



Arkansas Plant Health Clinic Newsletter

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Cucumber

Root-Knot Nematodes, *Meloidogyne* spp, have a wide host range. They attack over 2000 species of plants. Roots damaged by nematodes do not use water and fertilizers effectively. Infestation by Root-Knot Nematodes results in poor growth, reduced quality and yield, and increased susceptibility to diseases and drought stress. Above ground symptoms include stunting, yellowing, wilting, and death. Below ground symptoms are roots with swollen galls and knots. Nematicides are available for commercial growers. Homeowners must rely on crop rotation, sanitation, resistant cultivars, and soil solarization. When using soil solarization, clean up crop debris and till the garden area. Lay clear plastic, (2-4ml), over the area and bury the edges to seal. Stick a hose in and thoroughly wet the area being treated. Leave plastic on for at least 2 months. Soil solarization is most effective during the hot months of the year. Broccoli and cauliflower crops tilled under after harvest naturally inhibit nematodes, as do French marigolds.

Cucumber Root-Knot Nematode-*Meloidogyne* spp.



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Cucumber Root-Knot Female-*Meloidogyne* spp.

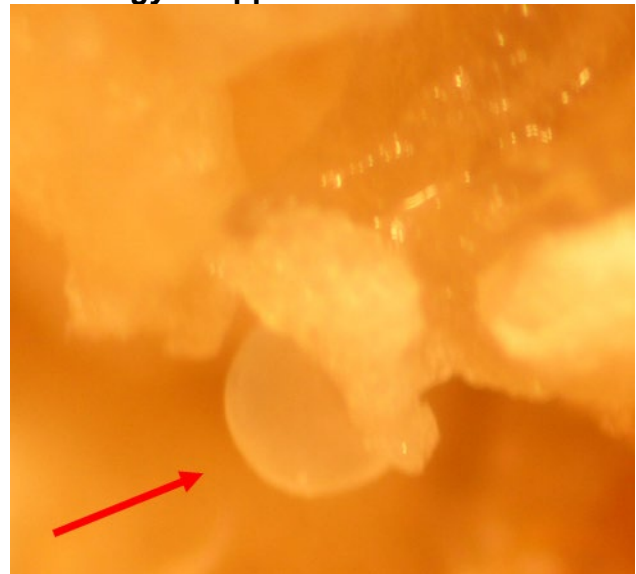


Photo by Sherrie Smith, University of Arkansas
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Sherrie Smith
Rick Cartwright

Grape

Grape Eutypa Dieback

Eutypa Dieback or Dead Arm is a serious disease of the woody tissues of grapes. The causal fungus, *Eutypa lata*, has a wide host range, including about 80 species of woody plants. Eutypa dieback is usually found in grapevines at least 8 or more years old. The fungus enters the vine through pruning wounds or other injury sites. The disease is particularly severe in areas where vines get a lot of rainfall. Symptoms are deformation and discoloration of new shoots in the spring. The leaves are smaller than normal, cupped, and chlorotic. They often develop small necrotic spots and tattered margins. Dwarfing of the internodes accompanies these leaf symptoms. Clusters of berries on the affected shoots may have a mixture of both large and small berries. Examination of an arm, cordon, or trunk usually reveals a canker surrounding a pruning wound made several years previously. In cross section, a pie shaped wedge zone of necrotic wood may be found. Control of Eutypa dieback is difficult. Pruning should be done late in the dormant season to promote rapid healing. All infected wood should be burned to reduce the spread of the pathogen. Remove all cankers, pruning below the canker until no dark canker tissue remains. Make large cuts directly after a rain, if possible, as there is not as much air borne inoculum at that time. Mark locations of suspicious vines in the spring for future examination to confirm the disease. Pruning wounds may be treated with a 1% paste of

Topsin M. Lime sulfur applied during the dormant season may help reduce inoculum.

Grape Eutypa (Dead Arm)-*Eutypa lata*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Grape Eutypa (Dead Arm)-*Eutypa lata*



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Sherrie Smith
Rick Cartwright

Grape Eutypa (Dead Arm)-*Eutypa lata*



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Grape Leafrollers

Grape Leafrollers, *Desmia funeralis*, are considered minor pests of grapes most years. Severe outbreaks, however, can cause significant defoliation. The adults are moths that are almost black, with two white spots on the forewings and two white stripes across the abdomen. Larvae are clear but appear greenish because ingested leaf tissue shows through the body wall. Later instar larvae have small black spots above the second pair of legs. A similar

pest, the Omnivorous Leafrollers lacks these black spots. In the spring, the moths emerge and lay flat, elliptical eggs on wither surface of the leaf. The newly hatched larvae feed between two webbed leaves for about two weeks before rolling a leaf edge and feeding from the inside of the rolled leaf. Mature larvae leave these feeding sites to construct a separate leaf envelope on the edge of a leaf in which they pupate. Natural predators such as lacewings, spiders, and the larval parasite *Bracon cushmani* keep populations in check most years. Sprays of *Bacillus thuringiensis* and the Entrust formulation of spinosad give good control and harm only feeding larvae.

Grape Leafroller-*Desmia funeralis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Grape Leafroller-*Desmia funeralis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Photinia

by Micah Doubledee

Fire blight is a very destructive bacterial disease caused by *Erwinia amylovora*. It can attack all members of the rose family, including pears, apples, crabapples, quince, cotoneaster, photinia, raspberries, blackberries, hawthorn, and roses. *Photinia spp.* differ in their reaction to fire blight, but serious damage to the red-tip photinia is rare. The first noticeable symptoms

of fire blight include sudden wilting and a downward curling of succulent shoot tips. Often the leaves of blighted shoots will turn reddish brown. Damage to susceptible photinia may lead to extensive blossom blight and death of leaves and shoots while damage to resistant photinia is usually limited to a few scattered blighted tips. Slightly sunken, brown to black cankers can develop at the intersection of scaffold branches and the bases of blighted flower spurs and twigs of susceptible photinia. The surface of the canker is usually smooth, though cracks can develop on the outer edge. Also, beneath the canker, in the sapwood reddish brown streaks can be seen. Large parts of the shrub may die if the scaffold branches become girdled. The fire blight pathogen overwinters in tissues of twig and branch cankers. In the spring the cankers ooze a sticky amber fluid full of bacteria which attracts bees and other insects. These insects carry the bacteria to other flower buds, blooms, shoots, and leaves. Excessive pruning and nitrogen can increase the plants vulnerability to the disease. When growing resistant red-tip photinia, usually only good sanitation and cultural practices are needed to control this disease. A susceptible photinia often requires several bactericide treatments as well as good sanitation and cultural practices. Good cultural practices include avoiding over fertilization and overhead irrigation. Disease cankers should be pruned out during the winter. Avoid taking cuttings from plants infected with fire blight. For chemical control of fire blight for commercial growers includes Agrimycin 17 (streptomycin) and Aliette 80WDG (fosetyl-AI) and for homeowners includes Fertilome Fire Blight



Sherrie Smith
Rick Cartwright

Spray (streptomycin sulfate) and Bonide Fire Blight Spray (streptomycin sulfate). Chemical controls should be applied at bud swell/break in the spring.

Photinia Fire Blight- *Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

"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."

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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