BURNING & STINGING NETTLES

Integrated Pest Management for Home Gardeners and Landscape Professionals

Burning nettle (*Urtica urens*) and stinging nettle (*Urtica dioica*) belong to the family Urticaceae. Both are upright plants, which are well recognized for their stinging hairs. Although both are often called stinging nettle, that common name only applies to *Urtica dioica*. Despite their similarity in causing skin irritation, the two species are considerably different in their biology and preferred habitat.

Burning nettle, *Urtica urens,* is also known as dwarf nettle or small nettle. It is native to Europe, but in the United States is common in many eastern states and a few central states. It also occurs in the western United States, including Arizona, California, Nevada, New Mexico, Oregon, Texas, and Washington. In California, burning nettle is widely distributed, although it is not known to occur in the desert, the Klamath Mountain range or in the higher regions of the Cascade Mountain range above 9800 feet. It is especially common along the California coast. Burning nettle commonly infests disturbed sites, such as fence rows, ditch banks and roadsides, but can also be a problematic weed in gardens, vegetable crops, sugar beets, citrus and deciduous orchards.

Stinging nettle, *Urtica dioica,* is native to North America, including California and other Western U. S. states. This species has two widespread, subspecies that include the subspecies *gracilis,* commonly known as American stinging nettle, California nettle, coast nettle, or Lyall nettle, and the subspecies *holosericea,* known as California slender nettle, creek nettle, giant creek nettle, hedge nettle, hoary nettle, or mountain nettle. In California, stinging nettle does not generally occur in the desert and areas above 9800 feet. The species commonly infests moist uncultivated areas including waste places, riverbanks, fence rows and roadsides, and is occasionally a problem in orchards and vineyards. It is not generally a problem in gardens and row crops.

IDENTIFICATION

Burning Nettle. Burning nettle is a small to medium-size summer annual broadleaf weed common in gardens. The first new seed leaves, or cotyledons, are bright green, notched at the tips, but smooth along the edges. The first true leaves have serrated margins, and occur opposite each other on the stalk (Fig. 1a). The leaf blade and the stalk have both stinging and nonstinging hairs. Mature plants can be 5 inches to 2 feet tall. Plants are slender and upright with sparse, four-angled stems. Stinging hairs on stems and leaves are long. Shorter nonstinging hairs may also be present. The two opposite, stalked leaves have toothed margins and are 1/2 to 2 inches long with 3 to 5 veins radiating from the base. Flowers are about 2/5 of an inch long and greenish white. The plant contains both male and female flowers that occur in the same cluster (Fig. 1 b). Fruits are small (1/16 to 1/10 of an inch), triangular, with one seed.

Stinging Nettle. Stinging nettle is a tall perennial broadleaf weed that often grows in colonies. The cotyledons (seed leaves) are round to oval, and hairless except for a few stinging hairs and sparse, short, nonstinging hairs. The first true leaves have margins that are coarsely round-toothed on short stalks. Leaf surfaces are coated with stinging hairs as well as nonstinging hairs. Full grown plants can be 3 1/2 to 10 feet tall, but can reach 20 feet in some situations. Stems are angular, often branched from the base and have long stinging hairs as well as short, nonstinging hairs. Leaves are opposite and 2 1/2 to 5 inches long with 3 to 5 veins radiating from the base and coarsely toothed and lance shaped. Separate male and female flower clusters occur at the base of the leafstalks

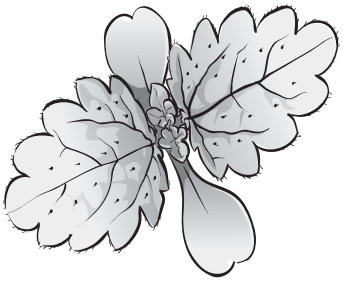

Figure 1a. Seedling of burning nettle viewed from above showing rounded cotyledons (seed leaves) and serrated first true leaves.

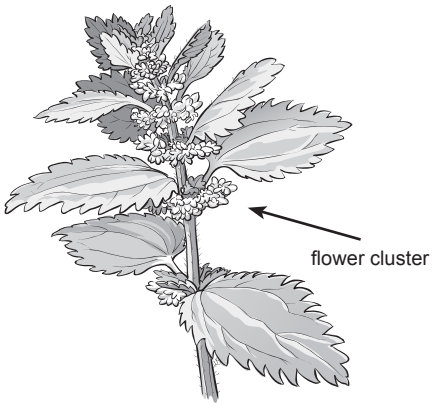

Figure 1b. Flowering stem of burning nettle, showing headlike clusters of flowers.

