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PLANT GALLS INDUCED BY INSECTS AND MITES

At one time or another, nearly everyone has seen a gall on some type of tree, shrub, or other plant. Galls are extremely variable in size, shape, and their location on the plant. Some are little more than a blister on the surface of a leaf while others are large, warty growths on leaves, stems, or roots. Most plant galls are caused by mites and wasps. A few galls are caused by midges, psyllids, aphids, and beetles. The tissue growth is the result of irritation caused by the feeding of the insect or by powerful plant growth- regulating chemicals injected by the insect during egg laying or feeding. Each insect or mite produces its own distinctive gall formation. Often, the insect or mite can be identified by the gall shape. There are over 2,000 American plant galls caused by insects and mites.

More galls occur on oak than on any other host plant. At least 750 different galls have been identified on oak alone. Some examples are shown in Figure 1. Nearly all trees, shrubs, and other plants have at least a few galls.

Generally speaking, most galls do not seriously harm the host plant. Some, in fact, are quite ornate and attractive (Figure 2). Unfortunately, most galls seriously detract from the beauty of the host.

Twig galls, such as those on oak, are generally harmful to the tree or shrub. Large numbers of these may kill individual limbs or the whole tree.
The actual life histories of the various gall making insects and mites are too variable and complex to cover.

Many gall–producing insects and mites are parasitized by other insects and are fed upon by various birds and animals. Simple removal and destruction of fallen leaves with galls will help to reduce the number of emerging adults that will produce the next generation. Where possible, all twig galls should be pruned out while green or before emergence holes appear.

In most cases, chemical control is not feasible or effective. This is especially true in the case of large shade trees. Usually, chemical control must be applied in early spring, at bud break, to be effective.

See your local County Extension Agent for additional help and information.

Figure 1. Common galls found on oak. Top left and right: A woody twig gall on live oak caused by a gall wasp. Center left and right: woolly leaf gall caused by a gall wasp. Bottom left: An oak apple gall on red oak caused by a gall wasp. Bottom right: A leaf vein gall caused by an eriophyid mite.
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Figure 2. An assortment of galls on deciduous trees and shrubs and on pine. Top left: Eyespot galls on red maple caused by a midge. Top right: Galls on birch caused by aphids. Second row: Nipple galls on pecan caused by aphids. Third row left: A nipple gall on pecan caused by an aphid. Third row right: maple bladder gall caused by a mite. The gall on the left is cut open. Bottom row left: An unidentified multicell stem gall probably caused by a gall wasp. Bottom right: A woody stem gall on pine caused by a gall wasp.

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