

Galls are unusually-shaped formations that grow on plants including trees. Certain bacteria, fungi, insects, mites, nematodes and viruses induce the development of swollen plant tissue. Their secretions react with the host tree growth regulators to create gall formations. This gall tissue provides protection and a food source for the causal organism to develop.

Galls can be found on all parts of trees. The characteristic sizes, shape, texture and colour of the gall is often used to identify the causal organism.



**Maple bladder galls**  
(mite)



**Cooyle spruce gall**  
(adelgid)



**Crown gall**  
(bacteria)



**Hackberry nipple gall**  
(psyllid)

## Hosts and Damage

Most gall inducing organisms are very host specific, causing the formation of very characteristic galls on only one or a limited number of host tree species. Others have a wide host range.

The most common type of galls are soft or fleshy growths on tree leaves. Other galls may appear as woody globules, elongated swellings, spherical growths on the surfaces of twigs, branches, stems, and occasionally even on roots. Galls may also appear as a proliferation of flower buds, which leads to abnormal branch growth of the host tree.

The vast majority of galls are cosmetic in nature and do not cause significant damage to the host tree. Leaves with galls may prematurely drop due to the additional weight, however most leaves remain in place. The unaffected and normal-looking area of the leaf is still able to photosynthesize. Similarly, large numbers of woody galls may slow down the internal transport system of the tree, but only in the localized area of the individual gall. Trees that develop crown galls may survive for many decades after the initial gall formation. Black knot of cherry however, causes cancerous knots, general decline and dieback in affected twigs and branches.

## Specific Management Practices for Control of Galls:

- Most gall problems should be tolerated since they are usually only cosmetic, not serious health threats.
- Where possible, prune out and destroy newly forming galls to reduce their spread in the future. When removing woody galls, employ good pruning practices and make branch cuts at a distance from the gall. Disinfect pruning tools between each cut.
- Prune away old galls to improve aesthetics where removal of galls does not disfigure a tree.
- Attract birds and other beneficial organisms to your yard by planting appropriate plants (herbs, flowers, ground covers and shrubs) in your garden.

## General Management Practices To Improve Plant Health:

- Water your trees during dry spells. Infrequent, but deep soaking preferably during the early morning hours is recommended. Water absorbing roots are located in the upper 25 cm of the soil and extend outward well beyond the canopy dripline.
- Place organic mulch, (e.g. wood chips), or living mulch, (e.g. ground cover plants) around tree bases to keep the soil moist for longer periods and encourage healthier roots.
- Avoid unnecessary excavating, grade changes, soil compaction, root cutting or hard surfacing around trees. These activities destroy vital roots, which may lead to the decline or death of trees.
- Refrain from using salt or herbicides around trees.

**Forest Health Care** is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process, that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.

Photo credits:

Sinclair, Lyon and Johnson, Diseases of Trees and Shrubs, Cornell University Press