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and are whitish green and inconspicuous (Fig. 2). Fruits are small (1/25 of an inch) and egg shaped.

LIFE CYCLE

Burning Nettle. Burning nettle seeds germinate from late fall through early spring. Plants may produce viable seeds within five weeks of germination. Flowers generally bloom from January to April, but blooms can be seen year-round in milder climates such as along the California coast. As an annual plant, it dies within one year.

Stinging Nettle. Stinging nettle seeds germinate in the spring. Underground stems, or rhizome fragments, can also develop into mature plants under favorable conditions. Often large clumps of plants grow from rhizomes in uncultivated areas. The flowers bloom from March to September. As a perennial plant, stinging nettle may live for several years regrowing from rhizomes.

IMPACT

Both burning and stinging nettle are aptly named. Their leaves and stems are covered with long, fine to bristly hairs that can irritate and blister skin when handled. When human skin comes into contact with a leaf or stem, it often rapidly develops reddish patches accompanied by itching and burning. Frequently, a prolonged tingling sensation may persist on the affected skin for more than 12 hours, even after visible symptoms have faded.

The prickly hairs of both burning and stinging nettle consist of a minute tubelike structure that has a hard round bulb at the tip and a softer vessel at the base. This bulb breaks off after contact with skin and exposes a needlelike point. When the tip contacts and penetrates the skin, it puts pressure on the basal vessel and results in the needlelike injection of irritating substances under the skin. The contents of the structures are not fully known, but have been found to contain active concentrations of the neurotransmitter chemicals acetylcholine and histamine. Unlike poison oak, which causes a red, itchy, weepy reaction called allergic dermatitis in only a portion of the population, the nettles affect everyone equally. This is known as irritant dermatitis.

Along the coast, burning nettle is particularly problematic because it grows year-round. Stinging nettle plants can become a nuisance for farmers when large stands block irrigation waterways. Stinging nettle prefers moist areas in wildlands, such as areas surrounding creeks or rivers. If these sites occur along hiking trails, plants can be a nuisance or even a health hazard to visitors.

MANAGEMENT

Burning and stinging nettles growing in the home garden and landscape are best controlled using cultural and mechanical methods.

Cultural and Mechanical Control

Burning and stinging nettles can be controlled by removing plants by hand. However, it is important to wear gloves to protect skin from the stinging hairs. For stinging nettle, ensure that the underground portion called rhizomes are removed or the plants will regrow. Because stinging nettles are native to California and the western United States, control should only be performed in areas where they cause economic or health problems. Close mowing can prevent the development of fruit. Be aware that cultivating the soil may spread the rhizomes of stinging nettle, thus increasing the size of the population. Repeated cultivation works best as a control for this weed.

Chemical Control

Herbicides listed to control burning and stinging nettles include isoxaben, oxadiazon and oxyfluorfen, but these materials are available only to licensed pesticide applicators. Refer to the herbicide label for proper use of these products.

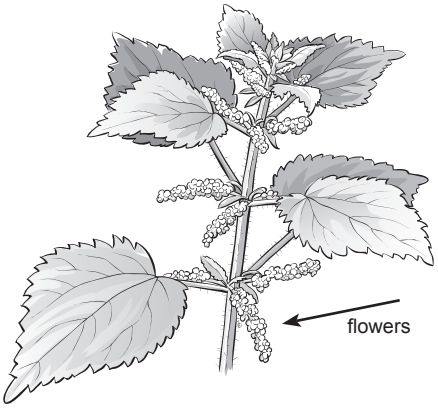

Figure 2. Flowering stem of stinging nettle, showing flowers on longer panicles.

REFERENCES

DiTomaso, J. M., and Healy, E. M. 2007. *Weeds of California and other Western States*. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 3488.

Fischer, W. 1998. *Grower's Weed Identification Handbook*. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 4030.

Kulze, A. and Greaves, M. 1988. Contact urticaria caused by stinging nettles. *British Journal of Dermatology*. 119, 269-270.

Whitson, T. D., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, and R. Parker. 2002. *Weeds of the West*. Jackson, Wyo.: Univ. Wyoming. ❖

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AUTHORS: A. E. Schellman, UCCE Stanislaus County, A. Shrestha, UC Statewide IPM Program, Kearny Agricultural Center, Parlier
TECHNICAL EDITOR: M. L. Flint
COORDINATION & PRODUCTION: P. N. Galin
ILLUSTRATIONS: **Figs. 1, 2:** W. Suckow

Produced by UC Statewide IPM Program, University of California, Davis, CA 95616

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