DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System
Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 13-August 8, 2006

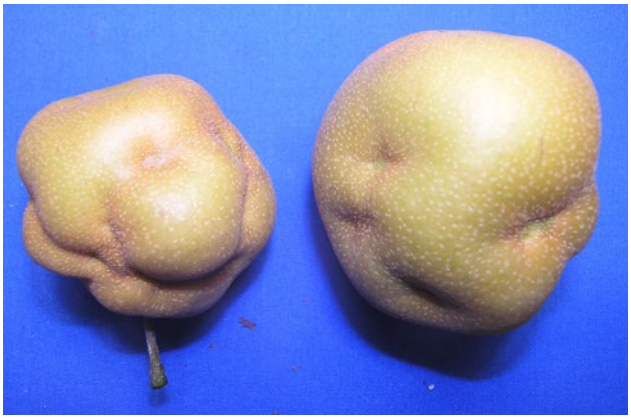
Arkansas Plant Health Clinic Newsletter

Follow us on social media

Facebook

Pear

Pears are susceptible to a number of viruses. Stony pit is one of the most destructive because the deformed fruit in unmarketable. Dark green areas form on the small fruit 10-20 days after petal fall. The fruit becomes pitted and deformed due to restricted cell growth in those areas. The tissue at the bottom of the pits is often necrotic and difficult to cut. Areas inside the fruit may be necrotic. Some fruit may be undersized and completely deformed, others may have only a single pit, and others appear completely normal. Symptoms may appear on one side of the tree only or all over the tree. A tree may be affected one year and have no symptoms the following year. No causal agent has been identified, but it is believed that the virus is spread mechanically by budding, grafting, and rooting of cuttings. Pits in fruit may be produced by other causes such as cold injury to blooms, insect stings, and boron deficiency. These deformities are not associated with production of abnormal sclerenchyma cells which is a symptom of stony pit. There is no treatment for this virus. Afflicted trees should be kept well-watered, fertilized properly, and other pests and diseases controlled to help reduce stress and minimize the impact of the disease.



Holly

There are many species of holly available. In general, hollies are easy to care for plants, however, they can develop root rots in unfavorable soils, and also stem cankers and fungal infections of leaves and flowers when environmental conditions are favorable for disease. Holly prefers moist well-drained rich soils. They dislike heavy, wet clay soils and are prone to root rot diseases when planted in such a location. Black root rot, caused by *Thielaviopsis basicola*, can cause extensive damage in both the home landscape and commercial nurseries. Infected roots are dark brown to black. The discoloration starts at the root tips and progresses to larger roots. Above-ground symptoms may include stunting of terminal growth, shortening of internodes, and interveinal chlorosis. Plants with this disease usually decline over several months and die following stress periods such as drought. Planting resistant types and avoiding poorly drained sites are the best protection against

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

black root rot. Submit dying plant roots and all to the clinic if you suspect black root rot.

Hollies can also contract fungal leaf spot diseases. These are usually minor problems requiring nothing more than a general-purpose fungicide such as chlorothalonil, and clean-up old leaves, etc. When the fungus attacks flower buds in the spring you may see a blighting of the berries and stem dieback. Affected stems should be pruned out and discarded.

Holly Botrytis Flower Blight-
Botrytis spp.

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Pumpkin

Downy mildew, caused by *Psuedoperonospora cubensis*, has been reported worldwide where environmental conditions favor the disease. It is one of the most important foliar diseases of cucurbits. Major losses can occur to cucumber, melon, squash, pumpkin, watermelon, and other cucurbits when adequate control measures are not employed at first sign of the disease. Symptoms of downy mildew appear first as small, slightly chlorotic to bright yellow areas on the upper leaf surface. The color is not as bright on the corresponding lower leaf surfaces. The lesions appear first on lower crown leaves, and progress to the newer leaves as they expand. Dead areas may form on the leaf tissues as the chlorotic areas expand. Under favorable conditions, sporulation occurs on the lower surfaces giving a gray to purple appearance to the leaf surface. Infected tissue dies after one cycle of sporulation. In a few days the entire leaf may die. Maximum control of downy mildew is achieved only by the combination of fungicide applications, the use of resistant cultivars, and good sanitary practices. Quadris, Cabrio, Bravo, and Pristine are all labeled for control of downy mildew. See MP 154 Arkansas Plant Disease Control Products Guide.

