

## COMMON MAPLE GALLS

Lee Townsend, Extension Entomologist, and Eileen Eliason

Galls are irregular plant growths which are stimulated by the reaction between plant hormones and powerful growth regulating chemicals produced by some insects or mites. Galls may occur on leaves, bark, flowers, buds, acorns, or roots. Leaf and twig galls are most noticeable. The inhabitant gains its nutrients from the inner gall tissue. Galls also provide some protection from natural enemies and insecticide sprays. Important details of the life cycles of many gall-makers are not known so specific recommendations to time control measures most effectively are not available.

Gall makers must attack at a particular time in the year to be successful. Otherwise, they may not be able to stimulate the plant to produce the tissue which forms the gall. Generally, initiation of leaf galls occurs around "bud break" or as new leaves begin to unfold in the spring.

Once the symptom or gall appears, the causative arthropod is protected within the structure. This means that remedial actions, other than pruning in some cases, are not effective. Preventive action is necessary to attempt to reduce the infestation the following season and these may be of limited value. Fortunately, most galls, especially those on leaves and leaf structures, do not harm the health of the tree.

Several types of mites can cause maples to produce three types of galls:

- rounded bladder galls,
- narrow spindle galls, and
- felt-like erineum galls

Bladder galls often turn bright red and are very conspicuous on the leaves. Most galls occur on early spring foliage that develops near the trunk and on larger branches. Additional galls are formed on newly developing leaves later in the summer but mites are most active early in the season. Galls usually form on a small proportion of the leaves and tree health is unaffected.

### Maple Bladder Galls

Maple bladder galls occur on silver and red maples. They are irregular, spherical growths that are usually found on the upper surfaces of the leaves. These hollow,

purple-green to red structures are attached to the leaves by short hollow stems.



Large numbers may cause infested leaves to "cup" and to drop prematurely. The single mite inside each gall feeds and lays eggs. Activity usually ends in July and the mites pass the winter under bud scales, moving back to leaves as

they open in the spring. An application of carbaryl (Sevin) to the lower leaf surface when the leaves are about 1/4 expanded and again 10 days later may reduce infestations.

### Felt or Erineum Galls

Felt or erineum galls are produced by several species of mites. These appear as light green to yellow-green velvet-like patches on the underside of leaves. An application of carbaryl (Sevin) as buds begin to open or at the first sign of red or yellow patches on the underside of leaves may give some control.

### Maple Spindle Galls

Maple spindle galls occur most frequently on the upper surface of sugar maple leaves. The life cycle is similar to that of the maple bladder gall.

### Eyespot Midge Gall

The most striking gall on red maple, and occasionally sugar and silver maple, is caused by a small fly (midge). The small fly lays its eggs in the undersurface of leaves. The maggot that hatches from the egg develops quickly, producing a growth regulating-hormone which causes the development of bright red and yellow rings around the gall, usually in June. The 1/4" diameter area later turns brown. The maggot inside the gall completes its development in about 10 days. It then drops to the ground to pupate and transforms into the adult. There is one generation each year. No control is available.