

SCOTCH THISTLE

Onopordum acanthium L.

Family: Asteraceae (Sunflower).

Other Scientific Names: None.

Other Common Names: Cotton thistle, winged thistle.

Legal Status: Regional Noxious: North Okanagan.



Identification

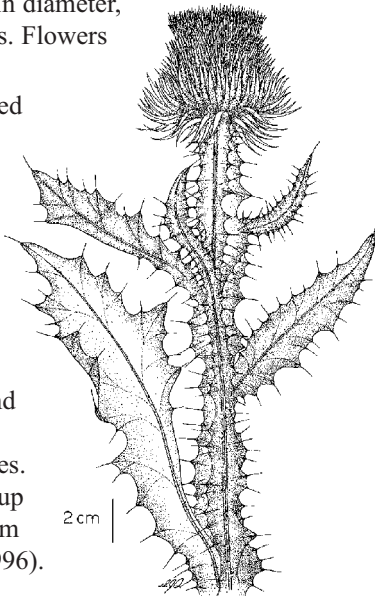
Growth form: Biennial or perennial forb.

Flower: Flower heads are numerous, 2.5–5.0 cm in diameter,

with spine-tipped bracts. Flowers are violet to reddish.

Seeds/Fruit: One-seeded fruit (achene) is wrinkled, brown to greyish black, and tipped with a plume (pappus) of slender bristles (Stubbenieck et al. 1995).

Leaves: Leaves are alternate, very large, and irregularly lobed, and have sharp yellow spikes. Rosette leaves may be up to 60 cm long and 30 cm wide (Whitson et al. 1996).



Upper and lower leaf surfaces are covered with a thick mat of cotton-like or woolly hairs, giving the foliage a grey-green colour (Dewey 1991).

Stems: Mature plants can be 1.5–3.0 m tall. Stems are numerous and branched and have broad, spiny wings and woolly hairs.

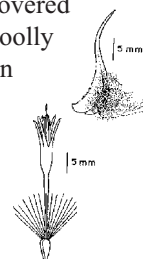
Roots: Thick, fleshy taproot.

Seedling: No information available.

Similar Species

Exotics: Scotch thistle is the only member of this genus in BC (Douglas et al. 1998).

Natives: None.



Impacts

Agricultural: Can be competitive with desirable native forage species when it forms dense stands that are impenetrable to livestock. This species can occasionally invade field crops.

Ecological: No information available.

Human: No information available.

Habitat and Ecology

General requirements: In BC, Scotch thistle is found at low elevations along roadsides and disturbed areas (Douglas et al. 1998). It also grows in irrigation ditches, in disturbed habitats, and on rangelands. The seeds contain a water-soluble germination inhibitor, so it is often successful in moist areas that are adjacent to riparian or sub-irrigated areas along stream courses.

Distribution: Present only and regarded as a major concern in the Okanagan.

Historical: Introduced from Eurasia.

Life cycle: A biennial that produces a large, ground-level rosette the first year and a tall, spiny plant in the second year. Flowering occurs from mid-June to September, depending on location.

Mode of reproduction: By seed.

Seed production: Individual plants can produce 70–100 flowering heads, each containing 100–140 seeds (Young and Evans 1969).

Seed bank: Seeds may remain viable in the soil for over 30 years.

Dispersal: Mainly by wind. Seeds can be dispersed by attaching to clothing or animal fur, or by transport in hay, machinery, or water.

Hybridization: No information available.

Management

Biocontrol: None.

Mechanical: Mowing or hand-cutting are usually most effective in combination with other methods. Plants can regrow from severed roots, and cut stems may still produce viable seed.

Fire: No information available.

Herbicides: Picloram, dicamba, 2,4-D, and clopyralid have been effective in managing Scotch thistle. Combinations of dicamba and 2,4-D, or clopyralid and 2,4-D, have also been used. Herbicides should be applied in spring before the plant bolts or in the autumn to rosettes (Beck 1991). Metsulfuron-methyl is effective after bolting begins (Beck 1999). 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: Maintain a strong, competitive perennial plant cover.

Integrated Management Summary

Management has been effective when the taproot is cut 2.5–5.0 cm below the ground and a follow-up application of herbicides occurs. New infestations should be dealt with immediately. Manage livestock grazing to maintain vigorous native plant communities and seed disturbed areas to perennial plants.

References

Beck, K. G. 1991. Biennial thistle control with herbicides. In L. F. James, J. O. Evans, M. H. Ralphs, and R. D. Child, eds. *Noxious Range Weeds*. Boulder, CO: Westview Press.

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Whitson, T. D. (ed.), L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, R. Parker. 1996. Scotch thistle. *Weeds of the West*. Western Society of Weed Science, in cooperation with the Western United States Land Grant Universities Cooperative Extension Services, Newark, CA.

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