

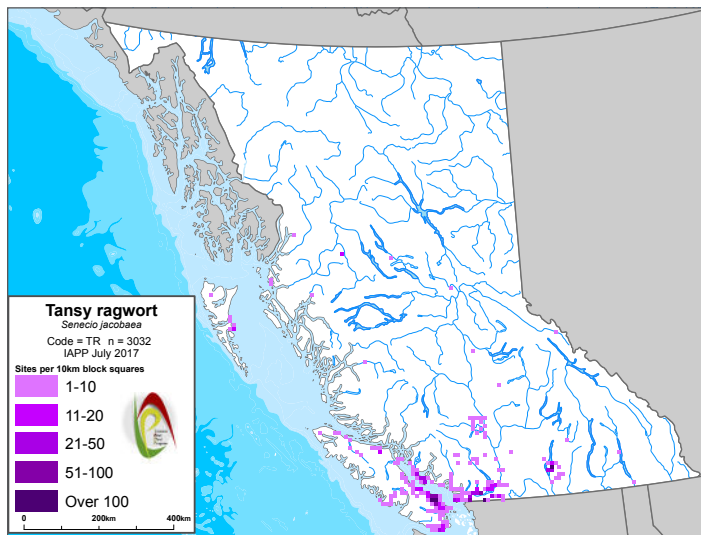
Tansy Ragwort *Senecio jacobaea*

About Tansy Ragwort

Native to Europe, Asia and Siberia, tansy ragwort is thought to have been introduced to Canada in the 1850s via the ballast water of ships and also as a medicinal herb. Since then, it has largely spread through hay as a contaminant.

Legal Status

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



Distribution

Currently found in the central Fraser Valley, central to southern Vancouver Island, the Gulf Islands, and the east side of the Okanagan Valley between Kelowna and Penticton.

Identification

Flowers: Bright yellow daisy-like flower heads arranged in dense, flat-topped clusters near the top of the stem. Each flower head has 10-15 petal-like ray flowers surrounding yellow disk flowers. Black-tipped flower-head bracts are arranged in a single row.

Stems: Plants are 0.2-1.2 m in height with one to several upright stems that are branched near the top.

Leaves: A low rosette is produced during the first year with dark green, ruffled (lobed) leaves on purplish stems. Leaves on second year flowering stems are alternate, dark green on top,

whitish-green underneath, with deeply cut, blunt-toothed lobes and a ragged, ruffled appearance. Basal leaves are stalked, 4-20 cm long, and 2-6 cm wide.

Fruits: Ribbed seeds are 1 mm long with a pappus, or cluster of white hairs, about 3 mm long.



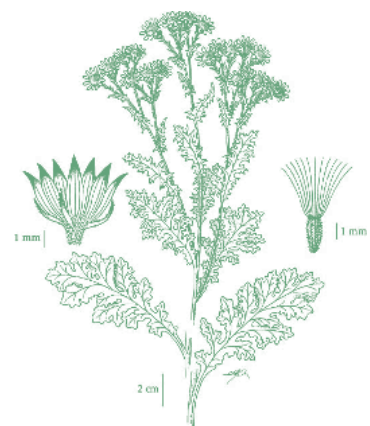
Similar Native Species: (i) dryland ragwort (*Seneca eremophilus*) has leaf tips that are pointed rather than rounded; (ii) other native plants in the genus *Senecio* (e.g. woolly groundsel) are typically smaller in size, do not have a unique dissected leaf structure.

Similar Non-Native Species: (i) common tansy (*Tanacetum vulgare*) has leaves that are sharply toothed and flowers that resemble yellow buttons; (ii) St. John's-wort (*Hypericum perforatum*) has leaves that are opposite, 1-3 cm long, and oval shaped; and (iii) other non-native plants in the genus *Senecio* (e.g. common groundsel) are typically smaller in size, do not have a unique dissected leaf structure, and lack ray-like flowers.

Ecological Characteristics

Habitat: Found on disturbed sites and bare ground in grazed pastures, roadsides, vacant non-crop lands, and on forest clear-cuts. Optimal growth occurs in full sun or partial shade in well-drained soils. Usually absent in areas with a high water table or acidic soils.

