

Chilean needle grass (*Nassella neesiana*)

Weed management guide

Weed type
Grass

November 2022

www.lls.nsw.gov.au/regions/central-west



In NSW, weeds are regulated by the NSW Biosecurity Act, 2015. All land managers have a General Biosecurity Duty to contain the spread of weeds.

“General Biosecurity Duty means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).”

The Regional priority for Chilean needle grass is to protect assets from the weed’s impacts and to prevent its arrival and establishment in the region. In order to achieve this, Land Managers are asked to: *Mitigate the risk of new weeds being introduced to their land and reduce impacts on priority assets. The plant should not be bought, sold, grown, carried or released into the environment.*

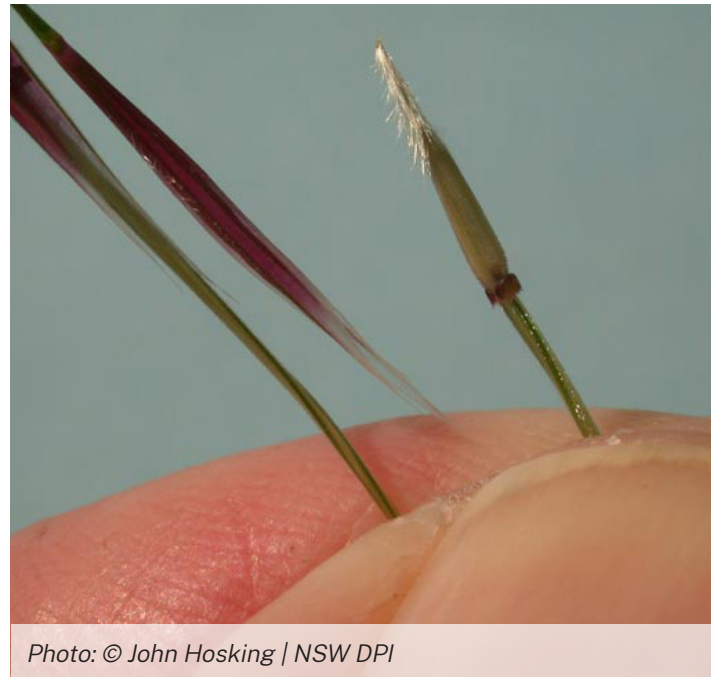
For further information, contact your local Biosecurity (Weeds) Officer via Central West Local Land Services or visit NSW WeedWise.

NSW WeedWise



Habit and description

Chilean needle grass is a perennial tussock grass native to South America that can grow to 1m tall. It forms a deep, fibrous root system that can be difficult to remove. It has thin leaves around 30cm long with stiff hairs on the margins giving them a rough feel when touched. The long protrusions from the flowers (awns) are 60-90mm long, double bent and firmly attached to seed. The seeds sharply pointed and characteristically purple. Chilean needle grass can grow in a wide range of soil types and conditions, from fertile loams to degraded, nutrient-poor soils.



Reproduction and spread

Chilean needle grass reproduces mostly by seed. It produces two types of seed, the typical flower seed and 'stem seeds', which can be found within the stems at the nodes or at ground level (Centre for invasive species solutions, 2021). Seeds are easily lodged in fleece, skin and fibres meaning it can be spread by animals, birds, clothing, machinery, and vehicles. Seeds are less commonly spread by wind and floodwaters. The transport of soil with buried seed can also spread infestations as seed can remain dormant for many years until soil is favorably disturbed triggering germination.

Impacts

Agriculture



- Chilean needle grass is lower in nutrients than most other pasture grasses and can decrease productivity if it replaces nutrient-rich species.
- The seeds are sharp and have a twisting mechanism that can cause them to lodge into livestock potentially causing injury and infection.
- Seeds have been known to move through the skin into the muscle, causing a decline in stock quality and even complete loss.

Native vegetation



- Chilean needle grass is a Weed of National Significance (WoNS) in Australia (NSW DPI, 2017).
- It is considered a world-wide threat to native vegetation (Giordano & Anderson, 2021).
- It rapidly establishes in disturbed and degraded ecosystems.
- It can outcompete and displace native vegetation.
- Once established, it can be difficult to control and negatively impact native birds and fauna.

Management

Chemical



- Spot spraying is an effective method for controlling isolated plants or small infestations.
- Boom spraying will be more effective for the control of large infestations.
- Seek the guidance of an experienced Weeds Officer for expert advice on herbicide use.
- Visit www.apvma.gov.au for a list of registered products, product labels and permit requirements.
- NSW DPI (2021) provides a list of recommended herbicides for the control of Chilean needle grass at <https://weeds.dpi.nsw.gov.au/Weeds/ChileanNeedleGrass>.

Non-chemical



- Hand weeding and chipping (the use of a hoe to remove the tussock and fibrous root system) is very effective for isolated plants.
- Mowing and slashing can help to reduce biomass of larger infestations but can actively disperse 'stem seeds'.
- Machinery hygiene is very important to reduce the spread of infestations.
- Cultivation of soil can be strategically used to trigger germination of the soil seed bank, which can then be controlled.
- Short duration, high intensity grazing followed by long rest periods can reduce weed numbers in pastures.

Management calendar

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Life cycle			Seed dispersal	Germination and growth	Germination and growth	Germination and growth	Germination and growth	Germination and growth	Flowering	Flowering	Flowering	Flowering
Management tools	<p>Mechanical/manual removal can occur at any time provided identification can be confirmed when not in flower, as this species is often mistaken for native <i>Austrostipa</i> sp.</p> <p>If mechanically removing, do not leave plant material on site as 'stem seeds' can mature after slashing.</p> <p>Mechanical removal can actively spread 'stem seeds'. Using a catcher can reduce the spread but clippings should be burnt, and machinery cleaned thoroughly.</p> <p>Fire can be used to control large infestation and reduce biomass. Seek advice from your local council.</p> <p>Grazing can be used to control when no seed-heads are present.</p> <p>Herbicide application is most effective when plants are actively growing. However, spraying may need to occur in spring when plants are flowering, and identification can be confirmed.</p>											

Optimal control options may vary depending on your location and climate. Consult an experienced Weeds Officer based in your local government area for control methods suited to your conditions.

All herbicides must be used in accordance with the herbicide label and permit requirements.

Further information

For more information on your general biosecurity duties, visit www.dpi.nsw.gov.au/biosecurity.

For the best guidance on how to meet this duty on your property, contact your expert Weeds Officer at your local council or via Local Land Services www.lls.nsw.gov.au/regions/central-west.

NSW WeedWise



References

Centre for invasive species solutions. (2021). Weeds Australia. <https://weeds.org.au/>

Giordano, L., & Anderson, F. E. (2021). Detrimental effect of the rust *Uromyces pencanus* on the invasive species *Nassella neesiana* (Chilean needle grass). *Australasian Plant Pathology*, 50(3), 299–307. <https://doi.org/10.1007/s13313-020-00773-x>

NSW DPI. (2017). Weed categories. <https://www.dpi.nsw.gov.au/biosecurity/weeds/weed-categories>

NSW DPI. (2021). NSW WeedWise. <https://weeds.dpi.nsw.gov.au/Weeds/ChileanNeedleGrass>

Damian Wray
Biosecurity & Weeds Officer

Bogan Shire Council
81 Cobar Street
PO Box 211
Nyngan NSW 2825

P: (02) 6835 9000

F: (02) 6835 9011

E: damian.wray@bogan.nsw.gov.au

W: www.bogan.nsw.gov.au

