



## **Arkansas Plant Health Clinic Newsletter**

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### **Oak**

We tend to take our oak trees for granted. After all, they form a large part of our forests in Arkansas and are ubiquitous in the landscape. Therefore, it is no surprise that the Plant Health Clinic receives many oak samples. They are hosts to numerous insect pests and fungal and bacterial pathogens. Oak trees have enough problems without improper planting practices. Pictured below is an oak that was planted fifteen years ago as a ball and burlap specimen. Unfortunately, the twine was not removed from the ball at planting. Fifteen years later roots and the trunk are being girdled by the twine. Symptoms above ground are dieback in the crown. Beware also planting a tree too deep and volcano mulching.

### **Oak improper planting-Abiotic**



Photo by Brenda Kennedy, Department of Plant Pathology University of Kentucky

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Photo by Brenda Kennedy, Department of Plant Pathology University of Kentucky



### Tree improper planting-Abiotic



Photo by Joseph O'Brien, USDA Forest Service, Bugwood.org

### Tree planted too deep-Abiotic



Photo by Robert Benjamin, Bugwood.org

### Tree improper mulching-Abiotic



Photo by Elizabeth Moss, West Virginia State University, Bugwood.org

### 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





**Sherrie Smith**  
**Keiddy Urrea**

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*



Photo by Sherrie Smith University of Arkansas  
Cooperative Extension

### **Pumpkin Bacterial Spot-** *Xanthomonas campestris* pv. *cucurbitae*



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## **Watermelon**

Pythium Cottony Leak, also known as Pythium Fruit Rot of watermelon, is caused by several species in the genus *Pythium*. This disease is most common and severe in heavy, poorly drained soils. *Pythium* Fruit Rot can occur on all cucurbits, including cucumber, pumpkin, squash, gourds, melons, and watermelon. The pathogen enters through wounds or where the fruit touches the soil. On most cucurbits, symptoms begin as brown, water-soaked lesions that enlarge quickly and become watery, soft, and rotted. On cucumber, a brown to dark green blister is the first symptom. The blistered area becomes watery and rotted. During wet weather, a cottony mycelial growth appears on the rotted areas of the fruit. *Pythium* fruit rot can spread rapidly through a field by means of contaminated equipment, and irrigation water. Excellent soil drainage is the best defense against *pythium* diseases. Planting on raised beds through plastic can also reduce incidence of *pythium* fruit rot as this improves drainage and prevents the fruit from contacting the soil. Homeowners may place fruit on boards or cardboard to prevent soil contact. Ridomil Gold SL and Uniform are labeled for control of *pythium* diseases in cucurbits but must be applied as a preventative at planting. These chemicals are ineffective if saturated soils remain saturated.

## **Watermelon Cottony Leak- *Pythium aphanidermatum***



**Photo by Christa Littlefield, University of Arkansas  
Cooperative Extension**



## **Watermelon Cottony Leak-*Pythium aphanidermatum***



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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