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CLINIC NEWS

Issue 1-January 14, 2016

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.

Pecan

The Plant Health Clinic has received a number of pecan samples with poor quality nuts due to Embryo Rot. Embryo Rot is caused by environmental conditions. Too much moisture causes nuts to sprout in the shells and then dry out. Diagnostically, the eye of the kernel where the two halves attach will be discolored or completely rotted out. The entire nut or large portions will be blackened and ruined. Embryo Rot may occur when there is a lack of penetrating freezes that would dry and shed the shuck. It also occurs when nuts are sitting on the ground subjected to flooding or prolonged wet periods.

Pecan Embryo Rot-abiotic



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Strawberry

Some of the most significant diseases of strawberries are caused by species of the fungus *Colletotrichum*. *Colletotrichum* may infect fruit, buds, blossoms, runners, crown, and leaves. Anthracnose crown rot is caused mainly by *C. fragariae* with fruit rot being caused by three species of *Colletotrichum*, but associated primarily with *C. acutatum*. The severity of fruit rot epidemics has been linked to annual cropping on plasticulture. When conditions during harvest are rainy and warm, fruit rot may spread very quickly and can cause devastating losses. Fruit lesions begin as whitish, water soaked lesions up to 3 mm in diameter. As lesions age, they turn light tan to dark brown and eventually become sunken and black. During humid or wet weather, lesions may be covered with pink to orange spore masses. Anthracnose on green fruit often begins as single seed infections. Infected seeds turn black and become slightly sunken. In all cases, affected fruit eventually form hard shriveled mummies.

Lesions on strawberry stolons and petioles are often associated with anthracnose crown rot. Lesions begin as small red streaks, and rapidly become dark, sunken, elongated lesions. Pink spore masses form under humid conditions. When lesions encircle the stem, its leaf wilts and dies. The first symptom of anthracnose crown rot is wilting of the youngest leaves on the plant. The inside tissue of infected crowns will develop a firm, reddish brown rot. The entire plant eventually wilts and dies. Spread and severity of the disease may be reduced by practices that keep the foliage as dry as possible. Fields where high rates of nitrogen are used, especially ammonium sources of nitrogen, have significantly higher disease levels. Captan, Captevate, Abound, Cabrio, and Pristine are labeled for control of anthracnose on strawberries. HOWEVER, RESISTANCE TO FUNGICIDES WITH FRAC CODES 11 AND 1 HAVE BEEN NOTED IN SOME FIELDS. To be effective, sprays should be started before the onset of the disease. Follow label for best results.



Strawberry Anthracnose fruit rot-*Colletotrichum acutatum*



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Strawberry Anthracnose crown rot-*Colletotrichum fragariae*



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Strawberry Anthracnose stem rot-*Colletotrichum fragariae*



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Spider mites

Spider mites are a scourge on many ornamental and food crops. Warm weather mites such as the Twospotted spider mite and Tumid spider mite can complete their life cycle in as little as a week to eight days when temperatures rise to 85-95°F. During cool weather it may take a month or more to go from egg to mature adult. Twospotted spider mites overwinter as adult mites in the soil. Most other common spider mites overwinter as eggs on leaves or bark. Cool weather mites such as those commonly found on broad-leaved evergreens and conifers, as well as the Southern red mite and European red mite are most active in the spring and fall months. Severity of mite infestations is dependent on host species, plant health, leaf age, and moisture stress. Stressed plants are always more susceptible to mite attacks. Growers should be aware that plants that had large numbers of mites last season are likely to have mites this season. Scout early before significant damage has been done. Insecticidal soaps,



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fine horticultural oils, and products containing bifenthrin are labeled for use against spider mites for home owners.

Twospotted spider mites mating-*Tetranychus urticae*



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Twospotted spider mites on tomato fruit-*Tetranychus urticae*



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Twospotted spider mites on tomato-*Tetranychus urticae*



Don Plunkett University of Arkansas Cooperative Extension-retired

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



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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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