

37400 Gallnuts, Oak Apples

german: Galläpfel
frz.: noix de galle, galles

An oak apple is a mutation of an oak leaf caused by chemicals injected by the larvae of certain kinds of gall wasp. They are so called because the gall, which can measure up to 5 cm in diameter but is normally only around 2 cm, looks like an apple.

The oak galls used in commerce and medicine are excrescences on the *Quercus infectoria*, a small oak, indigenous to Asia Minor and Persia, and result from the puncture of the bark of the young twigs by the female Gallwasp, *Cynips Gallae-tinctoria*, who lays its eggs inside. The common Oaks of this country are much affected by galls. They occur sometimes on the leaves, where they form the so-called 'Oak-apples,' sometimes on the shoots, where they do great mischief by checking and distorting the growth of the tree. The young larva that hatches from the egg feeds upon the tissue of the plant and secretes in its mouth a peculiar fluid, which stimulates the cells of the tissues to a rapid division and abnormal development resulting in the formation of a gall.

The best Aleppo galls, collected in Asiatic Turkey, principally in the province of Aleppo, are collected before the insect escape. Aleppo Galls of good quality are hard and heavy, without perforations, dark bluish-green or olive green, nearly spherical in shape, 12 to 18 mm. in diameter (about 2/5 to 4/5 inch), and known in commerce as *blue* or *green* galls. The chief constituents of *Aleppo* or *Turkey* Galls are 50 to 70 % of gallotannic acid, 2 to 4 % of gallic acid, mucilage, sugar, resin and an insoluble matter, chiefly lignin.

If collected after the insects have escaped, galls are of a pale, yellowish-brown hue, spongy and lighter in weight, perforated near the center with a small hole. These are known in commerce as *white galls*. They contain less gallotannic acid than the 'blue' or 'green'. On breaking a gall, it appears yellowish or brownish-white within, with a small cavity containing the remains of a larva of the Gall-wasp. Galls have no marked odour, but an intensely astringent taste, and slightly sweet after taste.

English Oak Galls, or Oak Apples, are smooth, globular, brown, usually perforated and much less astringent than Aleppo Galls, containing only 15 to 20 % of gallotannic acid. They have no commercial value.

China Galls – produced by a species of Aphis on *Rhus semialata* – are used mainly for the manufacture of tannic and gallic acids, pyrogallol, ink, etc. They are not spherical, but of extremely diverse and irregular form, with a thick, grey, velvety down, making them a reddish-brown color. They contain about 70 % of gallotannic acid.

Mecca Galls, from Bassorah, known as 'mala nisana,' are spherical in shape and surrounded about the center by a circle of horned protuberances.

Galls are used commercially in the preparation of gallic acid and tannic acid, and are extensively used in tanning and dyeing as well as for the manufacture of ink.