



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.

Blackberry

Fire blight, caused by the bacterium *Erwinia amylovora*, attacks all members of the rose family, with the exception of the stone fruits. Pears, apples, crabapples, cotoneaster, quince, hawthorn, photinia, spirea, pyracantha, roses, blackberry and raspberry are all hosts for Fire blight. Raspberries and some cultivars of blackberries are very susceptible. Most seasons' Fire blight is not a serious problem in blackberries because the damage is removed during normal pruning. However, primocane blackberries that bloom more than once have a greater chance of infection when the environment is right for disease development. Losses occur from flower and fruit blast, and from tip dieback of primocanes. The tips of infected canes turn black and bend over, giving a "shepherds crook" appearance. Infections may progress downwards for more than 8 inches. Whole canes may be blighted when the cultivar is extremely susceptible and environmental conditions are favorable for disease. Fruit clusters become infected at bloom. The stalks of the fruit clusters turn black and the young berries become brown to black, dry and become hard. The strain of *Erwinia amylovora* that attacks brambles is different from the one that attacks pears and apples. Therefore, the strain that attacks apples and pears will not infect raspberries and blackberries and vice versa, with the exception of "Boyne" raspberries that can be infected by the apple strain. Fire blight is spread primarily at bloom through insects, wind, and splashing water. Rain or overhead irrigation, high humidity, and day temperatures of 75-85°F and night temperatures above 55°F favor the disease. Management consists of pruning out the damage as soon as it is noticed, cutting 6-8 inches below the infection. Dip pruners in a 10% bleach solution (one cup bleach to 9 cups water) between cuts. Avoid working in the berries when the foliage is wet as this may help spread the Fire blight. Lime sulfur applied during the dormant season, (dormant only) may be helpful. Some copper fungicides are labeled for use on blackberry for a different bacterium (*pseudomonas*), but do not specifically address Fire blight in cane berries.

Blackberry Fire blight-*Erwinia amylovora*



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Raspberry Fire blight-*Erwinia amylovora*



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Pecan

The larvae of the hickory shuck worm, *Cydia caryana*, can cause significant damage and yield loss to pecan crops. The adult is a nocturnal inconspicuous small gray to smoky black moth approximately 3/8 inch long with a 1/2 inch wingspan. Adult moths emerge from the previous year's shucks in the spring, mate, and lay eggs on newly developing pecan or hickory nutlets, or phylloxera galls. Their feeding activity causes the little pecans to drop. The second generation feeds on larger nuts, also causing premature nut drop. The third generation does the most damage, mining the nuts, reducing nut fill, and causing the shucks to cling to the shell. Raking up fallen nuts in the fall helps to control overwintering shuck worms. Trees should be sprayed at half-shell hardening and repeated at 2 week intervals until shuck split. Asana XL, Belt, Dimilin 2F, Intrepid 2 F, Lorsban 4 E, Mustang Max, Spin Tor, warrior, and Entrust are labeled for control.

Pecan Shuck worm- *Cydia caryana*



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Pecan Shuck worm- *Cydia caryana*



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Grape by Audra Harris

Grape Dead Arm/Eutypa Dieback

The cause of Dead Arm of grape is the fungal pathogen *Eutypa lata*. Dead Arm affects the woody portions of the grapevine, and typically targets older vines that have been subjected to heavy pruning. The spores of the fungus are dispersed by wind or rain splash onto wounded tissue. The most recognizable symptom of the disease is abnormal, reduced, and deformed shoot growth, most often observed in the spring. Leaves on infected shoots may be malformed, cupped, and chlorotic. Affected shoots may shed blossom clusters or have non-uniform berry size. Cankers can also be observed on cordons or trunks and extend lengthwise in both directions until vascular tissue is constricted, resulting in death of the arm or trunk. A cross-section of the arm will show a wedge shaped region of dead wood, a good indicator of disease. However, this is slow developing fungus. Symptoms may not appear until two growing seasons after infection, and after canker formation the fungus may take 5 to 10 years to kill the affected area. Control measures for this pathogen include sanitation, such as removing all old vine material



and using clean pruning shears. Growers should also avoid pruning before wet weather to limit the fungus's entry into the plant. Cankers can be pruned from affected plants, making sure the cut 4 to 6 inches below the expanding canker. Fungicides labeled for control of Dead Arm in Arkansas include Liquid lime-sulfur (dormant only), Flint 50WG (trifloxystrobin), Ziram Granuflo (ziram), Reason 500SC (fenamidone), Gavel 75DF (mancozeb and zoxamide), and Topsin M (thiophanate methyl).

Grape Dead Arm-*Eutypa lata*



Audra Harris, University of Arkansas Plant Pathology graduate student

Grape Dead Arm-*Eutypa lata*



Audra Harris, University of Arkansas Plant Pathology graduate student

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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