Department of
Primary Industries and
Regional Development

GOVERNMENT OF
WESTERN AUSTRALIA

# Environmental weed risk assessment

## Date palm (*Phoenix dactylifera*)

The date *Phoenix dactylifera* is one of the oldest cultivated tree crops, thought to have been domesticated in Mesopotamia (now Iraq) more than 5000 years ago. The chief commercial production areas are in the Middle East and northern Africa. Date palm plants are diecious (i.e. either male or female), with only the female plants producing fruit but requiring male plants for pollination. They require a long, hot growing season. Low humidity and the absence of summer rain help in the production of high-quality fruit.

Research work at Gascoyne Research Station (24°53'S) in the 1960s showed that good yields of quality dates could be produced. However, dates have not been produced commercially in Western Australia for a number of reasons with the lack of a supply of good planting material the biggest obstacle to commercial production. Plants grown from seed produce fruit with variable yields and quality and are not suitable for commercial production (Burt 1999).

Dates are grown commercially in two regions of Australia, the South Australian Riverland and near Alice Springs in the Northern Territory (Reilly et al. 2010). Historically, dates have been grown at Eulo in Queensland and Gascoyne Junction in Western Australia, but currently there is no commercial production at these locations.

> "In some parts of inland Australia, the date palm has the potential to become a weed. However, its slow growth and time to reproductive production mean that if well managed, the risk is minute" (Agrifutures 2017).

### Weed lists

National-international:

- Not listed in Weeds of Australia (398 weed species) https://weeds.org.au/weeds-profiles/
- "Naturalised in many parts of northern and central Australia, particularly in wetter habitats in arid regions. It is most common and widespread in the northern and western parts of Western Australia.

  Date palm (*Phoenix dactylifera*) is regarded as a significant environmental weed in Western Australia and as an environmental weed in the Northern Territory. It was recently listed as a priority environmental weed in two Natural Resource Management regions" Weeds of Australia website Fact sheet Index (lucidcentral.org)
- In the Global Compendium of Weeds, date palm is listed as a casual alien, cultivation escape, environmental weed, garden thug, naturalised, weed (Randall 2017).

Western Australia:

- "…It has been planted at settlements throughout the arid zone and often it often persists after human habitation ceases, forming dense thickets by suckering and from seed spread by birds. At Millstream it is a serious weed impeding water flow and displacing the native Millstream fan palm. It is also spreading at Lake Kununurra, where it is of considerable concern, and at various wetlands in the arid zone" (Hussey et al. 2007)
- Recorded as naturalised in the following IBRA Regions of WA: Victoria Bonaparte, Pilbara and Carnarvon (Keighery and Longman 2004).

- Local weed along Fortescue River in Millstream National Park, Pilbara. Competes with and replaces local endemic palm *Livistonia alfredii* (Keighery 1991).

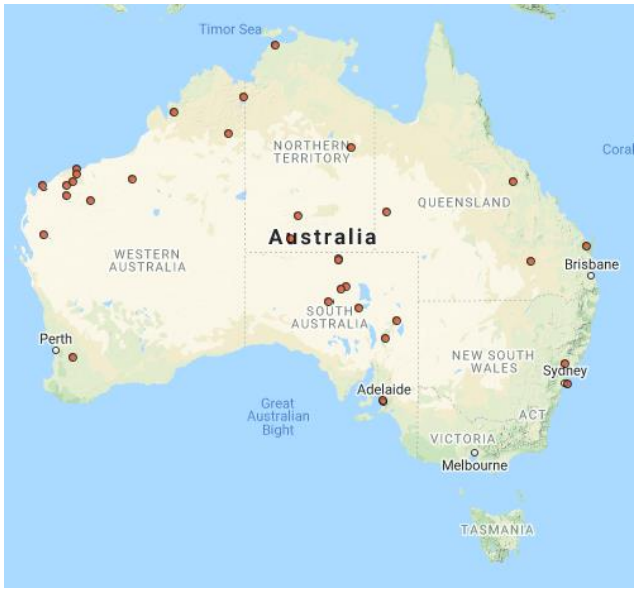


**Figure 1** Distribution of date palm (*Phoenix dactylifera*) in Australia (Source: 'The Australasian Virtual Herbarium')

## Environmental weed risk assessment

Assessed using the 'Environmental weed risk assessment protocol for growing non-indigenous plants in the Western Australian rangelands' (Moore et al. 2022)

| Region | Filter A | Filter B | Weed Risk Assessment rating |
|---|---|---|---|
| | Is the species a weed in similar environments in Australia or overseas? | Is the species likely to persist in the environment without management*? | |
| **Kimberley** | Yes (niche) | Yes (niche) | **Negligible to medium** |
| **Pilbara** | Yes (niche) | Yes (niche) | **Negligible to medium** |
| **Gascoyne – Goldfields** | No | No | **Negligible to low** |
| **Agricultural area** | No | No | **Negligible to low** |

*Without management means no fertiliser, Rhizobia, irrigation, grazing management or control of competition from other species

## References

Agrifutures (2017) Dates. Agrifutures Australia webpage. https://www.agrifutures.com.au/farm-diversity/dates/#:~:text=Dates%20are%20grown%20commercially%20in,there%20is%20no%20commercial%20production.

Burt J (1999) 'Growing date palms in Western Australia'. Department of Agriculture and Food, WA. Farmnote 55/99 (Reviewed 2005).

Hussey BMJ, Keighery GJ, Dodd J, Lloyd SG, Cousens RD (2007) 'Western weeds. A guide to the weeds of Western Australia'. Second Edition. The Weeds Society of Western Australia Inc.

Keighery GJ (1991) Environmental weeds of Western Australia. *Kowari*, **2:** 180-188.

Keighery G, Longman V (2004) The naturalized vascular plants of Western Australia 1: Checklist, environmental weeds and distribution in IBRA regions. *Plant Protection Quarterly*, **19(1):** 12-32.

Moore G, Munday C, Barua P (2022) 'Environmental weed risk assessment protocol for growing non-indigenous plants in the Western Australian rangelands', Department of Primary Industries and Regional Development, *Bulletin no. 4924*, Perth.

Randall RP (2017) 'Global compendium of weeds' (No. Ed. 3).

Weeds of Australia database https://keyserver.lucidcentral.org/weeds/data/media/Html/trifolium_repens.htm Site accessed 30 November 2021

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## Important disclaimer