IDL
INSECT DIAGNOSTIC LABORATORY
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Galls on Plants

A gall is an abnormal development or outgrowth of plant tissue resulting from an irritation caused by bacteria, fungi, or insects. Insects (aphids, mites, wasps, and flies) cause the majority of plant galls. Some of the common ones are illustrated here.

Galls of many shapes and sizes can be found, on leaves, stems, flowers, or even on roots. Galls are usually noticed because of their odd shapes and appearances, and people naturally want to know if they are harmful to the plant. Galls may interfere with the normal functions of twigs and other plant parts, causing curling and stunting of growth. Most galls on leaves are not harmful to the plant, except at most causing a few leaves to fall off early if they are very numerous. With some twig galls, the stem beyond the gall may die.

A few galls on a tree or other plant leaves seldom warrant control. They may be hand picked and discarded. Most galls are difficult to control since little is known about the gall makers and insect life cycles vary so much. Check with your state Cooperative Extension Association horticulturist or entomologist if you have a specific gall problem.

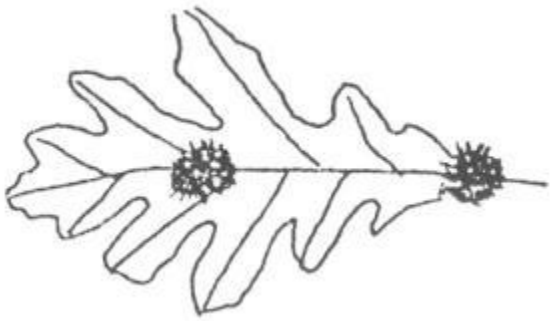
Oak Apple Gall

A round growth, one to two inches in diameter, with a spongy inside and a hard central core. These galls are seen on the leaves of scarlet and black oaks.

They are caused by a tiny wasp, and are usually first noticed in May or June.

Photo from www.forestryimages.org
James Solomon, USDA Forest Service.

Oak Hedgehog Gall



Present on the leaves of white oaks, these galls appear as tiny spheres covered with spines. Inside, small wasps are developing.

The mature galls are about 1/2 inch in diameter, and are often a burnt red color.

Gouty Oak Gall

Caused by a wasp, these hard, brown, lumpy, galls appear on the stems of black, red, pin, and scarlet oaks. They have been known to cause small branches to be killed and break off the tree.

Photo from www.forestryimages.org
Gerald J. Lenhard, Louisiana State University.

Maple Bladder Gall

Caused by mites, the tiny growths are about 1/8 inch in size, with most of the swellings occurring on the upper surfaces of maple leaves. The newly formed galls are a yellowish-green color. Towards the end of June they turn reddish and late in the season they are black.

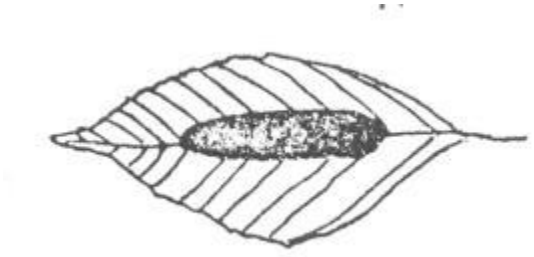
Photo from www.forestryimages.org
Minnesota Department of Natural Resources Archives.

Maple Spindle Gall

Also caused by mites, these galls are found on red, sugar, and silver maples. Spindle galls are about 1/5 inch long and about as thick as pencil lead. The galls stand erect and are easily seen and identified.

Photo from www.forestryimages.org
E. Bradford Walker, Vermont Department of Forests Parks and Recreation.

Ash Midrib Gall



Found in the center of the leaf along the midrib of white ash, this gall may be up to an inch in length and is plump and spindle-shaped. It is caused by a tiny fly called a midge.

Cooley Spruce Gall

A 1 to 1 1/2 inch cone-shaped overgrowth that first appears on the tips of the spruce branches in early June. If cut open, one will find numerous tiny gray aphids (adelgids) inside.

The galls open in August and September, and the adults emerge to lay eggs. The young adelgids overwinter on the buds and twigs of the host tree.

Photo from www.forestryimages.org
William M. Ciesla, Forest Health Management International.

Goldenrod Ball Gall

Photo courtesy of Warren G. Abrahamson, Bucknell University.

Goldenrod ball galls in winter.
Photo by S. Gardescu, © 1986.

Large, round galls can often be seen on goldenrod stems. The galls are quite hard, and if cut open before spring, you will see a whitish-yellow fly larva inside.

For more information see:
www.facstaff.bucknell.edu/abrahmsn/solidago/main.html

Other Insect Galls

Other common galls include the **hickory leaf and petiole gall**, first appearing on petioles and small stems in June as hollow green growths, later turning black, caused by a small aphid-like phylloxeran. The **poplar petiole gall** is a swelling of the leaf petiole, also turning black upon maturity, caused by an aphid.

Crown Gall

Crown Gall is caused by a species of bacteria.

This is an example of a gall that is harmful and often kills plants. When this gall is discovered it is best to discard the plant altogether.

Crown gall is usually found at or near the soil level and appears as rough-shaped, hard or soft, spongy swollen tumors. The color of the galls varies from flesh-colored to greenish or dark.

Photo from www.forestryimages.org
Edward L. Barnard, Florida Dept. of Agriculture & Consumer Services.

Cedar-Apple Gall

This is caused by a rust fungus. It has two kinds of hosts, infecting both red cedar (*Juniperus*) and the leaves of apple, crabapple, or hawthorn.

Photos from www.forestryimages.org
Apple: Univ. of Georgia Plant Pathology
Cedar: Joseph O'Brien, USDA Forest Service

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