

# Propagation Protocol for Stinging Nettle (*Urtica dioica*)

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Stinging nettle (*Urtica dioica* L. [Urticaceae]) is found throughout temperate regions of the world, commonly growing in rich soils in forest clearings, stream banks, old fields, and waste places. It is a common component of riparian communities. In the eastern and midwestern US, it occurs as far south as Virginia, Missouri, and Kansas. It ranges from Alaska south to central California and through the Rocky Mountains to Mexico.

It is an herbaceous perennial plant with opposite leaves that are sharply toothed and commonly grows to 1 to 3 m (3 to 9 ft) tall. It is strongly rhizomatous and spreads vegetatively once established. Leaves and stems are covered with hollow, fluid-filled hairs that break off when touched, leaving a sharp point like a miniature hypodermic needle that allows the fluids to enter the skin and cause stinging or blistering. The compounds causing the unpleasant effect are reported to be a histamine and acetylcholine (Boufford 1997). Inconspicuous flowers are greenish and are borne in drooping clusters at the stem nodes. Flowers are unisexual, staminate, or pistillate or borne in separate inflorescences or sometimes intermixed in the same inflorescence. Plants flower in late spring or early summer and seeds form by late August or early September. The fruit is a tiny hard-coated achene.

Four subspecies are recognized. *Urtica dioica* ssp. *dioica* is the most common and is distinct by having pistillate and staminate flowers on separate plants and stinging hairs on both surfaces of the leaf blade. The other 2 subspecies (*gracilis* and *holosericea*) have pistillate and staminate flowers on the same plant. *Urtica dioica* ssp. *gracilis* has mostly glabrous stems with a few stinging hairs while *Urtica dioica* ssp.



Photo by Tara Luna

Stinging nettle (*Urtica dioica*)

*holosericea* has softly hairy stems with stinging hairs.

Stinging nettle has a long history of use by people throughout the Northern Hemisphere. The common name is thought to be derived from Anglo Saxon “noedl,” meaning “a needle,” alluding to its sharp sting or use as a thread for sewing before the introduction of flax. Nettle fiber is very similar to hemp or flax and was used for fine

textiles, sail cloth, and rope for centuries in Europe. Its use as a fiber disappeared after the introduction of flax, but it was used again for army clothing during flax shortages of World War I. Roots yield a yellow dye and leaves yield a green dye used in Russia for woolens (Philips and Foy 1990).

Nettle fiber was widely used by many groups of American Indians for thousands of years as a source of fiber

for bowstrings, fishing nets and lines, snares, and cordage. The Dakota, Ponca, and Winnebago tribes wove special ceremonial nettle cloth for bundles (Moerman 1998).

Nutritionally, stinging nettle is high in vitamins A, C, D, and minerals iron, manganese, potassium, and calcium. It contains 21% to 23% crude protein and 9% to 21% crude fiber. Young leaves are collected in early spring and prepared like spinach. Drying or cooking removes the stinging hairs. Nettles were used throughout North America, Europe, and Asia as a culinary plant, in salads and soups or as a cooked vegetable. It is important to remember to use only the young leaves; steam or dry before taking internally as a medicinal or food!

Stinging nettle has several medicinal properties: astringent, tonic, anti-asthmatic, and diuretic. In Europe, it was widely used for the treatment of dropsy, gout, rheumatism, and for weight loss. It was also widely used as far back as ancient Greece as an astringent for the removal of kidney stones and as a urinary aid (Gerard 1633). The practice of flogging with nettle (urtification) was used as an anti-rheumatic treatment since ancient Greece and Rome. Romans introduced the southern species, *U. pilifera*, to the British islands, as they believed flogging with the plant would be necessary to stay warm!

Many American Indian tribes also used nettle medicinally as an anti-rheumatic (they also practice urtification), for urinary disorders, as an orthopedic aid and as a hemostat for bloody noses (Marles and others 2000). Nettle roots are used to relieve eczema and dandruff and are reputed to stimulate hair growth. Today, nettle root extract is commonly found as a component of many shampoos and conditioners. Roots are harvested in the fall.

With such a long history of so many uses throughout the world, it is hard to be too upset with the plant for long. Usually the itching or burning sensation subsides in 7 to 10 min and is known by many outdoor enthusiasts as the 7 min itch!

## PROPAGATION

Stinging nettle can be propagated by seeds or vegetatively by divisions. Propagation of the plant for home use or by commercial herb farms is desired. Nettle may also have potential for restoration in suitable habitats as it readily establishes in disturbed moist ground. Seeds can be collected using gloves by hand stripping the female inflorescences or cutting the tops. Seeds exhibit physiological dormancy and most likely require a prolonged stratification period to soften the hard seed coats and break the physiological dormancy (Baskin and Baskin 1998). Germination is reported at alternating temperatures of 25 and 15 °C following a warm stratification and in the presence of light on seeds that were dry stored for 3 mo (Grime and others 1981). Seeds can be sown in late fall with germination occurring the following spring or summer.

Divisions of established plants are another propagation method since this species spreads vigorously by rhizomes. Nettles prefer nitrogen rich soils in the wild so using a rich potting medium and regular fertilization will result in healthy nursery stock.

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