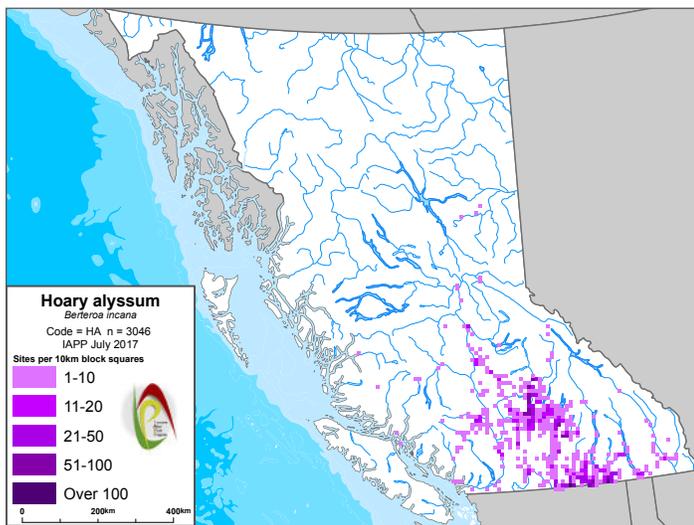


Hoary Alyssum *Berteroa incana*

Legal Status

Invasive Plants Regulation, Forest and Range Practices Act;
Noxious Weed (Regional), BC Weed Control Act



Distribution

Hoary alyssum is currently found in South-Central and Southeastern BC including the Okanagan, Cariboo, Boundary, Thompson, and Kootenay areas.

Identification

Flowers: Small (5-8 mm in length), white flowers with deeply notched petals that are carried on slender stalks. Sepals are hairy and transient.

Stems: Multiple or single (annual) erect, thin stems arise from the base of the plant and branch near the top. Stems are covered in whitish, star-shaped hairs and range from 0.3 to 1.1 m in height. Plants may be fully branched and rounded under certain soil, nutrient, and moisture conditions.

Leaves: Upper leaves are elliptical, face upward, generally lack stalks, and clasp the stem. Lower leaves have slender stalks and are 3-5 cm in length. All leaves are gray and have star-shaped hairs that are rough to touch, like sandpaper.

Fruits: Flattened oval seed pods are chambered, 5-6 mm in length, held close to the stem, and have star-shaped hairs. Each chamber contains 5-7 black seeds. Seeds are 2-3 mm in length and aligned in rows in chambers. Styles remain, leaving a prominent point at the tip.

Similar Non-Native Species: (i) Pale alyssum (*Alyssum alyssoides*); (ii) desert alyssum (*Alyssum desertorum*); (iii) wall alyssum (*Alyssum murale*); and (iv) falseflax (*Camelina sativa*). All similar species can be differentiated by seed head size, number of seeds per chamber, flower colour, or location of pods on the stem



Ecological Characteristics

Habitat: Prefers dry or gravelly soils and direct sunlight. Generally found at low to mid elevations in disturbed plant communities, roadside ditches, embankments, and heavily grazed pastures. Can invade dry land, irrigated alfalfa fields, and rangelands and tends to increase in forage crops following periods of drought or winterkill.

Reproduction: Annual, biennial, or short-lived perennial that reproduces by seed. Each plant flowers and produces a large number of seeds between early summer and fall (frost), resulting in the ability to spread rapidly. Perennial form overwinters as a rosette.

Dispersal: Seed is dispersed as a contaminant in hay and spread by vehicles, equipment, footwear, wildlife, and birds.



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Impacts

Economic: Infestations can reduce hay quality and value.

Ecological: Can displace weak plant communities; however, hoary alyssum's potential to invade healthy, natural plant communities is unknown.

Animal Health: Toxic to horses, it can cause fever, limb edema, and laminitis. Sensitivity varies when small or single doses are ingested, and death has only been reported in horses that have consumed hay infested with a large proportion (30-70%) of hoary alyssum.

Integrated Pest Management

IPM is a decision-making process that includes identification and inventory of invasive plant populations, assessment of the risks that they pose, development of well-informed control options that may include a number of methods, site treatment, and monitoring.

Prevention

- » Report infestations:
 - Regional Invasive Species Committees: www.bcinvasives.ca/about/partners/bc-stakeholders/regional-committee-map
 - Online: www.gov.bc.ca/invasive-species
 - Toll Free: 1-888-933-3722
- » Check hay or straw bales for potential contamination and monitor for hoary alyssum on both disturbed and undisturbed sites.
- » Look for seed mixtures that indicate where the seed material was collected, request only non-invasive species, and know the level of 'contamination' from your seed supplier by requesting a 'Certificate of Analysis'.
- » Ensure soil, gravel, and other fill material are not contaminated.
- » Avoid unloading, parking, or storing equipment and vehicles in infested areas.
- » Minimize soil disturbance during activities and re-vegetate exposed soil as soon as possible.
- » Remove plants, plant parts, and seeds from personal gear, clothing, pets, vehicles, and equipment. Wash vehicles, including tires and undercarriage, and equipment at designated cleaning sites before leaving infested areas.
- » Bag or tarp plants, plant parts, and seeds before transporting to a designated disposal site (e.g. landfill).
- » Maintain or establish healthy plant communities that are resistant to invasion by invasive plants.

Biocontrol

- » There are no biocontrol agents available for hoary alyssum.



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Mechanical Control

- » Mowing will reduce seed production, but cut plants will regenerate low to the ground below mower height. Mowing several times during the season, beginning before seed set and reducing mower height with each cutting, will improve effectiveness.
- » Small populations can be effectively controlled by repeated hand pulling or hoeing if done before seed set, the root crown is removed, and exposed soil is seeded with an appropriate seed mixture to establish competition.
- » Monitor controlled infestations throughout growing season.

Chemical Control

Herbicide recommendations and use must first consider site characteristics and be prescribed based on site goals and objectives. Herbicide labels and other sources of information must be reviewed before selecting and applying herbicides.

- » A combination aminopyralid + metsulfuron methyl or a combination of 2,4-D + dicamba are most effective. 2,4-D, dicamba, and metsulfuron methyl have shown acceptable control when applied individually. Glyphosate is effective, but it kills off other competing vegetation, creating more area for hoary alyssum seeds to germinate and grow.
- » Foliar herbicide applications are most effective when done during spring and fall, but can be applied during the summer if the plant is green and actively growing. Repeat applications will be necessary for effective control.
- » Application of pesticides on Crown land must be carried out following a confirmed Pest Management Plan (Integrated Pest Management Act) and under the supervision of a certified pesticide applicator. www.env.gov.bc.ca/epd/ipmp/



References/Links

- » BC Ministry of Forests, Lands, and Natural Resource Operations, Invasive Alien Plant Program (IAPP). www.for.gov.bc.ca/hra/Plants/application.htm
- » E-Flora BC, an Electronic Atlas of the Plants of BC. www.eflora.bc.ca/
- » Toxicity to Horses, Forage Quality and Control. University of Minnesota.

