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Issue 1, February 24, 2020

Arkansas Plant Health Clinic Newsletter

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Lettuce

Lettuce Drop or White Mold, caused by several species of the fungus *Sclerotinia* can result in serious loses in susceptible crops. Species of *Sclerotinia* can infect lettuce, legumes, sunflowers, canola, most vegetables, tobacco, many flowering bedding plants, and stone fruits. *Sclerotinia minor* can be distinguished from *Sclerotinia sclerotiorum* by where it is found on the plant and by the size of the survival structures called sclerotia. *S. minor* attacks the stems and leaves in contact with the soil. A soft brown rot ensues that eventually causes the plant to collapse. The collapse usually occurs when lettuce is near maturity. Large amounts of white mycelia and small [up to 0.125-inch (3 mm)], black, hard, resting bodies (sclerotia) form on the outside of the decayed crown. Infections by *Sclerotinia sclerotiorum* cause the same symptoms but can also attack upper foliage. The sclerotia of *Sclerotinia sclerotiorum* are much larger 0.25–0.50 inch (6-12 mm). The disease favors cool, wet conditions in the spring and fall. Fungicides applied as preventatives when plants are small are effective at controlling Lettuce Drop. Rovral, Endura, Switch, Botran, and Cannonball are labeled for control of Sclerotinia diseases in lettuce. Removal of infected plants helps decrease amount of inoculum in the field. Spacing plants to avoid dense canopies is also helpful as well as orienting rows north to south to help with air flow.

Lettuce Drop-*Sclerotinia minor*

Photo by Keiddy Urrea, University of Arkansas Cooperative Extension

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Lettuce Drop Destroyed Crown-*Sclerotinia minor*

Photo by Keiddy Urrea, University of Arkansas Cooperative Extension

Lettuce Drop Sclerotia-*Sclerotinia minor*

Photo by Keiddy Urrea, University of Arkansas Cooperative Extension

Turf

Large Patch, caused by *Rhizoctonia solani,* is one of the most important diseases of turf. If you had a problem, last season with a patch disease in your lawn, now is the time to think about treatment this season. The pathogen attacks Zoysia, Bermuda, St. Augustine, and Centipede. The damage occurs in the spring and fall when the pathogen is active. Stolons and basal leaf sheaths develop water soaked black to reddish brown lesions. Irregular circular patches develop that may be from several feet to more than 25 feet in diameter. Sometimes a smoke-colored or orange halo may be observed early in the morning at the margins of the patch. Diseased shoots are easily detached from their points of attachment. Roots are discolored but not rotted. In the most badly affected turf, entire lawns may be blighted. Symptoms on Bermuda usually occur earlier in the spring than on Zoysia. Symptoms in Zoysia occur two to eight weeks after green up, or in the autumn. Sometimes symptoms slowly disappear during the growing season as surviving tillers start filling in the killed spots. Night irrigation, shade, and excessive amounts of nitrogen increase both severity and incidence of patch diseases. Complete fertilizers with time-release nitrogen should be used instead of quick release nitrogen. Apply 0.5 pound of nitrogen per thousand square feet approximately three weeks after the grass turns green in late May. No more than two pounds of nitrogen total should be applied per growing season to Zoysia. A soil test is useful to see where fertility levels are. Good drainage is essential for a healthy lawn. The turf should

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be de-thatched if thatch accumulates to more than 0.5" thick. De-thatching should be done while grass is actively growing. Fungicides may be applied once in the spring between March 15 and April 15, and again in the fall between September 20 and October 10. Heritage, Prostar, Eagle, Instrata, and Bayleton are labeled for Large Patch. Soil test for pH and nutrients. Avoid night watering. Homeowners may use Spectracide Immunox Plus Insect Control for Lawns, Scotts Lawn Fungus Control, or Bonide Infuse Systemic Disease Control for Lawn and Landscape. Follow label for timing and rate.

Zoysia Large Patch-*Rhizoctonia solani*

Photo by Jim Robbins, University of Arkansas Cooperative Extension

Zoysia Large Patch-*Rhizoctonia solani*

Photo by Ryan Gulley, Spring Green Lawn Care

Pear and Apple

It's nearly time to spray pears and apples for Ornamental pear is among the first to bloom in the spring. Bloom is the only effective time to spray for this serious bacterial disease. Fire blight, caused by *Erwinia amylovora*, attacks all members of the rose family, including pears, apples, crabapples, quince, cotoneaster, photinia, raspberries, blackberries, hawthorn,

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and roses among others. Twig and branch cankers become active with warm, wet weather in the spring. The infected tissue begins to ooze bacterial slime that attracts insects. The bacterium is spread by pollinators such as bees that carry the bacteria from bloom to bloom and from tree to tree. Bloom clusters wilt and die a few weeks after infection. Infection spreads down the twig and can infect a main branch. Twig and branch cankers begin as water-soaked areas, and then turn dark brown or black. The bark covering older cankers usually becomes sunken and cracked. The disease can kill blossoms, leaves, twigs, limbs, and occasionally, the entire tree. Infected petioles and young shoots form a typical shepherd's crook, brown-colored in apples, and black in pears. The dead foliage remains on the tree. Fire blight is among the most difficult of diseases to control. By far the most effective control is planting resistant cultivars. The most susceptible apples include York, Rome, Jonathan, Jonagold, Idared, Tydeman's Red, Gala, Fuji, Braeburn, Lodi and Liberty. Stayman and Golden Delicious cultivars are moderately resistant. Red Delicious, Winesap, Haralson, Liberty, Prima, Priscella, and Redfree apples are highly resistant. Susceptible pears are Bartlett, Bosc, D'Anjou and Clapp's Favorite, while Magness, Moonglow, Maxine and Seckel are highly resistant. Most Asian pears are moderately to highly susceptible with the exceptions of Seuri, Shinko and Singo pears. Susceptible pear trees should be sprayed at green tip, at 5% bloom and at 50% bloom with Mycoshield, or Firewall, or Fosphite, or a copper fungicide such as Kocide. Apples may be sprayed with Fosphite, or Firewall, or Agri-mycin 17. All dead tissue should be pruned out 10 – 12 inches below the damage. Cutting tools should be dipped between cuts in a 10% bleach solution, (nine cups water to one cup bleach) or in 70% alcohol. Do not leave pruners in the solution or they will be ruined.

Pear Fire Blight-*Erwinia amylovora*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Apple Fire Blight-*Erwinia amylovora*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Peach/nectarine

The time to treat for Peach Leaf Curl is before the tree breaks dormancy in the spring. Once the tree leafs out and the symptoms of Peach leaf curl are evident, it is too late to spray during the current season. If the trees have not broken bud in your area, it is not too late to spray and should be done immediately. Spores from the fungus *Taphrina deformans* overwinters on twigs and bud scales. Infection occurs at bud break early in the spring during cool, wet weather. Blister-like swellings, curling, thickening, puckering, and discoloration of the leaves are the first symptoms of Peach leaf curl. Affected areas may turn pink, red or yellow. In severe cases, defoliation occurs along with substantial yield loss. Peach leaf curl is easily controlled with one well-timed fungicide application in the fall after 90% of the leaves have dropped, or very early in the spring before the buds begin to swell. Chlorothalonil or copper sprays are effective.

Peach Leaf Curl-*Taphrina deformans*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Peach Leaf Curl-*Taphrina deformans*

Photo by K. Branch, University of Arkansas Cooperative Extension

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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