Unsightly Leaf Galls: Are they as bad for the trees as they look? (7/5/12)

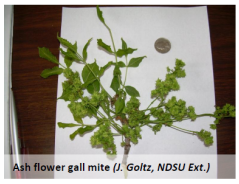
Mites and insects that form galls on the leaves and twigs of trees have been especially prevalent this year and have caused significant concern among tree owners.

Galls occur on many species, vary in size and take on a range of forms. Gall forms include: large, round bumps or woody galls; smaller, thin, finger-like projections called bladder galls; red felt-like patches referred to as erineum and even multicolored hair-covered galls called 'hedgehog' galls. Galls are formed as a tree's response to feeding or egg-laying, when gall-forming mites and insects inject leaves and stems with growth-altering compounds using specialized body parts. The compounds stimulate irregular growths that form the gall which may serve as a food source and/or a protective structure for various stages of insect development.

The major groups of organisms that cause galls are:

- Eight-legged mites, primarily eriophyid mites (pronounced 'air-ee-oh-fy-id') that cause various types of erineum, bladder galls and growth deformations.
- Psyllids (sill-ids), which are tiny insects that resemble flies (a common example is hackberry nipple gall).
- Gall-forming adelgids (small fly-like insects that are responsible for eastern spruce gall and Cooley spruce gall, both found in North Dakota) .
- Gall-forming aphids (for example, the poplar petiole gall aphid).
- Tiny cynipid wasps that are responsible for the formation of corky round galls on the branches oak trees (oak bullet gall). Certain species of cynipid wasps also form furry-looking 'hedgehog galls'.

Leaf galls2



Leaf galls1

Despite the sometimes severe appearance of these galls, they are seldom a threat to tree or shrub health – reduced aesthetic qualities of landscape trees is the major consequence of galls. In cases where gall formation is very heavy and compromises more than 30 percent of the leaf area of the entire tree, control may be warranted. Also, if less than 30 percent of the circumference of a section of a twig is free of galls, dieback can be expected and control efforts are advisable.

Controlling mites and insects that form galls on broadleaf trees is difficult. While an early spring application of a systemic insecticide soil drench may provide effective control, this has occasionally been documented to make other insect problems worse. Foliar sprays of a systemic insecticide can provide some level of gall-forming mite and insect control, but will also kill beneficial insects that prey on gall-forming mites and insects and could eventually represent a natural control. Further, mite and insect populations can achieve some level of resistance to a repeatedly applied pesticide, thus, rotating classes of control chemicals in recommended.

Horticultural oils can be applied in spring before bud break, and again directly after bud break, but the timing of this application is critical for achieving control. Horticultural oils and soaps are considered reduced-risk treatments and generally will not harm beneficial insects.

Since the populations of gall-forming mites and insects fluctuate greatly from year to year, patience and maintaining overall tree and shrub health is often the best prescription.

If you have questions about leaf galls, the insects that make them and their effects on tree health, contact: North Dakota Forest Service, Forest Health Specialist aaron.d.bergdahl@ndsu.edu or call (701) 231-5138.

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