



Wheel cactus

Wheel cactus is an erect succulent shrub up to 2m tall. It is a declared pest in Western Australia with a control category of C1 (Prevention), and must be eradicated if found in WA. Due to the limited number of infestations and the potential for rapid spread in Western Australia, wheel cactus is one of the highest priorities for eradication.

Why wheel cactus matters

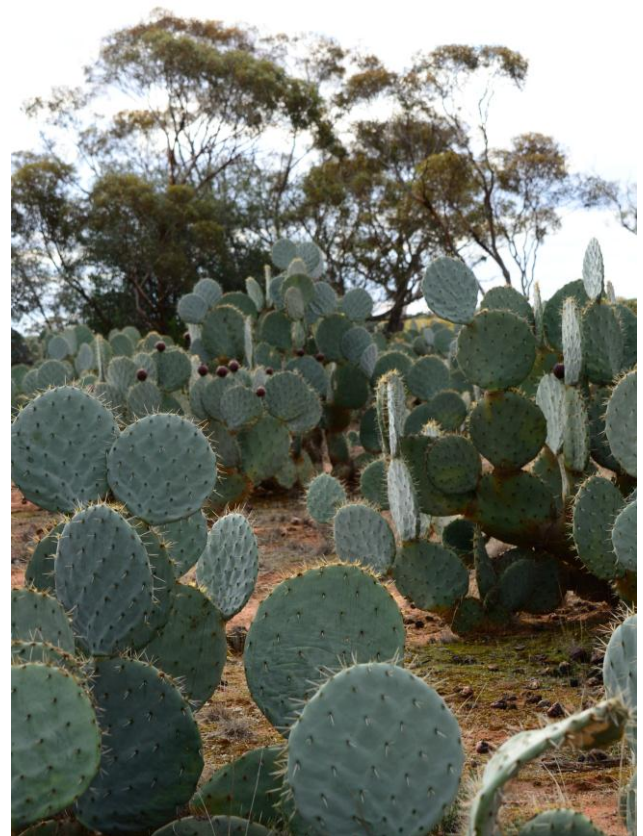
Wheel cactus has the potential to infest many thousands of hectares in southern WA as it has in the Flinders Ranges in South Australia (with 35 000ha infested) and north central areas of Victoria (10 000ha). In dense patches it can form impenetrable thickets that hinder movement by stock, people and vehicles. Thick stands can also hinder the growth of ground cover and limit grazing capacity as stock avoid its stout spines.

Wheel cactus is spread by both seed and by fragments of the plant that root where they contact the ground. Seed can be eaten and dispersed in the droppings of birds and other animals thus spreading the plant over large areas. Plant segments can be accidentally transported on machinery, equipment or vehicles or are sometimes spread through illegal dumping of rubbish that contains plant segments. Once established, individual wheel cactus plants can live for several decades.

In WA, wheel cactus can be found growing in the wild or in cultivation. The largest infestations have been found in the wheatbelt in the Shires of Dowerin and Kellerberrin. It has been found in gardens as widely spread as Mt Magnet, the Perth metropolitan area, the wheatbelt and the Southwest. At this stage, the number and size of infestations is still relatively small.

What to look for

Wheel cactus is shrubby or tree-like with many branches to 2m tall. The flattened stems consist of a series of blue-green fleshy pads or cladodes that are circular in shape and up to 40cm wide.



Wheel cactus is the only *Opuntia* species in Australia to have round pads. The pads commonly have between 2 and 12 spines up to 5cm long that are white to pale brown or yellow.

The flowers are yellow with reddish streaks on the back of the petals, produced mostly on the upper margins of terminal pads. The fruit is fleshy and globular shaped up to 8cm in length and deep red. The fruits hold numerous fertile seeds.

The roots of wheel cactus are shallow and fibrous.

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What to do about wheel cactus

Management options for wheel cactus depends on the size and age of the infestation, site access and resources available. Using chemical control and mechanical removal are the most common. However burning and biological control may also be used. Follow up is essential, particularly given the ability of wheel cactus to reproduce from segments and from seeds that may remain dormant for at least 10 years.

Good hygiene is essential when working in infested areas, including staying on tracks. All segments and fruits should be treated or removed (and deep buried) as they are capable of regrowing.

Report wheel cactus to PaDIS or through the MyWeedWatcher app before undertaking control (see back page for details).

Chemical control

(See control options next page). Users of chemicals must always strictly comply with the directions on the label and the conditions of any permit. To view permits or product labels visit the Australian Pesticides and Veterinary Medicines Authority website, apvma.gov.au.

