

A Grower's Guide

Stinging Nettle

Urtica dioica

There are more than 50 species of nettle worldwide, and many are harvested for food or medicine. This medicinal plant is often overlooked and mistaken for a weed. Young shoots are a great source of vitamins and minerals. Use blanched in salads, in tea and boiled as a vegetable. Good source of iron. Nettle leaves and stems are covered with sharp spines that sting when touched. Wear gloves when handling this herb fresh. The sting is caused by histamine, small amounts of formic acid and other compounds. These are deactivated when the plant is dried or cooked.



Family: *Urticaceae*

Life cycle: Herbaceous perennial (Zone 2)

Native: The North American species (*U. dioica* spp. *gracilis*), has male and female flowers on separate branches or plants, and the species from Eurasia (*U. dioica* spp. *dioica*) has male and female flowers on separate plants. In the wild, this plant grows near streams, ponds, rivers and lakes in a disturbed area. The stems of nettle are square.

Habit: Grows 2 to 4 feet and will spread, so plant at least 12 inches apart.

Sun: Full sun, partial shade or full shade.

Soil: Plant in soil with high organic content (4 to 5 percent). Responds to increased fertility.

Water: Moderate to heavy. Will survive under dryland conditions.

Flowering: Cream-colored, pearl-like, tiny, flowers bloom from early summer to late fall.

Propagation: Stratify seed and sow directly in the garden or plant indoors and transplant to the garden in late spring. Expect a 50-percent germination rate.

Propagate by root division in early spring. The individual plants will spread into large clumps in years two and three.

Harvesting: Harvest aerial parts any time during the growing season. Best when harvested before flowering. Can harvest several times a year after the plant is established. Wear gloves and cut with scissors or clippers. Harvest root in the fall.

Pests: Caterpillars like to feed on nettles, but the plant usually outgrows the damage.

Parts used: Aerial parts fresh or dried. Roots are proven effective for prostate inflammation.

Used as: Infusion, tincture, elixir, food, ointment, cream, salve, balm, foot soak, bath herb, infused oil, honey, liniment, dye

Medical benefits: Whole body tonic. Nettles are great for the reproductive health of males and females. Benefits the immune system, urinary tract and respiratory system. Good for skin, hair and provides allergy relief. Nettles are an astringent and good for facial steams. Approved in Europe for infections of the urinary tract, kidney and bladder stones and rheumatism. The root has been approved in Europe for prostate ailments and irritable bladder. Research with animals has shown anesthetic, analgesic, antirheumatic and antiarthritic properties.

Market potential: Moderate. Prices for tops range from \$3.25 to \$19.52 per pound (lb) dry weight, roots \$4.50 to \$18.50 lb dry weight.

Summary of field trial data: Under our field conditions, the plants were subjected to full sun and limited water at three sites. Yields were better with irrigation, but it survived when water stressed. It can be wild harvested, but it might be a good crop to grow if you don't have access to a

wild stand. The time to harvest should be taken into account when planting this crop. One local grower harvested about 1 pound of root and 1 lb of tops in an hour. The plant will have more leaves if harvested before flowering. It is stemmy after that, but a second flush of leaves will come out during a wet fall. Repeated harvests may keep the plant from getting stemmy and allow for more harvests. Our data are based on one harvest in late summer or early fall, so the aboveground biomass estimates are probably low compared to the full potential of this plant.

K-State Field Trial Data 2000-2002 <i>Urtica dioica</i>					
				Average	Comments
Age of plants in years	1	2	3		
Number of test sites¹	5	3	0		
Survival rate (%)	75.0	66.0	—	70.5	
Vigor rating²	3.8	4.2	—	4.0	
Height (cm)	52.0	61.0	—	56.5	
Dry weight herb (g/plant)	243.7	424.3	—	—	
Dry weight root (g/plant)	26.6	185.8	—	—	
Maturity rating³	3.4	4.7	—	4.1	
Insect damage rating⁴	0.8	0.5	—	0.6	
Disease rating⁵	0.4	0.2	—	0.3	
Estimated planting density (number of plants/A)	14,520	14,520	—	—	1- by 3-ft. plant spacing assumed.
Plant density⁶	10,890	9,583	—	—	
kg/A dry weight (g/plant x plant number) – tops	2,654	4,066	—	—	
Estimated marketable yield (dry weight lbs/A) – tops	5,846	8,956	—	—	
Yield x ½ of low price¹ - tops	\$9,529	\$14,598	—	—	
Yield x ½ of high price¹ - tops	\$57,057	\$87,411	—	—	
kg/A dry weight (g/plant x plant number) – roots	290	1,781	—	—	
Estimated marketable yield (dry weight lbs/A) – roots	638	3,922	—	—	
Yield x ½ of low price¹ - roots	\$1,436	\$8,824	—	—	
Yield x ½ of high price¹ - roots	\$5,902	\$36,279	—	—	

¹ See "How Data Were Collected," on page 3.

² Vigor rating (1=very poor, 3=slightly above average, 5=very good, well adapted)

³ Maturity rating (1=vegetative, 2=early bud, 3=early flower, 4=full flower, 5=seed production, 6=senescence)

⁴ Insect damage rating (scale of 0 to 5; 0=no damage and 5=severe damage)

⁵ Disease rating (scale of 0 to 5 with 0=no damage and 5=severe damage)

⁶ Calculated as starting plant density x survival rate.

How Data Were Collected

The plants described in this fact sheet were grown in K-State test plots in Hays, Colby, Wichita, or Olathe, Kan. Generally, four replications of each species were included at a site. Not all species were screened at each site or each year. The number of locations is noted in the table. Depending on the location and year, either five or 10 plants per plot were established in each of the replications. Details can be found at www.oznet.ksu.edu/ksherbs. Plants were grown from seed in the greenhouse and transplanted in the field in May or June.

All plants at each location were used to determine survival percentage, vigor rating, insect damage rating, and disease rating as described above. Three plants per plot were measured for height, and only one plant per plot was harvested to measure yield each year. Cultivating four plots allowed us to estimate yield from four plants at each location per year.

Plants were dried, and top and root weights recorded in grams. Grams per plant were converted to kilograms per acre (kg/A) and pounds per acre (lb/A) to estimate field-scale yield. The population density used to calculate field yields was the optimal population density (determined by the average size of the plants) times the actual percentage survival as measured in the field. There was generally some loss due to transplant shock and, for some species, significant winter loss as well.

Plant spacing recommendations on each fact sheet are for spacing within a row. Distance between rows will depend on the particular farming operation and equipment used. The minimum row spacing will be the same as the plant spacing recommendation. For example, if the recommendation is to set plants 12 inches apart, rows should be a minimum of 12 inches apart as well. However, if cultivator or root-harvesting equipment is on 5-foot centers, plant rows 5 feet apart to facilitate cultivating and harvesting. Adjust estimated plant density per acre on the worksheets to estimate gross yield and net income.

Prices were taken from Appendix B of K-State Research and Extension publication S-144 *Farming a Few Acres of Herbs: An Herb Growers Handbook*. To calculate a rough gross income potential for each herb, estimated yield was multiplied by the lowest and the highest retail price, divided by two. This is a rough estimate of wholesale price. Actual prices would be determined based on a contract obtained from a buyer.

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