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Environmental weed risk assessment

Perennial ryegrass (*Lolium perenne*)

Perennial ryegrass is a perennial bunchgrass native to Europe, temperate Asia and north Africa. It is one of the most valuable pasture grasses for temperate regions of the world. In south-western Australia perennial ryegrass grows predominantly from the autumn break until late spring but can make useful growth in summer if it receives substantial amounts of out-of-season rainfall or irrigation. Summer growth is restricted by high temperatures (>30°C), even if sufficient moisture is available. Perennial ryegrass has low drought tolerance and a relatively shallow root system. As a result, its role in southern Western Australia (WA) is limited to fertile soils in high rainfall areas (>600mm AAR, 8 month growing season) and irrigated pastures (Sanford 2006).

Perennial ryegrass is a cool season grass and is unsuited to northern WA even under irrigation.

Weed lists

National-international:

- Not listed in Weeds of Australia (398 weed species) <https://weeds.org.au/weeds-profiles/>
- “Perennial ryegrass (*Lolium perenne*) is regarded as an environmental weed in New South Wales, Victoria and Western Australia. This species is grown as a pasture grass and is also deliberately planted in recreation areas in the temperate regions of Australia. It often becomes naturalised in agricultural areas, along roadsides and near habitation, but also invades a wide variety of natural habitats.

In Western Australia, perennial ryegrass (*Lolium perenne*) grows on granite outcrops, in swamps, and along roadsides between Perth and Albany. It is also a weed of waterways and wetlands in the cooler and wetter areas of south-western Western Australia” Weeds of Australia website [Fact sheet Index \(lucidcentral.org\)](https://weeds.org.au/fact-sheet-index/)

- In the Global Compendium of Weeds, perennial ryegrass is listed as agricultural weed, casual alien, cultivation escape, environmental weed, garden thug, naturalised, weed (Randall 2017).

Western Australia:

- “An important pasture and lawn grass, it is found in paddocks and on road verges and other disturbed sites throughout the south-west from Northampton to Cape Arid” (Hussey et al. 2007)
- Recorded as naturalised in the following IBRA Regions of WA: Swan coastal plain, Jarrah Forrest, Warren and Esperance (Keighery and Longman 2004).
- Not listed in Environmental weeds of Western Australia (Keighery 1991).



Figure 1 Distribution of Perennial ryegrass (*Lolium perenne*) 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 (>600mm AAR)	TBD

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

References

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).

Sanford P (2006) Chapter 4, Temperate grasses. *In* 'Perennial pastures for Western Australia'. (Ed. GA Moore, P Sanford and T Wiley). Department of Primary Industries and Regional Development, Western Australia, Perth. Bulletin 4690.

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
January 2022

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