



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.

## Lichen

We occasionally receive plant samples in the lab where growers are concerned about lichen growth, confusing the lichens for disease. What are lichens? Lichens are composite organisms made up of a fungus and a photosynthetic partner (green alga or cyanobacterium) growing together in a mutually beneficial (symbiotic) relationship. The fungal half of the relationship provides protection for the photosynthesizing partner, which in turn provides food (sugars) for the fungus. Lichens are found everywhere on the planet on every possible surface. They are found in a tremendous array of textures and colors. Lichens do **NOT** damage plants or provide a pathway for pathogens. Lichens do not damage bark or rob the plant of moisture. It is very true that we sometimes see large amounts of lichen growth on declining plants. This is because lichen growth proliferates due to increased sunlight reaching the bark when the branch dies of other causes. In short, excessive lichen growth is often a sign of plant decline without being the cause of that decline.

### Lichen species on declining Hackberry



Michael Sullivan University of Arkansas Cooperative Extension

### Lichen species on declining Buckeye



Danny Walker University of Arkansas Cooperative Extension

### Lichen species on branch



Sherrie Smith University of Arkansas Cooperative Extension



Sherrie Smith

## Heuchera

Heuchera rust, caused by *Puccinia heucherae*, is a disfiguring foliar disease found only on members of the Saxifragraceae family. Symptoms begin as small, circular, yellowish, indented spots on the upper surface of the leaves. The indentations become raised bumps that have a corresponding orange-yellow to brown pustule on the undersides of the leaves. Leaves may become puckered and distorted by large numbers of rust pustules. The development of Heuchera rust is favored by warm, humid conditions. Wind, rain, and water splash from irrigation spreads the spores from the pustules onto adjacent foliage. Overhead irrigation should be avoided. Remove infected leaves and seriously diseased plants and destroy. Fungicides containing azoxystrobin, or propiconazole, or triadimefon or myclobutanil, or flutonil or chlorothalonil may be applied.

### Heuchera rust-*Puccinia heucherae*



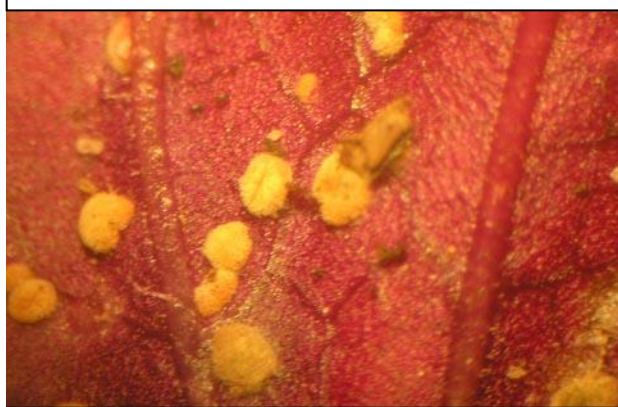
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### Heuchera rust-*Puccinia heucherae*



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### Heuchera rust-*Puccinia heucherae*



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## Sedum

Sedums are sun loving, easy care perennials. They require good drainage and are intolerant of overly saturated soils. Under the pressure of poor environmental conditions, plants may develop bacterial crown rot, caused by *Erwinia chrysanthemi*. The bacterium is spread mainly through wounds caused by improper cultivation, insects, storm damage, etc. Overhead irrigation, and contaminated soil and plant



debris can spread the bacterium through a planting rapidly. Tissues at the crown begin to look greasy and water-soaked. Affected tissues collapse, usually accompanied by a foul odor. Bactericides may be used, but are ineffective unless coupled with good sanitation and water management. Bactericides include copper compounds such as Kocide and Bordeaux.

### **Sedum Crown rot-*Erwinia heucherae chrysanthemi***



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### **Pear and Apple**

Aerial blight, caused by *Phytophthora* species, is a problem in orchards or nurseries under sprinkler irrigation. *Phytophthora* is a soil-borne pathogen common in consistently wet soils. Although primarily causing root and crown rots, *Phytophthora* can also cause fruit rot and twig blights. This occurs when contaminated soil splashes onto fruit and branches, almost always portions of the plant struck by sprinkler spray, thus the common name for this disease "Sprinkler rot." *Phytophthora syringae* and *Phytophthora cactorum* have both been identified as causing *Phytophthora* aerial blight on pear and apple crops. Symptoms on infected fruit are a firm rot with diffuse margin between rotted and healthy tissues. Diseased fruits are usually marbled olive green or brown to uniformly brown in apple, and dark brown in pear. The rotted fruit has a sweet, faintly alcoholic odor. Under humid or wet conditions, mycelial masses may grow on the rotted fruit. Affected twigs get dark lesions that may be mistaken for Fire blight lesions. The most important control option for Sprinkler rot is avoiding the use of overhead irrigation. Replace sprinkler irrigation with drip irrigation. All affected fruit and twigs should be removed from the orchard. Aliette is labeled for control of *Phytophthora* diseases in apple and pear. Ridomil Gold SL and Aliette are labeled for control of *Phytophthora* crown, root, and collar rots in



Apple. The use of these products where Sprinkler rot has been a problem, combined with proper irrigation methods can help control aerial *Phytophthora*.

**Pear Sprinkler rot-*Phytophthora*  
*spp.***



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**Pear Sprinkler rot-*Phytophthora*  
*spp.***



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