








## Neem *Azadirachta indica*

Neem is declared a Class B (growth and spread to be controlled) and Class C (not to be introduced to the Northern Territory) weed in accordance with the *Weeds Management Act*.

HABIT	STEMS AND ROOTS	LEAVES	FLOWERS	FRUIT AND SEED
				
A fast growing tree 12-24 m high.	Bark red-brown, cracked and flaking in older trees. Strong root system with a deep tap root and extensive lateral roots.	Compound leaves 20-40 cm that are made up of 20-30 leaflets each between 3-8 cm in length.	Flowers are small and cream coloured, honey scented and grow in sprays to 30 cm long.	Ripe fruit are yellow in colour and similar to olives in size and shape.

### The problem

Neem has become naturalised in many areas across northern Australia, where the expansion of unmanaged populations has demonstrated neem's capacity to compete with native plant species in intact environments. Neem infestations are starting to develop in some riparian areas in the Top End including the Katherine River. In these areas it is proving to be highly invasive and competitive. Deep tap roots and extensive lateral roots enable neem trees to flourish in areas affected by seasonal drought. Their large size and preference for wet areas means that control can be difficult and expensive.

Mature neem trees prolifically produce seed that is readily dispersed by birds and bats. Plants are capable of establishing in relatively undisturbed vegetation. Suckers can also be produced following damage to the roots.

### Habitat and distribution

Neem is believed to be native to the seasonally-dry, tropical woodlands of northeast India and perhaps other parts of the Indian sub-continent. Neem tree has been deliberately introduced throughout the tropics and subtropics where it has been grown as a garden ornamental for shade and for the production of azadirachtin, a broad spectrum insecticide and insect repellent. In the Northern Territory, neem was deliberately planted to provide shade for cattle as far south as Elliott. It is claimed that neem was first introduced into Darwin and Mackay in the 1940s. In the 1960s it was reportedly planted in Darwin as part of a Government Royal Australian Air Force initiative, with plantings at the airport and on other city streets.

Between 1965 and 1988, trial plantations were established in Darwin. Plantations were also established in Queensland and Western Australia. Neem continues to be promoted as a multi purpose plantation species by some advocates. Despite this, a neem industry has not proven viable.

Neem is now spread into savanna areas, particularly favouring creek, river and drainage systems. Populations have established in the Victoria River District, Roper and Gulf districts. Neem remains a common garden plant in Darwin, Katherine and the rural area.

## Prevent neem spread

By implementing the following recommendations neem spread can be significantly reduced:

- Remove neem trees from gardens/landscaping (birds and bats can spread neem seeds far off-site).
- Suckers can regenerate from existing root stock, so follow up control may be necessary.
- As neem trees can grow from cuttings, lopped material should be chipped or disposed of appropriately.
- Schedule the control of large trees prior to the production of fruit (generally November to April).
- Prioritise the control of seedlings (neem trees will grow rapidly and start producing fruit after five years).
- For large, naturalised infestations, land managers should map neem trees to enable the development of a strategic and coordinated management program.
- Infestations along drainage lines should be targeted first, focusing on upstream areas as a priority.

## Chemical control

Chemical and concentration	Rate	Weed growth stage, method and comments
Aminopyralid 8 g/L + Triclopyr 300 g/L + Picloram 100 g/L Grazon® Extra	350 mL / 100 L	<b>Seedling (individuals and infestations under 2 m):</b> Foliar spray, apply when actively growing + non-ionic wetting agent required
Triclopyr 300 g/L and Picloram 100 g/L Various trade names	350 mL / 100 L	<b>Seedling (individuals and infestations up to 2 m):</b> Foliar spray, apply when actively growing + non-ionic wetting agent required
Triclopyr 600 g/L Various trade names	1 L / 60 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 5 cm stem diameter
	1 L / 60 L (diesel)	<b>Adult (individuals or infestation):</b> Cut stump > 5 cm stem diameter
Fluroxypyr 333 g/L Starane® Advanced	1.8 L / 100 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 15 cm* stem diameter, treat up to 45 cm from ground
	1.8 L / 100 L (diesel)	<b>Adult (individuals or infestation):</b> Cut stump > 15 cm stem diameter
Triclopyr 240 g/L + Picloram 120 g/L Access®	1 L / 60 L (diesel)	<b>Seedling (individuals):</b> Basal bark < 15 cm* stem diameter
	1 L / 60 L (diesel)	<b>Adult (individuals or infestation):</b> Cut stump > 15 cm stem diameter
Picloram 20 g/Kg Tordon® granules	35 to 45 g / m <sup>2</sup>	Apply granules over an area extending from the main stem to 30 cm outside the dripline to cover the main part of the root system

**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	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Non chemical control

Hand grubbing small plants may be a viable option. Physical removal should be implemented prior to the production of fruit to avoid seed spread.

## Further information

For further information on weed management planning, integrated control, herbicide application techniques and monitoring please refer to the NT Weed Management Handbook. Information is also available on our website at [www.nt.gov.au/weeds](http://www.nt.gov.au/weeds) or contact the Branch directly on 8999 4567 or email: [weedinfo@nt.gov.au](mailto:weedinfo@nt.gov.au).