



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.

Dianthus

Pinks, or perennial dianthus require full sun and extremely well drained soils. On heavy or water-logged soils they develop root rot and rapidly decline. The plants shown below were diagnosed with Phytophthora root and crown rot, caused by *Phytophthora* spp. There is no cure for wilted plants because their root system has already been destroyed by the fungus. Plants that are still alive may be helped by allowing the soil to dry between watering and the application of fungicides designed to treat *Phytophthora*. Homeowners may use Aliette or Mancozeb. Commercial applicators may use Subdue Maxx, or Adorn, or Hurricane, or Stature, or Segway, or Banrot.

Dianthus Root and Crown Rot- *Phytophthora* spp.



Jim Robbins University of Arkansas Cooperative Extension

Dianthus Root and Crown Rot- *Phytophthora* spp.



Jim Robbins University of Arkansas Cooperative Extension

Tomato by Jason Pavel

Tomato pith necrosis, caused by the bacterium *Pseudomonas corrugate*, 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 seed borne. Control recommendations include avoidance of excessively high nitrogen fertilizers and avoidance of overhead sprinkler irrigation. Workers should avoid working among the plants while foliage is wet. Rotation is perhaps the best tool; though do not rotate your tomatoes with alfalfa since it is another host for the disease.



Tomato Pith Necrosis- *Pseudomonas corrugata*



Jason Pavel, University of Arkansas Plant Pathology Graduate Student

English Ivy

English ivy, *Hedera helix*, is a popular perennial evergreen vine grown extensively for its ability to thrive in dry shade once established. English ivy grows well in part to full shade and tolerates poor soils and air

pollution. It grows from 6-8 inches high and forms a dense mat. When offered support such as a tree or wall it will ascend as high as 80 ft. Ivy doesn't climb by twining as do honeysuckles and clematis. It climbs by using root-like structures on the stems called holdfasts. It is a myth that ivy can kill large trees that it uses as a support. However, small trees and shrubs may be overwhelmed so they cannot photosynthesize properly. Brick and stucco walls may also be eventually damaged. Perhaps the most common disease problem of English ivy is bacterial leaf spot caused by *Xanthomonas campestris* pv. *hedera*. Lesions appear on the lower surfaces of leaves as water-soaked spots that turn reddish brown to black colored, often with a bright yellow halo. Sometimes orange-red oozing from the lesions may be observed during prolonged moist conditions. The spots can expand to large lesions 2-10 mm in diameter. Older lesions will dry and crack during dry periods. Infected stems and petioles will get elongated dark lesions. When a stem is girdled wilting occurs. Bacterial infections are spread by overhead irrigation, rain splash, and contaminated tools. Kocide is the chemical treatment of choice but must be used in conjunction with minimizing overhead irrigation, and the use of resistant cultivars.

Ivy Bacterial Spot-*Xanthomonas* *campestris* pv. *hedera*



Allen Bates University of Arkansas Cooperative Extension



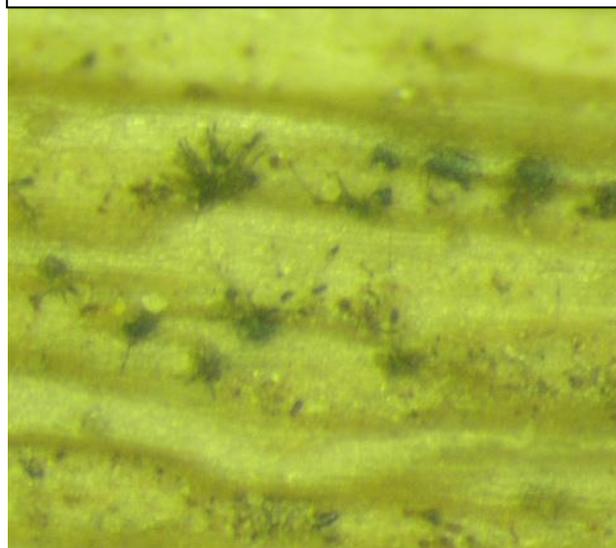
Anthracnose, caused by *Colletotrichum trichellum*, is a common fungal disease of English Ivy. Leaf symptoms are circular to irregular dry, brown to reddish brown, or black spots with concentric rings. Stem lesions are elongated black to brown spots that may girdle the stem. The lesions on stems and leaves develop small black fruiting bodies easily seen with a hand lens. The symptoms resemble those of bacterial spot, but the bacterial lesions lack the black fruiting bodies. Ivy anthracnose can be devastating to stands of ivy under conditions favorable to the disease. Defoliation and shoot dieback are common. Good cultural practices are important in controlling anthracnose. Dead leaves and stems should be removed frequently. Avoid overhead irrigation, especially late in the day. Ornamental fungicides labeled for ivy are mancozeb, and copper compounds. Chlorothalonil is effective but has been reported to cause leaf distortion and spotting on some cultivars.

Ivy Anthracnose-*Colletotrichum trichellum*



Sherrie Smith University of Arkansas Cooperative Extension

Ivy Anthracnose acervuli-*Colletotrichum trichellum*



Sherrie Smith University of Arkansas Cooperative Extension

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:

**Dr. Robert Robbins
Cralley-Warren Research Center
2601 N. Young Ave
Fayetteville, AR 72701
Phone 479-575-2555
Fax 479-575-3348
Email: rrobbin@uark.edu**