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

SPDN
Southern Plant Diagnostic Network
Issue 19-July 9, 2013

Arkansas Plant Health Clinic Newsletter

Follow us on social media

Facebook

Corn

Corn Smut, caused by the fungus *Ustilago maydis*, can produce startling symptoms, but is generally not considered a serious pathogen. Annual loses seldom exceed 2% where resistant cultivars are grown. Although all above-ground parts of the plant can be infected, Corn Smut is most spectacular when kernels are infected. Large galls form instead of normal kernels when the fungus invades the kernels and starts growing. Galls begins as glistening silvery white to greenish white, but eventually darkens and becomes a mass of powdery, dark olive brown to black spores. The incidence of Smut is higher on nitrogen rich soils or recently manured soils. Resistant varieties are the best method of control. Infected plant parts should be removed before they can sporulate. In some parts of the world, infected ears are considered a delicacy while the galls are in the fresh soft stage. It is sold fresh or canned as huitlacoche, cuitlacoche, or maize mushroom.

Corn Smut-*Ustilago maydis*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Corn Smut-*Ustilago maydis*

Photo by Cindy Ham, University of Arkansas Cooperative Extension

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 19-July 9, 2013

Corn Smut-*Ustilago maydis*

Photo by Joshua Yates, University of Arkansas Cooperative Extension

Slime Mold

Slime Molds belong to the Myxomycetes, and are harmless organisms that feed on bacteria, yeast, and fungi, and are often found in flower beds on decaying mulch, or in turf. In the amoeba stage, Slime Molds are jelly-like, but later turn dry and powdery in the sporulation stage. Slime Molds come in a variety of colors, often bluish gray, but may be orange, yellow, or other colors as well. They may appear overnight, startling homeowners, and are especially common in wetter areas or after extensive periods of rain or overhead irrigation. One of the more common Slime Molds is called the Dog Vomit slime mold because panicked homeowners think their pet has become sick. Slime Molds are a natural part of the environment and are not harmful. If unsightly, you can simply wash them away with a garden hose.

Slime Mold-*Fuligo septica*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak

by John Crandon

Powdery Mildew is a host specific disease of plants caused by a wide range of “powdery mildew” fungal pathogens. In Oak (Quercus) species, Powdery Mildew is a predominantly foliar disease caused by the fungal pathogen *Erysiphe alphitoides* which is known to affect many plant/tree species. Characteristic signs of Powdery Mildew are the presence of white, filamentous, velvety, powdery vegetative growth usually on the top surfaces of leaves, but sometimes found on the underside of

leaves giving oak leaves a dusty silver appearance. Symptoms of Powdery Mildew include leaf distortion, curl, yellowing and premature defoliation. Although usually non-lethal, Powdery Mildew is a problematic disease with high disease incidence in warm dry conditions. Powdery Mildew causes mostly superficial damage that potentially but rarely leads to total defoliation of affected trees. Disease severity depends on several factors including host susceptibility, age, and condition, in addition to favorable weather conditions during the growing season. High atmospheric humidity levels are required for spore germination. Unlike many other fungal pathogens, leaf wetness is not required for infection. Powdery Mildew is prevalent in crowded or dense planting conditions such as in a forest. Young, succulent leaves are usually more susceptible than older plant tissues. Management strategies include the use of resistant cultivars that have been developed in many plants, such as roses, some vegetables and Kentucky bluegrass. Fungicides are not usually advised for mature trees as they are difficult to treat adequately. Small trees with ornamental value may be treated before disease development with fungicides containing propiconazole, or myclobutanil, or triflumizole, or chlorothalonil, or triadimefon, among others. Over-head watering systems or any prolonged period of leaf wetness should be avoided. Proper disposal of plant debris is essential and selective pruning can increase airflow lessening the likelihood of infection. While Powdery Mildew can be very damaging to affected plants, effective management strategies exist and can reduce the incidence and severity of Powdery Mildew occurrence.

