DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System
Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 6-May 28 ,2006

Arkansas Plant Health Clinic Newsletter

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Roses

Rose mosaic virus is found wherever roses are grown. Leaf symptoms are variable. Most cultivars will be symptom less for at least part of the year. Leaves may show bright yellow banding or mosaic pattern. Some symptoms resemble nutritional deficiencies. This virus can cause flower distortion, reduced flower size, reduced vigor, and shortened lifespan. Symptoms are strongly influenced by weather and growing conditions. This virus is not contagious in the field except for naturally occurring root grafts between adjacent plants. The virus is not caused by insect or mite vectors, but by grafting from infected stock during production by commercial growers. Only a few commercial growers use heat protocol to kill the virus in their rose stocks. There is no cure for a virus infected rose once it reaches the marketplace. It is up to the homeowner whether to keep an infected bush or dig it up. A more serious virus affecting roses is rose rosette disease which is a serious mite-vectored disease. Symptoms include purple and red vein mosaic, bright red lateral roots, dwarfed foliage, and witches broom growth. Plants usually die within 2 years of infection, with a range of 1-4 years. Roses showing these symptoms should be destroyed immediately as this virus is transmissible in the garden.

Rose Mosaic Virus-(PNRSV),
Ilarvirus Prunus Necrotic Ringspot Virus

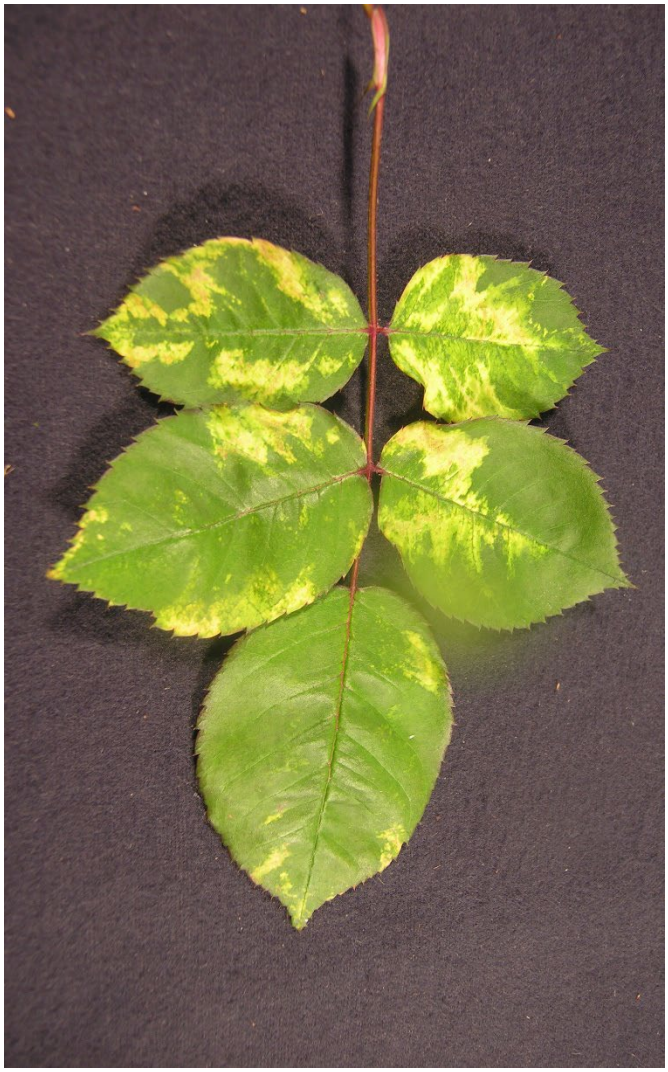

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Rose Rosette Virus (RRV)-
Emaravirus

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Hostas

Crown rot is a serious disease of hosta. This is a fungal disease caused by *Sclerotium rolfsii*. Lower leaves begin to turn yellow and brown, then wilt from the margins back toward the base of the plant. Upper leaves may also collapse. Wilted leaves can be easily pulled from the crow. The petioles will show a brown discoloration and mushy texture. The crown will also be soft and mushy. Sometimes the white mycelium of the fungi may be observed on the ground around the afflicted plant. Close examination reveals brown sclerotia the size of mustard seed on the soil. The easiest way to manage this disease is to not purchase diseased hostas. Check each new plant for signs of yellow wilted leaves and browning at the base of petioles. Home gardeners should replace the soil, if possible, in the diseased plant area. Planting the crowns high and keeping mulch a few inches away from the crown are helpful in discouraging the disease. No chemical fungicides are helpful once the crown is rotted. Fungicides containing flutolanil are the most effective but may only be available from commercial applicators. Fungicides containing tebuconazole may also be effective if used repeatedly and may be available to homeowners (read labels carefully).

Hosta Crown Rot- *Sclerotium rolfsii*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Tomato

Tomato samples have been arriving at the clinic with pith necrosis. Symptoms of this bacterial disease include chlorosis of young leaves and wilting at the top of the plant. Infected stems may have grey to dark brown lesions on the stem. When the stem is split hollowchambered pith is revealed, often with dark brown discoloration. Adventitious roots often form in the areas of the chambered pith. Sometimes the tomato recovers from this disease. Control consists of avoiding overhead irrigation, crop rotation and excessive nitrogen applications.

Tomato Pith Necrosis-*Pseudomonas corrugata*

Photo by Jason Pavel, University of Arkansas Cooperative Extension

Soybean

Recently samples of Brown Spot (*Septoria glycines*) were received recently on seedling soybeans. The disease was reportedly in patches in the field. No control is warranted most years.

Soybean Brown Spot-*Septoria glycines*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rice

Rice Seedling Problems – The weather pattern in 2006 has resulted in numerous "sick" rice seedling samples submitted to the Clinic. The following images represent just some of our experience over the years (including this one) with the many "look-a-like" conditions that affectyoung rice plants under prolonged cool, wet weather when the plants cannot grow normally.

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Wells rice in a high pH, high salt field undercool, wet conditions – Cartwright

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Seedling rice suffering temporary zinc deficiency - Cartwright

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Tillering rice showing zinc deficiency symptoms – yellow vein and bronzing at base of leaf -Cartwright

Command injury under cool wet conditions can be quite severe on some soils – producing brilliant white symptoms on seedlings - Cartwright

Command injury under cool wet conditions can be quite severe on some soils – producing brilliant white symptoms on seedlings - Cartwright

Newpath injury is relatively new, with the advent of Clearfield technology. Symptoms include first killing of the youngest leaf,

bronzing of the plant, rotting at the leaf bases – Cartwright

Clearfield rice varieties often have purple leaf sheaths, pronounced at certain times. This is normal - Cartwright

Actual seedling diseases do exist in Arkansas – a common one under cool, wet conditions is Pythium seedling blight. Plants roll up and die in small patches (typically), especially in wetter areas - Cartwright

Pythium rots the crown and roots of plants below the soil line – resulting in relatively quick death of infected seedlings – Cartwright

Another disease distributed in patches or areas is Rhizoctonia seedling blight – Cartwright

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Rhizoctonia seedling blight features a visible lesion on the seedling stem at or near the soil line
- Cartwright

Sometimes you can dig up affected seedlings and find the tiny grubs (1/4 inch) of the lespedeza worm – but thy can be pretty mobile. so look for feeding injury as well. – Cartwright

Another "patch" problem with dying seedlings is caused by feeding of the grape colaspis or lespedeza worm on the roots and lower plant parts. This is especially damaging during cool weather when the plants cannot outgrow the larvae - Cartwright

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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