



Department of Plant Pathology **PLANT HEALTH CLINIC NEWS**



Apple and Plum

Crown gall, caused by the bacterium *Agrobacterium tumefaciens*, is a serious disease of roots, stems, and crowns on a number of plants. It is commonly found on cherries, grapes, apples, plums, roses, blackberries, raspberries, and several other ornamental trees and shrubs. Galls develop at the crown where the soil line meets the crown and main roots. Lateral roots may also develop the galls. On some plants such as muscadines the galls may be found quite a distance up a main stem.

The majority of galls are only a few inches in diameter, but some reach a foot or more in diameter. Young galls are light, tan-colored, and soft. As they age they become hard, woody, and nearly black-colored. A few small galls have no visible effect on plants. However, where the galls are large or numerous the plants may become stunted, with small yellow or red leaves resulting from a restriction of nutrients.

The bacteria enter the plant through wounds made by animals, insects, grafting and cultivation tools. Care should be taken with weed eaters and mowers to avoid injury to stems. Infected plants in orchards and landscapes should be pulled up and destroyed. Growing non-susceptible crops such as grass for three years will nearly eliminate the bacterium from the soil. To help prevent infection before planting, dip the roots of new plants in a product called Galltrol.



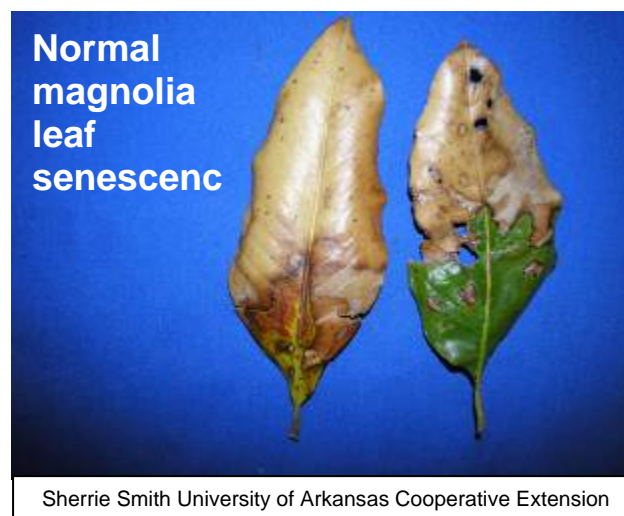
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Magnolia

Southern magnolia plants (*Magnolia grandiflora*) grow best in acidic soils (pH 5.0-6.0) that are well drained, loamy, and moist. They grow well in part shade to full sun and have large water requirements—40 to 80 inches per year. They will not thrive in heavy, soggy soils.

Evergreen magnolias drop their leaves from autumn through early spring, replacing a few at a time. The degree of leaf drop depends on genetic and physiological factors affecting the tree. Some will lose most of their leaves before new foliage comes out. This can be unsightly and often frightens homeowners into believing their tree has a serious problem.

Generally speaking, magnolias don't suffer from many serious diseases. They can get fungal leaf spots which usually doesn't do much damage. Insects such as magnolia scale can be a problem. Blackening of the leaves with sooty mold is a good indication of scale infestation. Suppress scale by applying fine horticultural oil early in the season.



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Aucuba

Aucuba is an evergreen shrub that does well in shady locations, even deep shade. Leaf spots caused by several fungi can be a problem. *Alternaria*, *phyllosticta*, and *colletotrichum* commonly attack aucuba. Symptoms are large spots up to two inches in diameter along the margins of the leaves. Many times affected plants are already stressed by poor fertility, drainage problems, and root diseases.

Soil testing for pH and nutrients is the first step toward healthy shrubs. Improving drainage if soil is boggy is critical. An ornamental fungicide such as Daconil or Fungonil gives good protection against fungal leaf spots.



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<http://www.hiltonpond.org/ThisWeek070215.html>

Sapsucker Damage

There are 21 species of woodpeckers in the United States, including flickers and sapsuckers. Most woodpeckers feed on tree-boring or tree-living insects, but others feed primarily on berries, fruits, nuts, and sap. Sapsuckers feed on insects *and* sap. The Yellow-bellied sapsucker drills small holes about ¼ inches in diameter in a symmetrical pattern in the bark. Later in the summer the birds make holes that are a series of shallow, square, or rectangular sap wells in the same circular pattern. The holes are usually made in horizontal rings around the trunk or branches. Sapsuckers lap the nutrient-rich sap and also eat any insects found in their excavations. Damage to mature trees is usually minimal, but smaller trees and shrubs can be damaged by the heavy drilling.

Woodpeckers are migratory birds and are protected by federal law. Protect trees and shrubs by wrapping them with burlap or by creating loud noises and visual repellents such as rubber snakes and owls. A particularly effective repellent is one that combines visual and noise together. Visit the following link for one option: http://www.attackspider.com/?gclid=CM39pZbNnl_sCFQIQWAodZHwaVQ



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Pepper

The clinic has seen some pepper seedlings this week with bacterial leaf spot caused by *Xanthomonas campestris* pv. *vesicatoria*. Bacterial spot of pepper is a serious disease afflicting peppers and tomatoes. Initial symptoms on peppers include irregularly shaped water-soaked spots. The spots turn brown to black-brown with age. On a heavily infected leaf, the spots will coalesce leaving large necrotic areas. Leaves become distorted, shrivel, and fall off. Streams of rod-shaped bacteria may be observed under the microscope. Fruit will get small dark brown to black raised spots rendering them unmarketable.

Overhead irrigation should be avoided where possible. Clean seed and a two-year crop rotation will reduce incidence. Copper fungicides are effective at the seedling stage.



Bacterial spot of pepper

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St. Augustine Grass

St. Augustine grass is a warm season grass found from the Carolinas to Florida and along the gulf coast to Texas, and in Southern and Central California. It tolerates a wide range of soil types, but does not withstand waterlogged sites or drought. St. Augustine is not as cold and drought tolerant as Bermuda, but has more shade and salt tolerance.

Our first sample arrived at the clinic this spring with *Take-all-patch* caused by the fungus *Gaeumannomyces graminis*. This disease is active in fall and winter when there is abundant moisture and moderate temperatures. Symptoms, however, are often not expressed until late spring or early summer when temperatures become higher and grass is stressed by drought. Symptoms begin with leaf yellowing and death of the foliage. Roots become rotted, so damaged stolons are easily pulled from the ground. The turf becomes thin as additional roots, stolons and nodes become infected and large areas of grass begin to die. Brown hyphal strands can be seen on the stolons using a hand lens. Large irregular patches of dead and dying turf can form when conditions are right.

To avoid problems with St. Augustine, try the following:

- Core to improve drainage and the root zone.
- De-thatch if build-up is thicker than 0.5 inches.
- Test soil for pH and nutrients—the optimum pH for controlling Take-all-patch is 6.0 to 6.5.
- Avoid high doses of nitrogen and use a balanced fertilizer.
- Apply two applications of fungicides 28 days apart in spring and again in fall.

Heritage, Eagle, Rubigan, and Insignia are labeled for Take-all-patch in Arkansas. Green Light Fung-Away Systemic Granules or Spectracide Immunox is available for homeowners.

