

Caltrop (*Tribulus terrestris*)

July 2017



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Caltrop produces woody burrs with sharp rigid spines. The burrs cause injury in urban and recreational areas. They are a hazard in horticulture, particularly in hand-picked crops.

Caltrop is a declared weed under the *Natural Resources Management Act 2004* (NRM Act).

Description

Caltrop is a flat, sprawling, summer-growing, annual herb.

The trailing stems of caltrop lie prostrate on the ground, radiating from a central taproot. The stems are reddish brown, wiry and covered with fine hairs.

Caltrop has small divided leaves, arranged in pairs on opposite sides of the stem. The leaves are darker on the upper surface than on the lower. Each leaflet is about 5–12 mm long and 3–5 mm wide. Fine hairs, particularly on the underside, give a silvery appearance to the leaves.

Flowers are produced from spring to autumn. Flowers are small, less than 1 cm in diameter, yellow and have five petals.

The fruit of Caltrop is a woody burr with sharp rigid spines to about 6 mm long. The burr splits into five wedge-shaped segments when ripe with each segment containing two unequal pairs of spines. Each fruit segment contains up to four seeds.

Caltrop produces burrs throughout summer and autumn. Up to 1000 fruit can be produced on each plant, with a total of up to 20,000 seeds.

Seeds germinate after summer rain. Plants grow rapidly, flowering and forming new burrs within three to five weeks.

Impacts

Caltrop spines are a hazard to stock, damaging the feet, mouth, stomach and intestines of animals. Caltrop is toxic to sheep and may present similar problems to native fauna.

Caltrop contaminates harvested product and is a vegetable fault in wool.

Spines of Caltrop cause injury to fruit pickers and shearers.

Injury to people often occurs around farm buildings, roadsides and recreational areas.

Caltrop is a significant pest in summer crops as it is able to extract soil moisture from a great depth, allowing the plant to thrive in very dry conditions.

Distribution

Caltrop originates from the Saharan area of North Africa. It is thought to have been introduced to Australia as a contaminant in seed.

Caltrop prefers warm-temperate regions on light-textured soils.

The burrs are well-equipped for dispersal – whichever way the fruit lies on the ground, one of the spines always points upwards. The burrs readily attach to the feet of animals, vehicle tyres, rubber-soled shoes and almost any object that is placed on it. The burrs also become embedded in sheep fleece.

It is a weed of cultivated crops, orchards, over-grazed pastures, stock yards, roadsides and wasteland. It commonly occurs in areas with sandy soils where there is little competition from other plants.

Caltrop seeds remain dormant in the soil for up to 5 years.





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Hygiene practices

Preventing the spread of Caltrop is the best control measure.

Burrs readily attach to tyres, clothing and the fur and wool of animals.

You should be aware of the risks of moving stock and manage contamination appropriately.

Clean shoes, machinery and vehicles before moving out of infested areas. If you have land infested with Caltrop, minimise movement in these areas.

When this is not possible, make sure you remove any burrs to prevent further spread.

Control methods

Hand-pulling can be effective in small infestations. It is important to pull from the root crown in order to remove the tap root.

There is a wide range of herbicides available to control Caltrop.

When considering chemical spraying as a control measure, it is important to remember that there is likely to be a series of germinations throughout summer. More than one spray application may be necessary, particularly if a residual chemical is not used.

It is critical to time spray application before seed set occurs.

For advice on chemical control techniques contact your nearest Natural Resources Centre. Please refer to the *Weed control handbook for declared plants in South Australia* for advice on chemical control. You can find it on Biosecurity SA's website at www.pir.sa.gov.au

Declarations

The following sections of the NRM Act apply to Caltrop in the Adelaide and Mount Lofty Ranges region:

- 175 (2) Cannot transport the plant or anything carrying it**
- 177 (1) Cannot sell the plant**
- 177 (2) Cannot sell any produce / goods carrying the plant**
- 182 (2) Landowner must control the plant on their land**
- 185 NRM authority may recover costs for control of weeds on roadsides from adjoining landowners**

More information

Please contact your local Natural Resources Centre for further information, advice and assistance in controlling Caltrop.

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115 Maryvale Road, Athelstone 5076

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