

FACTS ABOUT GALLS ON OAKS

What is a gall?

- A gall is a growth of plant tissue that starts with an organism's (insects, mites, fungi) chemical and/or mechanical stimulus, which increases the plant's production of plant growth hormones (auxins, cytokinins, gibberellins, etc.).
- Galls are made of cells that are more numerous or larger than normal plant cells, or plant organs whose growth and development have been altered into unusual shapes.
- An insect gall forms because of the plant's response to the insect's egg laying, presence of the egg, and/or feeding stimulation by the larva. Plant cells are usually modified and enlarged, the plant tissue surrounds the egg or larva, and the gall protects and feeds the gall-maker.

Where are galls located?

- Usually occur on rapidly-growing plants or plant parts.
- On catkins, seeds, flowers, petioles, branches, stems, and roots; most occur on leaves and buds.

What do galls look like?

- Some galls are single-chambered (monothalamous) and contain only one gall-maker, and others are multi-chambered (polythalamous) and contain many gall-makers.
- The most common galls are described as blister, bud, bullet, oak apple, roly-poly, rosette, or stem galls.

What are the most common gall-making insects?

- Most gall-making insects are adelgids, phylloxerans, psyllids, gall midges, or gall wasps (cynipids).
- Of the more than 2,000 gall-making insects in the U.S., over 1,700 are gall midges or gall wasps.

Can insect galls hurt a tree?

- Leaf galls can be abundant and noticeable, but are usually not physically damaging.
- Occasional stem galls should not be physically damaging or reduce tree growth. However, severe infestations by some gall-maker species may alter branch angles, cause branch dieback, or tree decline.
- If properly maintained, established trees do survive and outgrow a gall infestation in the landscape.

Are galls ever beneficial to have?

- Some galls/gall-makers are used in weed biological control programs.
- Galls containing tannic acid (e.g., oak galls) have been used to make inks and dyes, and to tan leather.

What should I do if my trees have galls?

- Learn what the gall-maker looks like. Many other insects live in galls, so monitor exit holes.
- Chemical control is not recommended for light infestations, especially in the landscape.
- Prune and destroy clippings. Chipping does not cut infested plant parts up enough.
- Most gall-makers on oaks are native and naturally occur in the landscape, and are not regulatory/quarantine pests.

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Photos by David H. Headrick, taken in Atascadero, Ca, September 2016.

Additional Resources

- General information about gall wasps from UC IPM.

<http://ipm.ucanr.edu/gallmakers.html>

- Life in the Undergrowth takes a close look at tiny wasps responsible for oak galls.

<https://www.youtube.com/watch?v=CzXccvoJThI>

- UC Davis research team studied the behavior of gall wasps.

[http://entomology.ucdavis.edu/Oak Apple Galls/](http://entomology.ucdavis.edu/Oak_Apple_Galls/)