

# One-leaf Cape tulip, *Moraea flaccida*

FACT SHEET | 2015



## Introduction

One-leaf Cape tulip, *Moraea flaccida*, originated from South Africa and belongs to the Iris family (Iridaceae). It has been present in Australia since the 1880s and was used as a garden plant. It is now a significant agricultural and environmental weed.

## Why is it a problem?

- » One-leaf Cape tulip invades agricultural lands and open areas of native vegetation.
- » The weed is difficult to manage on grazing land and in low-lying areas prone to water-logging.
- » Seed is spread by wind, water and in farm produce. Both corms and seed can be dispersed in contaminated soil, for example, on earthmoving machinery.
- » Seed can be ingested by animals and adhere to their coat and feet.
- » All parts of One-leaf Cape Tulip are poisonous to grazing animals.

## What does it look like?

- » Seeds of One-leaf Cape tulip germinate in autumn and plants regrow from corms at the same time.
- » The weed has strappy leaves that emerge following autumn rains, with plants reaching around 70 cm in height.

- » Salmon pink to orange flowers appear in early to mid spring on plants that are between two and three years old.
- » Up to 1,200 seeds per plant mature in late spring.
- » New season corms are produced prior to flowering and can remain viable for several years in the soil.
- » Up to 60% of corms can remain dormant through a growing season.
- » The leaves die back completely over summer so the weed is not visible during the dry period (property buyers beware!).

Above: One-leaf Cape tulip invading pasture.

Below: One-leaf Cape tulip plants.



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## How do we control it?

Control of One-leaf Cape tulip is complicated because the plant can reproduce by seed and corms and the corms can remain dormant through a season. Treatment generally needs to be repeated for several seasons before infestations can be completely controlled. Plants should be removed before flowering to ensure new corms do not fully develop and detach from the parent corm.

Larger infestations are best treated with herbicide applied through a weed wiper or a boom sprayer, while individual plants can be hand-wiped or spot sprayed with herbicide, or physically dug out. Plants should be dug out when the soil is moist so the corms do not dislodge.

Slashing can be used to suppress seeds if there is no opportunity for chemical or physical control. Mature, dry stands with seed heads should not be slashed because of risk of spreading seeds.

Fire can be used to stimulate a mass germination of the corms, allowing a higher degree of control.

Control programs in agricultural areas are greatly improved by cultivation to stimulate the germination of dormant corms. Cultivation can also be used during a very short period to kill Cape Tulip when the mature corm is shrivelled and exhausted and the secondary corms are not fully developed. This stage lasts for two weeks and occurs in July or August depending on the season. The soil needs to be cultivated to a depth of 15 cm to ensure all corms are disturbed. Cultivation will need to be repeated after four weeks to kill surviving plants. Erosion risk should be considered before cultivating or burning infested paddocks in autumn.



Above: One-leaf Cape tulip flower and corm.  
Below: The Kangaroo Island Natural Resources Management Board weed wiper, available for loan.



## One-leaf Cape Tulip Herbicide Application Rates and Techniques

Herbicide control options are listed in the table below. For more information refer to the chemical label, an agricultural consultant or a KI NRM Board Weeds Officer.

Application method	Active ingredient	Rate	Situation	Comments
<b>Hand wipe</b>	Glyphosate 540g/L	1:1 with water	Individual plants	Ideal for plants in riparian (riverside) vegetation.
<b>Spot spray</b>	Glyphosate 540g/L with Metsulfuron methyl 600g/kg	+15 g /100 L water	Isolated patches	<ul style="list-style-type: none"> <li>Use 100 ml of Pulse penetrant per 100 L spray solution.</li> <li>Apply before seed set.</li> <li>Non-selective, residual but fast acting.</li> </ul>
	Glyphosate 540g/L	500–700 ml/ 100 L water	Isolated patches	<ul style="list-style-type: none"> <li>Use 100 ml of Pulse penetrant per 100 L spray solution.</li> <li>Apply before seed set.</li> <li>Non-selective but non-residual. Suitable in native vegetation.</li> </ul>
	Metsulfuron methyl 600g/kg	15–17g/ 100 L water	Isolated patches	<ul style="list-style-type: none"> <li>Use 100 ml of Pulse penetrant per 100 L spray solution.</li> <li>Apply before flowering.</li> <li>Selective but residual.</li> </ul>
<b>Weed wiper</b>	Metsulfuron methyl 600g/kg	1g/L	Large infestations in pasture	<ul style="list-style-type: none"> <li>Use 200 ml of Pulse penetrant per 100 L spray solution.</li> <li>8 kph application speed.</li> <li>Two passes are beneficial in heavy infestations.</li> </ul>
	Glyphosate 540g/L with Metsulfuron methyl 600g/kg	100 ml/L with 1g/L	Large infestations in pasture	<ul style="list-style-type: none"> <li>Use 200 ml of Pulse penetrant per 100 L spray solution.</li> <li>Knockdown speed increased with the addition of glyphosate.</li> <li>Can be used when flowering.</li> </ul>
	Chlorsulfuron 750g/kg	1g/L	Large infestations in pasture	<ul style="list-style-type: none"> <li>Use 200 ml of Pulse penetrant per 100 L spray solution.</li> <li>8 kph application speed</li> <li>Two passes are beneficial in heavy infestations.</li> </ul>
<b>Boom Spray</b>	Metsulfuron methyl 600g/kg	15–17g/ha	Large infestations in pasture	Use 100 ml of Pulse penetrant per 100 L spray solution.
	Chlorsulfuron 750 g/kg	20g/ha	Large infestations in pasture	Use 100 ml of Pulse penetrant per 100 L spray solution.
	MCPA 2,4-D 500g/L	2L/ha 1.6L/ha	Large infestations in pasture	Apply just prior to flowering.

For more information

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# One-leaf Cape tulip control calander

Timing is critical for control success. The calendar below shows the optimum time to undertake control activities, depending on seasonal conditions.

	Summer	Autumn			Winter			Spring
Control Treatment	February	March	April	May	June	July	August	September
Burning	CFS permit required							
Cultivate								
Hand removal								
Slashing								
Spot Spray Hand wipe Gyphosate and Metsulfuron methyl								
Weed Wiper Metsulfuron methyl or Chlorsulfuron								
Weed Wiper Metsulfuron methyl and Glyphosate								
Boom spray Metsulfuron methyl or Chlorsulfuron								
Boom spray 2,4-D or MCPA								



Australian Government

National  
Landcare  
Programme



This project is jointly funded through Natural Resources Kangaroo Island and the Australian Government's National Landcare Programme.