

Milk Thistle *Silybum marianum*

About

Milk thistle (*Silybum marianum*) is a tap-rooted annual or biennial plant that is named for the distinct white “milky” patterns on its leaves. Milk thistle has historically been cultivated for its medicinal properties, which is likely why it was spread to other parts of the world. It is tolerant of shade and has a high reproductive potential, with seeds that can stay dormant for many years, allowing it to establish itself in many regions outside its native range.

Distribution

Native to the Mediterranean region of Europe and Asia, it has been introduced as a crop to other areas of Europe and Asia, North and South America, and southern Australia. It can now be found in BC, Alberta, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia. Within BC, it is limited to the southwest coast.

Legal Status

Classified as a “noxious weed” in all regions of British Columbia by the Ministry of Forests under the *BC Weed Control Act*. Designated as a Regional Containment/Control species by the BC Inter-Ministry Invasive Species Working Group.

Identification

Flowers: One large purple composite flower per stem. The flower head is surrounded by broad, spiny bracts.

Stems: Green and grooved and can have white cottony hairs. They can grow between 60 cm to 1.8 m tall.

Leaves: Shiny green with distinct white marbling patterns and spines along the edges. They are alternate and clasping to the stem.

Fruits: Achenes, meaning that each is a one-seeded, dry fruit that splits open at maturity. The seeds are oval with straight sides,



L. Bosch; ISCBC



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smooth, and have a sheen. They are dark brown in colour with a golden-coloured ring at the top.

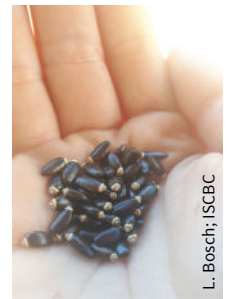
Similar Species: Milk thistle can be confused with other species of thistle, such as Nodding thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), and Bull thistle (*Cirsium vulgare*).

Ecological Characteristics

Habitat: Milk thistle can be found in dense stands along roadsides, waste areas, other disturbed areas, and highly fertile soils such as pastures.

Reproduction: Milk thistle only reproduces and spreads by seed. Each compound flower produces approximately 100 seeds, enabling each plant to produce between 1000-5000 seeds. Seeds can remain viable in the soil for more than nine years.

Dispersal: Seeds are carried by the wind using a large pappus (fluffy “plume”, like those found on dandelion seeds). Due to the heavy nature of the seeds, they are limited as to the distance they can travel by wind and tend not to move far from the parent plants. They can also be dispersed by water, mud, hay, vehicles, machinery, people and animals.



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Impacts

Ecological: Milk thistle establishes dense stands and can take over large areas of pasture, where it can outcompete native and forage species.

Social: Dense patches of Milk thistle are difficult to move through. Sharp spines on the plants can injure livestock and people who brush against them.

Economic: Milk thistle is toxic to livestock and outcompetes desirable forage species. When it takes over areas of pasture, it reduces and restricts access to grazeable land for livestock. Milk thistle also provides shelter for pests such as rabbits and pest insects that can further damage nearby crops.



J. Fenneiman; E-Flora

Integrated Pest Management

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

Prevention:

Milk thistle was introduced around the world to be grown as a medicinal plant and was able to spread where it arrived. Be Plantwise and do not plant Milk thistle in your garden.



Remember to Play Clean Go when leaving an area where Milk thistle and other invasives are present. Clean off your boots, clothing, and anything else that might be able to carry and spread seeds. Likewise, when working in infested areas, make sure to clean off any equipment used that could further spread seeds.

Monitor sites for several years and remove any new seedlings that emerge.

Mechanical Control: Milk thistle can be dug up before flowering as it does not spread through fragmentation or rhizomes. Mowing before flowering is also effective at reducing seed production and spread. However, the rosettes can still resprout and flower. Planting a competitive pasture after mechanical removal helps to control any further regrowth. As Milk thistle grows well in disturbed areas, it is recommended to remove the source of disturbance, and re-vegetate with native replacement plants or grasses.

Chemical Control: Herbicide recommendations and use must consider site characteristics and be prescribed based on site goals and objectives. Herbicide labels and other sources of information must be reviewed before selecting for application.

Milk thistle's resistance to herbicides increases with the age of the plant, so treatment is most effective in early spring when the plants are young. There are herbicides that effectively control Milk thistle, therefore contact your local invasive plants specialist for recommendations. Pay special attention to local restrictions and labelled instructions when using any herbicide. 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>.

Biological Control: Although there has been limited use of biological control to manage Milk thistle, a receptacle weevil (*Rhinocyllus conicus*) issued to manage other species of thistle such as Nodding thistle and Bull thistle. It has been introduced in parts of the USA, Australia, and Canada as a biological control agent for Milk thistle. Care must be taken, however, as *R. conicus* can also attack native thistles.

Goats are another form of biological control for managing Milk thistle. Goats will eat thistles and have been used to manage populations and reduce seed production.

Disposal: Note: Disposal of invasive plants varies by region. Contact your local government for specific information on how to dispose of your invasive plants.

- » When removing Milk thistle, place the plants in bags for disposal. Plants that have already flowered can still go to seed after being removed.
- » If a plant has already gone to seed, place the bag close to the plant and carefully cut off the seed heads into the bag to prevent the spread of seeds.
- » Do not dispose of Milk thistle in the compost.
- » If possible, dispose of Milk thistle in designated invasive plant material bins at your local landfill.

Reporting

Report Milk thistle by using the mobile Report-Invasives-BC app for Apple and Android platforms, available for download at <https://bcinvasives.ca/take-action/report/>.

You can report any invasive species through the ISCBC website, through info@bcinvasives.ca or 1-888-933-3722. <https://bcinvasives.ca/take-action/report/>.

References/Links

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