DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

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SPDN
Southern Plant Diagnostic Network

Department of Plant Pathology

PLANT HEALTH CLINIC NEWS

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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.

Tomato

Tomato plants that are deficient in potassium are smaller than normal and have smaller fruit. Areas on the sides and upper parts of the fruit may remain yellow or turn grayish. Fruits may be softer than normal and have lower acidity. Symptoms on the leaves are bronzing on older leaves. The margins become tan, then brown. On severely deficient plants, some interveinal chlorosis along with necrotic margins occurs. These symptoms begin on the oldest leaves; proceed to middle leaves and then upper leaves. Potassium is mobile in the soil and can become deficient because of leaching by rain or irrigation. Fertilization per soil test recommendations and side dressing during the season solves potassium deficiency. See extension publication FSA6017 *Home Garden Series Tomato* for fertilizer recommendations. http://www.uaex.edu/publications/PDF/FSA-6017.pdf

Potassium deficiency symptoms on fruit should not be mistaken for the physiological disorder of fruit known as "Yellow Shoulder (Yellow Top, Persistent Green Shoulder)." Yellow Shoulder mostly occurs on cultivars with green shoulders and is linked to high temperatures during maturation. The shoulder area of the fruit exposed to the sun remains yellow or green as the rest of the fruit ripens. That area is hard and white inside. The susceptibility of tomato to Yellow Shoulder is dependent on cultivar.

The Disease Graywall has also been linked to potassium deficiency among other things. Black to dark brown necrotic tissue forms in the walls of tomato fruit infected with Graywall disease. In most cases only the outer walls are affected. Wall tissue may partially collapse, causing the outer skin of the tomato fruit to appear wrinkled. The area appears woody when cut, and the fruit is of poor quality. Graywall has been associated with Tobacco Mosaic Virus, low light conditions and cool weather as well as potassium deficiencies.

Tomato Potassium deficiency of fruit-abiotic

Sherrie Smith University of Arkansas Cooperative Extension

Tomato Potassium deficiency

APS Image Library, D.N. Maynard

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Tomato Graywall-abiotic

APS Image Library, R.E.Stall

Tomato Graywall interior of fruit-abiotic

APS Image Library, J.P.Jones

Pentas

Plant bugs from the genus Lopidea are true bugs from the Miridae family of plant bugs. This insect is about 5.5 mm long with orange and black coloration. The color of the bugs warns predators that they taste bad. Lopidea bugs feed on the sap of plants, attacking leaves, stems, flowers, and seeds. Large populations can form and cause considerable damage, including speckling of leaves, browning, flower abortion, and death of severely infested plants. There are several species of Lopidea bugs, usually host specific. This is the first time we have found them on Pentas. We are waiting for species identification from our insect expert. One very well-known species is the Phlox plant bug *Lopidea davisi.* It is a pest on cultivated phlox in the eastern United States. Most Lopidea species have only one generation a year, but the Phlox plant bug has two generations. Eggs overwinter on plant stems, hatching in the spring in May and June. The second generation appears in July and lasts to late September. The phlox plant bug's range is the eastern United States from Maryland and West Virginia in the east to South Dakota, Minnesota, Arkansas, and Mississippi in the Midwest. You may use insecticidal soap at 1%-2% per gallon. Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray three times at 5-7 day intervals. Or you may use conventional insecticides such as acephate, acetamiprid, carbaryl, malathion, or pyrethroids. Always follow label instructions.

Pentas with Lopidea plant bugs feeding on flowers-Lopidea spp.

Ricky Corder University of Arkansas Cooperative Extension

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Plant bug-Lopidea spp.

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Pentas with feeding injury-Lopidea spp.

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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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