UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

Insect and Mite Galls

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What is a gall?

A gall is an abnormal growth or swelling of a plant caused by hormones released from insects, mites, bacteria, or nematodes. They can appear on any part of the plant with vast variation in morphology, appearing as anything from smal,l simple growths barely visible, such as aphid galls, or to large hard masses such as oak galls.

Figure 1: Horned Oak Gall

What causes a gall?

Galls are caused by the feeding or egg-laying of insects and mites. Upon feeding or egg-laying, hormones from the arthropod are released, which tell the plant to grow a protective mass, which is the "gall". This mass then either grows around the feeding damage or surrounds the egg. Once surrounded the arthropod has the food and protection needed to mature.

Figure 2: Gall Midge galls

What damage do galls do?

Most galls do not kill trees and do not need any treatment, however, some may consider gall damage to be unattractive and still wish for them to be removed or treated.

How to treat galls?

Cultural practices

Pruning galled areas of plants. Galls formed on leaves may be removed from underneath the tree or shrub in the fall to reduce pressure for the following year in some instances.

Biological control

Various parasitoids or generalist predators usually provide as much suppression of this group of pests as an insecticide can.

Chemical control

Insecticides are rarely warranted to manage gall-forming arthropods because this group of pests seldom cause significant harm to their hosts.

What plants are prone to galls?

- Oaks are the most susceptible having the most species of gall-forming insects and mites being able to take advantage of them. Oak galls may form on the branches or the leaves
- Maples commonly have galls form on the leaves of the trees from aphids and mites as well as on the bark.
- Ash trees will potentially form galls on the flower
- Hackberry nipple gall which forms on the leaf of a hackberry tree and creates long conical growths
- Polar trees can form galls on the buds, creating a large cluster of bark.
- Tulip trees can commonly form galls on the leaf, creating yellow spots with a brown center
- Elms most commonly can form galls on the leaves
- Cyprus trees can form a gall on the twigs that look like an oversized Q tip.

Figure 3 : Maple occelate gall midge

Figure 4: Hackberry nipple gall

Figure 5: Tulip tree leaf spot gall midge

References

Figure 1: William Fountain, University of Kentucky, Bugwood.org

Figure 2: Milan Zubrik, Forest Research Institute - Slovakia, bugwood.org

Figure 3: William M. Ciesla, Forest Health Management International, Bugwood.org

Figure 4: Steven Katovich, Bugwood.org

Figure 5: Lance S. Risley, William Paterson University, Bugwood.org