

TIMELY INFORMATION

Agriculture & Natural Resources

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PP-689

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

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

**FEBRUARY INSECT REPORT FROM THE AUBURN
PLANT DIAGNOSTIC LAB**

DISEASE POSSIBILITIES FOR MARCH

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Auburn Plant Disease Report-December (W. Gazaway)

February was seasonably cold for most of Alabama with night temperatures in the 30-40°F range. We received 96 samples in February. Most of our homeowner and commercial client samples in February were Phytophthora root rot and abiotic problems with a few insect problems. More than half of our February samples were received from either AU research programs or the Alabama Department of Agricultural and Industries.

Table 1. Febuary 2010 Plant Diseases Seen In The Auburn Plant Diagnostic Lab.

| <u>Plant</u> | <u>Disease</u> | <u>County</u> |
|--------------|--|------------------|
| Bermuda | Nutrient Deficiency | Geneva |
| Juniper | Phomopsis Dieback | Madison |
| | <i>Echinodontium</i> ; Indian Paint Fungus: Heart Rot | Russell |
| Oats | Nutrient Deficiency | Henry |
| Palm | Root Knot nematodes | Mobile/Jefferson |
| Pine | <i>Pococera robustella</i> (Zelle) | Bullock |
| Rose | Virus | Marshall |
| Sacred Lotus | Phytophthora rot | Lee |

Monthly Plant Problem Report From The Birmingham Lab (J. Jacobi)

February was another cold month and the number of samples received last month (23) was unusually low, even for February. Boxwood leafminer and tea scale on camellia are among are most common insects pests every year. We see plant samples with these two insect pests nearly every month of the year. Problems with both of these pests can be treated this month. See the following web publications for more information on treatment options and timing.

<http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/ort016e/ort016e.htm>

<http://www.ces.ncsu.edu/depts/ent/notes/O&T/specificplants/note138/note138.html>

Some of the other problems we saw last month included cold damage on dwarf yaupon holly, peony scale on common camellia, spider mites on juniper and lemon, and split gill fungus on mimosa.

Peony scale on common camellia is one we hadn't run across in the lab previously. In contrast to tea scale, peony scale is found on branches and not on leaves. A picture and brief description of the scale can be found in the second link listed above. The scale burrows beneath the bark and becomes hidden from view. Look for small bumps in the bark that indicate the scale is present. Early detection is important because this scale will cause twig dieback.

The split gill fungus (*Schizophyllum commune*) is commonly found on dead, decaying branches of many types of deciduous trees. Reportedly, it's the most widespread fungus in existence being found on every continent, except Antarctica. The fungus is relatively easy to recognize, producing small leathery, fan-shaped fruiting bodies (1-4 cm) on

dead branches. Look on the bottom of the fruiting bodies for the characteristic gill-like folds that split longitudinally that give the fungus its common name. For more on this fungus see the following websites.

http://botit.botany.wisc.edu/toms_fungi/feb2000.html

http://www.messiah.edu/Oakes/fungi_on_wood/gilled%20fungi/species%20pages/Schizophyllum%20commune.htm

Table 1. 2010 February Problems Seen In the Birmingham Plant Diagnostic Lab.

| <u>Plant</u> | <u>Problem</u> | <u>County</u> |
|--------------------------------|-------------------------------|----------------------|
| Azalea | Tip Midge | Jefferson |
| Boxwood | Boxwood Leafminer | Jefferson |
| Camellia, Common | Tea Scale | Jefferson |
| | Peony Scale | Jefferson |
| Cherry Laurel, Carolina | Phyllosticta Leaf Spot | Jefferson |
| Corn Plant (<i>Dracenea</i>) | Fusarium Leaf Spot | Blount |
| Holly, Dwarf Yaupon | Cold Damage | Jefferson |
| Juniper, Shore | Spruce Spider Mite | Jefferson |
| Lemon (houseplant) | Spider Mite | Jefferson |
| Mimosa | Split Gill Fungus (secondary) | Jefferson |
| Photinia | Entomosporium Leaf Spot | Jefferson |
| Sweet Potato | Fertilizer Injury | * |

* Counties are not presented for samples from golf courses and greenhouses

February Insect Report From The Auburn Plant Diagnostic Lab (C. Ray)

| County | Host | Category | Identification | Scientific Name |
|---------------|-------------|---------------------------|------------------------------------|--|
| Montgomery | River Birch | Ornamental | Polyphemus Moth Cocoon | <i>Telea polyphemus</i> |
| Jefferson | Home | Household - Miscellaneous | Argentine Ants | <i>Linepithema humile</i> |
| Montgomery | Nuttal Oak | Ornamental | Obscure Scale with Friendly Fungus | <i>Melanaspis obscura</i> infected with <i>Nectria</i> sp. |

| | | | | | |
|-----------|------|----------------------------|---|---|---|
| Limestone | Home | Household Miscellaneous | - | Orchard Mason Bees and phoretic hypopi | <i>Osmia</i> sp. and <i>Chaetodactylus</i> sp. |
|-----------|------|----------------------------|---|---|---|

Disease Possibilities For March

Virus symptoms on wheat and other small grains may be more evident in March. Barley yellow dwarf virus (BYDV), an aphid transmitted virus, causes oats to develop a red coloration which begins at leaf tips of older leaves and progresses down to the leaf base. In addition to the reddening symptom (which sometimes can be confused with cold damage or nutrient deficiency), infected plants become stunted with excessive tillering. The developing spikes may be white and sterile. With wheat, BYDV infection will often cause the older leaves to become a bright yellow color. Severe plant damage may be caused by this virus disease. Another virus to think about is soilborne wheat mosaic (SBWMV). Symptoms include a yellow mosaic pattern which appears as short, narrow yellow lines (dashes) on the otherwise green wheat leaves. Infected plants may become severely stunted. This virus is transmitted and maintained in the soil by the fungus *Polymxa graminis*, and disease occurrence appears to be more prevalent in low wet areas. Symptoms of SBWMV infection become diminished as temperatures warm up in the spring.

Other diseases often reported in early spring include Helminthosporium leaf spots on Bermuda and small grains; the beginning of powdery mildews, rusts, and/or Septoria leaf blotch on small grains; some downy mildews; Botrytis blight; and bacterial leaf spots on greenhouse crops.

Barley yellow dwarf virus was confirmed (by ELISA in February) to be present in an oat sample sent from Covington County late January. And Austin Hagan noted in his email to ‘crops’ agents (3/15/09) that in the Fairhope wheat variety trial, powdery mildew was abundant on several varieties. Also leaf rust and Bipolaris leaf and crown rot were seen on one variety. (See Austin’s email for additional information.)

The list below includes some common disease problems received in the lab during March and early April of the past few years. Comments on control practices are brief. Refer to the fact sheets, timely informations, spray guides, and the Alabama Pest Management Handbook for details.

