

NOGUEIRA

Scientific name: *Juglans regia* Linné

Family: Juglandaceae.

Popular names: Caucasion walnut, Circassian walnut⁽¹⁾, English walnut^(1,6), Persian walnut^(1,4).

Used parts: the feathery leaflets without the rachis and the green fruit shells⁽¹⁾.

Botanical characteristics: The plants grow to 25 m and have a broad, loose-branched crown. The bark is smooth and ash gray at first; later dark and fissured. The leaves are large, long petioled, odd-pinnate with 7 to 9 oblong or ovate, entire-margined leaflets. The leaflets are spotted with glands when young. The terminal leaflet is the largest and petiolate. The flowers are green and appear before the leaves. They are monoecious. The male flowers are 10 cm long, sessile, globular-cylindrical, limp, hanging catkins. The female flowers are in groups of 1 to 3 at the tip of annual growth. They are greenish with a glandular pubescent calyx and 2 large, curved, warty, reddish stigmas. The fruit is globular or oblong-globular with a smooth, green, white-spotted outer shell and a wooden, wrinkled inner shell⁽¹⁾.

Habitat: The walnut is indigenous to the Middle East and Iran⁽¹⁾. *Juglans* is distributed from the Mediterranean to eastern Asia, and in Indochina, North and Central America and the Andes⁽⁴⁾.

Chemical composition: tannins (galloyglucose, ellagitannins), naphthalene derivatives (1,4,5-trihydroxynaphthalene-4-beta-D-glucoside) and flavonoids (hyperoside, quercitrin)⁽¹⁾.

Surface waxes (leaves and fruits): hydrocarbons, esters, aldehydes, juglone, primary alcohols and fatty acids (linoleic acid as a major fatty acid)⁽⁴⁾.

Indications:

- Externally: used for mild, superficial inflammation of the skin and excessive perspiration⁽¹⁾.
- Internally: used for gastrointestinal catarrh and as an anthelmintic⁽¹⁾.
- Chinese medicine: used to treat asthma, lumbago, beriberi, impotence and constipation⁽¹⁾.
- Indian medicine: used for alternating rheumatic complaints, and the oil of the seeds is used for tapeworms. The seeds are said to have an aphrodisiac effect and are also used for dysentery and colic⁽¹⁾.
- Turkish folk medicine: external: rheumatic pain, fever, sunstroke; internal: eczema⁽⁵⁾.
- Antifungal, anthelmintic, astringent, keratolytic,

antidiarrhocal, hypoglycemic, depurative, tonic and for the treatment of sinusitis, cold and stomachache⁽⁵⁾.

Dose:

- Daily dosage: The average daily dose for external use is 3 to 6 gm of drug⁽¹⁾.

Others informations:

- For antiparasitic purposes some walnut leaves, if necessary sprinkled with olive oil, were set in wheat or in lentils, and in sacks containing other cereals or legumes⁽²⁾.
- A decoction of leaves was administered to horses as vermifuge⁽²⁾.
- Walnut has been reported to be toxic to a wide variety of organisms including herbaceous and woody plants. The principal chemical responsible for walnut toxicity is juglone⁽³⁾.
- It was shown that juglone restricted respiration in plants, inhibited mycelial growth, had antimicrobial activity and affected germination and growth of plants and seaweeds⁽³⁾.
- *Juglans regia* leaves exhibited potent anti-inflammatory and antinociceptive activity⁽⁵⁾.

References:

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