Reproduction: Biennial or short-lived perennial. Reproduces mostly from seed, but regeneration of shoots can occur from crown buds, root fragments, and intact roots. Disturbance or injury promotes vegetative propagation. Seeds can be viable up to 15 years depending on depth in the soil. Tilling, grazing, or other disturbance will cause dormant seeds to germinate. Plants that go to seed die at the end of the season.



© The Illustrated Flora of BC

Dispersal: Spreads mainly in the direction of the prevailing winds, and then largely by marginal spread. Although seeds can be dispersed by water and wind, or spread by people and livestock, the majority of seed is deposited within 10 m of the original infestation. Seeds may also be transported in soil carried on equipment and vehicles.

Impacts

Economic: Can reduce overall productivity and stocking levels in areas utilized by livestock. The alkaloids in tansy ragwort taint honey produced by bees such that it is usually too bitter and off-color to market.

Animal Health: Contains alkaloids that are toxic to cattle, deer, pigs, horses, and goats. In susceptible animals, liver damage resulting from tansy ragwort ingestion is cumulative.

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 treatments, and monitoring.

Prevention

- » Monitor pastures, areas used by livestock, horse trails, and roadsides vigilantly for new populations and eradicate small, new infestations.
- » 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.
- » Create and maintain a 'containment line' between infested and non-infested areas. Boundaries can be easily monitored and controlled to prevent the spread of tansy ragwort onto adjacent lands.

Mechanical Control

- » Mechanical control of established stands is only effective when the root system can be entirely removed or frequently cultivated (tilled) to prevent the growth of seedlings and root sprouts.
- » Repeated mowing before flowering can prevent seed production.
- » While light cultivation can encourage growth, repeated heavy cultivation can be used as a control technique.
- » Hand pulling is only effective in small infestations. Periodic re-treatment will be necessary. Pull plants when soils are moist to completely remove root mass.
- » Caution: Vegetative reproduction is stimulated by mowing, grazing, or poor hand removal where the rootstalk was not completely removed.

- » Disposal: If plants are hand pulled or cut prior to flowering, the plant material can be left on the site to decompose. If plants are cut post flowering, all plant parts, including flower heads, should be bagged and incinerated or buried deeply at the landfill. Care should be taken to ensure that plant parts are not distributed during transport.
- » Sprouting can occur from stumps following fire, but fire may be an effective control method for large infestations.

Biocontrol

- » A defoliating moth (*Tyria jacobaeae*), seedhead fly (*Hylemya seneciella* also known as *Botanophila seneciella*), root feeding beetles (*Longitarsis flavicorni*, *Longitarsis jacobaeae*), and root crown feeding moth (*Cochylis atricapitana*) have been effective in controlling tansy ragwort in the Fraser Valley.

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.

- » The use of a wick or selective spot spraying is recommended to minimize non-target damage.
- » Effective herbicides include dicamba, 2,4-D, picloram, and picloram + 2,4-D.
- » Spring or mid-summer applications of 2,4-D are most effective at managing young seedlings and rosettes, while dicamba, or dicamba + 2,4-D are more effective on advanced growth stages.
- » Picloram is only recommended for use in dry interior zones; it is not recommended for use in high precipitation zones such as coastal areas.
- » 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. <https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management>

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/
- » Field Guide to Noxious Weeds and Other Selected Invasive Plants of British Columbia. BC Ministry of Agriculture. https://bcinvasives.ca/documents/Field_Guide_to_Noxious_Weeds_Final_WEB_09-25-2014.pdf
- » King Country Noxious Weed Control Program: Best Management Practices for Tansy Ragwort. King County, Washington. https://your.kingcounty.gov/dnrp/library/water-and-land/weeds/BMPs/tansy_ragwort-control.pdf
- » Integrated Vegetation Management (IVM) Technical Bulletin: Tansy Ragwort. <http://www.efn.org/~ipmpa/Noxtansy.html>
- » Plant Guide for tansy ragwort (*Senecio jacobaea* L.). USDA-Natural Resources Conservation Service. https://plants.usda.gov/plantguide/pdf/pg_seja.pdf



Thank you to the BC Ministry of Environment and the BC Ministry of Transportation and Infrastructure for providing project funding, and to those who advised the development of these management recommendations