

# Ginseng

**Botanical:** *Panax quinquefolium* (LINN.)

**Family:** N.O. Araliaceae

## Synonyms

*Aralia quinquefolia*. Five Fingers. Tartar Root. Red Berry. Man's Health.

## Part Used

Root.

## Habitat

Ginseng is distinguished as Asiatic or Chinese Ginseng. It is a native of Manchuria, Chinese Tartary and other parts of eastern Asia, and is largely cultivated there as well as in Korea and Japan.

*Panax*, the generic name, is derived from the Greek *Panakos* (a panacea), in reference to the miraculous virtue ascribed to it by the Chinese, who consider it a sovereign remedy in almost all diseases.

It was formerly supposed to be confined to Chinese Tartary, but now is known to be also a native of North America, from whence Sarrasin transmitted specimens to Paris in 1704.

The word ginseng is said to mean 'the wonder of the world.'

## Description

The plant grows in rich woods throughout eastern and central North America, especially along the mountains from Quebec and Ontario, south to Georgia. It was used by the North American Indians. It is a smooth perennial herb, with a large, fleshy, very slow-growing root, 2 to 3 inches in length (occasionally twice this size) and from 1/2 to 1 inch in thickness. Its main portion is spindle-shaped and heavily annulated (ringed growth), with a roundish summit, often with a slight terminal, projecting point. At the lower end of this straight portion, there is a narrower continuation, turned obliquely outward in the opposite direction and a very small branch is occasionally borne in the fork between the two. Some small rootlets exist upon the lower portion. The colour ranges from a pale yellow to a brownish colour. It has a mucilaginous sweetness, approaching that of liquorice, accompanied with some degree of bitterness and a slight aromatic warmth, with little or no smell. The stem is simple and erect, about a foot high, bearing three leaves, each divided into five finely-toothed leaflets, and a single, terminal umbel, with a few small, yellowish flowers. The fruit is a cluster of bright red berries.

The plant was first introduced into England in 1740 by the botanist Collinson.

Chinese Ginseng is a larger plant, but presents practically the same appearance and habits of growth. Its culture in the United States has never been attempted, though it would appear to be a promising field for experiment.

Father Jartoux, who had special privileges accorded him in the study of this plant, says that it is held in such esteem by the natives of China, that the physicians deem it a necessity in all their best prescriptions, and regard it as a remediable agency in fatigue and the infirmities of old age. Only the Emperor has the right to collect the roots. The prepared root is chewed by the sick to recover health, and by the healthy to increase their vitality; it is said to remove both mental and bodily fatigue, to cure pulmonary complaints, dissolves tumours and prolongs life to a ripe old age.

Father Jartoux was satisfied that its praise was justified, and he adds his own testimony to its efficacy in relieving fatigue and increasing vitality. The roots are called, by the natives of China, *Jin-chen*, meaning 'like a man,' in reference to their resemblance to the human form. The American Indian name for the plant, *garantoquen*, has the same meaning.

Owing to the enormous demand for the root in China recourse was had to the American species, *Panax quinquefolium* (Linn.), and in 1718 the Jesuits of Canada began shipping the roots to China, and the first shipment from North America to Canton yielded enormous profits. In 1748 the roots sold at a dollar a pound in America and nearly five in China. Afterwards, the price fluctuated, but the root is still eagerly purchased by Chinese traders for export to China, and at the present time commands a yet higher price in the American markets, though it is not an official medicine and has only a place in the eclectic *Materia Medica*. The American Consul at Amoy stated a few years ago that it is possible to market twenty million dollars worth of American Ginseng annually to China, if it could be produced; but since its collection for exportation, it has been so eagerly sought that it has become exterminated in many districts where it was formerly abundant.

This has led to its cultivation and to various devices for preserving the natural supply. In Canada a fine is imposed for collecting between January and the 1st of September. Among the Indians, it is customary to collect the root only after the maturity of the fruit and to bend down the stem before digging the root, thus providing for its propagation. Indian collectors assert that a large number of such seeds will germinate, and that they have been able to increase their area of collection by this method.

In 1876, 550,624 lb. were exported at an average price of 1 dollar 17 cents; the amount available for export since then has steadily decreased and the price has gone up in proportion, till in 1912 the export was only 155,308 lb., at an average price of 7 dollars 20 cents per pound.

### **Cultivation**

On account of the growing scarcity of the American Ginseng plant, experiments have been made by the State of Pennsylvania to determine whether it can be grown profitably, resulting in the conclusion that in five years, starting with seeds and one year plants (or sooner if a start were made with older plants), an acre of ground would yield a profit of 1,500 dollars, without allowance for rental, but many precautions are

necessary for success. The cultivated plants produced larger roots than those of the wild plant.

