



## Arkansas Plant Health Clinic Newsletter

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### Tomato

Southern blight, caused by *Sclerotium rolfsii*, occurs on hundreds of species of plants, including many vegetables, ornamentals, and field crops. Tomatoes are very susceptible to Southern blight, also known as Southern wilt. Symptoms usually appear on parts of the plant close to the ground. A brown or black rot of the stem occurs near the soil line. The stem becomes rapidly girdled by the fungus, wilts and dies. Under moist, humid conditions, white mycelium develops on the lesion and surrounding soil. Tan to reddish-brown spherical sclerotia appear after a few days. The sclerotia resemble mustard seeds and are about 1-2mm in diameter. Fruit touching the ground may also become infected. The infection site begins as a slightly yellow sunken spot. It then becomes water-soaked, soft, and often star-shaped. Infected fruit collapse within 3-4 days. This disease generally occurs on scattered plants in the field. The sclerotia are viable in the soil for several years. Chemical controls are not effective as a rule. Control consists of crop rotation, deep plowing, and good sanitation. All crop residues should be removed from the field and destroyed. A physical barrier of aluminum foil or plastic to protect the stem at the soil line

has been successful for some home gardeners. Terraclor (PCNB) applied as an in-furrow spray at transplanting is recommended for commercial growers.

### Tomato Southern Blight- *Sclerotium rolfsii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### Tomato Southern Blight- *Sclerotium rolfsii*



Photo by Rebecca Barocco University of Arkansas Cooperative Extension

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## Cucumber

by Rebecca Barocco

Plectosporium blight (formerly Microdochium blight) is a new disease of cucurbits caused by the fungus *Plectosporium tabacinum*. Rainfall is required for growth, and symptoms tend to lay dormant during dry conditions. It overwinters in crop residue and in the soil for up to three years. If infected, light tan or white lesions will form on the stems, petioles, leaf veins, and to a lesser degree the fruit and leaves. The diamond or spindle shaped lesions appear sunken and dry which eventually merge to create large patches of damaged tissue. Fruit lesions which are more circular will not coalesce, however, and can be mistaken for mere blemishes. This disease may be confused with gummy stem blight, but the lesions, which occur more abundantly on leaf tissue than Plectosporium blight, are darker circular areas that form black pycnidia spots. The cankers of gummy stem blight can also exude a gummy substance absent in Plectosporium blight. Yield production can be devastated by the result of partial to complete leaf drop. Crops should be rotated for at least a three-year period. Drip irrigation is beneficial, and good air circulation should also be practiced. There is no known resistance, but susceptibility may vary among different cultivars. Crops which are most susceptible are yellow squash, zucchini squash, and pumpkin. Fungicides can be used which include Cabrio, Quadris, and Dithane. However, Dithane is not labeled for pumpkins. Homeowners can use Mancozeb. Applications should start during emergence of the two-leaf stage and continue every 7 days during favorable rainy weather.

Periods between applications can be longer during dry conditions.

## Cucumber Plectosporium Blight-*Plectosporium tabacinum*



Photo by Sherrie Smith University of Arkansas  
Cooperative Extension



## Camellia

Camellia scab, caused by *Sphaceloma* is considered a minor disease of camellia. White scab starts as small, light brown lesions that enlarge and coalesce to cover most of the upper leaf surface. The spots, which are slightly raised, eventually become snowy white in color except for small dark erumpent dots representing the fruiting bodies of the fungus. Good sanitation and the application of an ornamental fungicide containing Thiophanate-methyl or chlorothalonil provide good control.

### Camellia Scab-*Sphaceloma* spp.



Photo by Sherrie Smith University of Arkansas  
Cooperative Extension

## Geranium

### Southern Bacterial Wilt

*Ralstonia solanacearum* causes a bacterial wilt of over 200 species of plants. Potato, tomato, geranium, eggplant, pepper, tobacco, peanut, and banana are some of the host species commonly encountered. The disease in the United States is known as Southern Bacterial Wilt. Symptoms of Southern Bacterial Wilt on geranium (*Pelargonium* spp.) begins with wilting of the lower leaves. The wilting may improve overnight but will occur again the next day. Wilted leaves often become yellow, then necrotic in wedge-shaped patterns that expand towards the leaf margins, or leaf margins themselves may become yellowed, then necrotic. Wilting spreads up the plant, progressing from older leaves to newer ones, with the plant eventually collapsing and dying. Brown vascular discoloration is usually obvious in and on stems, and stems may become soft. Cut stems may ooze a milky liquid. Roots may appear brownish-black and rotten. Southern Bacterial Wilt spreads primarily by diseased cuttings and can be transmitted from root system to root system by water movement. There is no cure for Southern Bacterial Wilt. The disease is controlled through rigorous sanitation, and quarantine. There are several races of *Ralstonia solanacearum*. Race 1 is endemic to the United States where it primarily affects eggplant, pepper, potato, tobacco, and tomato. Race 3 biovar 2 is a quarantined pest. It can cause severe economic losses of potato crops and greenhouse geraniums, among others. Plants suspected of this disease should



be submitted to the Plant Health Clinic for testing as this can be a serious disease.

## **Geranium Southern Bacterial Wilt-*Ralstonia solanacearum***



Photo by Sherrie Smith University of Arkansas Cooperative Extension

## **Geranium Bacterial Blight**

Bacterial Blight of geranium is caused by another bacterium, *Xanthomonas campestris* pv. *pelargonii*. It is sometimes also known as bacterial wilt, bacterial stem rot, or bacterial leaf spot. It is difficult to differentiate between *Ralstonia* and *Xanthomonas* without serological tests. Bacterial wilt caused by *Ralstonia* does not produce bacterial spots on the foliage, and usually has more pronounced vascular discoloration. Symptoms of Bacterial Blight caused by *Xanthomonas* vary by plant cultivar and environmental conditions and may include small water-soaked spots on the underside of leaves, followed by yellow and brown V-shaped lesions on the leaves. Lower leaves typically wilt while roots remain healthy. As the disease progresses, the stem may rot, with visible dark discoloration of the water-conducting tissue.



## **Geranium Bacterial Blight-** *Xanthomonas campestris* pv. *pelargonii*



**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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