

Saffron thistle

Carthamus lanatus



Saffron thistle is found in cultivated paddocks, poor pastures or neglected areas and when present in thick patches can restrict stock movement and cause injury to grazing animals, particularly in the eyes and mouth. Saffron thistle's spines contaminate wool and make wool handling painful. It is also a weed of cultivation and displaces useful pasture species.

Saffron thistle is more likely to occur on pastures which have been overgrazed, or in soils of low nutrient levels. As the seed of saffron thistle is heavy it tends to fall at the base of the plant. This causes infestations to be more localised and spread is not rapid.

Legal requirements

Saffron thistle is not a prohibited or restricted invasive plant under the *Biosecurity Act 2014*. However, by law, everyone has a general biosecurity obligation (GBO) to take reasonable and practical steps to minimise the risks associated with invasive plants under their control.

Local governments must have a biosecurity plan that covers invasive plants in their area. This plan may include

actions to be taken on certain species. Some of these actions may be required under local laws. Contact your local government for more information.

Description

Saffron thistle is an herb standing erect, annual growing to 1 m or higher. Leaves are grey green, up to 20 cm long and deeply divided with stout spines. Stems are yellow-white or very pale green, flowers being solitary, yellow and surrounded by spiny bracts. Seeds are grey-brown, egg-shaped, four sided and 15–8 mm long.

Distribution

Saffron thistle is a native of the Mediterranean region and western Asia, and has spread to many parts of the world. Saffron thistle was first recorded in South Australia in 1874, and its introduction may have been unintentional due to confusion with its close relative, safflower (*Carthamus tinctorius* L.), which was imported as a source of dye.



Saffron thistle occurs in all states of Australia and in the Northern Territory. It occurs extensively in the wheat growing areas of New South Wales and Victoria. In Queensland saffron thistle occurs on the Darling Downs and in coastal areas north to the tropics.

Methods of spread

Saffron thistle spreads by seed but is not rapid.

Control

Physical control

Manual chip out individual plants.

Mechanical control

Deep ploughing, to a depth of 10–15 cm will bury many seeds and reduce emergence. Seedlings emerging can be destroyed by shallow cultivation or spraying. Improved perennial or native pastures will prevent establishment, as saffron thistle is a poor competitor.

If annual treatments are performed and seeding is reduced, germination will be reduced.

In pasture areas avoid heavy grazing as it will encourage saffron thistle growth, and apply superphosphate to promote pasture growth.

Slashing shortly before flowering can also effectively prevent seed production. However, if slashing is carried out too early, plants often regrow and produce new flower heads.

Herbicide control

Spraying or shallow cultivation will destroy emerging seeds. Herbicides can be effective. See Table 1 for treatment options. For control in cropping situations, refer to labels.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland on 13 25 23 or visit biosecurity.qld.gov.au.

Table 1. Herbicides for the control of saffron thistle

Situation	Herbicide	Rate	Comments
Agricultural non-crop areas, commercial and industrial areas, pastures and rights-of-way	2,4-D amine (various formulations)	Consult label for correct rate for particular situations	Boom or spot spray when young
	2,4-D 300 g/L + picloram 75 g/L (e.g. Tordon 75-D) or 2,4-D 300 g/L + picloram 75 g/L + aminopyralid 7.5 g/L (FallowBoss Tordon)	300 mL/ha	Boom application Young rosette or seedling plants up to 8 true leaves
	Triclopyr 600 g/L (e.g. Garlon 600)	80 mL/100 L water	Spot spray plants up to bud stage
Non-crop areas, fallow land, industrial and commercial areas, rights-of-way	MCPA amine 500 g/L (e.g. MCPA 500)	1.4–2.5 L/ha	Spray up to rosette stage
	MCPA amine 750 g/L (e.g. MCPA 750)	930 mL–1.65 L/ha	
Non-cultivated situations	Glyphosate 360 g/L (e.g. Glyphosate 360) and other formulations	75–100 mL/15 L	Spot spray (knapsack)
		500–700 mL/100L	Spot spray (handgun)
		2–3 L/ha Consult labels for rates for other formulations	Boom spray
Around agricultural buildings and other non-crop farm situations, commercial, industrial, and public service areas, rights-of-way, and waster land away from non-target vegetation	Imazapyr 150 g/L + glyphosate 150 g/L (e.g. Arsenal Express)	7 L/ha	Pre or post emergence applications Do not apply near desirable vegetation or where roots may extend
Pastures and fallow land	Clopyralid 300 g/L (e.g. Clopyralid 300)	250 mL/ 100 L water	Spot spray (handgun)
	Clopyralid 600 g/L (e.g. Lontrel Advanced)	125 mL/100 L water	
	Clopyralid 750 g/kg (e.g. Lontrel 750 SG)	100 g/100 L water	

Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.

This fact sheet is developed with funding support from the Land Protection Fund.

Fact sheets are available from Department of Agriculture and Fisheries (DAF) service centres and our Customer Service Centre (telephone 13 25 23). Check our website at biosecurity.qld.gov.au to ensure you have the latest version of this fact sheet. The control methods referred to in this fact sheet should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, DAF does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.