

Expert Herbal Reality Resource

Fennel

Names

Botanical Name *Foeniculum vulgare* L

Family: Umbelliferae

Common names: Fenchel, (Ger), fenouil (Fr), finocchio (Ital), sounf (Hindi), shatapushpa, madhurika (Sanskrit), xian hui xiang (Chin)

Description



There are two varieties of *Foeniculum vulgare* with slightly different chemical constituents: sweet fennel (*F. vulgare* var. *dulce*) and bitter fennel (*F. vulgare* var. *vulgare*). Both are bluish-green biennial or perennial herbs that can grow to a height of 2.5 m. They are perennial plants that thrive in dry, hot climates. As with other members of the Apiaceae (carrot or parsley family), fennel displays small flowers in distinctive ascendant umbels, similar to those of cow parsley. It can be most easily identified by its large, beautiful, aniseed-scented feathery leaves. Depending on the country of origin and the latitude where it is grown, fennel plants produce seeds with varied essential oil composition: it is this that determines the sweetness and bitterness of the plant.

Constituents

The chemical composition differs between the two varieties. The sweetness of fennel is due to the presence of *trans*-anethole and estragole. Sweet varieties of fennel taste sweeter than the bitter varieties because they contain more *trans*-anethole and less bitter fenchone.

Bitter fennel:

- essential oil (>4%), containing >60% *trans*-anethole, <15% fenchone, <5% estragole

Sweet fennel:

- essential oil (>2%), containing >80% *trans*-anethole, <7.5% fenchone, <10% estragole

Both fennels also contain:

- fixed oil
- flavonoids
- plant sterols, including beta-sitosterol.

Traditional use

The ancient Greek hero Prometheus was said to have carried the fire he stole from the gods (ie the source of human special powers) in a fennel stalk and the plant has long had an important place in European life. It is a well-known culinary herb or vegetable from ancient Roman and Egyptian times that has for as long been regarded as a valuable warming 'carminative' (colic and gas reducing) and aromatic digestive; as the English herbalist John Parkinson put it in 1640: "*which being sweet and somewhat hot and comforting the stomach, helpeth to digest the crude flegmatick quality of fish and other viscous meats*". It was a common ingredient in 'gripe water' and other remedies for infant colic. It was widely used by women to increase breast milk¹ and given also to increase milk flow in livestock.

It has long been used for improving appetite, especially during convalescence, and a respiratory remedy and expectorant for coughs and a range of other respiratory conditions. The seeds were applied in nausea, hiccups, shortness of breath, and wheezing. In communist China, "barefoot doctors" used very large doses of fennel to treat acute cramping and abdominal pain, and modern research backs this up.ⁱⁱ Topically, it found use in Europe and Asia for eye complaints,ⁱⁱⁱ including conjunctivitis, inflamed eyelids, and as a general "cleanser" to improve vision.

Traditional actions

In Ayurvedic medicine fennel is classified as

Deepana Enkindles the digestive fire.

Pachana Digestive.

Shula prasamana Alleviates intestinal spasms.

Anuloma Redirects the flow of *vata* downwards.

Chhardi nigrahana Anti-emetic.

Kasa Benefits coughs.

Shwasa Anti-asthmatic.

Sattwa Increases clarity of consciousness.

or in energetic terms:

Rasa (taste) Sweet, pungent, bitter.

Virya (action) Slightly Heating.

Vipaka (post-digestive effect) Sweet.

Guna (quality) Light, dry.

Dosha effect: tridoshic: strengthens all the doshas

Dhatu (tissue) Plasma, blood, muscles, nerve.

Srotas (channels) Digestive, respiratory, nervous, urinary, reproductive, lactation.

What practitioners say

Digestion: Fennel will relieve digestive discomfort such as flatulence, cramps, nausea and a low appetite or metabolism. It relaxes the smooth muscles and is a specific herb for lower abdominal pain from lower bowel tension. Fennel water is also used for colic in babies.

Fever management: Fennel is useful when the body's capacity to maintain a healing fever might be flagging and needed 'heating' support. In this context, fennel would be considered particularly applicable when the source of the fever was digestive or respiratory.

Eye affections: Fennel is a great ingredient in eye baths for conjunctivitis, styes and other surface problems. Eyebaths are made by boiling the seeds in water and the decoction needs to be kept sterile.

Urinary: Helpful in cystitis, difficult urination, burning and dark yellow urine, cloudy urine.

Nervous: Indicated in nervous tension created by muscular spasms and contraction. All spasms are relieved with fennel,



especially in the digestive tract, lungs and womb. Its nourishing effects means that it tonifies the brain and nervous system.

Respiratory: Used in congestive or productive coughs.

Women's health: Fennel can increase the flow of breast milk in breastfeeding mothers. It can also be used in menstrual difficulties that obstruct the lower abdomen influencing pain, cramps and a dragging sensation.

It is a specific herb for inguinal hernias and lower abdominal pain.

Evidence

Fennel has increasingly shown to be a useful women's remedy.^{iv} It is an effective and safe treatment to reduce menstrual pain and duration,^v premenstrual syndrome,^{vi} menopausal symptoms in postmenopausal women,^{vii} and was also found effective in menopausal women with depression and anxiety disorders.^{viii} In a separate study fennel vaginal cream was found to be an effective means of easing sexual activity in postmenopausal women.^{ix}

There is some evidence that fennel does relieve colic in children and infants.^{x,xi,xii}

Safety

Except for rare cases of contact dermatitis allergy in susceptible individuals, fennel appears to be an extremely safe herb when consumed in recommended doses.

There have been concerns about estragole levels in fennel (as well as in tarragon, basil, aniseed, star anise, nutmeg, and lemon grass) and possible oestrogenic effects, and these have led to precautionary statements from various authorities, particularly in relation to pregnancy and breastfeeding. However both the European Medicines Authority and the European Food Standards Agency agree that actual levels of exposure from everyday use of plants like fennel fall well below levels of concern. The internal use of essential oil of fennel, especially in the case of bitter fennel, is discouraged.

There have also been theoretical concerns about the possible liver toxicity of trans-anethole. Here the US Food and Drug Administration has concluded that humans do not metabolise trans-anethole to the dangerous anethole epoxide very well and that again normal consumption of natural sources of trans-anethole falls well below likely danger levels.



Dosage

From 500mg right up to 9g/day of dried fennel seeds depending on effect required

References

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