



## Arkansas Plant Health Clinic Newsletter

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### Tomato and pepper

Bacterial diseases of tomato and pepper are endemic wherever these crops are grown. **Bacteria Spot**, caused by *Xanthomonas campestris* pv. *vesicatoria*, affects all aboveground parts of the plant. Lesions are generally brown and circular on the leaves, stems, and fruit spurs. The spots are water soaked during wet or rainy periods. During dry periods the center of the lesions may fall out, giving a tattered appearance. Fruit lesions begin as tiny, raised blisters. They reach 6.35mm (1/4inch) in diameter as they age, becoming brown, and scab-like. A developing lesion may have a faint to prominent halo that eventually disappears. The pathogen survives in seed, crop debris, and volunteers. Control measures consist of crop rotation, using clean transplants, seed treatments, elimination of cull piles near production areas, and the timely application of bactericides when necessary. Kocide is labeled for tomato in Arkansas for bacterial diseases.

### Tomato Bacterial Spot- *Xanthomonas campestris* pv. *vesicatoria*



Sherrie Smith, University of Arkansas Cooperative Extension

### Tomato Bacterial Spot- *Xanthomonas campestris* pv. *vesicatoria*



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**Bacterial Speck** of tomato is caused by *Pseudomonas syringae* pv. *tomato*. Lesions on leaflets are round, dark brown to black. Large areas of tissue may be killed as spots coalesce. Lesions on stems and peduncles are elongated. Fruit lesions are minute specks that are dark and rarely exceeding 1mm (.04inch). A dark green halo may be associated with the fruit spot. Controls are the same as for Bacterial spot.

## Tomato Bacterial Speck-

*Pseudomonas syringae* pv. *tomato*



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## Tomato Bacterial Speck-

*Pseudomonas syringae* pv. *tomato*



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## Blossom end rot of tomato

Blossom End Rot is a physiological disorder of tomatoes, peppers, and cucurbits caused by a calcium imbalance within the plant. Excessively wet or dry soil, too much nitrogen fertilizer, roots damaged by cultivation, very high or low pH, or soils high in salts can prevent the roots from taking up enough calcium. The result is a water-soaked spot at the blossom end of the plant that enlarges, turning dark brown and leathery. Rot may set in at the spot as saprophytic fungi colonize the decaying tissue. Blossom end rot is common when plants grow rapidly in the beginning of the season, then set fruit during dry weather. Fluctuating levels of soil moisture is usually the culprit. As little as 30 minutes of water deficiency at any time can cause blossom end rot. Garden soils should be tested yearly for pH and nutrient levels. Vegetables tomatoes, pepper, and squash do best at a pH of 6.5. Good mulching practices will maintain an even soil moisture. A quick fix for blossom end rot is a liquid calcium supplement applied to the foliage and as a soil drench. Most garden supply stores carry such products under names such as "tomato saver" and "end rot".



## Tomato Blossom End Rot-Calcium deficiency



Sherrie Smith, University of Arkansas Cooperative Extension

## Lantana

Lantana is a favorite annual bedding plant. They come in an array of color combinations, pink, red, yellow, orange, and white. They love the heat and bloom all summer until frost. Lantanas are bothered by few pests, but Lantana lace bugs, *Teleonemia scrupulosa*, can cause severe damage during the growing season. They are so efficient at killing lantana that they have been introduced into some areas as biological controls. This is because lantanas are considered a nuisance weed in some regions. Adult lantana lace bugs are small, brown, elongate-oval bugs, appearing slightly expanded near the middle, and bluntly rounded at their rear. At low magnification, most specimens bear a somewhat obscure dark brown "X" pattern on the forewings, usually flanked by a pair of variably shaped brown spots on the swollen middle area of each forewing.

The antennae are 4-segmented, cylindrical, and with the third segment nearly twice as long as the other three segments combined. Nymphs are dull-colored and spiny. All stages feed on the plant sap. Their dark tar-like droppings may be observed on the underside of leaves. Insecticidal soaps, Sevin, and permethrins, are labeled for lace bugs.

## Lantana Lace Bug Injury/Frass- *Teleonemia scrupulosa*



Sherrie Smith, University of Arkansas Cooperative Extension

**Sherrie Smith**



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## **Lantana Lace Bug Nymph-** *Teleonemia scrupulosa*



Sherrie Smith, University of Arkansas Cooperative Extension

## **Lantana Lace Bug Adult-** *Teleonemia scrupulosa*



Sherrie Smith, University of Arkansas Cooperative Extension

## **Herbicide damage** by Bob Scott

### **Soybean**

Regiment, Strada, Permit and Londax drifted from rice fields will all cause these symptoms.

### **Soybean ALS Damage-Abiotic**



Photo by Bob Scott, University of Arkansas Cooperative Extension

### **Cotton Command and Propanil Damage-**



Photo by Bob Scott, University of Arkansas Cooperative Extension

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**Sherrie Smith**



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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