

HOUND'S-TONGUE *(Cynoglossum officinale)*

INTRODUCTION

Hound's tongue is a biennial or short-lived perennial thought to have been introduced to North America as a seed contaminant from Europe. It can rapidly establish, forming dense populations that displace native plant species and hinder the re-establishment of valuable range species, thereby decreasing availability of forage to wildlife and livestock. Plants are also toxic to livestock, although the fresh plant is considered unpalatable and generally avoided.

The barbed seeds of hound's tongue are a major source of spread and a general nuisance to recreationists, easily attaching to clothing and equipment. Seeds may also attach to wool and fur of cattle and horses, resulting in reduced sale value, stress on animals and extra time and money for removal.

In British Columbia, hound's-tongue grows from low-mid elevation forests. It is associated with soil disturbances, often occurring in 'waste' areas including logging roads and heavily grazed areas, disturbed woods and forest clearings and waterways.

IDENTIFICATION

- Tap-rooted biennial
- Grows from 0.5 to 1.2 metres tall
- Bottom leaves are large and hairy (10-30 cm long, 2-5 cm wide)
- Stem leaves are short and stalkless
- Dull reddish-purple flowers produce four nutlets (seeds) each
- Seeds are brown to grayish-brown, rounded triangular in shape and are covered with short, hooked prickles.



BIOLOGY

Seed germinate in the spring producing large tufts of tongue shaped leaves. These rosettes then bolt and flower in the second (and possibly subsequent) year, producing as much as 2,000-4,000 seeds per plant. These seeds readily spread by sticking to the hair, wool and fur of animals, as well as human clothing.

Flowers bloom from May through July with each flower head yielding four nutlets, which then mature into the burred seeds. Seeds that remain attached to the parent plant may remain viable for 2-3 years.

Hound's tongue rosettes can withstand considerable drought stress. The plant's thick deep taproot can exploit lower sources of ground water and nutrients, enabling the plant to survive water deficits and to delay flowering until conditions are favorable. The root also serves as a food reserve which is protected underground.

INTEGRATED MANAGEMENT

The best overall method of control hound's-tongue is an integrated program. Cultural, mechanical, chemical and biological control methods are all possible. Treat first-year plants by hand pulling or with herbicides. Mow plants that have bolted to eliminate seed production. This process must be repeated to prevent seed production and to deplete the seed bank. To reduce possibilities of spread, isolate animals and limit activity within infested areas of hound's-tongue.

PREVENTION

The most effective way to ensure that your lands do not become infested with hound's-tongue is by prevention. Here are some recommendations to prevent invasion on your property:

- Learn to identify hound's-tongue and other invasive plants
- Don't let hound's-tongue plants go to seed.
- Maintain your land in a healthy, vigorous condition to ensure a productive plant community; competitive perennial grasses and forbs utilize water and nutrients that would otherwise be readily available to hound's-tongue.
- Follow a well-designed grazing management plan; excessive livestock grazing reduces competition and favours weeds.
- Regularly patrol your property for hound's-tongue plants and immediately treat new infestations.
- Cooperate with adjacent landowners and encourage them to control hound's-tongue
- Re-vegetate disturbed, bare soils to a competitive perennial forage cover immediately after disturbance.
- Clean burrs from animals and from clothing and shoes before leaving infested areas.

PHYSICAL CONTROL

Hand pulling, hoeing and tillage can be effective for small populations, but must be conducted before the plant sets seed. First-year hound's-tongue plants are difficult to control by aboveground cutting, as nutrient reserves of the taproot allow defoliated plants to survive. Plants that are defoliated at the rosette stage may delay flowering for a year and thus result in a larger plant with a greater seed output. Mowing or clipping 2nd year plants can reduce seed production, provided that it is done before seeds are formed. Response of hound's-tongue after serious defoliation depends on the vigor of plants and the fertility of the site, especially nitrogen availability. Plants with low growth rates respond quite poorly to defoliation, while vigorous plants may recover and set seed. For very large infestations, it may be difficult to get enough labor for cutting or hand-pulling.

Brown to greyish-brown seeds are covered with short, hooked prickles.

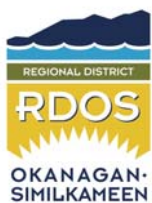


BIOLOGICAL CONTROL

The root-mining weevil, *Mogulones cruciger*, has been recently approved for release in BC. Young beetles or larvae feed primarily on the root; however, if food is in short supply they will attack any part of the hound's-tongue plant. Mature adult beetles reproduce through the summer months and heavily feed on plants. This agent was widely released throughout the Okanagan-Similkameen in the summer of 2005. Research also continues on other specialized agents, including two indigenous diseases, one that causes mildew and another that causes brown lesions on the leaves.

For further information on weeds in BC check out the websites at: <http://www.weedsbc.ca> or <http://www.agf.gov.bc.ca/cropprot/weeds.htm>

For more information about the Regional District of Okanagan-Similkameen Noxious Weed Education Program please contact the Regional District at 250-492-0237 or toll free at 1-877-610-3737. Information is also available on our website at: <http://www.rdos.bc.ca>



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