

Attachment 1

Local Governments that have Pest Plant Local Laws in WA		
#	Local Government	Caltrop scheduled as a pest plant
Metropolitan Local Governments		
1	Belmont City	
2	Melville City	
3	Bayswater City	
4	Gosnells City	
5	Serpentine-Jarrahdale Shire	
6	Cockburn City	Y
7	Kwinana Town	Y
8	Rockingham City	Y
9	Wanneroo City	
Regional Local Governments		
10	Beverley Shire	
11	Cranbrook Shire	
12	Cunderdin Shire	
13	Dowerin Shire	
14	Geraldton City	
15	Goomalling Shire	
16	Kondinin Shire	
17	Narrogin Town	
18	Nungarin Shire	
19	Tambellup Shire	
20	Tammin Shire	
21	Woodanilling Shire	
22	Wyalkatchem Shire	
23	Albany City	
24	Augusta-Margaret River Shire	
25	Boddington Shire	
26	Boyup Brook Shire	
27	Bridgetown-Greenbushes Shire	
28	Brookton Shire	
29	Dandaragan Shire	
30	Dardanup Shire	
31	Denmark Shire	
32	Donnybrook-Balingup Shire	
33	Esperance Shire	
34	Gingin Shire	
35	Kojonup Shire	
36	Koorda Shire	
37	Mount Marshall Shire	
38	Plantagenet Shire	
39	West Arthur Shire	
40	Broomehill-Tambellup Shire	Y
41	Dumbleyung Shire	Y
42	Greenough Shire	Y
43	Pingelly Shire	Y
44	Ravensthorpe Shire	Y
45	Toodyay Shire	Y
46	Wagin Shire	Y
47	Wickepin Shire	Y
48	Williams Shire	Y
49	York Shire	Y

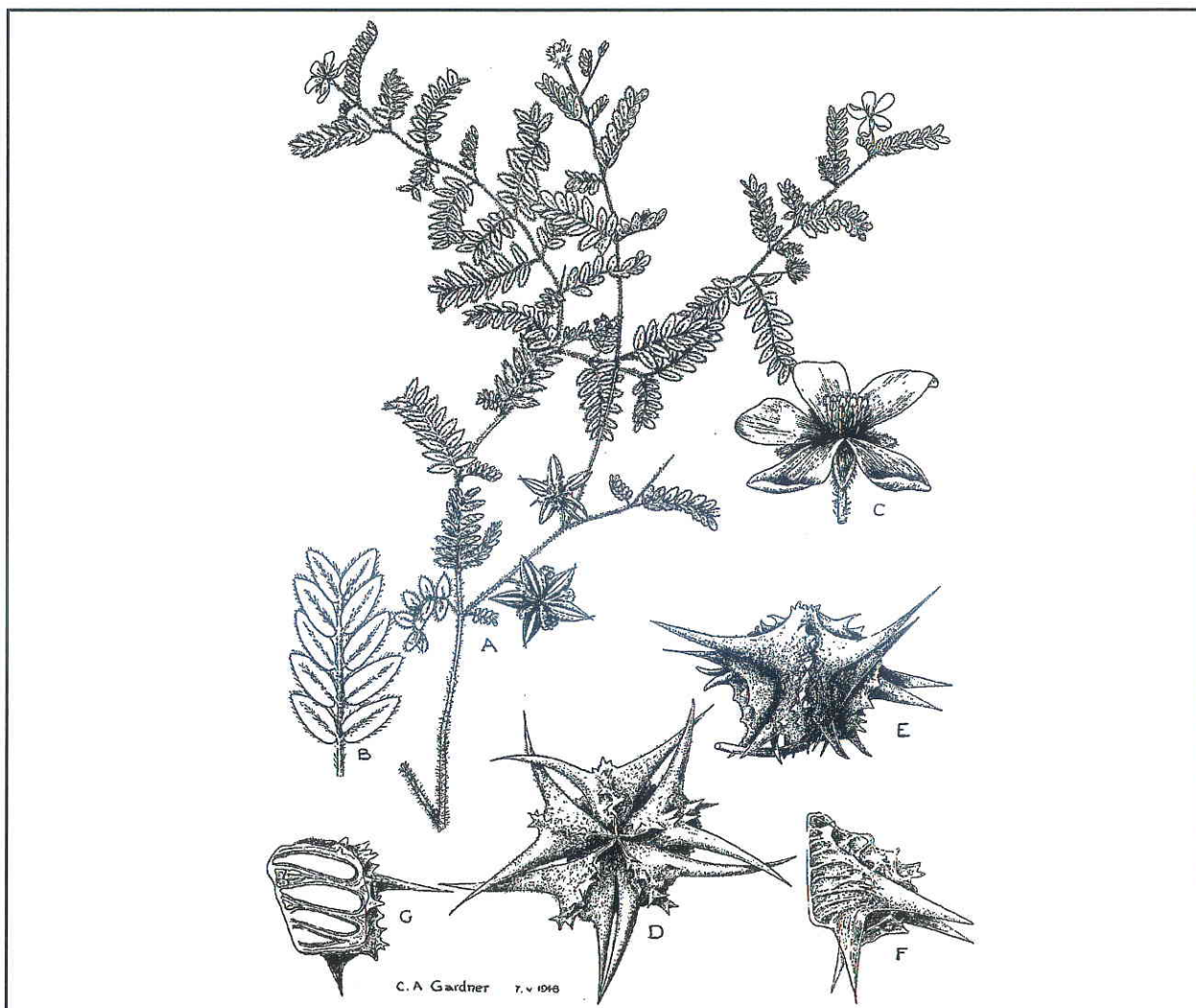
Caltrop Locations in the City of Joondalup

