

Caltrop

Annual

Herb

Scientific name:	*Tribulus terrestris*
Common names:	Caltrop, bindii
Weed status:	Declared

Renowned as a hardy, drought tolerant weed, caltrop is found across many areas of the Murraylands and Riverland, posing a risk to both agricultural enterprises and native ecosystems.

What is caltrop?

Caltrop is a flat, sprawling, annual herb with trailing stems that lie flat on the ground, growing outwards from a central taproot. Its stems are reddish brown, wiry, and covered in fine hairs and it has small, divided leaves which are arranged in pairs on opposite sides of the stem and are darker on the upper surface than the lower. Fine hairs, particularly on the underside, give a silvery appearance to the blue-grey-green leaves. Caltrop has small, yellow flowers which appear from spring to autumn annually, opening in the morning and closing in the afternoon.



Caltrop fruit is a woody burr with sharp rigid spines up to 6 mm long. Up to 1000 burrs can be produced by each plant, with a total of up to 20,000 seeds. This burr splits into 5 wedge-shaped segments and is well-equipped for dispersal. Whichever way the fruit lies on the ground, one of the spines will always point upwards, ready to attach to the feet of animals, vehicle tyres, shoes, and almost any other object that is placed on it. The burrs also become embedded in sheep fleece or become a contaminant of dried fruit. Germination, flowering, and fruiting occur within 3-5 weeks and seeds can remain dormant in the soil for up to 5 years.

Where is caltrop found?

Hot dry summer conditions have made the Riverland an ideal hot spot for caltrop, which originated in the Saharan area of North Africa. Today, it is widespread throughout the Riverland and in the irrigation areas of the Murraylands including in urban and peri urban settings.

Caltrop is most abundant on light sandy soils but will grow in almost any soil type. It is tolerant of drought and frost and can be found in cultivated crops, agricultural areas, orchards, over-grazed pastures, stockyards, roadsides, recreational and neglected areas.

What are the impacts of caltrop?

Caltrop spines are a hazard to stock, damaging the feet, mouths, stomach and intestines of animals. Caltrop is toxic to sheep and may cause similar problems to native fauna. In the absence of other suitable fodder, animals will graze on new growth of caltrop potentially causing stock

losses due to nitrate poisoning, photosensitisation and staggers.

Dense infestations can dominate the ground flora and inhibit the growth of grass seedlings. Caltrop contaminates harvested products, particularly in the dried fruit industry, and is a vegetable fault in wool. It is highly competitive in summer crops as it competes for soil moisture and nutrients.

Caltrop spines cause injury to fruit pickers, shearers, and people around rural sheds, urban buildings, roadsides, and recreational areas as the spines can easily penetrate human flesh. Caltrop burrs are also a hazard for cyclists as they puncture tyres easily.



What is the declared status of caltrop?

Caltrop is declared in South Australia and is subject to the following restrictions:

- Land owners and managers to take reasonable steps to kill plants and prevent their spread,
- Plants must not be sold or traded in any way, including as a contaminant of anything,
- Plants must not be transported on a public road, including as a contaminant of anything.

When is the best time to monitor for and control caltrop?

Caltrop germinates after rainfall events in late spring and summer. Pay particular attention to patches of bare ground and abundant sunlight, and also in areas of established vegetation and ground cover. Landholders should keep an eye out for the characteristic bi-pinnate leaves (see image) and treat plants as early as possible in order to prevent burrs from developing.

How should caltrop be controlled?

Hand removal is effective in small infestations and landholders should use a pick to ensure they remove the entire tap root. Remember to use gloves in order to prevent injuries. Bag seeds and dispose of in a general waste wheelie bin. Landholders should also collect caltrop burrs with a gloved hand, rake or prickle roller to reduce the amount of future germination. Prickle rollers are useful for large scale infestations and larger properties and the Murraylands and Riverland Landscape Board has one available to hire - speak to your local district officer to see if this may be a suitable option for you.

There is a wide range of herbicides available to control caltrop. Spraying needs to be done before seeds are set and repeated for each germination of seedlings. Residual herbicides can be beneficial in some situations.

More information about control options, including specific herbicide rates, can be found on the PIRSA website (https://pir.sa.gov.au/biosecurity/weeds/declared-weeds/caltrop).

How can caltrop be prevented?

Preventing the spread of caltrop is the best control measure. Be aware of the risks of purchasing stock, fodder, and machinery from contaminated areas. Clean shoes, equipment, machinery, and vehicles before returning to the region from infested areas.

What to do if you suspect a caltrop outbreak?

If the plants are actively growing on your land, remove and destroy the plant or treat with chemicals until plant is killed. Always follow up after the initial efforts.

For support in identifying and controlling caltrop, contact your local district officer (https://www.landscape.sa.gov.au/mr/contact-us).



Need more help identifying or controlling this weed?

Contact a district officer at your local landscape office.

Berri 8580 1800
Murray Bridge 8532 9100
Lameroo 8576 3400
Cambrai 8564 5154
Karoonda 8578 1493



This project is supported by the Murraylands and Riverland Landscape Board with funding through the landscape levies.

**Map provided as a guide only. Mapped outbreaks are not necessarily current or comprehensive.*

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