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

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|--|--|---|
| Alfalfa | Spring Black Stem and Leaf Spot (<i>Phoma</i>) | Numerous black spots on lower leaves, petioles, and stems. Leaf spots often coalesce and become medium or light brown. Spotted leaves become yellow and fall. Stem and petiole lesions may | Early cutting; proper fertility management. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|-----------------------------------|---|--|
| | | completely girdle the area and cause death to the foliage beyond. Phoma may also cause a crown and root rot. | |
| | Stemphyllium Leaf Spot | Leaf spots are oval, sunken, dark brown with light brown centers, and usually surrounded by a yellow halo. Older spots may have concentric rings. This fungus may also cause black areas on stems. | Frequent harvesting. |
| | White Mold (<i>Sclerotinia</i>) | Lower stems become yellow and limp. Eventually, dying stems and crowns become covered with a white fluffy mass of mycelium which may also spread out over the soil near the infected plants. Hard, black, slightly irregularly-shaped bodies (sclerotia). | Deep plow; 2-3 year rotation from forage legumes. |
| Apple, Pear | Fireblight (<i>Erwinia</i>) | Flowers, pedicels, and leaves become black or dark brown and limp; canker development. | Sanitation; See AL Pest Management Handbook and ANR-542. |
| Aucuba | Pestalotia Leaf Spot | Usually light gray, irregular spots; often develops after earlier injury or cold damage. | Sanitation. |
| Azalea | Botryosphaeria Canker | Sunken cracked lesions on branches. Often this canker follows cold injury or some other type of wound. Stressed | Sanitation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|-------------------------------|--|---|
| | | plants are often involved. | |
| | Botrytis Petal Blight | Large irregular areas of blossoms turn brown; brown areas are covered with a gray delicate webbing during humid weather. | See AL Pest Management Handbook. |
| | Cercospora Leaf Spot | Roughly circular-angular brown-black spots (about 0.5 cm diameter); spots are usually associated with stressed plants. | Sanitation of fallen leaves. Maintain proper fertility and watering schedules. Protective sprays of Cleary's 3336 may be applied. |
| | Colletotrichum Leaf Spot | Roughly circular brown-black leaf spots (about 0.5 cm diameter). Spots often associated with stressed plants. | See Cercospora Leaf Spot. |
| | Exobasidium Gall | Blossoms & leaves develop green-pink-white fleshy galls. | Sanitation; See AL Pest Management Handbook. |
| | Ovulinia Petal Blight | Small white-brown spots enlarge to become browned areas on the blossoms. | See AL Pest Management Handbook. |
| | Pestalotia Blight (Secondary) | Gray-white dried blotches on foliage, often along leaf edges. | Sanitation. |
| | Phomopsis Twig Blight | Usually small, elliptical sunken lesions on small branches/twigs. | Pruning. Improve vigor of plants. |
| | Phytophthora Crown & Root Rot | Crowns & roots become brown and water-soaked, then dried. | Sanitation; See AL Pest Management Handbook. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|---|--|
| | Rhizoctonia Aerial Blight | Medium-dark brown spots or blotches on lower leaves may involve 50-100% of leaf area. Dead leaves will fall. | See AL Pest Management Handbook. |
| Begonia | Pythium Crown Rot, Root Rot | Lower stem and roots become a light brown color; tissues are rotted and water-soaked. Outer root cortex easily separates from inner central root stele tissues. | Remove damaged plants. Replace root-associated soil. Reduce water levels in the soil area. |
| Bentgrass | Basal Crown Rot (<i>Colletotrichum</i>) | Crown (lower stem) at soil line shows a brown-black decay. | See the AL Pest Management Handbook. |
| | Pythium Blight | Irregular areas of turf become water-soaked and then pale brown. | See ANR-594. |
| | Ring Nematode Damage (<i>Criconemoides</i>) | Areas display stunting, yellowing, and dieback. | See ANR-523. |
| | Yellow Patch (<i>Rhizoctonia cerealis</i>) | Yellow areas or patches in lawn; crown & root decay. | See the AL Pest Management Handbook under Rhizoctonia Brown Patch. |
| Bermuda | Brown Patch (<i>Rhizoctonia</i>) | Light brown, large, circular patches occur on lawns; grass blades show medium brown lesions and/or crowns show lesions and rot. | See AL Pest Management Handbook. See ANR-492. |
| | Helminthosporium Leaf Spot | Small elliptical or rectangular brown spots; when spots are numerous, leaf blight occurs. | See the AL Pest Management Handbook. |
| | Ring Nematode Problem | Stunted, yellowed plants; dieback. | See ANR-523. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|--|--|
| | (<i>Cricanemoides</i> sp.) | | |
| | Spring Dead Spot | Yellow patches develop in early spring. | See the AL Pest Management Handbook and ANR-371. |
| Blackberry | Algal Leaf Spot (<i>Cephaleuros virescens</i>) | Initially, red-green or green, slightly raised oval spots on leaves and canes. Older spots become white. | Sanitation. See Ed Sikora. |
| | Anthrachnose (<i>Elsinoe</i>) | Sunken brown-cream colored lesions on canes and foliage. | Sanitation. Liquid Lime Sulfur just prior to bud break or later apply Benlate. |
| | Cane & Leaf Rust (<i>Kuchneola uredinis</i>) | Yellow or yellow-orange spore masses (uredinia) split floricane bark in late spring. Small yellow or yellow-orange spore masses develop on floricane lower leaf surfaces in early summer. Defoliation may occur. | Sanitation of infected foliage. See the AL Pest Management Handbook. |
| | Orange Rust (<i>Gymnoconia nitens</i>) | Young shoots, leaves are stunted, misshapen. Lower leaf surfaces become covered with bright orange powdery blisters. Infected leaves wither and drop. | Sanitation. Improve air circulation. |
| | Rosette (<i>Cercospora</i>) | Plants develop an abnormal growth habit with abnormal rosetted shoots developing from vegetative buds. The rosetted or witches broom | See the AL Pest Management Handbook. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|--------------------------|---|---|
| | | growths are pale green initially but become bronze later. Infected blossoms are larger than normal with twisted, bunched petals. | |
| Blueberry | Botryosphaeria Canker | Sunken, elongated, cracked lesions. | Pruning. |
| Boxwood | Macrophoma Blight-Stress | During the winter, boxwood may change color and take on a reddish tint. These discolored plants sometimes develop a more serious yellowing and blight with tiny black dots scattered on yellowed leaves; cankers may develop. This is generally a problem of stressed plants. | Pruning; proper maintenance. |
