>
Tallapoosa	Home	Household-Miscellaneous	An Orb-Weaving Spider, <i>Eustala</i> sp.
Lee	Citrus	Fruits & Nuts	Spider Mites, Tetranychidae
Calhoun	Turnips	Row Crops	Yellow-Margined Leaf Beetle Larvae, <i>Microtheca ochroloma</i>
Talladega	Collards	Row Crops	Yellow-Margined Leaf Beetle, <i>Microtheca ochroloma</i>
Talladega	Collards	Row Crops	Yellow-Margined Leaf Beetle, <i>Microtheca ochroloma</i> , Striped Flea Beetle, <i>Phyllotreta</i> sp., Diamondback Moth Caterpillar, <i>Plutella xylostella</i> , Green Peach Aphid, <i>Myzus persicae</i>
Houston	School	Household-Miscellaneous	Southern House Spider, <i>Kukulcania hibernalis</i>
Lee	Wool Carpet	Stored Products	Varied Carpet Beetle, <i>Anthrenus scrophulariae</i>
Marengo	Coleus	Ornamental	Citrus Mealybug, <i>Planococcus citri</i>

County	Crop	Category	Specimen Name
Montgomery	Centipede grass	Turfgrass	Ground Pearls (Margarodidae), Rhizoecus Mealybugs, (Possibly <i>Rhizoecus floridanus?</i>), Chlorizococcus Mealybug?, (<i>Chlorizococcus</i> sp.?), Bermuda Grass Scale, <i>Odonaspis ruthae</i>
Montgomery	Bermuda Grass	Turfgrass	Chinch Bugs, <i>Blissus</i> sp., & Ground Pearls (Margarodidae)
Jefferson	Arborvitae	Ornamental	Least Cypress Scale, <i>Carulaspis minima</i> , Maskell Scale, <i>Lepidosaphes pallida</i> & Spider Mites (Tetranychidae)
Clay	Tomato	Row Crops	Sweet Potato Whitefly, <i>Bemisia tabaci</i>
Calhoun	Heartnut	Fruits and Nuts	White Peach Scale, <i>Pseudaulacaspis pentagona</i> and San Jose Scale, <i>Quadraspidotus perniciosus</i>
Butler	Home	Household-Medical	Dust Mites, <i>Dermatophagoides</i> sp., Fur Mites (Listrophoridae), Tarsonemid Mites (Tarsonemidae), Ascid Mites (Ascidae), Cryptognathid Mites (Cryptognathidae), Mange Mites, <i>Sarcoptes</i> sp., Scab Mites (Psoroptidae)

Disease Possibilities For December

Our usual December diseases include black rot (*Xanthomonas campestris*) and Cercospora or Cercospora leaf spots on crucifers in the southern sections of the state. Also, Drechslera and/or Bipolaris leaf spots are seen on small grains and forages including oats, wheat, fescue, rye and also ryegrass. Of course, greenhouse plant diseases develop every month of the year. Pansy diseases are also commonly seen, especially anthracnose, Pythium crown and root rot, and Phytophthora crown and root rot.

The list below includes some common disease problems received in the lab during December of the past few years. Comments on control practices are brief. Refer to the Alabama Pest Management Handbook for details. Also, remember that sanitation is important in most control situations.

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

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Apple	Botryosphaeria Canker	Sunken, elongated lesions develop on branches and/or trunks. The lesion edges may be cracked at lesions margins. Lesion tissues are brown beneath the branch/trunk bark.	Cankered areas should be pruned out, making cuts 3-5 inches beyond the lesion edge. Disinfest shears between cuts.
Azalea	Cercospora Leaf Spot (Stress Related)	Brown, circular-irregular spots (1/4-1/2 inch, 0.6-1.2 cm diameter) on yellowed or otherwise weakened/stressed plants.	Remove stress factors; sanitation.
	Phomopsis Canker	Sunken, necrotic lesions on branches; dieback.	Pruning. Protective sprays of Cleary's 3336. See the AL Pest Management Handbook.
