



## Arkansas Plant Health Clinic Newsletter

Follow us on social media



### Squash

Squash is a staple in our vegetable gardens. They are generally easy to grow and very productive. Healthy plants produce so much fruit that gardeners can give the surplus away to friends and neighbors. However, there are some diseases that do negatively impact squash production. Squash Mosaic Virus (SqMV) is a comovirus. It is transmitted by seed and by insects, notably the striped cucumber beetle. Symptoms first appear on first or second true leaves. Symptomatic leaves are distorted and mottled. Later leaves may or may not have symptoms. Plants with the virus typically have reduced vigor and poor branching. Affected fruit may be mottled and severely distorted. Warty looking fruit is a common symptom. Viruses are not curable. Plants with these symptoms should be pulled up and destroyed. Insect control and the use of clean seed are the recommended cultural practices.

### Squash Mosaic Virus (SqMV)- Comovirus



Photo by Sherrie Smith, University of Arkansas  
Cooperative Extension

### Squash vine borers

Growers should already be practicing preventative treatment for squash vine borers. The borers are the larvae of a clearwing moth, *Melittia satyriniformis*, which emerges from the soil in the spring and lays eggs singly on the undersides of squash and pumpkin vines, usually at the base of the plant. When the larvae hatch, they burrow into the stem and start feeding. This causes the eventual collapse and death of the vine. Growers don't notice anything wrong until the vine starts wilting. Large white worms with brown heads can be seen if stems are cut open. You can



sometimes find the larvae in the squash fruit as well. Mature larvae eventually exit the plants, burrow into the soil where they pupate until the following spring. Control measures should be started as soon as vines begin to run. Acetamiprid 0.5% (Ortho Flower, Fruit & Vegetable Insect Killer), Bifenthrin + zeta-cypermethrin (Ortho Bug-G-Gon Insect Killer for Lawns and Gardens), Esfenvalerate (Monterey), Malathion (Ortho, Bonide), applied as sprays are effective. Continue a 7-to-10-day reapplication schedule for 3 to 5 weeks.

### **Squash Vine Borer Adult- *Melittia satyriniformis***



Photo by Ansel Oommen, Bugwood.org

### **Squash Vine Borer Larva- *Melittia satyriniformis***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Squash Vine Borer Larvae- *Melittia satyriniformis***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.





## Cucumber

Scab caused by *Cladosporium cucumerinum* affects most cucurbit crops. Losses in susceptible cultivars can exceed 50%. Symptoms on leaves begin as pale green water-soaked lesions that are irregularly shaped. The lesions enlarge as they age and turn gray to brown in color. The center of the lesion eventually breaks out leaving a shot hole appearance on the leaves. The newest leaves are sometimes deformed and twisted by the numerous lesions. Lesions on petioles are more elliptical, but otherwise look like leaf lesions. Fruit lesions begin as minute greasy looking sunken specks. These enlarge, becoming circular to oval and gray colored. Sometimes the fruit lesions ooze sticky exudates. Fungicides are helpful if applied prior to fruit infection. Quadris, Cabrio, Bravo Weathstik, Bravo Ultrix, Equus, and Mancozeb, are labeled for scab. Plant resistant cultivars if possible. Practice crop rotation so that 2 or more years pass between susceptible cucurbit crops. Avoid using overhead irrigation as this makes for more favorable conditions for disease.