Pumpkin Downy Mildew-
Psuedoperonospora cubensis

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

SPDN
Southern Plant Diagnostic Network

Sherrie Smith

Issue 13-August 8, 2006

Apple

Wood borers are generally believed to be secondary pests that take advantage of plants that are stressed, injured, or dying of other causes. Trees most susceptible are those stressed from recent transplanting, drought, defoliation, mechanical damage by weed eaters and mowers, as well as disease. Borers are insect pests that spend part of their larval stage feeding inside roots and branches. As adults they may be either beetles or clearwing moths. Females lay their eggs in crevasses of the bark in spring and early summer. After hatching, the larvae bore beneath the bark and make shallow tunnels. A wet spot typically forms around sections of affected bark. Some species complete their life cycle in one year while others take 2-3 years. Most larvae tunnel just beneath the bark of the trunk, branches, or twigs, making long winding galleries. The pattern of tunneling forming the galleries is diagnostic for which species is involved. The tunneling often starts a flow of tree sap, or evidence of sawdust extruding from entry holes. Leaves may be off-color and drop prematurely. Cracks may develop in affected sections of bark. Branches and twigs die when girdled. Death can result from heavy borer infestation. In healthy trees, the larvae are often killed by the sap flow. The best defense is to eliminate stressful conditions by careful watering and fertilization regimes, and to take care to avoid injury to the trunk. Insecticides starting in the spring and continuing at intervals can prevent a heavy infestation in vulnerable trees, however, once the larvae are beneath the bark they are protected from sprays. Borer sprays are available through local nurseries, farm supply co-ops and other retailers.

Apple Borer-unidentified

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Cantaloupe

Corynespora blight, also called Target Leaf Spot is found world-wide on cucurbits. Although found most often on cucumber, it also affects cantaloupe. Older leaves develop symptoms first with angular yellow spots. These spots enlarge and become circular with light brown centers and darker brown borders. As the spots age, they turn gray and drop out giving a shot hole appearance. This fungus survives on plant debris for more than two years. Rotation and good sanitation are the best defenses. There are many chemicals listed for control of target spot. Quadris and Cabrio are two fungicides listed for commercial

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

growers. Homeowners may use chlorothalonil. See MP 154 for a complete list of disease control products for Arkansas.

Cantaloupe Target Spot-
Corynespora cassiicola

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Corn and Milo

Stalk rots continue to be widespread and serious diseases of corn. Gibberella stalk rot is the predominant stalk rot in the Corn Belt and is distributed world-wide. While probably less important than charcoal rot in the South, Gibberella stalk rot can be important here in certain circumstances. Symptoms are similar to those of other stalk rots. Leaves turn from light green to dull green, lower stalks become straw colored, and plants wilt. The internal pith becomes shredded and disintegrates, leaving only the vascular bundles. A diagnostic sign of this disease is the reddish discoloration that occurs inside the stalk. Another symptom is the superficial round black perithecia that can be scraped from the stalk surface. These are found most often at the internodes. Other symptoms are stalk breakage, lodging, and premature death of the plant. Good resistance is available, but often takes a backseat to yield in hybrid selection. Deep plowing and rotation are useful cultural controls. Maintaining good soil fertility, especially with regards to potassium, and proper irrigation are also very important in minimizing stalk rots. Finally, leaf health during grain fill is important to maintaining stalk integrity because modern hybrids will use stalk energy reserves to complete grain fill if leaves should die prematurely. Southern rust, although rarely, can cause enough premature leaf death to result in increased stalk rots and lodging – as seen in 2004 in parts of the state. This foliar disease should be controlled with fungicides should it appear prior to the denting stage of corn.

Corn Stalk Rot-*Gibberella zeae*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

SPDN
Southern Plant Diagnostic Network

Sherrie Smith

Issue 13-August 8, 2006

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.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.