| | Phytophthora Root Rot | Roots become brown, decayed, water-soaked; the outer cortex easily pulls away from the inner tissues. | Sanitation. Check soil water relations and fertilizer levels. For chemical control, see the AL Pest Management Handbook. |
| | Pythium Root Decay | Small feeder roots decay when soil kept continually wet. Dieback. | Remove plants showing dieback. Reduce water levels in soil. Fungicide drenches may be used in nurseries. See AL Pest Management Handbook. |
| | Volutella Blight | Dieback from branch and twig cankers. Leaves also become blighted. Orange spores of the fungus develop in masses on twigs and leaves when conditions are humid. | Pruning and removal of fallen leaves. Maintain healthy plants. See the AL Pest Management Handbook for fungicides. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|----------------------|--|--|--|
| Camellia | Algal Leaf Spot (<i>Cephaleuros</i>) | Green or green-red, slightly raised leaf spots with slightly wavy margins. Old spots have white centers. | See the AL Pest Management Handbook. |
| | Colletotrichum Leaf Spot | Round, light brown, circular spots which may contain brown-white-orange specks that are the spore bodies. | Sanitation. Cleary's 3336 protective sprays. |
| | Pestioleopsis Leaf Spot | Circular or irregular light brown spots; may be confused with Colletotrichum. | Sanitation. |
| | Ringspot Virus | Yellow or brown rings develop on leaves. Plants may be stunted. | Maintain plants with proper fertilization and water schedules. |
| Cedar, Red (Juniper) | Cedar Apple Rust (<i>Gymnosporangium juniperae-virginianae</i>) | Large (1-3 inch diameter), woody galls on stems develop orange, jelly-like projections (one or more inches long) which protrude from the entire surface of the gall. | Remove galls before orange "fingers" develop. Apply protective fungicide sprays to apple and crabapple. See AL Pest Management Handbook. |
| | Pestalotia Tip Blight | Tips of twigs dieback. | Water & fertilizer to promote vigorous plants. Selective pruning. |
| Centipede | Brown Patch (<i>Rhizoctonia</i>) | Light brown, large, circular patches occur on lawns; grass blades show medium brown lesions or crowns show lesions & rot. | See AL Pest Management Handbook. See ANR-492. |
| | Fairy Ring | Circles or arcs of dead grass may be | See ANR-372. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
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| | | associated with mushrooms. | |
| | Lesion Nematode (<i>Pratylenchus</i> sp.) | Areas become yellow, thinned with plant dieback. | See ANR-523. |
| Cherry | Black Knot | Hard, black, elongate galls on branches. | Pruning. See Circular ANR-1055. |
| Cherry Laurel | Bacterial Leaf Spot (<i>Xanthomonas</i>) | Medium to dark-brown circular or slightly irregular spots develop. As spots age, they dry and eventually the whole spot may fall out. Small, faint halos present sometimes. | Sanitation; basic copper sulfate may give protective control. See AL Pest Management Handbook. |
| | Blumeriella Leaf Spot | Circular, brown spots; may become shot holes. | Sanitation. |
| | Cercospora Leaf Spot | Light brown, circular-irregular spots, sometimes with dark brown border. | Sanitation. Cleary's 3336 or Halt protective sprays may be applied. |
| Chinese Fringe Tree | Armillaria Root Rot | Dieback; black thread-like fungal structures on or under bark near soil line. White fans of mycelium may be present; honey colored mushrooms may develop. | See ANR-907 for comments. |
| Clematis, Evergreen | Pythium Root Rot | Roots become rotted, light brown and water-soaked. | Remove damaged plants. Also remove root-associated soil. Reduce water levels in the soil. |
| Cleyera | Anthracoise (<i>Colletotrichum</i>) | Reddish, circular-irregularly shaped spots, blotches (about 5 mm diam.) scattered on leaves. | Sanitation. Cleary's 3336 or Domain protective sprays. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
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| | Cercospora Leaf Spot | Pale brown spots, often with dark brown edges | Sanitation. Cleary's 3336 or Halt may be applied as a protective spray treatment. |
| | Entomosporium Leaf Spot | Red-black, round-irregularly spots develop. Some spots coalesce. | Sanitation. Cleary's 3336 will help some. |
| Collard | Black Rot (<i>Xanthomonas</i>) | Yellow-black V-shaped lesions on leaf edges; black leaf veins; black lower stems. | Sanitation; crop rotation. |
| Coleus | Botrytis Blight | Brown, irregular spots & blotches on foliage. A light gray mold develops when conditions are cool & humid. | Sanitation. Decrease humidity levels. Cleary's 3336 or Halt may be used as protective fungicide spray treatments. |
| Cryptomeria | Botryosphaeria Canker | Sunken lesions on branches sometimes cracking around the edges. | Pruning. Make cuts 3-4 inches beyond the margin of the lesions. Dip shears into alcohol between cuts. |
| Cyclamen | Fusarium Crown Rot | Lower stem tissues develop a dry decay. | Remove damaged plants. Do not plant cyclamen in this soil for many years. In a greenhouse, Cleary's 3336 or Banrot may be used as protective drenches. |
| Cypress, Italian | Seiridium Canker | Sunken, bleeding canker. | Remove canker. Make cuts 3-4 inches beyond the canker edge. Dip shears or blade into alcohol or a 10% solution of household bleach between cuts. |
| Daffodil | Fusarium Bulb Rot | Leaves of bulb develop a dry rot. | Remove damaged bulbs and replace some soil in the area. Crop rotation for several years, if possible. |
| Daylily | Leaf Streak (<i>Aurobasidium</i>) | Elongated yellow streaks develop on leaves. Eventually streaks become | Damaged foliage should be removed. Do not water overhead. Cleary's 3336 may be applied as protective sprays. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|---|---|
| | | brown. | |
| | Pythium Root Rot | Roots become rotted, light brown, and water-soaked. | Remove damaged plants. Also remove root-associated soil. Reduce water levels in the soil. |
| | Rhizoctonia Crown, Root & Tuber Rot | Dry, brown lesions and rot areas on crowns, roots, tubers. | Sanitation; See AL Pest Management Handbook. |
| | Rust (<i>Puccinia hemerocallidis</i>) | Yellow small spots develop on leaves; eventually yellow spots may develop rusty spore masses; later leaves turn yellow and brown. | Sanitation. Select non rust susceptible cultivars. Protective fungicide sprays. See Timely Information PP-506. For homeowner, Immunox or Fertiloam System Fungicides may be used. For commercial growers, Banner Maxx, Heritage or Eagle may be used. |
| Dianthus | Alternaria Leaf Spot | Gray, brown, circular leaf spots. | Sanitation. Stature may be used. |
