

Weed Sheet

Declared weed sheet : Creeping Knapweed



Government of South Australia
South Australian Murray-Darling Basin
Natural Resources Management Board

Creeping Knapweed

(Acroptilon repens)

Creeping knapweed is a competitive perennial pest plant which can reduce cereal crop yields by 75%. Root fragments broken off during cultivation is the primary method of spread.



Creeping Knapweed



What is it?

Creeping knapweed, originating from eastern Europe to Mongolia, is one of the most competitive weeds that can severely reduce crop yields. It also taints grain and flour with a bitter, unpleasant flavour and may have allelopathic properties which inhibit the growth of other plants around it. It is characterized by its extensive root system, low seed production, and persistence.

Creeping knapweed is a weed of horticultural and cereal crops, roadsides and wasteland.

What does it look like?

Growth: A perennial erect thistle-like herb up to 1 metre high, covered with dense soft greyish hair on leaves, stem greyish green colour.

The stems of Creeping knapweed are erect, thin, stiff, branched, 45-90cm tall, and when young, are covered with soft, short, grey hair.

Leaves: Leaves in a basal rosette, lobed, to 15cm long and to 5cm wide, withering in mature plants. Stem leaves alternate, softly hairy, silvery green when young, grey green when older, oblong to 1-5cm long, 0.5-1cm wide.

Flowers: The urn-shaped, solitary flower heads occur in spring to autumn, are purple, lilac or pink

florets turning straw coloured at maturity 1-1.5cm long and enclosed in thistle-like heads 5-9mm broad occurring at the ends of branches.

Fruit: Seeds ovoid, 3-4 mm long, cream or mottled striped lengthwise with a bunch of easily detached stiff barbed hairs at one end.

Root: Seedlings form rosettes in spring, develop a deep root system, and flower the following summer. The extensive root system of Creeping knapweed can extend more than 7 metres below the soil surface and the horizontal roots have buds which can give rise to new aerial growth. The roots are easily recognisable by their black or dark brown colour; older roots are scaly and black.

Why is it a problem?

It typically invades disturbed and cropping areas, forming large dense single-species stands. Once established Creeping knapweed can dominate an area and significantly reduce crop yields and desirable pasture species, it also removes vital moisture and nutrients over the summer period. Creeping knapweed can be poisonous, but is generally avoided by grazing animals due to the bitter taste.

Affected land uses : Crop/Pasture, Horticulture and Grazing land uses are affected by the presence of Creeping knapweed.

Where is it found?

Creeping knapweed is believed to have originated in Victoria in 1907, since this time it has expanded its range into NSW, south east QLD and SA. In South Australia it can be found in isolated infestations on the eastern Eyre Peninsula, Lower and Upper Yorke Peninsula, Mid North Agricultural district, Murray Mallee and Riverland regions.

How is it spread?

Creeping knapweed does not appear to reproduce extensively from seed, but just one plant may produce 1,200 seeds per year. However the seed can be readily dispersed in the manure of livestock. Most dispersal from the parent plant occurs through the movement of root fragments during cultivation. It uses a combination of competitive adventitious shoots and allelopathic chemicals to inhibit surrounding plant growth and spread outward into previously un-infested areas.

How do we control it?

Prevention:

Ensure purchases of fodder, produce, stock and soil are free of weed seeds. If stock are brought from infested areas they should be kept in a holding paddock for at least 14 days.

Any plants found should be destroyed before setting seed to prevent infestation. Continued vigilance on your property for new outbreaks is required to prevent the establishment of weeds.

The key to controlling any weed population is to prevent the plants from reproducing, this will mean preventing seed set or vegetative growth, attempting to kill the plant at the end of its season will not help control an infestation.

Physical control:

Do not cultivate through infestations into clean ground, as this will spread root fragments creating new infestations. Creeping knapweed can be suppressed by maintaining a good competitive cover of perennial pasture species. Prevention/postponement of seed set can be achieved by hard grazing and mowing/slashing, but it will not kill Creeping knapweed.

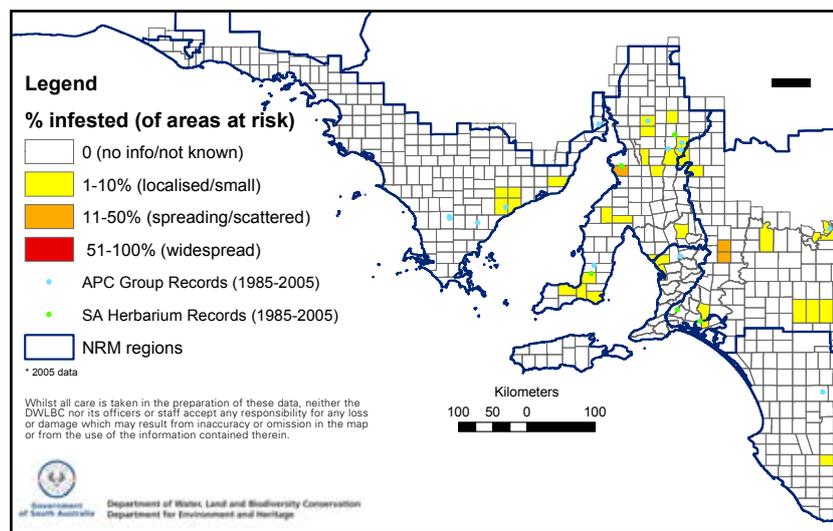
Chemical control:

Several herbicides offer good suppression of Creeping knapweed such as Picloram, Clopyralid, Dicamba and Glyphosate. However, many of these herbicides are soil active non-selective and may limit cropping options at later stages. Always read and understand the label directions prior to application. Timing applications to the active growth stages in summer is critical with most herbicides to achieve good control of creeping knapweed. A backpack sprayer or a wick is recommended to minimize damage to non-target plants.

Biological control:

No insects or pathogens are available as biological control agents in Australia.

For more advice on recognising and controlling Creeping knapweed, contact your local Natural Resources Management Board Officer.



Infestation Level of CREEPING KNAPWEED (*Acroptilon repens*) by hundreds in the State of South Australia*

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		X	X	X							

X denotes root growth only, no aerial growth present
* most flowering stems are produced in the second summer

Yearly Weed Life Cycle of CREEPING KNAPWEED (*Acroptilon repens*) in the State of South Australia

■ Germination	■ Active growth
■ Flowering	■ Seed set

References

Parsons, W.T., Cuthbertson, E.G. (2001) Noxious Weeds of Australia, 2nd Ed. CSIRO Publishing. www.publish.csiro.au

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http://www.mitchamcouncil.sa.gov.au/webdata/resources/files/creeping_knapweeed_control1.pdf

http://www.dwlbc.sa.gov.au/assets/files/plant_id_creeping_knapweed.pdf

<http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=region.tpl&state=sa®ion=samd>



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Legislation

Creeping knapweed is declared under the Natural Resource Management (NRM) Act 2004.

Declared Plant Class: 2a
Declared Plant Category: 2

The following provisions of the NRM Act 2004 are to be applied to the whole of the State:

175(2) - relates to the movement of plants on public roads within a control area.

177(1)(2) - relates to the sale of plants, produce or goods carrying plants.

180(1) - relates to the notification of the plant's presence to a relevant NRM authority.

182(2)(3) - relates to the obligation of an owner of land to control and keep controlled the plant and take any measures prescribed by the relevant authority.

185(1) - relates to the ability of the NRM authority to recover the costs of control on roadsides from adjoining landholders.

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