Weeds of Western Australia - Canada thistle - (Cirsium arvense (L.) Scop.)

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CANADA THISTLE

(Cirsium arvense (L.) Scop.)

Canada or Creeping Thistle is known to occur in only one locality in Western Australia, but experiences in other countries, particularly Canada and the United States, show its aggressive nature. The plant is a perennial with a vigorous, creeping rooting system which makes eradication very difficult.
Canada Thistle

*Cirsium arvense* (L.) Scop.

Canada thistle, also known as creeping and Californian thistle, is a potential rather than an actual weed in Western Australia. It is native to Europe, Asia and Northern Africa, but has found a home in most temperate and warm temperate regions and is a major weed in a number of countries.

It was reported to have been found about the residences of French missionaries in Canada early in the 17th Century, but there appears to be little foundation to the story that it was purposely introduced for feeding pigs. It may or may not be true that Canada thistle was introduced into eastern New York with the hay and camp equipage of Burgoyne's army in 1777 but there is no doubt that it was distributed widely in Canada and America as an impurity in hay. The weed spread rapidly across the northern tier of the United States, being reported in Northern California as early as 1879, and also occurs throughout the agricultural areas of all provinces in Canada. It maintains a reputation as an aggressive and pernicious weed throughout an extensive territory in North America.

Canada thistle was introduced to New Zealand in about 1870 and spread rapidly to most parts of the country, particularly in the South Island. In 1894 the Government offered a reward of £250 for an effective method of eradication and Canada thistle probably had much to do with the passing of a Noxious Weeds Act in 1901. The plant has survived, however, and remains one of the most troublesome weeds in New Zealand.

It had reached serious proportions in Tasmania by the beginning of this century and, although checked by the ravages of a “blight,” usually attributed to a rust fungus, is still a very significant weed. On the mainland it has its greatest development in Victoria, with more restricted infestations on the Southern Tablelands of New South Wales and in the south-east portion of South Australia.

Canada thistle was first recorded for Western Australia in 1933 when a few plants were located in the Geraldton district. These have since been destroyed but more recently a small infestation growing in association with ragwort was found on a property at Walpole. This is now well under control.

**Description**

Canada thistle is known by a number of other common names including creeping and Californian thistle. Creeping thistle describes the habit of the plant which, although not native to Canada and California, is so thoroughly established in those places that the names must be regarded as being appropriate.

It is a perennial, 1-2ft. in height, with horizontally creeping, thickened, white or yellowish, branched roots from which erect
CANADA THISTLE.
Cirsium arvense (L.) Scop.
A.—Flowering shoot; B.—Showing the growth habit of the plant, including basal leaves, creeping stems and different stages of vertical shoots; C.—Section through flower head; D.—Male flower (enlarged); E.—Achenes ("seeds"). The one showing the pappus is reduced in size, and the other is enlarged.
stems are produced at irregular intervals. The branched stems are green, cobwebby and with variable development of hairs. The green leaves are almost hairless above and woolly-white or cobwebby underneath. They are lance-shaped in outline, deeply lobed and undulate with marginal prickles or spines, and also terminating in a spine. The narrowed base is continued down the stem beyond the insertion of the leaf giving the impression of a spiny stem.

The stalked or sessile flower heads are dioecious i.e. the male and females borne on different plants. The florets are surrounded by many closely overlapping bracts, the outer short, sometimes tipped with weak spines, the inner successively longer and narrower with long pointed tips. The florets are reddish-violet or rarely white and are fragrant.

The achenes (“seeds”) are about ⅛in. long, more or less four-angled and with a somewhat glossy surface. The white hairy pappus at the apex of the achenes falls, leaving a circular rim within which is a small projection.

Flowering usually occurs between November and February. Large patches of Canada thistle may consist entirely of male plants. If such plants are examined no seeds will be found, contributing to the opinion that this thistle is a poor seed producer. When the male and female plants are not far removed, however, generous seed formation occurs although often affected by larvae of various insects.

Canada thistle should not be confused with the related and somewhat similar spear and sheep thistles which are biennial and annual respectively. The creeping rooting system of Canada thistle is distinctive.

SIGNIFICANCE
Canada thistle has the undesirable characteristics of a perennial weed with a strong, creeping root system. It can act as a vigorous competitor for both crops and pastures. Its importance as a weed can be gauged by reaction in other countries. In England it is classed as the commonest and most troublesome of all thistles, being abundant on all types of arable land and pastures. Besides competing with the legitimate crop it takes the edge off the mowing knives, and the prickles can prove most uncomfortable when handling hay.

A survey carried out in New Zealand showed that it was regarded as being the worst weed in 511 of the 669 districts from which replies were received. It is one of the most feared weeds in the United States, having been declared noxious in the Seed Laws of 37 States. In Canada it is described as the commonest and most troublesome thistle in cultivated fields, meadows, pastures, roadsides and waste places, growing under a wide variety of soil and moisture conditions although less common on light dry soils.

CONTROL
Control measures should be designed to prevent seeding and destroy the perennial rooting system. When only a few plants occur they should be grubbed. With more extensive infestations, where cultivation can be carried out, this should be repeated as often as necessary to cope with shoots before or immediately after they appear in order to systematically weaken the plants. If the surface soil is dried out, the severed portions have less chance of rooting. Tasmanian experience has shown that implements used should have a horizontal cutting action such as a thistle shaver, broad-toothed cultivator or mould-board plough. Implements with a vertical cutting or pulverising action tend to multiply the pieces of root and distribute them to clean soil. In America it has been observed that portions of root or root-stock ¾in. to ¾in. in diameter and ¾in. long will produce new plants under favourable conditions.

The maintenance of a thick stand of lucerne for several years will reduce an infestation of Canada thistle. The lucerne shades the thistle rosettes, and cutting the crop two or three times a year reduces the storage reserves and consequently the vigour of the thistle roots. Where conditions are favourable, the growing of summer crops such as Sudan grass, sorghum and millet has also proved useful. Canada thistle is not eaten readily by stock but is held in check by a vigorous pasture, particularly if regular mowings are carried out.
Although Canada thistle is not highly susceptible, the hormone-like herbicides are very helpful. Best results follow spraying when the flower buds are clearly visible but not open. Complete control is rarely obtained from a single treatment and there is no advantage in applying more than 2 lb. acid equivalent of 2,4-D per acre. Regrowth should be treated as it appears.

Reference has already been made to a “blight” affecting the growth of Canada thistle in Tasmania. The possibility of using one or more fungi for the control of the weed was investigated in New Zealand about 40 years ago. It was concluded that although up to half the treated plants could become affected, spectacular kills were not assured and the method had little practical value.

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