| | Cercospora Leaf Spot | Gray, brown, circular or irregular leaf spots. | Sanitation. Cleary's 3336 may help. |
| | Pythium Root Rot | Foliage dieback; roots become light brown and soft rotted. | Remove damaged plants. Reduce irrigation and/or improve drainage. |
| Dogwood | Botryosphaeria Canker | Sunken, elongated, cracked lesions. | Pruning. |
| Euonymus | Anthracoze (<i>Elsinoe</i>) | Brown circular-angular lesions on leaves. | Sanitation. See the Alabama Pest Management Handbook. |
| Fern | Anthracoze (<i>Colletotrichum</i>) | Brown, irregular spots on frond leaflets. | Sanitation. Cleary's 3336 or Halt may be applied as a protective spray. |
| Fescue, Tall | Net Blotch (<i>Helminthosporium</i>) | Small, elongated, medium-brown or reddish-brown spots (1-2 mm or 1/16-1/8 inch long). Usually spots are | See AL Pest Management Handbook or ANR-621. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
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| | | abundantly scattered over leaf blades. | |
| | Pythium Blight | Irregular areas of turf become water-soaked and then pale brown. | See the AL Pest Management Handbook. |
| | Striped Smut | Black, thin stripes of black smut spores along the leaf. Plants may be stunted with yellow streaking of leaves. | Sanitation; fungicide-treated seed; See A. Hagan. |
| Gardenia | Pestalotia Leaf Spot | Gray, brown leaf spots. | Remove damaged leaves and leaf debris. Leaf spot often secondary after cold damage. |
| | Phytophthora Crown & Root Rot | Dieback. Roots become brown, wet. And dead. Later roots dry out. | Sanitation. Reduce irrigation and improve drainage. See the AL Pest Management Handbook for nursery use of protective fungicide drenches. |
| | Pythium Crown & Root Rot | Dieback. Small feeder roots become slightly off color, light brown, and wet decayed. | Sanitation. Reduce irrigation and improve drainage. See the AL Pest Management Handbook for nursery use of protective fungicide drenches for Phytophthora. |
| Garlicvine (<i>Cydista</i>) | Powdery Mildew (<i>Oidium</i>) | White, powdery coating on leaves; some new growth distortions. | Sanitation. Improve air circulation. |
| Geranium | Bacterial Wilt (<i>Ralstonia solanacearum</i>) | Initially lower leaves turn yellow; some leaf edge scorch; eventually plant wilts and dies. | Sanitation. |
| | Bacterial Blight (<i>Xanthomonas campestris</i> pv. <i>pelargonii</i>) | Black, angular, water-soaked spots on leaves and stems; wilt; dieback. | Sanitation; See the AL Pest Management Handbook. |
| | Botrytis Blight | Brown leaf spots & | See AL Pest Management |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|------------------|---------------------------|--|---|
| | | blight of blossoms and leaves. Stem cankers may develop as brown stem lesions. | Handbook. |
| | Pythium Stem & Root Rot | Lower stems become black and rotted; roots also become brown or black and decayed. | See the AL Pest Management Handbook. |
| Gomphrena | Tomato Spotted Wilt Virus | New growth is stunted; dark brown/black leaf spots and upper leaf surface bronzing present. | Remove damaged plants. Control thrips. |
| Greenhouse Crops | Bacterial Leaf Spots | Small-large, irregular, dark, wet-looking spots which often become dry in their centers and may have yellow zones or borders at their outer edges. | Strict sanitation; eliminate overhead irrigation if possible; copper sprays help some. See AL Pest Management Handbook. |
| | Botrytis Blight | See Azalea. | See AL Pest Management Handbook. Decrease humidity. |
| | Downy Mildew | Diffuse yellow spots on upper leaf surfaces with corresponding areas on lower leaf surfaces showing darker color, often with tan-gray fungal growth. | See AL Pest Management Handbook for specific controls. |
| | Phytophthora Root Rot | Roots become, brown, decayed, water-soaked; the outer cortex easily pulls away from the inner tissues. | Sanitation. Check soil water relations and fertilizer levels. Chemical control depends on plant type. |
| Holly | Botryosphaeria Leaf Spot | Black, circular spots; cankers may | Remove damaged and fallen leaves, if practical. Cleary's 3336 |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
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| | | develop. | may be used to give protective disease control. |
| | Colletotrichum Leaf Spot | Brown, circular, small spots. | Sanitation. Cleary's 3336 may help. |
| | Pestalotia (& Pestalotiopsis) Leaf Spot | Gray, brown irregular blotches. | Sanitation. |
| | Stunt Nematode (<i>Tylenchorhynchus</i>) | Plants are stunted; lower leaves may be yellow; roots are stunted. | Sanitation; crop rotation. See ANR-689. |
| Holly, Japanese | Black Root Rot (<i>Thielaviopsis</i>) | Lower branch dieback that progresses upward in the plant; roots develop black tips and lesions. | Sanitation. Cleary's 3336 or Halt. |
| | Botryosphaeria Canker | Sunken lesion, sometimes with cracked edges. | Remove canker. Make cuts 3-4 inches beyond the canker edge. Dip shears or blade in alcohol or a 10% solution of household bleach between cuts. |
| Holly, Savannah | Botrytis Leaf Blight | Small-large, irregular, gray or brown leaf spots/blotches. | Sanitation. Cleary's 3336. |
| Hosta | Pythium Crown Rot | Brown, wet, water-soaked decay at lower stem near the soil line. | Sanitation; improve soil drainage; rotate away from Hosta; Subdue 2E after test treatment. |
| Hydrangea, Oakleaf | Armillaria Root Rot | Dieback of foliage; rot of crown and roots; mushrooms, a white mycelial mat under the bark or on root surface or black thread-like rhizomorphs may develop on root surface or under crown bark. See ANR-907. | Sanitation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|---------------------|---|--|---|
| Impatiens | Bacterial Leaf Edge Spots | Wet, water-soaked black spots on leaf edges. | Sanitation; water at ground level. |
| | Impatiens Necrotic Spot Virus | Black spots may develop on leaves; new growth is stunted. | Remove damaged plants; control thrips. |
| Indian Hawthorne | Cercospora Leaf Spot | Brown, irregular or roughly circular spots. | Sanitation; Cleary's 3336 or Halt could be used to provide protective treatment. |
| | Entomosporium Leaf Spot | Reddish spots with black centers. | Sanitation. Protective fungicide sprays. |
| Iris, Bearded | Heterosporium Leaf Spot | Brown, usually elliptical, sometimes large (1-2 cm) spots. | Sanitation. Protective sprays of Cleary's 3336. |
| Ivy, English | Anthrachnose (<i>Colletotrichum</i> sp.) | Circular-irregularly shaped brown, dry spots. | Sanitation. See the AL Pest Management Handbook. |
| | Cercospora Leaf Spot | Circular-irregularly shaped brown, dry spots. | Sanitation. See the AL Pest Management Handbook. |