Site No	Suburb	Location Type
1	Kingsley	Cycleway
2	Kingsley	Drainage
3	Duncraig	Natural Area
4	Duncraig	Natural Area
5	Edgewater	Natural Area
6	Edgewater	Natural Area
7	Edgewater	Natural Area
8	Kallaroo	Natural Area
9	Kingsley	Natural Area
10	Connolly	Park
11	Edgewater	Park
12	Edgewater	Park
13	Kingsley	Park
14	Woodvale	Road medians/verges
15	Woodvale	Road medians/verges
16	Craigie	Road medians/verges
17	Currambine	Road medians/verges
18	Edgewater	Road medians/verges
19	Edgewater	Road medians/verges
20	Greenwood	Road medians/verges
21	Heathridge	Road medians/verges
22	Joondalup	Road medians/verges
23	Kingsley	Road medians/verges
24	Kingsley	Road medians/verges
25	Kingsley	Road medians/verges
26	Kingsley	Road medians/verges



Farmnote

Control of Caltrop



Caltrop (Tribulus terrestris L.) A Habit; B Leaf; C Flower; D Upper surface of burr; E Lateral view of burr; F Separate carpel (lateral view); G The same in longitudinal section showing seeds

Caltrop (*Tribulus terrestris*) is a summer-growing weed found widely throughout Western Australia. It is most common in areas of frequent spring and summer rain.

Under the *Local Government Act 1995* it is a prescribed pest plant in a number of southwest and cereal growing shires of the State.

Caltrop has seeds that remain dormant in the soil for probably four to five years. They germinate after summer rain. Plants grow rapidly, flowering and forming new burrs within three to five weeks.

The trailing stems of caltrop are long and wiry. They are covered with fine hairs. The stems lie prostrate on the ground, radiating from a central taproot. The leaves consist of several leaflets

Important disclaimer

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

For more information visit www.agric.wa.gov.au

Table 1 Chemical control options

Situation	Chemical	Knapsack rate/10L	Rate/ha	Comments
Farms	*2,4-D amine (625 g/L)	11–25 mL #	1.1–2.4 L #	Need care near homestead or susceptible crops.
	diquat + paraquat		1–2 L #	Addition of 2,4-D may give better control of large fruiting plants.
	*glyphosate (450 g/L)	25 mL	0.44–1.2 L #	Addition of glyphosate compatible 2,4-D amine will improve control.
	Basta®	50 mL	3–5 L #	Similar action to glyphosate.
	*dicamba (80 g/L) + MCPA (340 g/L)	40 mL	2.8–4.0 L #	
Townsites	*glyphosate (360 g/L)	30 mL	3 L	Apply only to caltrop plants.
	Reglone®	30 mL	3 L	Repeated applications will be necessary as new germinations occur.
	diquat + paraquat		3 L	Not for domestic weed control

* Other formulations available and rates should be adjusted when using these.

Where a rate of herbicide is specified as an upper or lower rate i.e. 11–25 mL or 1.1–2.4 L the lower rate should be used for seedlings and juvenile plants. The upper rate should be used for mature or flowering plants.

arranged opposite each other on the stems. The leaves are fern-like and greyish-green. Caltrop is often confused with doublegee, however, the latter has a green leaf similar to English spinach.

The flowers are small, less than 1 cm in diameter, and yellow with five petals.

Wedge-shaped burrs are formed in clusters of five, each with four or more long sharp spines.

Under cropping situations the weed is of little agricultural importance as it is a summer-growing plant, which does not affect winter crops. Sheep readily eat it, but there have been a number of confirmed cases of caltrop poisoning in sheep and goats. Caltrop is a nuisance around farm buildings, townsites, railway yards, roadsides, car parks, cycle paths and other recreation areas because of the sharp spiny burrs, however it is no longer a declared plant in Western Australia. As caltrop is not a declared plant, you are not required to report it to the Department of Agriculture and Food.

A heavy infestation after summer rain can produce an abundance of spiny burrs, which make it very uncomfortable for people and animals alike.

Farms

Small numbers of plants can be eliminated by hand grubbing. The plants may be placed in a bag and disposed of in a bin or they could be dried and then burnt, if permitted by local council bylaws.

The recommended method of control for small infestations on farms is 2,4-D amine (625 g/L) at the rate of 2.5 mL per litre of water in a knapsack sprayer and 2.4 L/ha of 2,4-D amine for large paddock infestations. Often further treatment for new germinations is necessary after each summer rainstorm.

Under very warm/dry conditions the addition of a crop oil may improve the result.

Where vines, tomatoes and other vegetable crops are grown commercially, especially near Mount Barker, Geraldton, the Ord River Irrigation Area and the Swan Valley, the use of 2,4-D is subject to the *Agriculture and Related Resources Protection (Spraying Restrictions) Regulations 1979*. In these areas, Reglone® or glyphosate may be the best option for control.

Townsites

Considerable care must be taken when selecting and applying chemicals in townsites because some are unsuitable for use in these situations.

The proximity of gardens, and vegetable or vine crops makes the use of 2,4-D inadvisable.

Where applied on house blocks near trees or in areas to be used for gardens the non-residual foliar herbicides should be used. In this situation regular inspections will have to be made to determine if other germinations of caltrop have occurred, which will then need treating.

To prevent spread of the weed, tyres and footwear should be cleaned to remove burrs.

Further reading

For further information on caltrop recognition and control contact your local shire or town council.