	Powdery Mildew (<i>Microsphaeria</i>) [Greenhouse Location]	White, buff-colored dusty coating on leaves.	Apply a protective fungicide (See the AL Pest Management Handbook); Sanitation.
Basil	Rhizoctonia Stem Rot	Stems become brown and dry rotted.	Sanitation. Pruning is recommended to lower humidity; water in morning.
Bedding Plants	Bacterial Leaf Spot (Greenhouse Location)	Wet, water-soaked/black spots become dried and cracked in the centers with water-soaked margins.	Sanitation; reduce humidity; increase spacing between plants; See AL Pest Management Handbook.
	Pythium Root Rot (Greenhouse Location)	Roots become brown and water-soaked.	Sanitation; See AL Pest Management Handbook; reduce irrigation schedule.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Bentgrass	Brown Patch (<i>Rhizoctonia</i>)	Brown blotches on foliage; blight	See AL Pest Management Handbook.
	Pythium Blight/Root Rot	Plants yellow and die from root rot phase of the disease.	See AL Pest Management Handbook.
Bermuda, Coastal	Bipolaris Leaf Spot	Small, brown, elliptical spots become irregularly-shaped brown blotches.	----
Bermudagrass 'Tifeagle'	Fairy Ring (<i>Lycoperdon</i>)	Usually grass dieback on a semi-circle pattern with mushrooms forming at the outer edge of the circle.	See ANR-372.
Bermuda, Tifgreen	<i>Bipolaris sorokiniana</i> Blight	Seedling disease & seed rot.	See A. Hagan.
Boxwood	Macrophoma Blight	Foliage turns reddish, yellow or brown with small black dots (about 1 mm diameter) scattered across leaf surfaces.	Remove stress situation; sanitation.
	Phytophthora Root Rot	Roots become brown, water-soaked and later dried. Plants show wilt and dieback, yellowing.	Sanitation. See the AL Pest Management Handbook.
Broccoli	Black Rot (<i>Xanthomonas</i>)	Yellow, V-shaped lesions on leaf edges become darkened and slowly spread down the leaf causing veins to darken. Eventually, tissue rot and decay spreads into the vascular system with the lower center stalk becoming rotted.	Crop rotation; seed treatment; see AL Pest Management.
Centipede	Brown Patch (<i>Rhizoctonia</i>)	Foliage develops gray-brown spots, blotches; patches of turn brown and die.	Sanitation; apply protective fungicide treatment if grass is not dormant. See AL Pest Management Handbook.
Collards	Black Rot (<i>Xanthomonas</i>)	See Broccoli.	See Broccoli.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Citrus	Sooty Blotch	Small or large spots appear as a black sooty fungi print.	Check with Ed Sikora.
Cucumber	Anthrachnose (<i>Colletotrichum</i>)	Light brown angular leaf spots.	Sanitation and protective fungicide sprays. See Handbook.
Dianthus	Alternaria Leaf Spot	Typically gray, irregular leaf spots.	Sanitation. Cleary's 3336 or Halt may help.
	Anthrachnose (<i>Colletotrichum</i>)	Reddish brown irregular spots on foliage.	Sanitation. Cleary's 3336 may help.
	Oedema	Small, corky, slightly raised spots on lower leaf surfaces sometimes accompanied by yellowish spots on corresponding upper leaf surfaces.	Reduce watering on cloudy days.
	Rhizoctonia Shoot Blight	Brown elongated lesions.	Sanitation. See AL Pest Management Handbook.
Elm, American	Powdery Mildew (<i>Oidium</i>)	White, powdery dusted blotch areas on leaves and young twigs. Powdery areas eventually become necrotic. New growth may be distorted.	Sanitation of fallen leaves. See the AL Pest Management Handbook.
Fern	Colletotrichum Leaf Spot/Blight	Circular to irregular brown, water-soaked spots on foliage.	Sanitation; Cleary's 3336 or Halt will provide protective disease control.