| Jerusalem Artichoke | Crown Gall (<i>Agrobacterium tumefaciens</i>) | Hard, woody spherical gall develops at base of stem. | Removal and destruction of plant(s). Rotate area into crown gall resistant plant. See Disease Note ANR-944. |
| Juniper | Botryosphaeria Canker | Elongated, elliptical sunken, often cracked, brown lesions on stems. | Sanitation. Protective sprays of Cleary's 3336 or Halt. |
| | Cedar Apple Rust (<i>Gymnosporangium juniperae-virginianae</i>) | Spherical woody galls develop on twigs and branches; with warm wet weather, orange, jelly-like projections or fingers extend from the galls. | Remove galls before they develop orange spore projections; See ANR-468. |
| | Cedar Quince Rust | Junipers develop | See the AL Pest Management |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|------------------|------------------------------------|--|---|
| | <i>(Gymnosporangium claviceps)</i> | cankers with orange, wet, spore masses. Apples, hawthorns, cedars & quince develop yellow leaf spots & fruit develops orange spore tendrils. | Handbook & ANR-468. |
| | Pestalotia Twig Cankers | Small, sunken, lesions on twigs. Dieback. | Remove stresses or other problems. |
| | Phytophthora Root Rot | Dieback. Roots become brown & wet rotted. Later roots dry out. | Sanitation. Reduce irrigation. Improve soil drainage. For nurseries, see the AL Pest Management Handbook. |
| | Pythium Root Rot | Dieback of small plants. Small feeder roots become slightly off color, light brown, and wet rotted. | Sanitation. Reduce irrigation. Improve soil drainage. For nurseries, see the AL Pest Management Handbook. |
| Kudzu | Asian Soybean Rust | Small yellow spots that may become brown to white when spores are present. | Sanitation. |
| Kumquat | Anthracoese | Leaf spots brown and sometimes zonate. | Sanitation of all fallen leaves. Water at soil level. |
| Lavender | Botrytis Blight | Brown leaf spots and foliage blight. Blossoms may also become spotted or blighted. | Remove damaged plant parts. Reduce humidity and water levels if possible. |
| Lettuce, Romaine | Botrytis | Brown or gray (if sporulation present) blotches/blight on leaves. | Sanitation. Increase temperature and decrease humidity and water levels. |
| Leucothoe | Cercospora Leaf Spot | Brown, round or irregular spots on leaves. | Sanitation. Cleary's 3336 could be used to provide protective treatment. |
| Leyland Cypress | Botryosphaeria | Sunken lesions on | Sanitation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|--|---|--|
| | Canker | branches; lesion edges may be cracked. | |
| | Cercosporella (Cercospora) Blight | Blight usually starts on lower inner needles. | Pruning, sanitation, protective sprays of Cleary's 3336. |
| | Macrophoma, Pestalotia Needle Blight-Secondary | Brown needles with tiny black specks that are the spore bodies of these fungi. Usually occurs on stressed or weakened plants. | Sanitation. |
| | Macrophoma, Phomopsis Cankers, Maybe Secondary or Weak Pathogens | Small, sunken, brown lesions on twigs and small stems; black specks of spore bodies present on lesion surfaces sometimes. | Sanitation. Cleary's 3336 protective sprays. |
| | Phytophthora Root Rot | Tree dieback; roots develop dark color with a wet rot. | Tree removal; reduce irrigation and improve area drainage. |
| | Phomopsis Twig Canker | Sunken circular or elliptical brown lesions on twigs. | Sanitation; protective spray of Cleary's 3336. |
| | Seiridium Canker | Sunken lesions on twigs and branches; usually sap oozes around the cankers. | Sanitation. Maintain healthy trees. See the AL Pest Management Handbook under Phomopsis. |
| Ligustrum | Cercospora Leaf Spot | Brown circular or irregularly shaped leaf spots. | Sanitation. Improve air circulation. Apply Cleary's 3336 spray. See AL Pest Management Handbook. |
| Lilac | Bacterial Leaf Spot | Black, angular, water-soaked spots. | Sanitation. See AL Pest Management Handbook. |
| | Pythium Root Rot | Roots are off-color, decayed, & water-soaked. | Sanitation; Improve soil drainage; crop rotation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------------|---|--|--|
| Lily, Asiatic | Pythium Root Rot | Foliage dieback; roots become light brown and soft rotted. | Sanitation; correct water problems. |
| Liriope | Anthrachnose (<i>Colletotrichum</i>) | Reddish-brown leaf spots, especially at leaf tips. | Cut back foliage. See the AL Pest Management Handbook. |
| Loropetolum | Phytophthora Root Rot | Tree dieback; roots develop dark color with a wet rot. | Tree removal; reduce irrigation and improve drainage. |
| Lupin | Fusarium Seedling Disease | Seedlings typically collapse at the soil level, wither, and die. | Replant. Consult with Ed Sikora. |
| | Pythium Seedling Disease | Seedlings typically collapse at the soil level, wither, and die. | Replant. Consult with Ed Sikora. |
| Magnolia | Anthrachnose | Small-large brown spots or blotches; some blotches may occur along leaf veins. | See the AL Pest Management under 'Leaf Spot'. |
| | Phyllosticta Leaf Spot | Small-large (0.5-1 cm) light brown usually circular spots. | See the AL Pest Management Handbook under 'Leaf Spot'. |
| Magnolia, Southern | Algal Leaf Spot (<i>Cephaleuros</i>) | Green-reddish, slightly elevated, round or oval leaf spots. | Pruning to help reduce humidity; See the AL Pest Management Handbook. |
| Maple, Red | Botryosphaeria Canker | Dry, cracked, dark brown-black branch lesions. | Prune out cankers. |
| Million Belles | Pythium Root Rot | Roots become light brown and wet-rotted. | Remove damaged plants. Reduce soil water content. Some soil replacement in the landscape could be helpful. |
| Mondgrass | Anthrachnose (<i>Colletotrichum</i>) | Brown or reddish-brown blotches on leaf blades. Often | See the AL Pest Management Handbook. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|-----------------|--|---|---|
| | | blotches are along leaf edges or tips. | |
| Mountain Laurel | Anthraco nose | Brown circular-irregular leaf spots. | Sanitation. Protective sprays of Cleary's 3336 or Halt may be used. |
| | Cercospora Leaf Spot | Brown, circular-irregular leaf spots. | Sanitation. Protective sprays of Cleary's 3336 or Halt may be used. |
| Nandina, Dwarf | Phytophthora Root Rot | Roots become water-soaked, brown and eventually dried. Foliage shows, dieback, wilt, poor growth. | Sanitation. |
| | Pythium Root Rot | Small roots become light brown & wet rotted. Foliage shows dieback, wilt, poor growth. | Sanitation. Reduce water levels. |
| Oak | Botryosphaeria Canker | Lesions are usually sunken with cracked margins. | Pruning. |
| | Hypoxylon Canker | A thick, black, hard fungus layer develops just under bark. | Prune out cankers. |
