



## Arkansas Plant Health Clinic Newsletter

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### Grape

Downy mildew of grape is a common disease of grape in Arkansas. The causal agent, *Plasmopara viticola*, can attack all green parts of the plant, including leaves, petioles, stems, and fruit. Leaf lesions are yellowish and oily, or angular, yellow to reddish brown, and limited by the veins. A dense, white, cottony growth of sporulation occurs on the underside of the leaf. Infected shoots curl into a shepherd's crook, and become white with sporulation, eventually turning brown and dying. Leaves with numerous Downy Mildew lesions drop prematurely, reducing sugar content in the fruit and decreasing winter hardiness of the buds. Young berries are also highly susceptible. They appear grayish in color and covered with downy felt-like sporulation. Infected berries do not ripen normally, but remain firm, eventually dropping from the vine. As with all downy mildews, good soil drainage is essential. The cleanup of fallen leaves and berries, and the removal of infected shoots helps limit inoculum, but rarely are these measures sufficient in themselves to control Downy mildew in areas with high disease pressure. Fungicides must be applied, starting at 3-6" shoot growth. Captan, Mancozeb, Ziram, Abound, Sovran, Pristine,

Aliette, Scala, Reason, and Gavel are labeled for Downy mildew control among others.

### Grape Downy Mildew-*Plasmopara viticola*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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

## Pecan

The larvae of the hickory shuck worm, *Cydia caryana*, can cause significant damage and yield loss to pecan crops. The adult is a nocturnal inconspicuous small gray to smoky black moth approximately 3/8 inch long with a 1/2-inch wingspan. Adult moths emerge from the previous year's shucks in the spring, mate, and lay eggs on newly developing pecan or hickory nutlets, or phylloxera galls. Their feeding activity causes the little pecans to drop. The second-generation feeds on larger nuts, also causing premature nut drop. The third generation does the most damage, mining the nuts, reducing nut fill, and causing the shucks to cling to the shell. Raking up fallen nuts in the fall helps to control overwintering shuck worms. Trees should be sprayed at half-shell hardening and repeated at 2-week intervals until shuck split. Intrepid, Entrust, Confirm, Intrepid, Altacor, and Belt are labeled for control. See individual label for timing and repeats.

## Pecan Shuck Worm-*Cydia caryana*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Pecan Shuck Worm-*Cydia caryana*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Walnut

All walnuts are susceptible to Walnut Bacterial blight caused by *Xanthomonas juglandis*, with Persian walnuts being the most susceptible. New shoots, young leaves, and the husks of developing nuts can be infected from spring through fall during wet weather. The disease does the most damage if it occurs during

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flowering time. Younger trees are most affected. Older wood is not susceptible, and bacterial blight rarely kills the tree. However, entire nut crops can be lost when environmental conditions favor the disease during fruit set. The bacterium overwinters in buds that usually look healthy. The first symptoms are small, water-soaked spots, which enlarge, turn reddish-brown, and then black. Walnut Bacterial blight can be controlled by planting in soil with a pH above 6.0 and avoiding high rates of nitrogen and not over-watering. Damaged stems should be pruned out and destroyed. Prune only during dry weather. Copper sprays have had some effectiveness in reducing nut damage. The first copper spray should be applied at bud break, the second at female bloom, and the third at fruit set.

## Walnut Bacterial Blight- *Xanthomonas juglandis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Walnut Bacterial Blight- *Xanthomonas juglandis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Cabbage

Black rot caused by *Xanthomonas campestris* pv. *campestris* is one of the most damaging diseases of crucifers wherever they are grown. Susceptible hosts include broccoli, Brussels sprouts, cabbage, cauliflower, kale, rutabaga and turnip, as well as weeds in the cruciferous family such as shepherd's purse and wild mustard. Yield and quality losses may be high when environmental conditions are conducive for disease development. On seedlings, cotyledons may turn black and drop off. Lesions appear on leaves as yellow, V-shaped spots along the leaf edge, with the base of the V usually directed along a vein. As the lesions expand, the tissue wilts and becomes necrotic. The infection may move up or down the petiole and spread through the stem into the roots. The veins of infected leaves, stems,

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petioles, and roots become black as the bacterium multiplies and shuts off the flow of nutrients to plant parts. When affected stems are cut crosswise, the vascular ring appears black. Yellow bacterial ooze may exude from cut tissues. The use of clean seed is important in preventing the disease. Seedling rates should not be too high as the dense foliage aids in disease development. Sprinkler irrigation should be avoided. Fields should only be worked when the foliage is dry. Transplants or seed should not be grown in a spot that has been in crucifers the last 3 years. Plants with visible symptoms should be pulled up and removed from the vicinity of the field. Deep plowing helps break down crop residue faster and should be practiced where practical.

### **Cabbage Black Rot-*Xanthomonas campestris* pv. *campestris***



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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.

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