	Fusarium Leaf Spot	Circular to irregular brown, dried spots on foliage.	Sanitation. Protective sprays of Cleary's 3336 may be used.
	Phytophthora Root & Crown Rot	Plants develop brown-yellow foliage near the crown area. Roots become brown and water-soaked.	Sanitation. See the AL Pest Management Handbook.
	Phomopsis Leaf Spot	Circular to irregular brown, dried spots on foliage.	Sanitation. Protective sprays of Cleary's 3336 could be used.
Fern, Boston	Rhizoctonia Aerial Blight	Blight areas on fronds.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Fescue (Lawn)	Helminthosporium Crown Rot	Leaf blades were yellowed and shriveled. Tissues at the soil-line were brown and decayed.	See ANR-621.
Fescue, Red	Cool-Season Pythium Blight (Root Rot)	Turf areas become thinned, yellowish, and slow-growing.	See the AL Pest Management Handbook.
Fescue, Tall (Forage Crop)	Drechslera Leaf Spot (Net Blotch)	Small, brown, elliptical spots become irregularly-shaped brown blotches with uneven internal pigmentation that appears to be in a transverse and longitudinal net-like pattern.	---
Geranium	Botrytis Blight	Spots and blight may develop on leaves, flowers, & stems. When humidity is high, a gray mold will develop.	Sanitation; increase temperatures; increase air circulation to decrease humidity; protective fungicides.
	Phytophthora Stem Rot	Lower stem areas become black and water-soaked.	Sanitation; See Alabama Pest Management Handbook.
Holly	Phytophthora Root Rot	Roots, especially feeder roots, show a wet, water-soaked, rotted condition where the outer layer easily slips off the central cylinder.	Sanitation; See the AL Pest Management Handbook.
Holly, Chinese	Armillaria Root Rot	Lower trunk may show a thin, white mycelial mat beneath the bark; black thread-like fungal structures may be present on the surface of the bark or beneath; honey-brown-colored mushrooms may develop around the holly.	Removal of the plant is necessary.
Indian Hawthorn	Cercospora Leaf Spot	Circular-irregular, brown spots on leaves.	Sanitation. Cleary's 3336 will give some protective disease control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Jerusalem Artichoke	Fusarium Root Rot	Roots become decayed with a brown, dry rot.	Remove infected plants from the area and do not replant artichokes for 10-15 years.
Juniper	Pestalotia Blight	Inner foliage turns brown.	Investigate stress conditions.
	Phytophthora Root Rot	Roots, especially feeder roots, show a wet, water-soaked, rotted condition where the outer layer slips off the central cylinder.	Sanitation; See the AL Pest Management Handbook.
Kiwi	Phytophthora Crown Rot	Dark brown decay.	Sanitation. Crop rotation. Avoid wet locations.
Kudzu	Cercospora Leaf Spot	Large, circular or irregular brown spots.	--
Lavender	Anthracoese Leaf & Stem Spots	Circular-irregular brown spots and stem lesions.	Sanitation. Protective sprays of Cleary's 3336 or Halt.
Leyland Cypress	Botryosphaeria Canker	Sunken, cracked lesions on branches.	Pruning.
	Seiridium Canker	Slightly sunken, elongated lesions develop on branches and/or trunk. Resin often oozes out onto bark at points along lesion edge. Tissues beneath bark are brown.	Cankered areas should be pruned out, making cuts 3-5 inches beyond the lesion edge. Disinfest shears.
Ligustrum	Cercospora Leaf Spot	Large, brown circular, oval or sometimes angular leaf spots. Sometimes spots have dark brown borders. Roots become light brown and water-soaked, decayed.	Sanitation; protective sprays of Cleary's 3336 or Domain.
Lily, Easter	Pythium Root Rot	Lower foliage turns yellow. Plants wilt & dieback follows.	Sanitation. Reduce irrigation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Mondograss	Anthracnose (<i>Colletotrichum</i>)	Brown blotches on leaf blades; blotches may begin at leaf tips or they may be centrally located on the leaf blade.	Cleary's 3336 or Domain; Protective sprays; Sanitation.
