






# Chinee apple

## *Ziziphus mauritiana*

HABIT	STEMS & BRANCHES	LEAVES	FLOWERS	FRUIT & SEED
				
A large shrub or small spreading tree, between 3 - 6m tall.	Bark is dark grey to black. Branchlets have fine hairs and a zigzag form with a leaf and thorn at each angle.	Leaves are rounded with a toothed margin, and are glossy green above and woolly and white underneath.	Flowers occur in small, inconspicuous clusters and are cream in colour.	The round, edible fruits turn from green to yellow and reddish-brown when ripe.

Chinee apple is declared a Class A (to be eradicated) and Class C (not to be introduced) weed in the Northern Territory.

Chinee apple is a declared weed in accordance with the *Weeds Management Act*.

### The problem

Chinee apple was first recorded in the Torres Strait in 1863, and in Townsville, Queensland in 1916. Chinee apple has since spread extensively in the regions of the dry tropics in Queensland, growing most abundantly where native vegetation has been disturbed or removed. In suitable conditions chinee apple can form dense thickets, altering the structure and ecological integrity of native vegetation. Once established chinee apple can reduce the stocking rates of rangelands, impede mustering and restrict stock access to water.

### Habitat and distribution

In the Northern Territory chinee apple occurs as scattered, isolated infestations across a variety of tenures including pastoral land, Indigenous, and crown managed land. There are also many examples of deliberate plantings in urban gardens, homesteads and remote community settings, some of which have spread far beyond original planting sites. Some higher density incursions have developed in association with small tributaries of the Katherine, Roper, McArthur and Victoria Rivers in the Katherine Region. There are also infestations in Bing Bong Harbour.

## Preventing spread of Chinee apple

Most chinee apple spread in the Northern Territory can be attributed to deliberate plantings for either shade or fruit. Chinee apple seeds are readily spread by birds, feral animals and people who like to eat the fruit.

Cattle are also known to facilitate chinee apple spread. Cattle feed on the palatable fruit, with seeds remaining viable once passed through the intestinal tract. Cattle should be excluded from areas containing fruiting plants to minimise seed spread.

Vehicles and machinery, including those used in chinee apple control, can be a source of chinee apple spread. Wash-down facilities should be established on all affected properties. These facilities may incorporate high pressure wash-down, compressed air blast, vacuuming and/or physical removal eg: hand brush.

### Chemical control

Chemical and concentration	Rate	Situation, method and comments
<b>Triclopyr 300 g/L and Picloram 100 g/L</b> Various trade names	350 ml / 100L	<b>Seedling (individuals or infestation):</b> Foliar spray, apply when actively growing + non-ionic wetting agent
<b>Triclopyr 600 g/L</b> Various trade names	1 L / 60 L (diesel) 1 L / 60 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 5 cm stem diameter, <b>Adults (individuals or infestation):</b> Cut stump > 5 cm stem diameter
<b>Fluroxypyr 200 g/L</b> Various trade names	3 L / 100 L (diesel) 3 L / 100 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 15 cm stem diameter, treat up to 45 cm from ground <b>Adults (individuals or infestation):</b> Cut stump > 15 cm stem diameter
<b>Triclopyr 240 g/L and Picloram 100 g/L</b> Access®	1 L / 60 L (diesel) 1 L / 60 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 15 cm stem diameter <b>Adults (individuals or infestation):</b> Cut stump > 15 cm stem diameter

**Optimum treatment times – Darker colours represent preferred months for foliar treatment. Basal bark and cut stump treatment can be carried out all year round.**

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
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### Non-chemical control

Hand grubbing small plants may be a viable option. Pushing, stick-raking, blade ploughing and/or chaining of larger plants or medium density infestations can be effective, but may be impractical and cost prohibitive on larger properties, particularly where the chinee apple infestations are sparsely distributed. Physical removal should be implemented prior to the production of fruit to avoid seed spread.

Planting of improved pasture or promotion of native plant regeneration will help to prevent the further establishment of chinee apple seedlings.

Fire is not a recommended management tool for chinee apple. Fire has been found to promote chinee apple growth, while negatively impacting competing native plant species.

## **Disclaimer**

In the Northern Territory, a registered product must only be used in situations consistent to those appearing on the label, unless authorised under a permit; and a person:

- must not have in their possession or use a chemical product unless the product is registered in Australia (exemptions apply)
- may use a registered product at a concentration, rate or frequency lower than that specified on the label unless this is specifically prohibited on the label. This does not apply to herbicide use occurring under an APVMA permit
- may use a registered product to control a pest not specified on the label provided the pest is in a situation that is on the label and use on that pest is not specifically prohibited on the label
- may also use a registered product using a method not specified on the label unless this is specifically prohibited on the label.

Users of agricultural (or veterinary) chemical products must always read the label and any permit, before using the product and strictly comply with the directions on the label and any conditions of any permit. Users are not absolved from compliance with the directions on the label or conditions of the permit by reason of any statement made in or omission from this publication.

## **Further information**

Weed Management Officers from the Weed Management Branch can provide advice on all aspects of weed management including control techniques, biological control, legislative responsibilities, policy advice, monitoring and reporting and regional planning.

For further information on weed management planning, integrated control, herbicide application techniques and monitoring please refer to the [NT Weed Management Handbook](#). For more information on managing Chinesee apple please refer to the [Chinee apple Management Guide](#).