

# THISTLE (NODDING AND PLUMELESS)

*Carduus nutans* and *C. acanthoides*

## Management programme

Exclusion	Eradication	Progressive containment	<b>Sustained control</b>	Site-led
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## Impacts

<b>Economic</b>	Biodiversity	Soil resources	Water quantity/quality
Human health	Social and cultural wellbeing	Amenity/recreation	<b>Animal welfare</b>

## Objectives

Keep nodding and plumeless thistle from affecting land free of or being cleared of them.

## Why is it a pest?

Nodding and plumeless thistles are agricultural pests in the Waikato region. They have unpalatable foliage and reduce pasture production. Their seeds can remain viable in the soil for many years. They can form dense stands that obstruct livestock movement and inhibit and suppress the growth of desirable pasture species. Their seeds are spread between properties mainly by contaminated hay and machinery, uncertified seed and stock feed and also via wind dispersal.



Nodding thistle



Plumeless thistle

## What do they look like?



Nodding thistle

Many nodding and plumeless thistles are biennial, germinating in autumn and only flowering in the second summer. Nodding thistle grows to 1.6m high, while plumeless thistle is often taller, up to 2m.

## Flowers

- Flower heads for both thistles are a distinct bright violet/red-purple colour.
- Nodding thistle flower heads are about 4cm-6cm diameter, while plumeless thistle flower heads are smaller (about 2cm).
- Nodding thistle flower heads droop down, nodding in the wind, while plumeless thistles flower heads are erect.
- Flowering is from November to February.

## Seeds

- Each seed (to 4mm) has parachute-like fine hairs (pappus) attached.
- Each flower head ripens to form a fluffy ball of hairs (thistle-down).
- One mature thistle plant can produce up to 10,000 seeds.
- The hairs help the wind to spread the seed more widely.

## Leaves/stems

- Rosettes of young plants can be up to 60cm diameter.
- In the rosette stage, the leaves are usually long and narrow (to 18cm long and 10cm wide).
- Dark green leaves are deeply cut with many lobes, and spiny edges.
- The upper surfaces of the leaves have a metallic sheen and appear whitish at the base of the spines.

## Responsibility for control

### All occupiers are responsible for controlling nodding and plumeless thistle.

- Occupiers of transport corridors and quarries within the Waikato region are responsible for the control of nodding and plumeless thistle on the land they occupy (rules NOD-1 and PLU-1 of the *Regional Pest Management Plan 2022-2032*).
- All occupiers in the Waikato region are responsible for controlling nodding and plumeless thistle on their property within 50 metres of a shared boundary where that neighbouring land is being managed for production values and animal welfare (GNR NOD-2 & GNR NOD-2). Occupiers need to be good neighbours and do the same so that their neighbour's control efforts are not fruitless.

### Nodding and plumeless thistles are banned from being sold, propagated, distributed, or included in commercial displays.

## How can I control nodding and plumeless thistle?

### Physical control

- Grubbing plants is an effective method of controlling thistles, provided they are grubbed at least 5cm below the crown and control work takes place before the onset of seed.
- Mowing (or topping) thistles is less effective as the plant is able to regrow from the crown. You will need to mow repeatedly to make sure the plants do not reach flowering/seeding stage.

### Grazing management

- Goats will eat and control thistles, but only when the plants are flowering.
- Careful grazing in autumn, spring and summer to ensure strong pasture cover, especially in autumn, will give most effective control of this weed.
- Pasture damage caused by overgrazing or pugging encourage thistles and other weeds.

### Pasture species/cultivars

- Dense, vigorous pastures stop thistles from establishing and reduce their growth and survival.

### Herbicide control

There are many herbicides that will control nodding and plumeless thistle. The herbicide best suited to your property will depend on the level of infestation, the application equipment you have available and the stage of growth the plants are at. Contact your local biosecurity plant pest officer for free advice on what herbicide and application method would best suit your situation. Phone 0800 800 401.

### Biological control

The following biocontrol agents have been released throughout the Waikato and have established themselves in all suitable areas, feeding on thistles. However, if you have nodding or plumeless thistle on your property you will still need to undertake control work as the biocontrol agents reduce infestations, not eradicate.

- receptacle weevil
- crown weevil
- gall fly
- green thistle beetle.



## Similar plants

Variegated thistle (*Silybum marianum*) is a very conspicuous spiny thistle up to 2.5m high. It is easily recognisable, and distinguished from other thistle species, by the prominent white veins and blotches on its spiny leaves (which give the thistle its 'variegated' name), and long spiny bracts (modified leaves) that surround its flower heads. Variegated thistle is an eradication pest plant in the *Waikato Regional Pest Management Plan 2022-2032*, with the council undertaking any control work required.



## More information

### Advice

For advice and additional information on nodding and plumeless thistle control methods, call our pest plant staff on freephone 0800 800 401.

Chemical company representatives, farm supply stores, garden centres or the **Weedbusters website** can also be good sources for advice.

### Publications

The following publications are available from the Waikato Regional Council. Contact us to request a copy (freephone 0800 800 401).

- National Pest Plant Accord (manual of plants banned from sale, propagation and distribution) (free)
- Plant Me Instead! (Plants to use in place of pest plants) (free)