



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.

## Euonymus

Several fungi cause leaf spots on euonymus. Anthracnose, caused by *Colletotrichum gloeosporioides*, can cause leaf spots and twig dieback on susceptible cultivars. Symptoms are small roughly circular spots with white, gray, or tan centers with dark to reddish colored borders. The centers of the spots may fall out, giving a shot-hole appearance. Cankers on the stem are small, oval, and may become raised and scabby. If a canker girdles a stem, dieback and defoliation occurs. Susceptible cultivars include Canadale Gold, Emerald Gaiety, and Emerald n' Gold. Disease development is favored by warm temperatures and prolonged wet periods. This can be particularly problematic in nursery settings where plants are subjected to crowding, poor air circulation, and overhead irrigation. Infected tissue should be pruned and destroyed. Banner Maxx, or Heritage 50WG, or Compass 50WG, or Cygnus 50WG, or Daconil Ultrex may be used by commercial operations. Homeowners may use products containing chlorothalonil such as Daconil, or Ortho max garden Disease Control, or Fertilome Liquid Fungicide, or a product containing propiconazole, such as Fertilome Liquid Systemic Fungicide.

## Euonymus Anthracnose - *Colletotrichum gloeosporioides*



Sherrie Smith University of Arkansas Cooperative Extension

## Euonymus Anthracnose conidia- *Colletotrichum gloeosporioides*-



Sherrie Smith University of Arkansas Cooperative Extension

## Hosta

Warm temperatures, high relative humidity, and poorly drained soils are conducive for Bacterial Crown Rot, caused by species of *Erwinia*, including *Erwinia carotovora* subsp. *carotovora*, *E. carotovora* subsp. *atroseptura*, and *E. chrysanthemi*. Hostas are particularly vulnerable following a winter where they have been subjected to freeze damage. The bacteria enter primarily through wounds caused by freeze damage, or through propagation wounds. *Erwinia* can survive in infected plant tissue, tools, and soil. Once the bacteria enter the plant, enzymes are released that cause the tissue to become soft and watery. Leaves



become yellowed and flaccid, and petioles rot at the base resulting in collapse of the plant. A nasty fishy odor typically emanates from the mushy tissue. Bacterial soft rot is difficult to manage. Scrupulous care must be taken to eliminate infected plants, disinfect tools, and otherwise practice good sanitary measures. A hosta diagnosed with Bacterial soft rot should be removed from the planting immediately, as well as the surrounding soil. Do not injure the plant unnecessarily when dividing or dead heading. Bactericides are largely ineffective.

### Hosta Bacterial Crown Rot – *Erwinia* spp.



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### Hosta Bacterial Crown Rot – *Erwinia* spp.



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### Pepper

Aphids are small insects that feed on the sap of phloem vessels in the plant. They may attack leaves, stems, buds, flowers, fruit, and/or roots, depending on species. Although most are host specific, a few species feed on a wide range of plant species. Symptoms may include curling, stunted, or yellow leaves. Plants may be stunted or killed by heavy infestations. Aphids secrete a sugary by-product that can coat leaves and stems, attracting fungi known as “sooty mold” fungi. The sooty mold itself is not injurious to the plant, but heavy coatings can interfere with photosynthesis. Aphids are also vectors for plant viruses. Many insecticides are labeled for control of aphids, but biological controls are the most environmentally friendly. Parasitic wasps in the subfamily Aphidiinae (Braconidae) are important natural enemies of aphids. The female wasp lays her eggs inside the aphid. The egg or eggs (depending on species) hatch and feed on the inside of the aphid. They pupate inside and emerge as adults. The parasitized aphid swells up, and the exoskeleton becomes crusty, golden brown color, and mummifies. Holes are evident in the abdomen of the parasitized aphid where the wasp emerged. Aphid populations may be drastically reduced within a week or two of first observing the mummies.



**Pepper leaf with aphids  
parasitized by Braconid wasps**



Cindy Ham University of Arkansas Cooperative Extension

**Pepper leaf with aphids  
parasitized by Braconid wasps**



Cindy Ham University of Arkansas Cooperative Extension

**Ash**

Eriophyid mites are microscopic mites that can cause bronzing, leaf distortions, or galls on plants. The eriophyid mite *Eriophyes fraxinivorus* feeds on the male flowers of the ash tree, transforming them into irregular, fringed galls. These tiny, carrot-shaped mites enter the flower structure in the spring before it begins to visibly open. The galls are green in color to begin with, but turn brown and may persist on the tree for up to two years. Since, the tree itself is not harmed by the mites feeding on the flowers, controls are not usually recommended. In any case, control is difficult as sprays must be timed early in the spring as buds are swelling, and repeated at 7-10 day intervals. However, for those who have trees small enough to make spraying practical, products containing abamectin, or spiromesifen, or horticultural oils may be used.

**Ash Flower Gall – *Eriophyes fraxinivorus***



Photo courtesy of Michael Hufnagel



**Ash Flower Gall – *Eriophyes  
fraxinivorus***



Photo courtesy of Michael Hufnagel

**Request for help from Dr. Robbins:**

Root knot nematode populations are needed for our Arkansas species study. I am a nematologist in the department of Plant Pathology in Fayetteville. My student and I are trying to amass populations of as many species of Root knot nematode (*Meloidogyne* sp.) as possible for species identification using molecular techniques. At present no root knot species in Arkansas have been identified using molecular technology. We are interested in receiving populations from home gardens, shrubs, flowers, trees and grasses. For samples we need about a pint of soil and feeder roots in a sealed plastic bag that is plainly identified by plant host, location (City County, physical address, collector and date of collection). Please send samples to us at the follow address:

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