
(a) photo: R. Hill

Lotus australis

Lotus australis **is an erect or ascending perennial herb to 60 cm high, blue-green in colour and covered with short hairs [12]. Its growth habit is similar to cultivated Lucerne [10] from which it can be distinguished by having two leaflets at the base of the leaf-stalk, as distinct from the small, transparent stipules at the base of a Lucerne leaf [10].**

Common names include Austral Trefoil [10], Australian Trefoil [11], Barwon Lucerne (in some parts of New South Wales) [10], Barwon River Lotus, Australian Lotus, Barwon River Trefoil, Birdsfoot Trefoil, Poison Clover, Native Birdsfoot Trefoil and Native Shamrock [5].

L. australis **shows great variation in form and structure [8].**

Population map: www.ala.org.au/explore/species-maps/

Natural Populations

Lotus australis occurs in all Australian States, although rare in Tasmania [12]. It is widespread but not common in temperate and subtropical areas [10] but not the desert inland. It grows mostly in grassy woodlands, on a wide range of soils, as well as grey heavy clays in river red gum and saltbush communities [5, 11, 14].


(a) photo: M. Fagg

Greening Australia

Flowering and Seeds

L. australis flowers are large and usually white to shell-pink [10]. It can be found flowering all year, but mostly in spring [1, 9].

The fruit is a pod 30–50 mm long, maturing from October to December [11]. Each pod contains up to 15 dark-brown seeds that are hard when mature [1, 2].

Collect seeds in summer as the pods begin to split [10]. Timing of seed collection may be difficult, as the pods will split explosively on a hot day as soon as the seeds are ripe [10]. The seeds are expelled from the pod as it dries out and twists apart [11]. Place groundsheets under plants to catch seed (although ants also harvest the seed). Alternatively, the pods can be harvested close to maturity (when they turn brown) and fully dried in a warm area [2]. A glasshouse or plastic igloo is ideal environments for final drying of these seed pods [1].

Cultivation and Uses

L. australis seeds have a hard coat like wattles and other legumes, so don't germinate readily without treatment. About 20% germination can be achieved by moistening seeds and leaving them in the dark. Better results will be achieved from hot water treatment - put some seeds in a jar and cover with just-boiling water. Leave to cool, then examine the seeds. Some will have swelled to double their size, others will be unchanged. Sow the swollen ones in ordinary potting mix. Germination will be rapid [10]. If hot or boiling water treatment has been used, the seed should be dried before sowing [3]. Sow seed from early spring [1].

L. australis is suitable for direct seeding when sufficient seed is available [2, 3]. Seeds can be stored for long periods [2, 3].

L. australis needs part to full sun and reasonable drainage. It is often short-lived in cultivation, 3–4 years being the normal life span [4, 13, 14]. The woody crown helps it survive harsh periods of drought or winter cold when the above-ground parts die back [10]. It is also resistant to salt spray [4]. Being a legume, *L. australis* fixes nitrogen from the air [10]. It resprouts after fire [11].

Caterpillars of the Common Grass Blue Butterfly *Zizina labradus labradus* are reported to feed on young leaves, flower-buds and seed-pods [11]. Bees are the most likely pollination vector for this species (A. Hingston pers. comm.) [12].

Seeds and roots were eaten by indigenous people (Flood, 1980:95) [13].

L. australis is palatable to stock and in some parts of Australia has been associated with numerous cases of poisoning in sheep and cattle. Travelling sheep are reported to be especially susceptible [5]. The stock poisoning was probably caused by high levels of cyanide compounds, but this trait is variable in wild plants [6] and could probably be bred out (many pasture species also produce cyanide). Similarly, wild plants differ in their vigour and competitiveness [10].

McBarron (1978) casts further doubts on the toxicity of this species by noting that although *L. australis* is at times cyanogenetic, most cases of poisoning refer to Red-flowered Trefoil (*Lotus cruentus*) [15]. Despite its poisoning attributes, this species is not a threat to stock in many regions, as it is so uncommon [5].

Very little work has been done to assess the potential of native legumes in sustainable grazing systems, but this is a developing field with much potential [7, 10].

(a) photo: M. Fagg

To source seeds or plants:

www.grassywoodlands.org.au

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Internet links

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[10] Charles Sturt University's Virtual Herbarium, article written by Prober, S and Thiele, K., (2002): **http://www.csu.edu.au/herbarium/woodlandweb/plants/austral_trefoil.htm**

[11] The Royal Botanic Gardens and Domain Trust: **http://www.rbgsyd.nsw.gov.au/science/Evolutionary_Ecology_Research/Ecology_of_Cumberland_Plain_Woodland/woodland_plants/lotus_australis**

[12] Tasmanian Department of Primary Industries, Parks, Water and Environment: **http://www.dpipwe.tas.gov.au/inter.nsf/Attachments/SSKA-756W3N/$FILE/Lotus%20australis.pdf**

[13] Australian National Botanic Gardens and Australian National Herbarium website: **http://www.anbg.gov.au/apu/plants/lotuaust.html**

[14] Australian National Botanic Gardens & Australian National Herbarium, Harden Species List: **http://www.anbg.gov.au/greening-grainbelt/harden-species-list.xls**

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