Mustard	Cercospora Leaf Spot	Brown, irregular leaf spots. Small gray patchy areas (spores) may develop on spots.	Sanitation. Kocide or Cuprofix Disperss may be used.
Oak	Botryosphaeria Canker	Sunken, elongated lesions develop on branches and/or trunks. The lesion edges may be cracked at lesions margins. Lesion tissues are brown beneath the branch/trunk bark.	Cankered areas should be pruned out, making cuts 3-5 inches beyond the lesion edge. Disinfest shears between cuts.
Oats	Bipolaris Spot Blotch	Brown-black, elongated spots (1 cm) on leaf blades.	See AL Pest Management Handbook.
	Drechslera Leaf Spot (Net Blotch)	Small brown flecks become longitudinal strips of dead tissue. Often the uneven blotchy discoloration of the dead tissue gives spots a net-like appearance. Outer edges of the diffuse areas of yellow or red which may involve the entire leaf blade. Diseased leaves often die.	Rotation; deep plowing; resistant cultivars. See AL Pest Management Handbook.
	Possible Barley Yellow Dwarf Virus	Plants develop yellowing or reddish discoloration that begins at leaf tips and progresses downward. Plants are stunted. Diagnosis is often difficult when plants are small due to low virus concentrations in plants.	Insecticides practical in a few situations.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Rust (<i>Puccinia coronata</i>)	Foliage develops yellow spots and rusty-orange powdery spore masses; foliage dies.	See Austin Hagan.
Oleander	Cercospora Leaf Spot	Brown, circular or oval leaf spots.	Sanitation.
Onion	Sclerotinia Blight	Water-soaked lesions at soil line/crown area.	---
Pansy	Botrytis Bud Rot	Buds become brown, sometimes with gray over-tones.	Sanitation. See 1998 recommendations.
	Myrothecium Crown Rot	Plants wilt and yellow and dieback. Crowns become brown and limp; sometimes tiny white & black cushions are visible on crowns.	Sanitation. Daconil treatments may give some protective control.
	Pythium Crown Root Rot	Dark brown, water-soaked decay at crown area.	Sanitation. See Handbook.
	Thielaviopsis Root Rot	Black lesions on stunted roots. Plants stunted.	Sanitation. See Handbook.
Pine, Loblolly	Sooty Mold	Black, sooty layer develops on needles. Black layer may be powdery or as thin dry sheets on needle surfaces.	Physically remove superficial coatings. Identify and control insects (may be aphids, scales, or other sucking-mouth parts insects). See ANR-1055 or Ed Sikora.
Plum	Black Knot (<i>Plowrightia</i> -formerly <i>Dibotryon</i>)	Green swellings on branches become black, hard, elongated swellings; dieback develops.	
Poinsettia	Botrytis Blight (Greenhouse Location)	Gray-brown blotches on foliage; during humid conditions a delicate fungal wet may be present over blotch areas.	Increase temperatures; decrease humidity; sanitation; see AL Pest Management Handbook.
	Pythium Root Rot (Greenhouse Location)	Roots are brown and water-soaked; outer root tissues slide easily away from inner root core.	Sanitation; See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Pothos	Bacterial Leaf Spot (<i>Erwinia</i>)	Angular, dark, water-soaked spots on foliage.	Sanitation; Do not irrigate over-head.
Rose	Crown Gall (<i>Agrobacterium</i>)	Hard, rough-surfaced galls on the lower cane near the soil-line and on the roots.	Remove infected plants. Keep area free of susceptible plants for 2-3 years. Avoid wounds. See the AL Pest Management Handbook.
	Powdery Mildew (<i>Oidium</i>)	White, powdery dusting on blotch areas. Eventually the mildew areas become necrotic. Some distorted new growth may develop.	
Rye	Bipolaris Spot Blotch	Brown, elongated spots on leaf blades.	---
Ryegrass	Bipolaris Leaf Spot	Small, brown elliptical leaf spots.	See AL Pest Management Handbook.
