



A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

Desmanthus

Scientific name(s)

Desmanthus virgatus

Strengths

- Drought tolerant and very persistent in low rainfall environments.
- Tolerant of heavy grazing.
- Heavy seed production even under grazing and can thicken through seedling recruitment.
- Tolerant of alkaline clay soils.

Limitations

- Very high level of hardseed, requires treatment before planting.
- Specific rhizobium requirement.
- High leaf loss under dry or cold conditions.

Plant description

Plant: An erect perennial herb or small shrub, growing to 60 cm tall.

Stems: Green and hairless, angular with corky ridges.

Leaves: Bipinnate usually with 2-4 pairs of pinnae, leaflets small (2.4-7.0mm long and 0.7-1.6mm wide) with 13 to 19 pairs of leaflets/pinnae, a yellow/green gland on petiole below first pair of pinnae.

Flowers: Small white/cream in bundles.

Pods: Straight up to 60mm long, 2-valved, pale green when immature and mid brown when ripe, containing 18 to 28 seeds.

Seeds: Small, mid to dark brown, oval shaped, about 400,000 seeds/kg.

Pasture type and use

A long lived legume used with a range of native and planted grasses in permanent pasture systems.

Where it grows

Rainfall

550 to 1000 mm AAR.

Soils

Suited to medium to heavy textured clay soils with neutral to alkaline pH, such as brigalow clays, open downs and heavier alluvial soils. Some tolerance to sodic and saline soils.

Temperature

Defoliated by heavy frosts but regrows quickly when moisture is adequate in spring.

Establishment

Companion species

Grasses: Buffel grass, Rhodes grass, Bambatsi panic, Queensland bluegrass.

Sowing/planting rates as single species

Not recommended for planting as a single species.

Sowing/planting rates in mixtures

1 to 2kg/ha of scarified seed planted no deeper than 20mm.

Sowing time

Spring to summer.

Inoculation

Specific inoculum (CB3126).

Fertiliser

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Management

Maintenance fertiliser

Depending on soil analysis may respond to P, S, Mo, Cu and Mn.

Grazing/cutting

Tolerant of heavy grazing.

Seed production

400 to 500 kg/ha by direct harvesting. It flowers early and is a prolific seed producer. There is potential for higher seed yields.

Ability to spread

Limited. It has no unique characteristics that allow it to spread. It is early flowering and has high seed yields which result in high soil seed reserves. This leads to thickening in planted areas and slow spread from original plantings. There is likely to be some ingestion of ripe pods and spread by grazing animals.

Weed potential

Minor in disturbed areas.

Major pests

Psyllid insects (*Accizia* spp.) can cause leaf yellowing and reduce seed yields.

Major diseases

None known.

Herbicide susceptibility

No information available.

Animal production

Feeding value

Leaf is high in crude protein (18-24%) and has high digestibility (Acid detergent fibre of < 20%).

Palatability

Well eaten through the growing season.

Production potential

In the 650 to 750mm rainfall zone forage yields can be up to 2500kg/ha/year. In perennial grass-legume pastures yields of about 1000kg/ha/year are the norm. Steer liveweight gains of

160 to 240 kg/head/year have been measured on grass-desmanthus pasture. Increased wool production when fed as a supplement to sheep grazing Mitchell grass pastures.

Livestock disorders/toxicity

None known. Plants have relatively high tannin levels.

Cultivars

Cultivar	Seed source/Information
Marc	Australian Herbage Plant Cultivars

Further information

Tropical Forages database (SoFT) - Desmanthus

Acknowledgements

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Author and date

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