



AMERICAN GINSENG

(*Panax quinquefolius*)

Family: Araliaceae

Synonyms: Five finger root, sang, ninsin, panax, panang, redberry (1), tartar root, man's health (2), root of life, santa root, seed of earth (1).

The Chinese name means 'man-root' (2).

Plant characteristics

Panax quinquefolius is indigenous to North America (1). It grows in rich hardwood forests in shady, well-drained locations (1,2).

The perennial grows 1-2 feet tall on a simple, smooth stem with a 1 foot spread (2,3). The 3 leaves are divided into 3-7 oblong, sharp-toothed leaflets up to 6 inches long (3,4). It bears umbel-shaped, greenish white flowers in June-July, followed by crimson berries, each with 1-3 seeds (1,4,5). The root, the medicinal part of the plant, is spindle-shaped and fleshy (2). It grows slowly and does not reach harvest size for 4 years or more (1). Collectors can tell the age of the root by counting the leaf scars on the neck, or rhizome (4). Ginseng requires 75% shade, either in the woods or constructed with shade cloth (3). It is hardy to zone 3 and is cultivated in Wisconsin (4). It prefers a loamy soil with lots of humus and plenty of compost and mulch (3). It is prone to fungal diseases, which are less of a problem with good drainage (3). The seeds are harvested in the fall; the root in the fall of the fifth year or beyond (3). Harvest decisions may depend on disease pressures (3).

Herb chemical constituents and properties

Biologically-active chemicals: saponins (ginsenosides), alcohols, and volatile oil (6).

The American Botanical Council is conducting an evaluation of ginseng products: the Ginseng Evaluation Project (GEP) (7). This evaluation should be available in 2005 (8). The National Toxicology Program is undertaking short-term toxicology and long-term carcinogenicity studies of ginseng (8).

Herbal properties: adaptogen, aphrodisiac, carminative, demulcent, depurative, diaphoretic, diuretic, expectorant, febrifuge, hypertensive, hypoglycemic, stimulant, tonic, vermifuge (9)

How herb used traditionally

Ginseng is considered to be a substance that increases ability to cope with stress, which increases resistance to trauma and disease (6). Herbalists have used American ginseng for indigestion (1) and loss of appetite (2) and to improve vitality and concentration in old age (10).

How used today (based on scientific evidence)

More recently, people use ginseng to improve athletic performance, to improve mental task performance, and to manage blood sugar in Type 2 diabetes (6).

Researchers have studied other species of ginseng, notably *Panax ginseng*, for its effects on cancer prevention, fatigue, resistance to infection, male and female reproductive systems, and respiratory system (6,11).

Studies have shown effects on performance, stress, memory, and glucose levels. It can function as an antioxidant, and may be able to affect development of HIV and slow the growth of breast cancer cells (6).

Preparation and dosage:

<ul style="list-style-type: none"> • Simmer 3-6 g of dried root in 720-960 ml of water for 45 minutes or steep 1-2 g in boiling water for 20 minutes daily. • Dry powder, 1 g three times daily • Dry extract capsules, 330 mg three times daily 	
Safety issues	Consumer marketing issues
<p>Side effects: High doses can result in ginseng abuse syndrome, with morning diarrhea, rash, insomnia, nervousness, and high blood pressure (8)</p> <p>Adverse events: none reported for <i>P.quinquefolius</i>.</p> <p>Precautions/contraindications:</p> <ul style="list-style-type: none"> • Use caution in diabetics, as it can lower blood sugar and lessen need for other medications. • Use caution when taking with antipsychotic drugs and monoamine oxidase inhibitors (MAOIs) • Do not use when pregnant, as one component has caused birth defects in rats. • Safety in nursing mothers is unknown • May increase the effects of caffeine (12) 	<p>Wild-harvested American ginseng (or wild-simulated) brings a very good price: \$190-250 per pound of dried root on the Asian market. Buyers purchased over 12 million dollars worth of root in 2001, though more may have been available on the black market. Demand is expected to continue to increase. The rich forests of the NC mountains are ideal for growing Ginseng. Growers can cultivate Ginseng as well, but it does not draw as good a price. If cultivated in the woods, ginseng sells for \$60-100/ pound. If field-cultivated under shade cloth, it garners only \$10-14/pound. The demand for all types of ginseng is strong and expected to continue to grow. Wooded areas throughout NC are suitable for growing Ginseng.</p>

References

1. Hutchens AR: *Indian Herbology of North America*. Boston, Shambhala Publications, Inc., 1991.
2. Grieve M: *A Modern Herbal*. New York, Dover Publications, Inc, 1971.
3. Sturdivant L, Blakeley T: *The Bootstrap Guide to Medicinal Herbs in the Garden, Field, & Marketplace*. Friday Harbor, WA, San Juan Naturals, 1999.
4. Foster S, Duke J: *A Field guide to Medicinal Plants and Herbs of Eastern and Central North America*. New York, Houghton Mifflin, 2000.
5. Awad R, Arnason JT, Trudeau V, et al: Phytochemical and biological analysis of skullcap (*Scutellaria lateriflora* L.): a medicinal plant with anxiolytic properties. *Phytotherapy* 10(8):640-9, 2003.
6. Blumenthal M, Hall T, Goldberg A, et al: *The ABC Clinical Guide to Herbs*. Austin, Texas, American Botanical Council, 2003.
7. Assinewe VA, Baum BR, Gagnon D, et al: Phytochemistry of Wild Populations of *Panax quinquefolius* L. (North American Ginseng). *J Agric Food Chem* 51(16):4549-4553, 2003.
8. NTP: Summary of Data for Ginseng and Ginsenosides 5067-080-0, vol 2004, National Toxicology Program, National Institute of Environmental Health Sciences, National Institutes of Health, 2004.
9. Duke JA, Bogenschutz-Godwin MJ, duCellier J, et al: *Handbook of Medicinal Herbs*, Second ed. Boca Raton, CRC Press, 2002.
10. Weiss RF: *Herbal medicine*. Beaconsfield, UK, Beaconsfield Publishing, Ltd., 1988.
11. Nishida S, Satoh H: Comparative vasodilating actions among terpenoids and flavonoids contained in Ginkgo biloba extract. *Clin Chim Acta* 339(1-2):129-33, 2004.
12. Jellin JM, Gregory PJ, Batz F, et al: Pharmacist's Letter/ Prescriber's Letter Natural Medicines Comprehensive Database, vol 2004. Stockton, CA, Therapeutic Research Faculty, 2004.