

Expert Herbal Reality Resource

Ginseng

Names

Botanical Name *Panax ginseng* C.A. Meyer

Family: Araliaceae

Common names: Asiatic ginseng, red ginseng, man root (Eng) Ginsengwurzel, Kraftwurzel (Ger), Racine de ginseng (Fr), Ren shen (Chin), Ninjin (Jap), Insam (Kor)

Alternate botanical names: There are many species of ginseng recorded, notably the American ginseng *P. quinquefolium* L, *P. pseudo-ginseng* var. *notoginseng* Burk., found wild in the Yunnan and Kwangsi provinces of China, and *P. pseudo-ginseng* var. *japonicus* C.A. Meyer., or Japanese ginseng. There is also a distantly related "Siberian ginseng", *Eleutherococcus senticosus*. All these plants have different constituents and activities and only *P. ginseng* is discussed here.



Description

Panax ginseng is a perennial slow-growing herb native to the mountainous regions of China, Japan, Korea and Russia, though now extremely rare in the wild. The stem is erect, simple not branching, the leaves are verticillate and compound with five leaflets; the three terminal leaflets are larger than the lateral ones. The flowerhead is a small umbel consisting of pink flowers with five petals. The fruit is a small berry which is red when ripe. The pale yellow/brown roots grow up to 10cm and characteristically represent the shape of the human form ('man root'). The material used commercially is entirely from cultivated plants as *Panax ginseng* is a grade-II listed species on China's Protected species list, requiring harvesting and trade to take place only with a permit from provincial authorities and under their oversight.

The root is sometimes cured soon after harvesting, a process involving steaming, sun-drying and smoking, this producing so-called "red ginseng", a deep-red root with a glassy fracture.

Constituents

- **triterpenoid saponins** (incl. **ginsenosides** Rb, Rg and Rc),
- panax acid, glycosides (panaxin, panaquilin, ginsenin),
- beta-sitosterol, stigmasterol, campesterol
- a sesquiterpene (pancene)
- polyacetylenes (alpha-elemene, panaxynol), kaempferol, choline, essential oil.

There are many ginsenosides so far described, generally divided into groups based on two dammarine-type core triterpenes called protopanaxadiol and protopanaxatriol, called for this reason "diols" and "triols" (ginsenosides Rb and Rc are diols, ginsenoside Rg is a triol). Most research interest has focused on the "triol" group which have been found to be the most stimulating, the "diols" being more sedative. (diols predominate in the American ginseng, *Panax quinquefolium*).



Traditional use

Ginseng is classified in traditional Chinese medicine as a *qi* tonic. Such tonics are used to support active (*yang*) energies and are used for depletion of *qi*, particularly in the Chinese *Spleen* and *Lungs*.

In the case of deficient *Spleen qi*, possibly as a result of prolonged illness or constitutional weakness, disturbance is likely to affect the functions of assimilation and distribution, to be associated with such symptoms as fatigue and depression with depressed digestion, diarrhoea, abdominal pain or tension, visceral prolapse, pale yellow complexion with a tinge of red or purple, pale tongue with white coating, and/or languid, frail or indistinct pulses. This may lead in turn to a "damp" condition developing.

In the case of deficient *Lung qi*, extreme or prolonged stress or disease, or chronic pulmonary disease, leads to depletion or cold in the *Lungs*, with easy fatigue and prostration associated with disturbances of regulation, shortness of breath or shallow breathing, rapid, slow or little speech, spontaneous perspiration, pallid complexion, dry skin, pale tongue with thin white coating, weak and depleted pulses. Its primary use here in acute medicine was for conditions marked by shallow respiration and shortness of breath.

Ginseng also benefits and calms the *Spirit* (a manifestation of *Heart qi* - hence is used for palpitations with anxiety, insomnia and restlessness).

In the west ginseng had a range of uses. In 20th century British herbalism it was applied to the treatment of neurasthenia (exhausted nervous conditions), neuralgia and for depressive states, particularly associated with depleted libido. In 19th century North America the Eclectic physicians used it in addition for asthma and convulsions.

Traditional actions

Traditional Ayurvedic characteristics are

Rasa (taste) Sweet and bitter

Virya (action) Heating, vitalising and strengthening

Guna (quality) Moistening

Dosha effect: strengthens *pitta*, and reduces excessive *kapha* and *vata*

What practitioners say

Adrenals: As an adaptogen ginseng can support prompt stress management while also protecting against exhaustion. Adaptogens improve overall wellbeing, increase energy, increase inner strength, improve libido, balance the stress response, improve blood sugar levels, optimise protein synthesis, reduce inflammatory cortisol levels and optimise the function of all of your organs.

Musculoskeletal: Ginseng is indicated for the very active as well as the elderly. It has been used to improve muscle regeneration and repair after exertion.

Nervous: Ginseng supports a nervous system that has become weakened by stress. It is indicated in states of nervous insomnia, prolonged anxiety, depression and chronic fatigue syndrome. It is not a stimulant as such although in some cases has been used with, and then exacerbated other stimulants.

Cardiovascular: Ginseng tonifies the heart and improves cardiac performance. There is evidence that it reduces various inflammatory markers and benefits several conditions linked by endothelial dysfunction: hypertension, insulin resistance and type 2 diabetes, and can reduce blood cholesterol and lipid levels.

Reproductive: Ginseng is used for men with prostatic hypertrophy and erectile dysfunction disorders.

Evidence

In a systematic review of the clinical evidence ginseng was shown to be a promising treatment for fatigue, especially in people with chronic illness. However this review confirmed the widespread observation that the evidence base for ginseng is notably mixed and called for more robust studies.ⁱ

There is encouraging evidence that ginseng can benefit men with erectile dysfunction, although the meta-analysis concluded that more robust studies are required.ⁱⁱ Ginseng has sometimes been regarded as a male remedy in Asian cultures and the evidence so far does not support its benefits in symptoms of the female menopause.ⁱⁱⁱ

There are a number of studies that point to the benefits of ginseng on markers of inflammation, circulatory disease and metabolic problems (all tentatively linked by endothelial dysfunction). One meta-analysis and systematic review concluded that ginseng improved glucose control and insulin sensitivity in patients with Type 2 diabetes or impaired glucose intolerance.^{iv} An similar tentative conclusion had earlier been reached.^v In a meta-analysis of clinical trials a significant effect was demonstrated for the effect of ginseng on blood levels of C-reactive protein (CRP), a standard marker of inflammatory activity in the body.^{vi} Another review has shown collected benefits on cholesterol and blood lipid levels,^{vii} and similar guarded benefits have been shown in the reduction of high blood pressure.^{viii,ix}

Safety

A systematic review of clinical studies concluded that *Panax ginseng* showed a very safe profile although the numbers of individuals involved were relatively small.^x

Dosage

Traditionally 1 - 9 grams daily, with for emergency use a single dose of 30 grams. Practical use in the west suggests a daily dose of 1-3 grams for short term use (for up to 14 days), with a longer term regime of 0.5-0.8 grams daily. Ginseng root is taken either as a decoction, or the root chewed whole or made up into pills or tablets.



References

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