

Expert Herbal Reality Resource

Licorice

Names

Botanical Name *Glycyrrhiza glabra et spp*

Family: Fabaceae

Common names: Sweet root, sweetwood, black sugar (Eng), Süssholzwurzel, Lakritzenwurzel (Ger), réglisse, bois doux (Fr), liquirizia, regolizia (Ital), regalíz, orozuz (Sp), jethimadh, mulhathi (Hindi), madhuuka, yastimadhu (Sanskrit), gan cao (Chin)



Alternate botanical names: *Glycyrrhiza glandulifera*, *G. hirsuta*, *G. officinalis*, *G. violacea*, *G. viscosa*, *Liquiritia officinalis*, *Liquiritia officinalis*. In China *Glycyrrhiza uralensis* is used.

Description

Licorice is native to Eurasia, northern Africa and Western Asia, but is now commonly cultivated due to its use in the production of licorice-based sweets. It belongs to the pea and bean family, so will grow best in soils with a high nitrogen content. Its natural habitat is dry, open scrubland and damp habitats close to water sources. It is a perennial herb with underground rhizomes, characteristic of the Fabaceae family. The stems are downy and upright, growing to about 1.5m in height. The stolons and long rootlets emerge from a thick rhizome of dark, reddish- or greyish-brown colour externally, while yellowish inside. The leaves are a dark green and arranged in pairs (pinnate) along the stem. The flowers spring from the axils of the leaves and are a light blue or pale violet, very similar in appearance to those of the sweet pea.

Constituents

- **Triterpenoid saponins** including 2-6% glycyrrhizin, present in the form of potassium and calcium salts. The aglycone derivative of glycyrrhizin (GL) is glycyrrhetic acid (GA), and is also present as such in the root at between 0.5–0.9%.
- **Flavonoids:** the yellow colour in the root: flavanones, mainly liquiritin, chalcones and isoflavonoids
- **Sterols**

Traditional use

It is remarkable that many of the recorded uses from different world regions over the ages are consistent, and often supported by scientific research. Reference to treatment of conditions including laryngitis, pharyngitis, cough, peptic ulcer and hepatitis are common to European, Indian and Chinese traditions.

Licorice sticks are very widely used around the world as toothbrushes, a reputation backed by modern evidence for a benefit against tooth decay and gum problems.

In European history licorice, often as extracts, is used to sweeten and harmonise the impact of herbal mixtures, and on its own as a cough and throat remedy, for stomach problems, and consistently as a convalescent tonic

Licorice is probably the most commonly used herb in Traditional Chinese Medicine (TCM), and is included in the majority of formulae: it is said to tonify the *Spleen* (roughly translated as the wider digestive and assimilative functions)

in the body), clears *Heat* and detoxifies *Fire Poison* (sore throat, boils), moistens the *Lungs*, stops coughing and soothes spasm. Some of the indications reported in early Chinese texts are common to European usage, such as cough, pharyngitis, gastric pain, ulcers in the gastrointestinal tract and sores. However, the Chinese also used licorice as a detoxifying agent for poisoning by drugs or food, a use also found in Ayurveda.

Other Ayurvedic uses of licorice include viral respiratory infections, asthma, bronchitis, throat infection, eye irritation, ulcers (peptic, oral), acute and chronic liver disease, constipation, painful urination, catarrh of the genitourinary tract, wound infection, arthritis and as a rejuvenative tonic.



Licorice is most commonly used in TCM and Ayurveda to strengthen and harmonise herbal formulae.

Traditional actions

Ayurvedic energetics

Rasa (taste) sweet.

Virya (action) cooling.

Vipaka (post-digestive effect) sweet.

Guna (quality) heavy, moist.

Dosha effect: reduces aggravated *vata*, *pitta* and *kapha*, in high doses strengthens *kapha*

Dhatu (tissue) every tissue.

Srotas (channels) digestive, respiratory, nervous, excretory, reproductive.

Ayurvedic actions

Vrishya Sexual potentiator.

Shukrala Increases semen.

Jivaniya Vitalising.

Rasayana Benefits all seven tissues.

Chakshushya Benefits the eyes.

Vranaropana Heals ulcers and wounds.

Kanthya Benefits the throat.

Kasashwasahara Benefits coughs and breathing difficulties.

Medhya Benefits the nervous system.

Kandughna Eliminates itching.

Shonitasthapana Alleviates bleeding.

Pitta/Vatahara Reduces *pitta* and *vata*.

What practitioners say

Respiratory system: licorice appears to loosen mucus so use with dry coughs with scanty or stuck phlegm, sore throat, laryngitis and tonsillitis. It is specific for aggravated, dry coughing. It is also useful in infections with yellow/green sputum and at a higher dose it is a more stimulating expectorant to clear mucus.



Digestion: it is specific for gastritis, ulcers and all intestinal inflammations and spasms with pain. It is very useful in hyperacidity and is often used for arresting bleeding in the intestines and lungs. Its demulcent nature moistens and relaxes the bowel and is helpful in drying constipation. At low dose it is anti-emetic (if nausea is caused by heat) and in high doses it can be more stimulating.

Liver: there is a significant hepatoprotective action, reducing inflammation in hepatitis and chronic liver disease.

Steroidal responses: containing steroidal saponins licorice appears to be an adrenal and reproductive tonic, and there are records of its being used in Addison's disease as an adrenal

supplement. This activity may account for the use of licorice in exhausted and hyperactive conditions such as ME and chronic fatigue syndrome.

Urine: licorice soothes painful, burning symptoms of cystitis.

Skin: it is a useful soothing external application for the itching of dry skin. Its inflammatory-reducing effects are commonly employed to treat red, hot, inflamed skin disorders.

Evidence

There is a large body of research on licorice including a number of clinical trials. The main areas of clinical investigation on licorice include supporting healthy liver function,^{i,ii} weight reduction,ⁱⁱⁱ treating sore throats,^{iv} effects on steroid metabolism in women,^v antiviral activity and chronic viral hepatitis treatment. Research also points towards benefit in managing arthritis.^{vi}

In previous decades there was much research interest in the role of a preparation of licorice (Caved-S) in the treatment of peptic (gastric or duodenal) ulcers, with encouraging results. In medical practice this treatment has been eclipsed by standard H2-blockers like omeprazole or cimetidine. A more recent study has demonstrated that adding it to other treatments helps control the main infective cause of peptic ulcers, *Helicobacter pylori*.^{vii}

Safety

High levels of licorice consumption have been associated with raised blood pressure. It appears that more than 500mg of glycyrrhizin may cause hypertension. Licorice contains approx 4% glycyrrhizin content, so 12g per day taken regularly might cause a problem.

Long term use with osteoporosis may be unwise as licorice can inhibit calcium and potassium absorption. It can exacerbate potassium loss when used with potassium depleting drugs (thiazide diuretics, laxatives) and this can increase sensitivity to cardioactive drugs like digoxin. It extends the activity of cortisone in the blood by decreasing plasma clearance and so caution is advised with corticosteroids, especially prednisolone. It has a positive interaction with NSAIDs by reducing the gastric irritation and ulceration they can cause.



Dosage

1.5-5 g of licorice root (equivalent to 60-200 mg glycyrrhizin)

References

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