The Plant Doctor's LANDSCAPE TIPS

By David L. Roberts, Ph.D, *Michigan State University*

Photo 1. A relatively minor incidence of spindle gall on maple. The number of galls may become more or less common in other years.

Photo 2. Close up examination of the spindle galls.

Photo 3. Bladder galls appear as spherical bumps on the upper surface of maple leaves. With time, these galls may become scarlet red and become quite conspicuous.

Photo 4. A closer examination of bladder galls.

MAPLE GALL MITES

INTRODUCTION:

Galls on plants are abnormal growths that may be induced by a variety of factors. Many galls are formed by insect/arthropod activity on plants; others are induced to be formed by diseases and genetic abnormalities. Because maple (Acer sp.) is so widely used in the landscape, it is important to recognize and understand several of the most common galls found on this valuable landscape plant. Three of the most common galls affecting maple are bladder, spindle, and erineum (also called velvet or felt gall) galls. All are caused by species of eriophyid mites. The maple spindle gall, caused by Vasates aceris-crumena, occurs most commonly on sugar maple. The bladder gall, caused by Vasates quadripedes, is found most commonly on silver maple, but also occasionally on red maple. The velvet gall, typically caused by mites in the genera Eriophyes and Aculops, are found on a variety of maples, including silver, Norway and boxelder.

SYMPTOMS AND LIFE CYCLE:

As the descriptive name implies, spindle galls appear as "spindles" erupting from the upper leaf surface (Photos 1 & 2). Velvet or felt galls appear as velvety patches on the underside or upper side of leaves; coloration may range from green to bright red. Bladder galls appear as small round bumps on the upper surface of leaves (Photos 3 & 4). Bladder galls may become red in coloration and appear quite conspicuous. The bladders may become so populated that the leaf is often distorted. Because of their spectacular nature, bladder galls typically receive the greatest concern from homeowners. Despite their somewhat unsightly if interesting appearance, the bladder, spindle and velvet galls cause virtually no harm to maple trees.

Generally, maple gall mites overwinter in bark crevices and bark scales where they withstand the harsh and cold winter conditions. In the spring, they move to unfurling leaves and begin feeding on the leaf surfaces. The mites causing spindle and bladder galls feed on the underside of leaves, causing a depression where the feeding injury occurs. Galls are stimulated by interactions between plant hormones and growth regulating hormones produced by the mite. The plant quickly responds to mite feeding by enclosing the mite into the upper surface of the leaf. A small opening remains on the underside of the leaf from which the mite was enclosed. The mite continues to feed and lays many eggs within the gall. After the eggs hatch, the maturing mites migrate to new leaves and continue the gall making and infestation. By mid-summer, mite activity ceases. The number of mites and, hence, the number of galls may vary substantially from year to year.

MAPLE GALL MANAGEMENT:

For the three galls discussed in this article, no management procedures are required or recommended. While some people may view the galls as unsightly, the plant's photosynthetic capabilities are unharmed; maples infested with galls are able to function normally. To ameliorate in minor stresses caused by these galls and other pests/diseases, maintain good tree vigor with appropriate nutrition and moisture. In many cases, applications of chemicals to attempt to stop mite infestations have resulted in more harm to some maple trees than the perceived damage caused by the mites. On rare occasions, application of dormant oils when mites become active in the spring but before leaf emergence has provided some marginal control. The green lacewing and ladybug beetles are natural predators that feed on mites. The application of chemical pesticides may harm these and other natural, beneficial insects.

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