## Cucumber Scab- *Cladosporium cucumerinum*

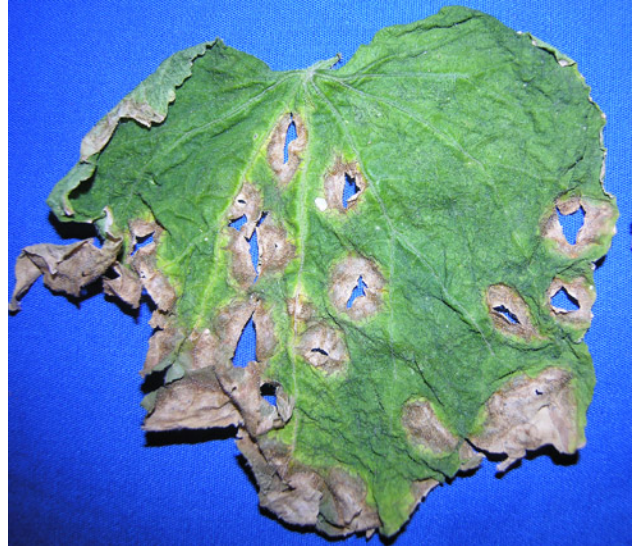


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Blackberries

Rosette or double blossom is a serious disease of many cultivars of blackberries. Infections causes reduced yields, poor quality fruit, and cane death. Buds on primocanes become infected in early summer, but there are no symptoms until next spring. At that time a proliferation (witches-broom) of shoots occurs at the infected bud site. These shoots are usually smaller than normal and have pale green foliage that later turns bronze. Unopened flower buds are elongated, coarser, and often redder than uninfected buds. Sepals enlarge and sometimes differentiate into leaves. The petals of unfolding flowers are usually pinkish, wrinkled, and twisted, giving the appearance of a double bloom. Berries do



not develop from infected flowers. Double blossom is caused by the fungus *Cercospora rubi*. Rosette can be controlled in areas where it is not severe with sanitation. Infected rosettes and blossom clusters should be removed before they open, to prevent dispersal of the spores. Old floricanes should be removed and destroyed immediately after harvest. The removal of all wild blackberries and dewberries around the planting is also recommended. In areas where disease pressure is more severe both primocanes and floricanes may be cut to the ground immediately after harvest. The primocanes are then allowed to regrow from buds at the base. Chemical control starts at first bloom. Abound is the only fungicide currently labeled for Double blossom.

## **Blackberry Double Blossom- *Cercospora rubi***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## **Tomato**

Tomato pith necrosis caused by the bacterium *Pseudomonas corrugata* is widespread in some tomato growing regions. It primarily affects older plants and symptoms usually do not show until fruit begin to develop. Early symptoms are wilting of young foliage and chlorosis and wilting of older leaves. Leaves often curl up and turn brown on their margins. Dark brown to black lesions develop on the surfaces of lower stems. Inside the affected stems the pith tissue is darkly discolored and eventually becomes chambered and hollow. Adventitious roots may grow from these sections of symptomatic stems. The symptoms may advance up the stems with eventual collapse and death of the plant. Pith necrosis is more common with low night temperatures, high nitrogen levels, and high humidity. It is thought that the disease is possibly seedborne. Control recommendations are avoidance of excessively high nitrogen fertilizers, and overhead sprinkler irrigation. Workers should avoid working among the plants while foliage is wet. Rotation is perhaps the best tool.

Bacterial canker is sometimes mistaken for Pith necrosis. The causal agent is *Clavibacter michiganensis* subsp. *michiganensis*. Symptoms usually affect the lower foliage first with leaf curling, wilting, chlorosis of leaves, and necrosis and shriveling of leaves. Sometimes these leaf symptoms develop on only one side of the leaf. Internal vascular tissue begins to turn light yellow to tan in color, and eventually turns dark brown. Hollowing of the stem center is apparent in advanced cases.





Fruit symptoms are very distinctive. Spots develop that are small, round, and white or yellow. Older spots develop a brown center encircled with white. This is a seed transmitted disease. The same control measures should be used as for Pith necrosis.

### **Tomato Pith Necrosis-** *Pseudomonas corrugata*



Photo by Jason Pavel, University of Arkansas Cooperative Extension

### **Tomato Bacterial Stem Canker-** *Clavibacter michiganensis* subsp. *michiganensis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Peach**

Unusual symptoms were noted on a peach tree recently. A heavy coating of a white waxy substance was found coating the trunk. A swarm of honeybees settled on the peach tree and stayed long enough (probably because of the rainy weather) to start depositing wax on the bark.



## **Peach tree with wax-bee swarm**



Photo by Terry Kirkpatrick, 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.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.