



Arkansas Plant Health Clinic Newsletter

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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 ashes, bald cypress, larches, maples, oaks, pines, poplars, walnut, and willows "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 Cladogenesis 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 Cladogenesis may occur to remove less vigorous foliage or foliage which is disadvantaged regarding those branches ability to photosynthesize and share in resources. These issues are likely more common in mature, older trees or in trees under stress. Cladogenesis is generally not a cause for concern, though it is always recommended that tree stress be minimized through good cultural practices and a regular watering and fertilization regime.

Oak Cladogenesis-Abiotic



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Oak Cladogenesis abscission layer-Abiotic



Photo by Sherrie Smith, University of Arkansas
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Peach

Brown Rot is one of the most serious and pervasive fungal diseases of stone fruits. Brown Rot attacks apricots, cherries, nectarines, peaches, 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 a 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 mummifies on the tree. Immature fruit that are 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 the label for repeat sprays.

Peach Brown Rot-*Monilinia* spp.



Photos by Sherrie Smith, University of Arkansas Cooperative Extension



Walnut

An economically important disease of Walnut is Bacterial Blight, caused by *Xanthomonas arboricola* pv. *juglandis*. The bacterium can infect leaves, catkins, green branches, and nuts. Bacterial Blight reduces yield and often lowers the quality of harvested 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 may drop prematurely. Discolorations of the shell and nutmeat can occur on maturing nuts. An early symptom is 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 30-40 percent of the catkins have emerged, spray every 7-10 days with a copper fungicide during the spring rainy season.

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



Photos by Sherrie Smith, University of Arkansas
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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.

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