

Californian thistle

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Common Name

Californian thistle, perennial thistle

Botanical Name

Cirsium arvense (L.) Scop.

Status

Californian thistle is a Regionally Prohibited Weed in the Wimmera, Goulburn and North East Catchment and Land Protection Regions, and a Regionally Controlled Weed in the Glenelg, North Central, Corangamite Port Phillip, West Gippsland and East Gippsland CaLP Regions. Land owners in areas where Californian thistle is Regionally Prohibited must eradicate or control it on their land. Landholders in areas where Californian thistle is Regionally Controlled must take all reasonable steps to control it and prevent its spread on their land and the roadsides which adjoin their land.

Origin and Distribution

Californian thistle originated in Europe, North Africa and western Asia. In Victoria it is a problem mainly in the south and is firmly established in areas of medium and high rainfall, occurring commonly throughout Gippsland, the Western District and the Ballarat area.

Description

Erect perennial, up to 150 cm high, reproducing by creeping roots and by seeds.

Seeds germinate in bare areas during autumn and spring. Most plants do not flower in their first year. New shoots are produced from root buds on established plants during late winter and spring, forming dense rosettes. Bolting (production of flowering stems) occurs in late spring and flowers open in December and January.

Stems - erect, 0.5 to 1.5 m tall, slender, branching at the top, grooved, hairy.

Leaves - to 15 cm long, green, almost hairless above, woolly-white beneath, deeply lobed with spiny undulate edges, arrowed base continuing down stem. Stem leaves similar, to 20 cm long with leaf bases forming ridges along the stems.

Flowers - florets pink, reddish-purple or greyish-purple, in heads 15 to 25 mm in diameter, surrounded by green bracts

tipped with short purplish spines; numerous heads in terminal clusters of 1 to 5. Male and female flowers are produced on different plants. Male flowers globular in shape, female flowers fragrant with ovoid heads.

Seeds - 3 mm long, brown, smooth, slightly flattened and curved; a white-hairy pappus (parachute) loosely attached and longer than the seed. Viable seed is only produced if male and female plants are within close range of each other.

Roots - white or yellowish, horizontal and vertical, extensive, mostly in the upper 0.5 metres of soil.

Properties

Californian thistle causes serious loss of production in crops and pastures. The spines may cause damage to stock and dogs. Californian thistle has been found as a contaminant in imported pasture seed.



Figure 1. Flowers of Californian thistle (female plant).

Dispersal

Patches increase in size by growth from the lateral root system. Roots are fragmented during cultivation and spread to clean land. Viable seed was rarely produced in Australia until recently but may be more commonly produced now that the weed is more abundant. Seed can be spread by wind, water, farm implements and as a pasture seed contaminant.

Control

Priorities for controlling different infestations must be worked out when planning a Californian thistle management program. A good strategy is to keep clean areas free of the thistle and manage them in a way that prevents infestation. Lightly infested areas should be cleaned up as soon as possible to prevent spread. Extensive infestations are best quarantined and tackled progressively as part of a pasture improvement programs. The integration of a number of appropriate control techniques coupled with good pasture management will give the best long-term results.



Figure 2. Californian thistle plant (male plant).

Cultivation

Not recommended because of the probability of making an infestation worse by spreading root pieces. Cultivation would need to be undertaken weekly or fortnightly to have any chance at gaining control of Californian thistle.

Cultivation at this frequency will take the land out of production and contribute to soil erosion and a breakdown of the soil structure.

Pasture Improvement

Lucerne competes effectively with Californian thistle and regular mowing will further weaken the weed.

Chemical

Under Victorian legislation there are controls on various aspects of the uses of agricultural chemicals. Some particular uses are prohibited and some require permits. Users of certain agricultural chemicals are required to obtain an Agricultural Chemical User Permit (ACUP) or work under the direct supervision of an ACUP holder. Additional restrictions on the use of some herbicides apply to particular geographic areas known as Chemical Control Areas (CCA).

It is the responsibility of chemical users to familiarise themselves with these controls. See Agriculture Note: Agricultural chemical user permits (ACUP) and chemical control areas(CCA) for further information.

Restrictions on use in CCAs apply to the chemicals marked with a hatch (#) in the following list.

Contact the Regional Chemical Standards Officer of the Department of Natural Resources and Environment if further advice is required.

You should read the product label and follow all label instructions carefully before using any herbicide.

Use a product containing one of the following active constituents or combinations of active constituents that is registered for use in Victoria to control Californian thistle in the particular situation in which you need to use chemical control, eg. in pastures. Consult the product label for detailed information.

- 2,4-D DIMETHYLAMINE SALT#
- 2,4-D ISOPROPYLAMINE SALT#
- 2,4-D TRI ISO PROPANOLAMINE SALT + PICLORAM#
- 2,4-D B POTASSIUM AND SODIUM SALTS
- CLOPYRALID TRIISOPROPANOLAMINE#
- DICAMBA DIMETHYLAMINE SALT#
- DIURON + GLYPHOSATE ISOPROPYLAMINE SALT#
- GLYPHOSATE FREE ACID#
- GLYPHOSATE ISOPROPYLAMINE SALT#
- GLYPHOSATE MONO-AMMONIUM SALT#

This list of chemicals is based on information supplied to the Department of Natural Resources and Environment by the National Registration Authority for Agricultural and Veterinary Chemicals (NRA). The State of Victoria

through the Department of Natural Resources and Environment has not assessed or checked the accuracy of the information supplied to it from the NRA as that responsibility rests with the NRA.

Biological Control

Insect biological control agents have been released in Britain, Canada, the USA and New Zealand. Investigations are currently being undertaken on suitable agents for use in Australia. A stem-dwarfing rust fungus attacks Californian thistle in Australia.

Reference

Parsons, W.T. and Cuthbertson, E.G. (1992) *Noxious Weeds of Australia*. Melbourne, Inkata Press.

Acknowledgements

Drafted by El Bruzzese. Edited by Ross Williamson; KTRI, 1996. Updated by Ian Faithfull, KTRI, February 1998. Active constituents information supplied by Chemical Standards Branch, December 1997.

The advice contained in this publication is intended as a source of information only. Always read the label before using any of the products mentioned. The State of Victoria and its officers do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.