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Lupinus angustifolius - environmental weed risk assessment 2022

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Environmental weed risk assessment

Narrowleaf lupins (*Lupinus angustifolius*)

Narrowleaf lupins (white lupins, Australian sweet lupins) is an annual pulse crop first domesticated in Western Australia (WA). Farmers in WA produce about 80% of total world production and are the only significant exporters of lupin grain. Lupins are well suited to the deep, acid sandy soils that occur over large areas of the WA wheatbelt and are grown as a break crop in a cereal rotation. Narrow-leaved lupins are predominantly used for animal feed with a small amount used for human consumption.

Narrowleaf lupins could be grown in northern WA over the dry season under irrigation, but to date there is limited yield data.

Weed lists

National-international:

- Not listed in Weeds of Australia (398 weed species) <https://weeds.org.au/weeds-profiles/>
- “...is regarded as an environmental weed in Western Australia. This species is grown as a fodder and grain plant and is mainly a weed of agricultural areas and habitation (e.g. disturbed sites, waste areas, roadsides, parks and croplands). However, it has also become naturalised in disturbed natural vegetation, sandy coastal habitats, and open woodlands.
.....is a weed of road verges and woodlands from Geraldton to Albany and is listed as a minor environmental weed in the Environmental Weed Strategy of Western Australia” in Weeds of Australia website [Fact sheet Index \(lucidcentral.org\)](https://weeds.org.au/fact-sheet-index/)
- In the Global Compendium of Weeds, narrowleaf lupin is listed as an agricultural weed, casual alien, cultivation escape, environmental weed, garden thug, naturalised, weed (Randall 2017).

Western Australia:

- “.....Common weed of road verges and woodlands from Geraldton to Busselton and Albany” (Hussey et al. 2007)
- “.... Naturalised– (Geraldton Sandplains, Avon wheatbelt, Swan coastal plain, Jarrah Forest, Warren, Esperance).” (Keighery and Longman 2004)
- Not listed in Environmental weeds of Western Australia (Keighery 1991).



Figure 1 Distribution of Narrowleaf lupin (*Lupinus angustifolius*) 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	No	No	Negligible to low
Pilbara	No	No	Negligible to low
Gascoyne – Goldfields	No	No	Negligible to low
Agricultural area	Yes	Yes	TBD

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

References

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- 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

Assessment by G Moore and N Nazeri
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