



Arkansas Plant Health Clinic Newsletter

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Cottonwood

The Eastern Cottonwood is one of the largest North American hardwood trees, growing to 20–40 m tall and with a trunk up to 1.8 m diameter. They are closely related to Aspens and Poplars, sharing many of the same diseases. Leaf and shoot blight caused by *Marssonina populi* rarely seriously harms healthy, established trees, but can cause serious damage to saplings. Severe infections can reduce growth. After trees reach a height of 15 feet, damage is minimal. Symptoms are brown to black irregular lesions on leaves and stems early in the spring. Damaged stems become black, brittle, and curl to resemble a shepherd's crook. Recently infected tissues have an olive-green look from spore masses. Fallen leaves should be raked up and disposed of away from the property. Severely affected trees can be sprayed with a fungicide containing Thiophanate-methyl, such as Cleary's 3336. In most cases, chemical controls are not warranted.

Cottonwood Marssonina Leaf Blotch-*Marssonina populi*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Strawberry

by Rebecca Barocco

Strawberry Leaf Scorch is a disease limited to *Fragaria* species. The leaves are the primary source of infection displaying dark purple circular spots that can develop a reddish brown center tinge. These lesions will coalesce and become scorched by turning brown and drying the tips so much that they begin to curl. Symptoms may also occur on leaf stems as well as flower and fruit parts with somewhat similar lesions to those of the leaves. The enemy here is the ascomycete fungus



Sherrie Smith
Rick Cartwright

Diplocarpon earlianum. The ascospores are dispersed by air which may come from another strawberry source, possibly from the wild, or from dead plant residue that overwinters the fungus in black structures called apothecia. These apothecia can be seen as raised black spots on the leaf surface. Because of this overwintering mechanism, fallen dead tissue should be removed from the ground to prevent further infection. Spores that land on the tissue germinate and grow under wet conditions during temperatures from 36-86°F with 59-77°F being optimal. The conidiospores cause the continual infection during the season and are spread by splashing water. There are resistant cultivars that can be grown, but if these are not desirable, then other control measures can be taken. Generally the first and second years of planting are not as susceptible, so new plantings can help prevent the disease. Other methods are holding off on nitrogen application in the spring and only applying optimal levels during summer renovation, planting on a light slope for air drainage, and not overcrowding within rows. Planting in a sunny area with irrigation practices that prevent long periods of leaf wetness, such as not using overhead irrigation or watering in the morning, will inhibit fungal growth. If economically feasible, a fungicide should be sprayed first in the spring between bud break and bloom with either Captan or Thiram and then again every 7 to 10 days until 14 days before harvest with either Elevate, Captan, Thiram, or Switch. For the rest of the season, spray every 2 to 3 weeks with either Captan, Thiram, Topsin, or Syllit. Homeowners can use products with captan or with the organic fungicides containing copper, calcium

polysulfide, sulfur, or sulfur and pyrethrins. However, copper can cause burning of the tissue. Labels should be read carefully for organic substances to prevent such damage.

Strawberry Leaf Scorch- *Diplocarpon earlianum*



Photo by Rebecca Barocco, University of Arkansas Cooperative Extension

Mulberry

Popcorn Disease

Mulberry trees are grown around the globe for their fruit, lumber, and for their value in the landscape. Mulberry fruit can get a disease called Popcorn Disease, caused by the fungus, *Ciboria carunculoides*. The symptoms appear only on infected fruit. Individual Carpels of the fruit are replaced by sclerotia, which enlarge and extend beyond healthy berries. White mulberry varieties and hybrids are more



Sherrie Smith
Rick Cartwright

susceptible to Popcorn Disease. This disease is not considered economically important on ornamental mulberries. It can be a problem, however, on mulberries propagated for fruit production and can cause high yield losses. Control is achieved by taking sanitary measures. Remove and bury the infected fruit on the trees and any ground debris as it appears during the growing season.

Mulberry Popcorn Disease-*Ciboria carunculoides*



Photo by Steve Vann, University of Arkansas Cooperative Extension

Mulberry Leaf Spot

Mulberry trees are prone this time of year to a fungal leaf spot disease caused by *Cercospora mori* or *Cercospora mori*. The initial symptoms of this disease are small dark spots in early spring that gradually increase in size through the growing season. The spots

gradually become circular with the center appearing as a white dot somewhat like a halo, the margins remain dark brown, with spores developing in the lesions. Severe infections cause defoliation which can weaken a tree already under stress. Weeping mulberries are small enough to be easily sprayed. Clean up all fallen leaves and spray with an ornamental fungicide or treat with Bayer Systemic Fungicide. Those growing mulberries for the fruit can use an orchard spray. Begin at green tip in the spring.

Mulberry Leaf Spot-*Cercospora mori*



Photo by Brad McGinley, University of Arkansas Cooperative Extension



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Rick Cartwright

Mulberry Leaf Spot-*Cercospora mori*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Plum

A plum sample tested positive for American Plum Line Pattern Virus (APLPV) per an AGDIA crop screen. APLPV causes ringspots and line patterns on plum and peach cultivars. The vector for transmission is by infected pollen and seed and appears easily transmissible by bud grafting and mechanical means. Symptoms are diffused lines, bands, oak-leaf patterns, or rings. The literature states that symptoms are confined to the leaves. The sample tested showed striking fruit symptoms as well as leaf ringspots. However, very similar symptoms are induced by Apple Mosaic Virus and certain strains of Prunus Necrotic Ringspot Virus, neither of which is serologically related to American plum line pattern virus. The virus has a wide host range; it is known to infect 85 of 245 species inoculated with sap, including six woody rosaceous species. Virus is not curable.

American Plum Line pattern Virus (APLPV)-Iilarvirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Photo by Sherrie Smith, 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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