



Arkansas Plant Health Clinic Newsletter

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Sweet Potato

Nematode damage occurs underground and is often not recognized as being the problem when quality and yield decline. Two of the most destructive species of nematodes that are serious pests of sweet potato are Root-Knot Nematode, *Meloidogyne* spp., and Reniform Nematode, *Rotylenchulus reniformis*. Aboveground symptoms of nematode damage are stunting, wilting, and/or yellowing of the plant. These symptoms may be confused with fertility problems. Symptoms of Root-Knot Nematode damage on feeder roots are the typical spindle-shaped swellings or galls associated with Root-Knot Nematode. On the fleshy storage root, blister-like galls may cover the surface and cracks may develop. Reniform Nematodes do not cause galls but causes poorly developed discolored root systems. Fleshy storage roots often develop cracks which make them unmarketable. Nematode control is difficult and expensive. The best solution is to plant resistant cultivars. Bienville has good resistance against Root-Knot Nematode. Beauregard is very susceptible to both Root-Knot and Reniform and should be avoided in areas where these nematodes are a problem. Commercial growers have access to preplant

fumigants and nematicides such as Telone II and K-Pam.

Sweet Potato Root-Knot Nematode blisters-*Meloidogyne* spp.



Photo by Mark Keaton, University of Arkansas
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Sweet Potato Root-Knot Nematode females-*Meloidogyne* spp.

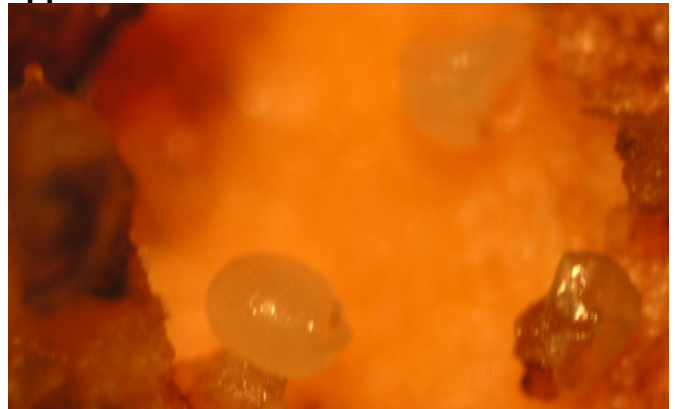


Photo by Sherrie Smith, University of Arkansas
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Reniform Nematode damage- *Rotylenchulus reniformis*



Photo by C.A. Clark, APS Digital Library Image

Bald Cypress

Bald cypresses are large, deciduous conifers tolerant of a wide range of soil conditions. They are found in the wild primarily in areas with plenty of water such as swamps. That is because the seeds need constant moisture to germinate. In the home landscape they are quite drought tolerant when established. However, during the hot summer months Bald cypress may be attacked by the Bald Cypress Rust Mite, *Epitrimerus taxodii*. Rust Mites are microscopic eriophyid mites, most active during the warm season. Symptoms are needles becoming yellowish and then brown. Serious infestations can cause the entire tree to turn a rusty brown color. The white cast skins of the mites are the easiest way to diagnose the presence of Rust Mites. Applications of Carbaryl (Sevin), or Abamectin (Avid), or Insecticidal soap will control the mites if good coverage is achieved. Bald cypress is very

sensitive to horticultural oils so avoid the use of oils for mite control on Bald cypress.

Bald Cypress Rust Mite damage-*Epitrimerus taxodii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Bald Cypress Rust Mite damage-*Epitrimerus taxodii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Creeping Phlox

Creeping Phlox, *Phlox stolonifera*, is a spring favorite with its small, pretty flowers in shades of pink or white or lavender. It blooms in March and early April and is extremely reliable when planted in full sun with good drainage. Under stressful conditions, Creeping Phlox may develop a serious disease called Black Root Rot, caused by the fungus *Thielaviopsis basicola*. *Thielaviopsis basicola* has a wide host range, attacking Japanese holly, blue holly, inkberry, petunia, pansy, viola, fuchsia, begonia, cyclamen, gloxinia, oxalis, sweet pea, verbena, annual vinca, geranium, poinsettia, eggplant, cotton, peanut, cowpea, tobacco, tomato, and soybean among others. Aboveground symptoms include yellowing, stunting, and wilting. When roots are closely examined under magnification, small brownish black lesions may be observed on feeder roots. Black Root Rot is closely associated with stressful growing conditions. Adverse temperatures, excessive amounts of nitrogen, too high or low a pH, and drought stress are some of the factors associated with Black Root Rot. Sanitation is extremely important. Growers should never reuse liners or pots without steam sterilization. Plant debris and weeds should not be allowed to accumulate. Plugs should be planted immediately to reduce stress. Plants with symptoms should be pulled up and destroyed.

Phlox Black Root Rot-*Thielaviopsis basicola*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Phlox roots with Black Root Rot-*Thielaviopsis basicola*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Apples/Pears

It's time to spray apples and pears for Fire Blight. Fire Blight, caused by the bacterium *Erwinia amylovora*, attacks all members of the rose family, including pears, apples, crabapples, quince, cotoneaster, pyracantha, photinia, raspberries, blackberries, hawthorn, and roses. Twig and branch cankers become active with warm, wet weather in the spring. The infected tissue begins to ooze bacterial slime that attracts bees. The bees carry the bacteria from bloom to bloom and from tree to tree. Bloom clusters wilt and die a few weeks after infection. Infection spreads down the twig and can infect a main branch. Twig and branch cankers begin as water-soaked areas, and then turn dark brown or black. The bark covering older cankers usually becomes sunken and cracked. The disease can kill blossoms, leaves, twigs, limbs, and occasionally, the entire tree. Infected petioles and young shoots form a typical shepherd's crook, brown-colored in apples, and black in pears. The dead foliage remains on the tree. Fire Blight is among the most difficult of diseases to control. The most effective control is planting resistant cultivars. An ornamental flowering pear with excellent resistance is *Pyrus ussuriensis* 'Prairie Gem'. Resistant apples are Red Delicious, Winesap, Haralson, Liberty, Prima, Priscella, and Redfree. The most susceptible apples include York, Rome, Jonathan, Jonagold, Idared, Tydeman's Red, Gala, Fuji, Braeburn, Lodi and Liberty. Stayman and Golden Delicious cultivars are moderately resistant. Susceptible pears are Bartlett, Bosc, D'Anjou and Clapp's Favorite, while Magness, Moonglow, Maxine and Seckel are highly

resistant. Most Asian pears are moderately to highly susceptible with the exceptions of Seuri, Shinko and Singo pears. Susceptible trees should be sprayed at green tip, at 5% bloom and at 50% bloom with Agri-strep, Agri-mycin or a copper fungicide such as Kocide. All dead tissue should be pruned out 10 – 12 inches below the damage. Cutting tools should be dipped between cuts in a 10% bleach solution, (nine cups water to one cup bleach).

Pear Fire Blight-*Erwinia amylovora*



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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