

## Deciduous Tree Galls

*R. Chris Williamson, Turf and Ornamental Specialist*

Galls are abnormal growths on plants that can result from the feeding of living organisms such as bacteria, fungi, nematodes, insects and mites. Gall formation often disfigures twigs and foliage leading to aesthetic damage, but rarely affects the health or vigor of the host plant. However, some galls such as horned and gouty oak galls can cause serious injury to oak trees.

For most of their lives, gall makers live inside the gall formed plant tissue, sheltered from insecticide sprays. Consequently, it is difficult to time pesticide applications for their control. Furthermore, gall makers are also difficult to treat with insecticides on taller trees. Yet, because gall formations are conspicuous, gall makers are easy targets of natural enemies such as predators and parasitoids. Since most galls do not kill trees, the best management approach is to allow the galls to exist. There are numerous galls that are caused by insect species, the most common galls in Wisconsin are ash flower gall, hackberry leaf gall, hickory pouch gall, horned and gouty oak galls, and maple bladder gall.

**Hackberry Leaf Gall** Many of the galls on hackberry leaves are induced by psyllids or jumping plant lice. Adult psyllids look like miniature cicadas. In the fall, the adults leave the galls seeking places to hibernate, often invading homes.

Control Remove and destroy old galls before eggs hatch in the spring. Dormant oil sprays may help reduce a hackberry gall problem, however no insecticide treatment is necessary since the galls will not harm the tree.

**Hickory Pouch Gall** Many hickory galls are caused by the feeding of aphid-like insects called phylloxera. One species produces pouch-like growths on the twigs and leaves. Severely infested foliage often turns a yellow-brown and drops from the tree. These pouches open and phylloxera

leave the galls in early summer to continue their life cycle. This insect overwinters as eggs in crevices of old galls.

Control Remove and destroy old galls before eggs hatch in the spring.



Hickory Pouch Gall

**Oak Galls** There are two wasp species that induce trees to produce large numbers of horned and hornless galls up to two inches long around stems of oak trees. These gall formations girdle stems and can cause substantial branch dieback. In late spring, female wasps emerge from stem galls to lay eggs in oak leaves. The eggs hatch and larvae begin feeding along the leaf vein and subsequently the tree produces a blister-type gall. By mid-summer, the adults fly from leaf galls to lay eggs into twigs. Once eggs hatch inside the twig and larvae start feeding and developing, galls begin to form on twigs soon thereafter. Larvae remain in twigs for two to three years until adults emerge to attack leaves.

Control Because severe injury can be caused by this gall maker, remove all twig galls in the first winter that they are visible. However, no control methods have provided satisfactory control.

**Maple Bladder Gall** Wart-like growths on the foliage of silver or soft maples trees are caused by tiny mites. These growths are first red, then turn green and eventually black. They occur singly or in clusters and can cause the leaves to become deformed and drop early. Once formed, the galls can not be removed from the leaves. Many homeowners are alarmed when they first notice maple bladder gall infestations, fearing that the tree will die. It is unlikely that the tree will experience injury or effect on tree health or vigor. However, the galls do reduce the aesthetic quality of the tree. Maple bladder gall mites overwinter in cracks and crevices of the bark, and as the buds swell and break in the spring, they migrate out to the bud scales. At this point, the mites are most susceptible to dormant oil sprays. As the buds open, the mites feed on newly developing leaves. The tree responds to this feeding by developing hollow galls where the mites then live, feed, and mate inside. Mites move back to the bark to hide in the fall to overwinter.

Control No insecticide treatment is necessary since the galls will not harm the tree.



Maple Bladder Gall

**For pesticide recommendations:** See UW-Extension Bulletin A3597 or contact your County Extension Agent.