| Oats | Barley Yellow Dwarf Virus | Older foliage becomes yellow-red in color; plants become stunted with excess tillering. | --- |
| | Crown Rust (<i>Puccinia coronata</i> f. sp. avenae) | Small yellow leaf spots that may become powdery yellow when urediniospores produced; poor plant growth. | Check with A. Hagan. |
| | Drechslera Leaf Spot | Small brown, elongated leaf spots. Sometimes spots may appear rectangular in | -- |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|---|--|
| | | shape. | |
| | Halo Blight (<i>Pseudomonas coronafaciens</i>) | Small, oval or oblong, light brown, wet-looking leaf spots with halos; if several spots, leaf dies. | -- |
| | Smut, Loose (<i>Ustilago avenae</i>) | Seeds are destroyed and replaced by black spores of the fungus. | Check with A. Hagan. |
| Pachysandra | Volutella Blight | Brown, sunken, shriveled lesions on stems. Orange dots (fruiting bodies with spores) may be seen on surface of lesions. | Prune out damaged areas. |
| Palm | Fusarium Root Rot | Foliage dieback; roots develop a brown, dry rot. | Remove tree. Do not replant with palm. |
| | Pestalotia Leaf Spot | Circular-irregular, brown leaf spots. | Sanitation. Eliminate stress problems. |
| Pansy | Phytophthora Crown Rot | Foliage wilt and dieback; lower stem becomes brown and soft rotted. | Sanitation. See ANR-1214. |
| | Pythium Crown & Root Rot | Foliage wilt & dieback; lower stem and roots become light brown and wet rotted. | Sanitation; See ANR-1214. |
| Peach | Armillaria Trunk/Root Rot | Trees do not leaf out in the spring or they leaf out and dieback a few weeks later. Black thread-like structures +/- or white thin fungal mats may be present under the bark of trunk near soil line. | Sanitation of infected plants including roots. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|----------------|--|---|--|
| | Black Knot (<i>Plowrightia morbosum</i>) | Green or black elongated swellings along branches. | Sanitation. See the AL Pest Management Handbook. |
| | Botryosphaeria Canker, Gummosis | Usually oval-shaped sunken lesions with cracked edges and oozing of vascular gummy fluid. | Sanitation. |
| | Crown Gall (<i>Agrobacterium tumefaciens</i>) | Irregular brown, woody swellings at the lower trunk or upper roots. | Sanitation. Crop rotation. See Ed Sikora. |
| | Leaf Curl (<i>Taphrina</i>) | Leaves become thickened, puckered and sometimes reddish-green. | Sanitation; See the AL Pest Management Handbook. |
| | Phomopsis Twig Blight | Branches show wilt and dieback resulting from branch cankers; cankers are oval elliptical and sunken; wood discoloration is evident when outer bark is removed. | Sanitation. See Ed Sikora. |
| Pear | Entomosporium Leaf Spot | Small (1/8-1/4 inch) black spots on leaves. | Sanitation. |
| Pear, Bradford | Botryosphaeria Canker | Sunken, elongated, cracked branch/twig lesions. | Pruning. |
| | Fireblight (<i>Erwinia</i>) | Black-colored dieback, blossom blight, twig-tips may have a shepherd's crook. | Sanitation; See AL Pest Management Handbook. |
| | Phomopsis Canker | Sunken, elongated lesions. | Pruning; improve plant vigor. |
| Pecan | Crown Gall | Woody swellings | Sanitation; remove tree, including |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|-------------------------------|--|--|--|
| | <i>Agrobacterium tumefaciens</i> | (galls) on lower trunk usually near ground level. | roots, replace with a non-susceptible plant. See ANR-944 or www.aces.edu/pubs/docs/A/ANR-0944/ANR-0944 . |
| Peony | Botrytis Blight | Brown-gray, irregular leaf spots & blotches. | Sanitation. See the AL Pest Management Handbook. |
| Periwinkle | Pythium Root Rot | Roots brown and water-soaked. | Sanitation. See AL Pest Management Handbook. |
| Petunia | Botrytis | Flowers, stems, and leaves may develop blight; a gray mold may develop. | Sanitation; See the AL Pest Management Handbook. |
| | Black Root Rot (<i>Thielaviopsis basicola</i>) | Plants stunted; lower leaves may be yellow; roots have black spots, areas. | Sanitation. Protective drenches of Cleary's 3336 or Halt; crop rotation for 3-4 years. |
| | Fusarium Root Rot | Foliage dieback; roots develop a brown dry rot. | Remove plants. Do not replant with petunia. |
| | <i>Phytophthora parasitica</i> Crown Rot | Cankers and blight areas develop on foliage. | Sanitation. Daconil, Echo, Thalonil, and Aliette are labeled. |
| | Pythium Root Rot | See Periwinkle. | |
| Phlox (and Other Ornamentals) | Powdery Mildews | Buff or white powdery patches on leaves and stems; some distortion of new growth. | Sanitation. Cleary's 3336 may be used. |
| | Rhizoctonia Blight | Lower leaves become brown blotched with whole leaves and stems sometimes affected. | Sanitation. Cleary's 3336 may be used. |
| Photinia | Armillaria Root Rot | Decline of plant. Check the lower trunk or roots for a thin, white mycelial layer under the bark. Also look for honey-colored mushrooms. | Sanitation of plant and roots. Crop rotation. See ANR-907. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|---------------------------|---|--|--|
| | Entomosporium Leaf Spot | Dark red spots (usually 3-4 mm or ¼ inch diameter) on upper and lower leaf surfaces. Spots often coalesce. | Pruning; Fungicide treatment; See Circular ANR-392 or AL Pest Management Handbook. |
| Pine, Loblolly | Fusiforme Rust (<i>Cronartium quercuum</i> f. sp. <i>fusiforme</i>) | Rusty, powdery coating appears on the surface of fusiform (elliptical-shaped) swellings on branches and trunks. (Near-by oaks will develop small black leaf spots in late spring). | Sanitation in landscape settings; protective fungicide sprays available for nursery situations. See the AL Pest Management Handbook. |
| | Needle Rust (<i>Coleosporium</i>) | Cream-colored pustules (2-3 mm or ⅛ inch wide and high) develop along the edges of needles. | Sanitation. |
| Pine Seedlings, Long Leaf | Rhizoctonia Root Rot | Brown lesions, often shriveled, on roots. | Sanitation. |
| Pine, Virginia | Fusarium Pitch Canker | Sunken, elliptical lesions on branches and trunks covered with pine resin. | Sanitation. |
| | Needle Rust (<i>Coleosporium</i>) | Cream-colored pustules (2-3 mm or ⅛ inch wide and high) develop along the edges of needles. | Sanitation. |
| | Rhizosphaeria Needle Cast (<i>Coleosporium</i>) | Small brown spots on needles. Needles fall when disease severe. | Sanitation of fallen needles if possible. See the AL Pest Management Handbook for fungicides under "Needlecast and Other Needle Diseases". |
| Plum | Black Knot (<i>Plowrightia</i>) | In early spring, green swollen, elongated galls & cankers develop. As | Pruning; See ANR-1055 (Disease Note) for more information. In late sinter, apply a dormant spray of liquid lime sulfur. At green tip |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|----------------------|---|---|--|
