



## Arkansas Plant Health Clinic Newsletter

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### Viburnum

Leatherleaf viburnums are desirable plants for large spaces. They are very large, evergreen shrubs, eight to ten feet tall by six feet wide at maturity. Leatherleafs have pretty blooms, interesting leaves, and berries for wildlife. They prefer a slightly moist, well-drained soil with a pH of 6.0 to 7.5. They are the most shade tolerant of the Viburnums, growing well in shade to part sun. Leatherleafs have few leaf diseases but can suffer from Bacterial Leaf Spot, caused by *Pseudomonas syringae* pv. *viburni*. Symptoms are angular dark brown to black spots surrounded by a yellow halo, on leaves and petioles. Leaves with many lesions may become distorted. Large sections of the leaf may become blighted causing premature leaf drop. Bacterial Leaf Spot is more of a problem during cool, wet weather, and under overhead irrigation. Good sanitation is important. Rake and destroy all fallen leaves. Prune out infected shoots during dry weather periods. Sterilize pruning tools between cuts in a 10%, (1 cup bleach to 9 cups water), bleach solution. Avoid the overuse of nitrogen fertilizers. Copper fungicides may be of some benefit. There are resistant cultivars available such as *Viburnum burkwoodii* 'Mohawk',

*Viburnum carlcephalum* 'Cayuga', *Viburnum lantana* 'Mohican', and *Viburnum rhytidophyllum* 'Alleghany'.

### Viburnum Bacterial Spot- *Pseudomonas syringae* pv. *viburni*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### Viburnum Bacterial Spot- *Pseudomonas syringae* pv. *viburni*



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## Corn

Fusarium Kernel or Ear Rot is found wherever corn is grown. The disease can be severe when hot, dry weather occurs at and after flowering. Symptoms are groups or single kernels with whitish pink to lavender fungal growth on kernels and/or on silks. Fungal growth at the tip of the ear has been associated with earworm damage. In severe cases, the entire ear may be covered with the fungus. The causative agents are species of fusarium; *Fusarium moniliforme*; *F. proliferatum*; and *F. subglutinans*. Infection by fusarium can reduce yields and quality, and result in mycotoxin accumulation in the grain. Fusarium overwinters on crop debris. Plowing under the debris may be helpful. Management strategies consist of debris management, proper fertility, moisture control, and insect control. Hybrids vary widely in their susceptibility.

### Corn Fusarium Ear Rot-*Fusarium* spp.



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

## Shade Trees

Bacterial Leaf Scorch of shade trees (BLS) is caused by the bacterium *Xylella fastidiosa*. The bacterium colonizes the tree's water conducting tissues, clogging the xylem. Water transport becomes disrupted due to multiplying amounts of the bacteria and their by-products. The tree responds to the presence of the bacteria by trying to contain the infection and shutting down plugged areas, further impeding water transport and eventually killing the tree. Symptoms are marginal leaf necrosis, or browning, bordered by a halo separating the dead or scorched tissue from the green tissue. The discoloration begins at the leaf margin and moves toward the midrib. Reduced growth and dieback are common in affected trees. Symptoms reoccur each year until the tree cannot support itself and dies. Over 30 families of plants are reported as hosts. These include sycamore, mulberry, red maple, sugar maple, ginkgo, sweetgum, American elm, and oak. *Xylella* also causes bacterial diseases in grapes, peaches, plums, citrus, almonds, and coffee. In grapes the disease is known as Pierce's disease. In peaches it is called Phony disease. Alternative hosts such as weeds may carry the bacterium without showing symptoms. *Xylella fastidiosa* is transmitted through grafting, or by spittlebugs and leafhoppers. The disease is not curable once acquired. However, proper watering, mulching, and fertilization may delay the inevitable. Injections of the antibiotic oxytetracycline into the trunk of the diseased tree in May and June may suppress bacterial scorch but do not cure the disease. Bacterial Leaf Scorch is easily



confused with abiotic leaf scorch which most often affects young trees during hot weather. The leaves lose moisture through evaporation faster than the roots can replace the water lost. This causes marginal browning that looks very much like BLS. Other problems such as root diseases and borer injury can closely resemble the symptoms caused by *Xylella*. In oak, disease symptoms caused by Oak wilt and various cankers can also resemble the symptoms of Bacterial Leaf Scorch. Diagnostic tests are available at the Plant Health Clinic to identify Bacterial Leaf Scorch.

### **Ginkgo Bacterial Leaf Scorch- *Xylella fastidiosa***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Oak Bacterial Leaf Scorch-*Xylella fastidiosa***



Photo by John Hartman, University of Kentucky, Bugwood.org

### **Lilac**

Bacterial Blight of lilac is caused by *Pseudomonas syringae* pv. *syringae*. The disease is often associated with plants that have been stressed by drought, improper fertilization, poor site choices, and/or have been wounded. Although all lilacs can get Bacterial Blight, the white flowered cultivars seem particularly susceptible. Symptoms begin as olive-green water-soaked spots that become brown to black water-soaked areas on leaves and stems. Blackened growing tips wilt and often form shepherds' crooks that resemble Fire blight. Diseased plant parts should be immediately removed and destroyed. Prune only when the weather is dry. Dip pruners in a 10% bleach solution between cuts. Copper fungicides applied at budbreak in



the spring are thought to reduce disease incidence. Spray three times at 7–10-day intervals in the spring as leaves are unfolding. Spray again once in the fall after leaves fall.

### **Lilac Bacterial Blight-*Pseudomonas syringae* pv. *syringae***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Lilac Bacterial Blight-*Pseudomonas syringae* pv. *syringae***



Photo by Sherrie Smith, 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.

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