DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

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SPDN
Southern Plant Diagnostic Network

Department of Plant Pathology

PLANT HEALTH CLINIC NEWS

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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.

Oak

It is not unusual for the Plant Health Clinic to receive tree branch samples that have fallen from the tree with all their leaves still green and healthy looking. Some tree species including larches, pines, poplars, willows, maples, walnut, ashes, bald cypress, and oaks "self-prune" during the growing season as a normal part of their physiology. An abscission layer forms at the base of the branch, shutting off the flow of water and sugar. This shedding of branches is called cladoptosis and often occurs every year in these species. The number of branches shed usually increases with the age of the tree. There is evidence that cladoptosis may occur in order to remove less vigorous foliage or foliage which is disadvantaged in regard to those branches ability to photosynthesize and share in resources. These issues are likely more common in mature, older trees or in trees under stress. Cladoptosis is generally not a cause for concern, though it is always recommended that tree stress be minimized through good cultural practices of a regular watering and fertilization regime.

Oak cladoptosis-abiotic

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Oak cladoptosis-abscission layer

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Peach

Brown Rot is one of the most serious and pervasive fungal diseases of stone fruits. Brown rot attacks peaches, nectarines, apricots, cherries, and plums. Two species of Monilinia have been identified as causative agents in the United States; *Monilinia fructicola*, and *M. laxa.* Monilinia causes twig and blossom blight in early spring. Flowers turn brown and become a gummy mass. The infection travels down and can girdle the twig. Lens-shaped lesions can form on branches and the trunk. The infected tissue becomes covered with grayish-tan spore mass that provides secondary inoculum for additional infections. Brown rot appears on ripening to mature fruit as a rapidly growing, firm brown decay. Eventually the fruit is covered with the grayish-tan spore masses and eventually mummifies on the tree. Immature fruit that is infected remain on the tree and mummify also. Since Monilinia overwinters on mummified fruit, twigs, and cankers, sanitation is very important in the home orchard. However tedious a procedure, it is helpful to clean up as much infected tissue as possible. Homeowners may use Ortho Home Orchard Spray, or Bonide Fruit Tree Spray, or Hi-Yield Captan 50WP, or Bonide Captan 50WP, or Spectracide Immunox, or Bonide Fung-onil Multipurpose Fungicide Concentrate. Timing of the first sprays is of the utmost importance. Begin at pink bud in the spring and follow label for repeat sprays.

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Peach Brown Rot-Monilinia spp.

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Peach Brown Rot-Monilinia spp.

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Walnut

An economically important disease of Walnut is Bacterial Blight caused by *Xanthomonas campestris* pv. *juglandis*. The bacterium can infect leaves, catkins, green branches, and nuts. Bacterial Blight reduces yield and often lowers the quality of harvested nuts. When young nutlets are infected early in the season they may fail to develop and drop prematurely. Discolorations of the shell and nutmeat can occur on maturing nuts. Early symptoms are reddish-brown or black greasy looking lesions on catkin flower clusters. Flowers will shrivel up and drop from the tree. Newly formed nutlets will develop black sunken lesions at the flower end. As the nuts become more mature, they develop lesions and black rings on the sides of the husks. Bacterial lesions on the leaves may cause them to become twisted and distorted. Bark lesions can form cankers that are a perpetual source of inoculum. Extended spring rains make the disease more severe. Losses can be substantial, with nut yields reduced from 50-100 percent. Control is difficult. When 3-40 percent of the catkins have emerged, spray every 7-10 days with a copper fungicide during the spring rainy season.

Walnut Bacterial Blight- *Xanthomonas campestris* pv. *juglandis*

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Request for help from Dr. Robbins:

Root knot nematode populations are needed for our Arkansas species study. I am a nematologist in the department of Plant Pathology in Fayetteville. My student and I are trying to amass populations of as many species of Root knot nematode (Meloidogyne sp.) as possible for species identification using molecular techniques. At present no root knot species in Arkansas have been identified using molecular technology. We are interested in receiving populations from home gardens, shrubs, flowers, trees and grasses. For samples we need about a pint of soil and feeder roots in a sealed plastic bag that is plainly identified by plant host, location (City County, physical address, collector and date of collection). Please send samples to us at the follow address:

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