| | | spring and summer progresses, galls become black. | stage, apply Captan. |
| | Botryosphaeria Canker | Sunken, dried lesions on branches & twigs. Often lesions are cracked around the edges. | Pruning. Make cuts 3-4 inches beyond the lesion edge. |
| <i>Poa trivialis</i> | Pythium Blight | Irregular or circular areas become yellow and brown; dieback. | See the AL Pest Management Handbook; also see ANR-594. |
| Pomegranite | Botryosphaeria Canker | Sunken lesions on branches/trunk, often with cracked edges. | Remove cankers; make cuts 3-4 inches beyond the canker edge; dip shears or blade into alcohol or a 10% solution of household bleach. |
| Privet | Cercospora Leaf Spot | Large (¼-½ inch diameter), medium brown circular or irregular spots. | See AL Pest Management Handbook; Sanitation. |
| Privet, Japanese | Cercospora Leaf Spot | A light brown, irregularly shaped or oval shaped leaf spots. | Sanitation of fallen leaves. Cleary's 3336 may be used. |
| Quince | Fireblight (<i>Erwinia amylovora</i>) | Blossom blight followed by rapid dieback. | Severe pruning. |
| Red Cedar | Phomopsis Dieback | Tips of twigs are brown. The dieback will extend further down the twigs as time progresses; canker. | Sanitation; See AL Pest Management Handbook. |
| Rhododendron Azalea | Botryosphaeria Canker | Elongated, elliptical, sunken, brown cankers with margins that are often cracked. | Sanitation. |
| Rhododendron | Ascochyta Leaf Spot | Brown circular-irregular spots of varying sizes. | Sanitation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|------------------|--|--|---|
| | Cercospora Leaf Spot | Brown spots (5-10 mm or ¼-½ inch diameter) usually circular. | Protective sprays of Cleary's 3336 or Domain. Sanitation. |
| | Pestalotia Leaf Spot | Gray-brown blotches on leaves, often develop on winter stressed or injured leaves. | Sanitation. |
| Rose | Black Spot (<i>Diplocarpon rosa</i>) | Black, circular spots with feathery edges. | See ANR-505 & AL Pest Management Handbook. |
| | Brown Canker (<i>Diaporthe umbrina</i>) | Elongated, brown, sunken lesions (cankers) on canes. | Sanitation - pruning. Apply protective fungicides labeled for black spot control. |
| | Coniothyrium Canker | A brown oval or roughly oval sunken lesion on rose canes. Microscopic exam usually required to distinguish this canker from some others. | Sanitation. Apply protective fungicides labeled for black spot control. |
| | Crown Gall (<i>Agrobacterium tumefaciens</i>) | Soft green-white galls at or near the soil line become brown and hard. Plants show poor growth. | Sanitation. See ANR-505 and the AL Pest Management Handbook. |
| | Phytophthora Root Rot | Plants grow poorly; lower foliage may become yellow; wilt; plant death. | Sanitation. See ANR-505 and the AL Pest Management Handbook. |
| | Powdery Mildew (<i>Sphaerotheca</i> spp.) | White powdery coating on leaves/ stems. | See ANR-407 & AL Pest Management Handbook. |
| Rose, Hybrid Tea | Nectria Canker | Sunken cane lesions with some callus production around lesion edges. | Sanitation. Protective fungicides labeled for black spot. |
| | Rust (<i>Phragmidium</i>) | Yellow spots first develop; later orange, powdery | Sanitation; Dithane, Fore, Protect, Eagle, Systhane may be used for protection. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|---------------------|--|--|---|
| Rosemary | Botrytis Blight | spore masses cover leaf spots; eventually spots become brown and leaves fall. Brown-gray blight areas and leaf spots. | Sanitation. Reduce humidity. |
| | Root Knot Nematode (<i>Meloidogyne</i> sp.) | Plants are stunted with lower foliage becoming yellow. Roots develop irregular galls. | Sanitation. See ANR-689. |
| Ryegrass | Pythium Blight | Leaves develop large, brown, water-soaked spots/lesions. | See ANR-594 & the AL Pest Management Handbook. |
| Ryegrass, Perennial | Brown Patch (<i>Rhizoctonia</i>) | Light brown, large, circular patches occur; grass blades and/or crowns show medium brown lesions and/or rot areas. | See the AL Pest Management Handbook. |
| Satsuma | Anthrachnose (<i>Colletotrichum</i> sp.) | Brown circular leaf spots, sometimes zonate. | Sanitation. Improve air circulation. |
| | Phytophthora Root Rot | Foliage dieback; roots become brown and wet rotted. | Sanitation—remove infected tree; reduce water levels; check with Ed Sikora. |
| Snapdragon | Anthrachnose | Small, brown, round leaf spots. | Sanitation. See AL Pest Management Handbook. |
| | Pythium Irregular Crown & Root Rot | Roots become light-brown and water-soaked. Foliage may become yellow (especially lower foliage) with wilt and dieback. | Remove damaged plants. Reduce water levels of soil. Replacement of some soil may be helpful. Improve soil drainage. |
| St. Augustinegrass | Brown Patch (<i>Rhizoctonia solani</i>) | Light brown, large, circular patches occur on lawns; grass blades show medium brown | See AL Pest Management Handbook. See ANR-492. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|--|--|---|
| | | lesions and/or crowns show lesions and rot. | |
| | Gray Leaf Spot (<i>Piricularia</i>) | Gray, irregularly shaped spots on leaves. | See the AL Pest Management Handbook. |
| | Take-All Patch (<i>Gaeumannomyces</i>) | Patch areas thin out with individual plants dying out. | Keep the soil pH about 5.5-6.0 and use ammonium (not nitrate) forms of nitrogen. |
| Strawberry | Anthrachnose Fruit Rot (<i>Colletotrichum</i>) | Brown-black rotting develops on fruit. Spots initially are circular. Older spots may become orange due to spore production. | See the AL Pest Management Handbook or Spray Guide Bulletin for Small Fruit. |
| | Bacterial Leaf Spot | Black, angular, water-soaked edged leaf spots. | Sanitation; do not water overhead; copper protective sprays. See the AL Pest Management Handbook. |
| | Botrytis Crown Rot | Foliage collapses. | Crown tissues become decayed and dry. A gray mold may develop on the tissue surfaces. |
| | Botrytis Fruit Rot | Gray-brown rotted area often covered with gray fluffy mycelium. | Sanitation. See AL Pest Management Handbook or Spray Guide Bulletin for Small Fruit. |
| | Mycosphaerella Leaf Spot | Symptoms vary with temperature and strawberry species. In many situations, leaf spots appear as small, circular spots (2-3 mm or 1/8 inch diameter) with light centers and purple margins. Numerous spots may coalesce and cause total leaf death. On some cultivars, spots become very large, | See AL Pest Management Handbook or the Spray Guide Bulletin for Small Fruit. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
