

HEMP-NETTLE

Galeopsis tetrahit L.

Family: *Lamiaceaea* (Mint).

Other Scientific Names: None.

Other Common Names: Dog nettle.

Legal Status: Not categorized.



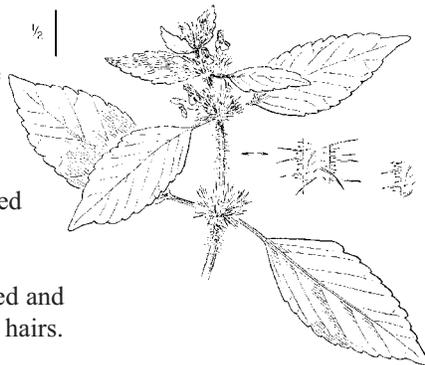
Identification

Growth form: Annual forb.

Flower: Flowers occur in dense clusters from leaf axils. Flowers can be purple, pink, white, or pale yellow with dark markings (Douglas et al. 1999). Petals are fused into a tube with 2 lips. The sepals fuse to form a spine-tipped calyx that elongates as the fruit matures (Royer and Dickinson 1999).

Seeds/Fruit: Four clustered nutlets are produced from each flower. Nutlets are egg-shaped, 3–4 mm long, and smooth (Douglas et al. 1999).

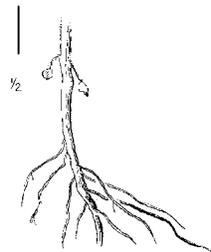
Leaves: Opposite leaves are stalked and egg-shaped and lance-like, and have large, rounded teeth and pointed tips. Leaves are prominently veined and covered in bristly hairs.



Stems: Branched stems grow 15–100 cm tall and are square with bristly hairs. Stems are swollen below the leaf nodes, where stiff, downward-pointing hairs are found (Royer and Dickinson 1999).

Roots: Fibrous taproot.

Seedling: Rounded cotyledons have a notch at the tip and 2 pointed lobes at the base. The first leaves are opposite, coarsely toothed, and prominently veined (Royer and Dickinson 1999).



Similar Species

Exotics: Hemp-nettle has square stems like most of the mint family, but its prickly hairs, the spiny calyx, and swollen stems below the joints distinguish this plant from all others (Frankton and Mulligan 1970).

Natives: Same comment as for exotics.

Impacts

Agricultural: Infests grain fields, canola, and pastures. It reduces yield and carrying capacity through competition with crops for nutrients and moisture. Its small seeds contaminate small grains and are difficult to remove. It acts as an alternate host for a potato fungus and several nematodes.

Ecological: Commonly grows in disturbed habitats such as roadsides, barnyards, and gardens but also is found in wooded areas and forest margins.

Human: No information available.

Habitat and Ecology

General requirements: Hemp-nettle tolerates a wide range of temperatures and soil types but appears best adapted to moist soils. It is most abundant on moist, rich, black soils. In BC this weed is found in cultivated fields, pastures, roadsides, disturbed habitats, and open forests.

Distribution: Present in all agricultural reporting regions. It grows to the northern limits of agriculture in every Canadian province but is of greatest concern in parts of the Prairie provinces (Frankton and Mulligan 1970). Small populations are found in Washington, Idaho, and Montana (Royer and Dickinson 1999).

Historical: Introduced from Eurasia.

Life cycle: Seeds germinate in early spring after overwintering in the soil. Additional seeds can germinate throughout the growing season if conditions are favourable. Flowering occurs from July to September, depending on geographic location. Late-emerging seedlings may not mature because seeds often are shed before they mature.

Mode of reproduction: By seeds.

Seed production: A single plant can produce about 400 plants (O'Donovan and Sharma 1987).

Seed bank: Seeds can remain viable in the soil for several years (Royer and Dickinson 1999).

Dispersal: Primarily by wind and through agricultural operations such as seeding and harvesting. Seed can also be spread through contaminated crop seed and livestock feed.

Hybridization: Hemp-nettle is believed to be a hybrid of *Galeopsis pubescens* and *Galeopsis speciosa* (O'Donovan and Sharma 1987).

Management

Biocontrol: None.

Mechanical: Spring cultivation can control seedlings as they emerge. Repeated cultivation of summerfallow or other non-seeded areas may reduce populations. Clip forages with hemp-nettle infestations before seed-set.

Fire: No information available.

Herbicides: Hemp-nettle is resistant to 2,4-D. A number of herbicides are registered for control or suppression of hemp-nettle in various crops. Consult the most recent edition of BC Ministry of Agriculture, Food and Fisheries Crop Production Guides for specific recommendations. **Before applying herbicides, read the label for full use and precautionary instructions.**

Cultural/Preventive: Contaminated crop seed and livestock feed contribute to the dispersal of the plant.

Monitor feeding areas for new weeds. Clean equipment before leaving an infested site. Delayed seeding will allow early-growing seedlings to be removed by cultivation. Plant companion crops with slow-growing forage crops.

Integrated Management Summary

A combination of tillage and spring applications of herbicides appears to be the most effective combination of treatments to control this weed. Preventive actions, such as cleaning equipment and farm machinery, will help reduce the spread of this weed.

References

Douglas, G. W., D. Meidinger, and J. Pojar, eds. 1999. *Illustrated Flora of British Columbia*. Vol. 3. *Dicotyledons (Diapensiaceae through Onagraceae)*. Province of British Columbia.

Frankton, C., and G. A. Mulligan. 1970. *Weeds of Canada*. Publication 948. Ottawa: Canada Department of Agriculture.

O'Donovan, J. T., and M. P. Sharma. 1987. The biology of Canadian weeds. 78. *Galeopsis tetrahit* L. *Canadian Journal of Plant Science* 67: 787–796.

Royer, F., and R. Dickinson. 1999. *Weeds of Canada and the Northern United States*. Edmonton: University of Alberta Press.

