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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.

Pumpkin

Bacterial Spot of pumpkin, caused by the bacterium *Xanthomonas campestris* pv. *cucurbitae*, can cause more than 50% yield losses in severely infested fields. Cucumber, pumpkin, summer and winter squash, watermelon, and gourds are all susceptible. The first symptoms on leaves are small yellow spots. The spots become small, dark, angular lesions surrounded by a yellow halo. The centers of the lesions become dry and translucent with age. As the lesions expand, they follow the veins making large necrotic wedges on the leaves. However, the most damaging symptoms appear on the fruit. Fruit lesions begin as small, slightly sunken, circular spots, 1/16 to 1/18 inch in diameter. As the lesions enlarge the cuticle and epidermis crack. Larger lesions may have a scabby appearance with tan, raised blisters (Figure 1). Saprophytic fungi often colonize the older lesions, giving them a pinkish-white or green color depending on the species of saprophyte involved (Figure 2). The unsightliness of the lesions diminishes the marketability of the fruit as well as leading to significant rot in the field and in storage. The pathogen is seed-borne and can also survive in crop residue. Bacterial spot is more of a problem during high temperatures coupled with rainy weather or overhead irrigation. Inoculum is splashed onto young fruit before it develops its protective waxy cuticle. Good sanitation and crop rotation with non-cucurbit crops helps limit inoculum in the field. Only clean seed should be used. Therefore, it is advisable to not save seed from a previous crop. Copper fungicides may be applied during early formation and fruit expansion to protect developing fruit. Once bacterial lesions are observed on mature fruit there is nothing to be done except to practice ruthless culling of diseased fruit.

Pumpkin Bacterial spot- *Xanthomonas campestris* pv. *cucurbitae*



Figure 1.
Scabby phase

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Pumpkin Bacterial spot- *Xanthomonas campestris* pv. *cucurbitae*



Figure 2.
Colonized lesions

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Sumac

There are about 35 species of sumac, most native to Africa and North America. Sumacs are those small tree-like shrubs alongside highways that turn beautiful shades of red and orange in the fall before other trees begin to display fall color. Sumacs are native plants, good for bees and birds, great for erosion control, tolerant of poor soils and prolonged drought, and have no serious pests. Their only real downside is they have a stoloniferous root system which can form large invasive colonies. There are some excellent horticultural cultivars available. "Cutleaf" staghorn sumac (*Rhus typhina laciniata*) is a particularly beautiful form with finely divided leaflets. Although tough, hardy plants, Sumacs are susceptible to Verticillium wilt. This is a soil-borne fungus that causes wilting and death. Above ground symptoms are stunting, chlorosis, wilting, and death. Roots and stems will have a brownish-yellowish vascular discoloration. There is no cure. Grow resistant plant species. Manzanita, Birch, Box, Hornbeam, Ceanothus, Katsura tree, Orange, lemon, grapefruit, Dogwood, Hawthorn, Eucalyptus, Beech, Fig, Locust, Honey locust, Hebe, Holly, Walnut, Liquidambar, Sweet gum, Apple, crabapples, Mulberry, Oleander, sycamore, Pyracantha, Pear, Oak, Willow, European mountain ash, California laurel, and Linden are resistant.

Sumac Verticillium wilt- *Verticillium dahliae* or *V. albo-atrum*



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Sumac Verticillium wilt- *Verticillium dahliae* or *V. albo-atrum*



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Oak

The Yellownecked caterpillar, *Datana ministra*, is a serious pest of shade trees. It is found throughout most of the eastern United States. This caterpillar feeds on basswood, paper and yellow birches, elm, honey locust, oak, maple, mountain-ash, and walnut. It is sometimes also found on the foliage of blueberry, apple, and other fruit trees. The adult is a reddish brown moth with cinnamon brown wings marked with irregular thin dark lines. They have a wingspread of about 50 mm. The larvae are black with four yellow stripes on each side and are covered with long fine whitish hairs. The head is jet black; the segment behind the head is yellow to orange, hence its name. Mature larvae are about 50 mm long. When disturbed, larvae assume a threatening posture lifting both the head and posterior tip of their bodies, making a distinctive "U" shape. Females lay their white eggs in masses of 100 or more on the lower surface of leaves. After hatching, young larvae congregate on foliage and feed in groups. As they grow, they completely consume leaves, leaving only major veins. During August and September mature larvae



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descend to the ground and burrow two to four inches into the soil where they overwinter as pupae. Chemical control is usually not necessary as these caterpillars have plenty of natural enemies.

Yellownecked caterpillar newly hatched- *Datana ministra*



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Yellownecked caterpillar - *Datana ministra*



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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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