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| | | involving a good portion of the leaf area. | |
| | Phytophthora Crown & Petiole Rot | Reddish discoloration of inner crown section of plant. Petioles become brown and decayed. | Sanitation. Reduce irrigation and/or improve soil drainage. See AL Pest Management Handbook. |
| Sweet Potato | Black Rot (<i>Ceratocystis fimbriata</i>) | Black, firm rot on root surface does not extend beyond the vascular system, about 1/8 inch. | Sanitation. See AL Pest Management Handbook for a commercial crop. |
| | Fusarium Crown Rot | Lower stems develop a reddish-brown decay. | Long crop rotations (10 years or more) away from sweet potatoes. |
| Thrift (<i>Phlox subulata</i>) | Anthrachnose (<i>Colletotrichum</i>) | Brown or reddish-brown spots, blotches (1-3 mm diameter) develop. Spot coalescence. | Sanitation; protective sprays of Cleary's 3336 or Domain may help. |
| Tomato | Bacterial Leaf Spot & Fruit Spot (<i>Xanthomonas axonopodis</i>) | Black, circular, water-soaked spots. | See ANR-71 and the AL Pest Management Handbook. |
| | Early Blight (<i>Alternaria</i>) | Brown-dark gray, sometimes zonate, usually oval leaf spots and cankers develop, beginning in the lower foliage. Girdling stem cankers result in dieback. | Sanitation. See the AL Pest Management Handbook and ANR-71. |
| | Late Blight (<i>Phytophthora infestans</i>) | Brown, wet-looking blight, spots, and cankers develop dieback. | Sanitation; protective fungicides. See AL Pest Management Handbook; crop rotation. |
| | Pythium Root Rot | Roots slightly discolored, water- | Sanitation. See AL Pest Management Handbook. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|---|---|
| | | soaked. | |
| | Rhizoctonia Crown Rot | The stem (crown) at the soil-line becomes brown, dried, and rotted. | Crop rotation; possibly soil solarization. |
| | Septoria Leaf Spot | Gray circular leaf spots; leaf spots may coalesce. | Sanitation. See AL Pest Management Handbook. |
| Torenia | Pythium Blight | Roots become light brown and show a wet rot. Foliage wilts and shows dieback. Lower foliage may become yellow, then wilt with dieback. | Remove damaged plants. Reduce water levels of soil. Replacement of some soil may be helpful. Improve soil drainage. |
| Tulip | Blue Mold (<i>Penicillium</i>) | Bulbs develop a blue colored powdery mold and bulb rot. | Sanitation. |
| | Fusarium and <i>Penicillium</i> Bulb Rots | Bulbs develop sunken brown-gray dried lesions. <i>Penicillium</i> sporulation may occur as blue-gray-mold on the surface of the sunken rotted area. | Sanitation. Bulb dips. See the AL Pest Management Handbook. |
| Turnip | Cercospora Leaf Spot | Brown or tan or cream-colored irregular spots (.2-1 cm diameter) develop on foliage. | Sanitation; See the AL Pest Management Handbook or Spray Guide Bulletin for Vegetables. |
| Verbena | Fusarium Root Rot | Plants become stunted; lower leaves may become yellow; roots become dry and brown decayed. | Sanitation. Long crop rotation. |
| | Pythium Root Rot | Plants become stunted; lower leaves may become yellow; roots | Sanitation. Long crop rotation. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|---------------|--|---|---|
| | | become water-soaked and slightly discolored to a light brown. Roots pull apart easily. | |
| Viburnum | Botryosphaeria Canker | Elongated, sunken lesions with cracked edges develop on branches. | Prune out the cankers. Make cuts 3-4 inches beyond the damage edge. |
| Vinca, Annual | Rhizoctonia Stem Rot | Dark brown, dried, sunken lesion(s) on stems. Dieback of affected stems. | Sanitation; remove damaged plants; Chipco 26019, Cleary's 3336, or Domain protective sprays; See AL Pest Management Handbook. |
| Wax Myrtle | Anthracnose | Circular-irregular brown leaf spots. | Sanitation; Cleary's 3336 or Halt if desired as protective treatment. |
| | Botryosphaeria Canker | Dark, cracked, slightly sunken lesions on branches. Often follows cold injury. | Pruning. |
| | Septoria Leaf Spot | Circular to angular brown leaf spots. | Sanitation. |
| Wheat | Bacterial Blight (Black Chaff) (<i>Xanthomonas campestris</i> pv. <i>transleucens</i>) | Early in the season blackish elongated lesions may develop on foliage. Later, glumes will become spotted with brown-black lesions which may be confused with Septoria glume blotch. | No control except to deep plow or crop rotation. |
| | Barley Yellow Dwarf Virus | Yellowing and reddening of older leaves; excessive tillering; stunting. | No control except to control aphids, if possible. |
| | Leaf Rust (<i>Puccinia recondita</i>) | Orange-red dots and patches of spore masses on leaves. | See AL Spray Guide. |
| | Powdery Mildew | Gray-white or buff | See AL Spray Guide. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|--|---|
| | (<i>Erysiphe</i>) | colored powdery blotches usually on leaf blades. | |
| | Septoria Blotch (<i>S. tritici</i>) | Yellow flecks on lower leaves enlarge into irregular, elongated lesions (1-5 x 4-15 mm or 1/16-1/8 x 1/8-1/2 inches) that become brownish with some spots developing gray centers. | Generally no control needed. |
| | Septoria Glume Blotch (<i>Septoria nodorum</i>) | Small irregular gray-brown spots on leaves; purple-brown blotches on glumes. | Check with A. Hagan. |
| | Tan Spot (<i>Drechslera tritici-repentis</i>) | Light brown, elliptical spots develop on leaves; spots may be 1 cm long and may have yellow border. | -- |
| | Take-all (<i>Gaeumannomyces</i>) | Lower stem and roots at the soil line become blackened and decayed. | Crop rotation to oats, corn, or legumes for 1 year. |
| | Wheat Soilborne Mosaic Virus | Older leaves show a yellow-green mosaic of short, thin, yellow lesions (usually about 1/8 inch long). Plants become stunted. | Crop rotation. |
| Zinnia | Botrytis Canker | Brown, dry, sunken lesions; a gray, thin, mold may develop on the surface when conditions humid and in 70s. | Sanitation. See the AL Pest Management Handbook. |
| Zoysia | Brown Patch (<i>Rhizoctonia</i>) (Large Patch) | Small or large circular brown patches on lawn; grass blades show | See ANR-492; see AL Pest Management Handbook. |

| <u>PLANT</u> | <u>DISEASE</u> | <u>DESCRIPTION</u> | <u>CONTROL</u> |
|--------------|---|---|----------------|
| | | medium brown lesions or crowns show lesions and rot. | |
| | Fairy Ring | Rings of brown turf in grass. Mushrooms sometimes present in spring and/or fall. | See ANR-372. |
| | Ring Nematode (<i>Criconeoides</i>) | Stunted, yellowed plants; dieback. | See ANR-523. |
| | Take-All Patch (<i>Gaeumannomyces graminis</i> pv <i>graminis</i>) | Patch areas thin. Individual plants in a patch die. | See ANR-823. |