In 1912 it was estimated that the acreage of cultivated Ginseng in the United States was about 150 acres, and it is calculated that to supply China with twenty million dollars' worth of dry root would require the American growers to plant 1,000 acres annually for five years, before this estimated annual supply could be sold. The cultivation of Ginseng would therefore appear to offer a rich field to American agriculture. It presents, however, considerable difficulty, owing to the great care and special methods required and to the fact that it is a very slow-growing crop, so that rapid returns can hardly be anticipated, and it is doubtful if its cultivation can be carried on profitably except by specialists in the crop. None the less, the percentage returns for the industrious, patient and painstaking farmer are large, and the demand for a fine article for export is not at all likely to be exceeded by the supply.

For successful cultivation of Ginseng in America, it is stated that a loose, rich soil, with a heavy mulch of leaves and about 80 per cent shade - generally provided artificially is necessary.

It is difficult to cultivate it here with success. A rich compost is necessary. Most of the species of this genus need greenhouse treatment in this country. Propagation by cuttings of the roots is the most successful method, the cuttings being placed in sand, under a handglass. Seeds, generally obtained from abroad, are sown in pots in the early spring and require gentle heat. When the plants are a few inches high, they must be transplanted into beds or sheltered borders. They require a good, warm soil, but much shade. To grow on a commercial basis is not considered feasible in this country.

### **Harvesting, Preparation for Market**

The root should be collected only in the autumn, in which case it retains its plump and handsome appearance after drying. It is much more highly prized when of a fine light colour, which it is more apt to assume when grown in deep, black, fresh mould.

The best root is said to be that collected by the Sioux Indian women, who impart this white appearance by rotating it with water in a partly-filled barrel, through which rods are run in a longitudinal direction. In no other way, it is said, can the surface be so thoroughly and safely cleansed.

The structure of the root is fleshy and somewhat elastic and flexible, and it is of a firm, solid consistence if collected at the proper time and properly cured. The bark is very thick, yellowish-white, radially striate in old roots and contains brownish-red resin cells. The wood is strongly and coarsely radiate, with yellowish wood wedges and whitish rays.

The best roots for the Chinese market are sometimes submitted before being dried to a process of clarification, which renders them yellow, semi-transparent and of a horny appearance and enhances their value. This condition is gained by first plunging them in hot water, brushing until thoroughly scoured and steaming over boiling seed. Its commercial value is determined in a high degree by its appearance. The roots are valued in accordance with their large size and light colour, their plumpness and fine

consistence, their unbroken and natural form, and above all by the perfectly developed condition of the branches.

### **Constituents**

A large amount of starch and gum, some resin, a very small amount of volatile oil and the peculiar sweetish body, Panaquilon. This occurs as a yellow powder, precipitating with water a white, amorphous substance, which has been called Panacon.

### **Medicinal Action and Uses**

Panax is not official in the British Pharmacopoeia, and it was dismissed from the United States Pharmacopoeia at a late revision. It is cultivated almost entirely for export to China.

In China, both varieties are used particularly for dyspepsia, vomiting and nervous disorders. A decoction of 1/2 oz. of the root, boiled in tea or soup and taken every morning, is commonly held a remedy for consumption and other diseases.

In Western medicine, it is considered a mild stomachic tonic and stimulant, useful in loss of appetite and in digestive affections that arise from mental and nervous exhaustion.

A tincture has been prepared from the genuine Chinese or American root, dried and coarsely powdered, covered with five times its weight of alcohol and allowed to stand, well-stoppered, in a dark, cool place, being shaken twice a day. The tincture, poured off and filtered, has a clear, light-lemon colour, an odour like the root and a taste at first bitter, then dulcamarous and an acid reaction.

### **Substitutes**

A substitute for Ginseng, somewhat employed in China, is the root of *Codonopsis Tangshen*, a bell-flowered plant, used by the poor as a substitute for the costly Ginseng.

Ginseng is sometimes accidentally collected with Senega Root (*Polygala Senega*, Linn.) and with Virginian Snake Root (*Aristolochia Serpentaria*, Linn.), but is easily detected, being less wrinkled and twisted and yellower in colour. It is occasionally found with the collected root of *Cypripedium parviflorum* (Salis) and *Stylophorum diphyllum* (Nuttall).

Blue Cohosh (*Caulophyllum thalictroides*, Linn.) is often called locally in the United States 'Blue' or 'Yellow Ginseng,' and Fever Root (*Triosteum perfoliatum*, Linn.) also is sometimes given the name of Ginseng.