When using chemical control with wheel cactus:

- Only spray in warm weather when the plant is actively growing – extreme heat, cold or drought conditions encourage plant dormancy, which reduces chemical uptake.
- For foliar spray, 100% coverage is essential – using a marker dye will assist.
- Granules don't work – applying granules to the root zone of cacti is ineffective, as the lack of vascular tissue means the chemical will not translocate within the plant.
- Stem injection with glyphosate or daconate (for trained operators) suits isolated, small infestations or difficult to access sites.

Mechanical removal

Wheel cactus can effectively be treated by digging out using machinery or by manual removal. These are effective methods for individual plants or small populations and use no chemicals. However care must be taken during removal due to their spiny nature and to ensure that no pads or segments are detached as they can regrow to form new plants.

Digging up plants while they are small and before they have flowered will prevent spread.

Wheel cactus material should be deep buried (at least 1m deep) on site wherever possible to reduce the risk of spread. Drying and then burning may also be used but care should be taken to ensure all the material is destroyed.

Fire

Hot fires can kill wheel cactus and can assist in providing access for follow up chemical treatment, usually with a reduced amount of herbicide required. If it is safe to do so, burning is a good way of getting rid of small wheel cactus from gardens by adding to a bonfire.

Biological control

A variety of cochineal scale insect (*Dactylopius* species) has successfully been used in South Australia to control wheel cactus. The potential and necessity for using this in WA is being investigated. As the aim for the relatively small number and extent of wheel cactus sites in WA is eradication, biocontrol may not be the preferred control option.



Wheel cactus fruit and seed



Wheel cactus flowers

Report suspected wheel cactus

Pest and Disease Information Service (PaDIS)

Freecall: 1800 084 881

Email: info@agric.wa.gov.au

MyWeedWatcher

smartphone and tablet app

agric.wa.gov.au/weed-surveillance

Online reporting tool

agric.wa.gov.au/myweedwatcher

Chemical control tables

Herbicide: Triclopyr	e.g. Garlon™ and other product trade names
Active ingredient	600g/L triclopyr
Amount of product/100L water	3.0L
Amount of product/100L diesel	1.5L
Surfactant for water	1L spray oil per 100L water is essential (water mix only)
Surfactant for diesel	NO surfactant required with diesel mix
Time of application	When actively growing (spring or autumn)
Remarks	Thorough coverage required with follow up 6 months post treatment. The diesel mix will likely give superior results to the water mix
Poison schedule	S6 – poison - keep out of reach of children

Herbicide: Picloram + Triclopyr	e.g. Access™
Active ingredient	120g/L picloram + 240g/L triclopyr
Amount of product/100L diesel only	2L
Surfactant	NO surfactant required with diesel mix
Time of application	When actively growing (spring or autumn)
Remarks	Thorough coverage required with follow up 6 months post treatment May damage nearby susceptible off target species
Poison schedule	S6 – poison - keep out of reach of children

Herbicide: Picloram + Triclopyr	e.g. Grazon™ DS and other product trade names
Active ingredient	100g/L picloram + 300g/L triclopyr
Amount of product/100L water	1L
Surfactant	1L Spray oil per 100L water is essential
Time of application	When actively growing (spring or autumn)
Remarks	Thorough coverage required with follow up 6 months post treatment May damage nearby susceptible off target species
Poison schedule	S6 – poison - keep out of reach of children

Herbicide:	Picloram + Triclopyr + Aminopyralid (e.g. Grazon™ Extra)
Active ingredient	100g/L picloram + 300g/L triclopyr + 8g/L aminopyralid
Amount of product/100L water	1L
Surfactant	1L Spray oil per 100L water is essential
Time of application	When actively growing (spring or autumn)
Remarks	Thorough coverage required with follow up 6 months post treatment May damage nearby susceptible off target species
Poison schedule	S6 – poison - keep out of reach of children

Herbicide: MSMA	(e.g. Daconate™ and other product trade names)
Active ingredient	MSMA 800 g/L
Amount of product/100L water	2.5L
Surfactant	1L Spray oil per 100L water is essential
Time of application	When actively growing (spring or autumn)
Remarks for overall spraying	Thorough coverage required with follow up 6 months post treatment
Drill and fill	Drill 1cm diameter hole to a depth 10cm spaced 20cm apart. Fill each hole with 10mL of undiluted herbicide
Remarks for drill and fill	Drill holes at approximately 45 degree angle (no surfactant required)
Stem injection	4mL undiluted herbicide per meter of plant height per stem branch
Remarks for stem injection	Requires specialised equipment (no surfactant required)
Poison schedule	S7 – dangerous poison - keep out of reach of children

When to take action – management calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Search												
Germination												
Actively growing												
Flowering												
Fruiting												
Herbicide												
Manual removal												