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## CLINIC NEWS

Issue 27-August 31, 2015

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.

### Begonia

Begonias are one of our most beloved annual flowering plants. They are used for bedding plants, in planters, and as houseplants. Most species require bright shade; few will tolerate full sun, especially in warmer climates. In general, begonias require a well-drained soil or potting mix is neither constantly wet nor allowed to dry out completely. Many species of begonias will grow and flower year-round except for tuberous begonias, which usually have a dormant period. One of the most difficult diseases of begonia is Bacterial Leaf spot, caused by *Xanthomonas axonopodis pv. begonia*. Symptoms begin as tiny, scattered, and circular to angular, glassy, blister-like lesions on the underside of older leaves close to the margins or the main veins. As the spots enlarge they become roughly circular and brown. The lesions tend to run together and dry, forming large, irregular, brown papery blotches with narrow, yellow, translucent margins which are visible on both leaf surfaces. Large lesions usually become V-shaped and often tear with age, giving a tattered appearance to the leaves. During periods of leaf wetness, yellowish bacterial oozing may be observed on the lesions. This dries into a glossy film. Badly affected leaves will wilt, dry up, and drop prematurely. Stems and petioles may develop dark green to brown water-soaked streaks which enlarge and turn brown with a central longitudinal crack or split. In severe cases entire plants may wilt, collapse, and die when infections become systemic within the plant. Susceptibility to systemic infection depends on begonia species, with Rex begonias being very resistant to systemic infection and Reiger-types very susceptible. Control of bacterial diseases is always difficult. Avoid buying plants with symptoms. Practice ruthless culling of infected plants; particularly Reiger-types which can become systemically infected. Remove infected leaves from Rex and tuberous types because they are not systemically infected. Do not wet leaves when watering. Do not propagate from infected plants. Destroy crop debris.

### Begonia Bacterial blight- *Xanthomonas axonopodis pv. begonia*



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### Boston fern

Fern scale, *Pinnaspis aspidistrae*, is an armored or oyster-shell type of scale common on bird's nest, Boston, Elkhorn, halberd, householly, lace, leatherleaf, maidenhair, polypody, rabbit foot, resurrection, staghorn, and wood ferns. It also infests citrus, croton, cycads, dracaena, geranium, hibiscus, mango, orchids, coconut palm, queen palm, Rhapsis palm, sentry palm, lirioppe, and African violet. These scale insects are called armored scale because their armor is made of their own cast skins, threads, and liquid. In temperate areas fern scale is more a problem in greenhouses and homes than the landscape. These insects are sap feeders. Heavy infestations may cause stunting, yellowing, and browning of foliage. The adult female is oyster-shell or pear shaped, flat, and light brown in color. Immature males have white felted armor with three distinct ridges. Adult males are very small winged gnat-like insects. The males crawl or fly to the females to mate. The females lay their eggs beneath their armor, and then die. The eggs hatch and the immature scales (crawlers) move about until they find a place to feed. They insert their long, thread-like mouthparts into the leaf and suck out the nutrients. Light infestations are managed with predatory wasps and ladybeetles. Ferns are sensitive to many insecticides. Insecticidal soaps and fine oils are recommended, but even these products may harm foliage when temperatures are above 80°F.

### Fern scale- *Pinnaspis aspidistrae*



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### Fern scale- *Pinnaspis aspidistrae*



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### Fern scale male emerging- *Pinnaspis aspidistrae*



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### Squash

It is too late now for control of Squash vine borer in summer squash. Control measures should have been started as soon as vines began to run in spring and early summer. If you keep an eye out for the adults at that time of year, you will often see them flying through the vegetable garden in the spring looking for suitable host plants. 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. Products containing bifenthrin, or Malathion applied as sprays or dusts are effective. Continue on a 7 to 10 day reapplication schedule for 3 to 5 weeks.

### Squash vine borer adult- *Melittia satyriniformis*



Forest and Kim Starr, Starr Environmental, Bugwood.org

### Squash vine borer larvae- *Melittia satyriniformis*



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### Squash vine borer in fruit- *Melittia satyriniformis*



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**PLANT HEALTH**

**CLINIC NEWS**



**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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