Oak Powdery Mildew-*Erysiphe alphitoides*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Powdery Mildew-*Erysiphe alphitoides*

Photo by Andrej Kunca, National Forest Centre - Slovakia, Bugwood.org

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network

Issue 19-July 9, 2013

Purple-Leaf Sand Cherry

by Jason Tipton

Xanthomonas campestris pv. *pruni,* formerly *Pseudomonas pruni* is the causal agent of Bacterial Leaf Spot on Purple-Leaf Sand Cherry. Symptoms start as angular, grayish, water-soaked lesions, 1-3mm in diameter. With age, the lesions become black or brown with a purple border. The center of older spots become necrotic and drop out, leaving shot holes in the leaf. Lesions can also occur on leaves and twigs. Spring and summer twig cankers result from infections the previous fall. Spring cankers appear as slightly raised blister like areas apparent at the time of leaf emergence. Summer cankers are formed on the new green shoots and are visible by late spring or early summer. Water at soil level as excess moisture in the foliage can spread and encourage bacterial growth. There are reports of *Xanthomonas campestris pv. pruni* isolates that are resistant to copper bactericides, in which case better cultural management practices are encouraged rather than spraying. Bacterial Spot is more common and severe where plants are grown on light sandy soils and the environment is humid and warm during the growing season. Planting resistant cultivars, avoiding overhead irrigation, and cleaning up all fallen leaves and twigs are important in controlling Bacterial Spot. Fixed copper fungicides applied at leaf drop in the fall and early in the spring are helpful where resistance is not a problem. Healthy plants are less likely to be severely impacted by disease, so keep your Sand cherries properly watered and fertilized.

Sand Cherry Bacterial Spot- *Xanthomonas campestris* pv. *pruni*

Photo by Jason Tipton, University of Arkansas Plant Pathology Graduate Student

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 19-July 9, 2013

Sand Cherry Bacterial Spot-
Xanthomonas campestris* pv. *pruni

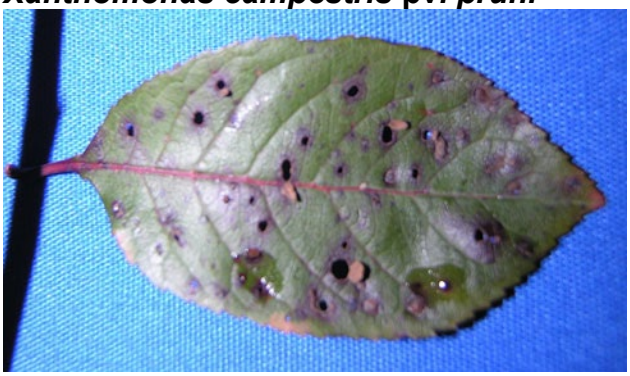

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Grape

Black Rot, caused by the fungus *Guignardia bidwellii,* is the most economically import disease of grapes. All new growth is susceptible throughout the growing season, including leaf laminates, petioles, shoots, tendrils, peduncles, and fruit. Symptoms on leaves are circular tan spots that eventually become reddish brown with a narrow dark brown border. Black pimple-like fruiting bodies of the fungus form in the lesions. The fruiting bodies also appear in black lesions on the young shoots. Infection on the berries starts as a small white dot. In only a few hours, the tiny dot is surrounded by a reddish-brown ring. Within a few days the berry starts to dry, shrivel, and wrinkle to become a hard, blue-black mummy. The symptoms on Muscadine fruit are small, black, superficial, scabby lesions on infected berries. The lesions may coalesce to cover most of the berry. Infected berries may crack at the edges of the scabs. Black Rot can be effectively controlled by using Maneb, or Captan, or Abound, or Pristine, starting when shoots are 4-6 inches high and continuing at 14-day intervals until August.

Grape Black Rot-*Guignardia bidwellii*

Photo by Raven Bough, University of Arkansas Cooperative Extension

Grape Black Rot-*Guignardia bidwellii*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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

SPDN
Southern Plant Diagnostic Network
Issue 19-July 9, 2013

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."