	Piricularia Gray Leaf Spot	Gray-brown, irregularly shaped leaf spots.	See A. Hagan for comments.
	Pythium Blight	Leaf blades yellow and die; roots become discolored brown with a soft, wet rot.	See AL Pest Management Handbook.
	Rhizoctonia Crown Rot	Crown areas develop a brown, dry rot. Plants yellow and dieback.	Sanitation. Protective fungicides. See the AL Pest Management Handbook.
Southern Magnolia	Algal Leaf Spot (<i>Cephaleuros</i>)	Slightly raised green-reddish brown leaf spots.	Sanitation. See the AL Pest Management Handbook.
Snapdragon	Rhizoctonia Stem Canker	Brown sunken cankers on lower stems.	Sanitation; Cleary's 3336 or Domain.
St. Augustine	Brown Patch (<i>Rhizoctonia</i>)	See Centipede.	See Centipede.
	Take-All Patch (<i>Gaeumannomyces graminis</i> var <i>graminis</i>)	Black lesions develop on roots; foliage dieback.	See the AL Pest Management Handbook and ANR-823.
Strawberry	Anthracoese Crown Rot (<i>Colletotrichum</i>)	Plant wilt. Crowns develop red-brown firm rot.	Sanitation. Use resistant cultivars. Use healthy transplants. See Ed Sikora.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Black, water-soaked (when in early stages), angular-shaped leaf spots.	Strict sanitation. Avoid overhead irrigation. See ANR-500A for protective bactericide recommendations.
	Phomopsis Leaf Blight	Red small spots develop into brown v-shaped lesions.	See the AL Pest Management Handbook.
	Phytophthora Crown/Root Rot	Stunted, wilted plants. Roots with reddened core or center. Roots and crowns decay with brown rot.	Avoid wet areas. Use disease free and resistant cultivars. Use protective fungicides when disease has been diagnosed in the area.
Sweet Potato	Fusarium Surface Root Rot	Light to dark brown surface decay that is firm and dry. Infected roots eventually become hard & mummified.	Avoid wounds. Remove infected plants.
	Fusarium Root Rot	Similar symptoms to Fusarium surface rot except rot extends below vascular ring.	Avoid wounds. Remove infected plants.
Tomato	Anthracoese Fruit Rot	Round, colorless, sunken fruit spot areas become large and wet, watery, rotted.	Sanitation. See AL Pest Management Handbook.
	Target Spot (<i>Corynespora cassicola</i>)	Brown, gray, somewhat zonate-patterned oval or irregular spots. Spots are sometimes confused with early blight.	Sanitation. See Ed Sikora for further comments.
Tulip	Penicillium Bulb Rot	Brown blotches on bulb, sometimes with green/gray spore masses.	See AL Pest Management Handbook for dip recommendations.
Turnips	Cercospora Leaf Spot	Small to large, circular-irregular, off-white to pale brown leaf spots.	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Colletotrichum Leaf Spot	Cream-colored, round or oval spots.	Sanitation. See AL Pest Management Handbook.
Vinca	Phytophthora Root Rot	Roots are brown, water-soaked and the surface tissues will slip easily off the central root cylinder with a small amount of pressure.	Sanitation. See AL Pest Management Handbook.
	Pythium Root Rot	Roots are brown, water-soaked and the surface tissues will slip easily off the central root cylinder with a small amount of pressure.	Sanitation. See AL Pest Management Handbook.
	Thielaviopsis Root Rot	Roots show black lesions and blotches. Tops grow poorly.	Keep potting mix or soil pH on the low side of normal, about 5.5-6.0. Cleary's or Domain drenches may help.
Wax Myrtle	Botryosphaeria Canker	Sunken, cracked lesions on branches.	Sanitation. Pruning.
Wheat	Bipolaris Leaf Spot	Brown-black, elongated spots (1 cm) on leaf blades.	See AL Pest Management Handbook.
Zoysia	Rhizoctonia Brown Patch	Small-large patches of turf with leaf spots and blight.	See the AL Pest Management Handbook.

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