

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

Wallaby grass (Austrodanthonia caespitosa)

Scientific name(s)

Austrodanthonia caespitosa

Strengths

- Native perennial
- Valuable pasture species in low rainfall and low fertility areas
- Very widespread, abundant species (found in all parts of Australian except the Northern Territory) and persistent in highly disturbed landscapes
- Ability to recruit new seedlings even under summer drought conditions
- Trangie Wallaby Grass [™] has demonstrated superior persistence to its close relative A. richardsonii (Cashmore) H.P. Linder cv. Taranna and widely used pasture species phalaris (Phalaris aquatica cv. Sirolan) and cocksfoot (Dactylis glomerata cv. Currie) in low rainfall (300-450 mm) areas of south-eastern Australia.
- Seed can be harvested from wild land stands
- Wild land harvested seed has high viability (60-80%)
- Flowers opportunistically in response to rainfall. Main flowering in autumn, secondary flowering spring but will also flower periodically throughout the year

Limitations

- Relatively short-lived perennial (perhaps < 2 years)
- · Poor persistence under high, continuous grazing intensity
- Seed costs are high
- Like most native grasses, seedling growth rates are generally slow and establishing seedlings can be out-competed by annual or weedy species
- Intolerant of waterlogging, particularly in summer months
- Taxonomically difficult species and identification problematic

Plant description

Extremely variable species and difficult to identify

Plant: height 1.5- 0.5 m; stems

Stems: usually have obvious hairs on nodes

Leaves: flat or rolled either with or without hairs, however, under drought conditions leaves can be more needle-like

Seedhead: Distinct white hairs on the floral parts

Seeds: the lemma is usually glabrous between three distinct rows of hairs, but can also have sparse hairs, a character common to a number of other closely related species; the upper rows of hairs should normally be complete, but can also be sparse or incomplete resembling A. pilosa and A. racemosa. The palea is typically longer and narrower than other species, however it may also have broader, shorter palea's approaching those of A. eriantha and A. setacea

Pasture type and use

Where it grows

Rainfall

Semi-arid to temperate environments

Soils

Semi-arid to temperate environments

Temperature

Generally, fastest growth rates occur in late spring/early summer; autumn is the main flowering

time. Seedling emergence optimal when soil surface temperatures are around 25^oC Considerable variation in growth and flowering characteristics occurs between different populations. Populations appear to be matched to local seasonal conditions. For example, population in northern NSW grow taller and faster in spring, where rainfall tends to be more summer dominant than southern populations where rainfall is more winter dominant. Good frost tolerance

Establishment

Companion species

Commonly found with many other native grasses such as Chloris truncata (windmill grass), Sporobolus caroli (fairy grass) and Austrostipa variabilis (variable spear grass) but also with numerous other forbs.

Sowing/planting rates as single species

1.0-2.0 kg/ha for cleaned seed and 5-10kg/ha for fluffy seed. Aim to establish 10 - 20 $plants/m^2$ mature plants

Sowing/planting rates in mixtures

unknown

Sowing time

Spring or early autumn

Inoculation

Not applicable

Fertiliser

Phosphorus is suspected to have a negative impact on seedling establishment

Management

Maintenance fertliser

Moderate quantities of nitrogen (50kg/ha) applied in spring will increase tiller number.

Grazing/cutting

Tolerates grazing. Intolerant of high intensity grazing for long periods. Best either rotationally grazed, or grazed at low stocking rates that maintain mean herbage mass above 1500 - 2000 kg DM/ha and 70% ground cover (for high rainfall zones of southern Australia). This ensures that it is only partially defoliated and allows it to recover after grazing, and maintain growth, vigour and ground cover

Seed production

Seed can be successfully harvested using brush harvesters. Wild land stands can produce up to 80 kg/ha. Appears to have few seed dormancy issues, however highest germination rates reported for seed >6 months and <2 years old

Ability to spread

High rates of recruitment

Weed potential

Low risk (weed risk assessment undertaken)

Major pests

None known

Major diseases

None known

Herbicide susceptibility

Highly susceptible to Glyphosate

Animal production

Feeding value

Moderate to high during growing season; green matter, crude protein 10 - 17% and digestibility 45 - 74%

Palatability

Readily consumed by livestock

Production potential

Production 5 to 7.8 t/ha biomass

Livestock disorders/toxicity

None known

Cultivars

Cultivar	Seed source/Information
Trangie Wallaby Grass ™	NSW DPI

Further information

Waters C, Whalley, W and Huxtable, C (2000). Grassed-up; guidelines for re-vegetation with Australian native grasses. NSW Agriculture. ISBN: 0 7347 1256 1.

Waters CM, Dear B., Hackney B, Jessop P and Melville G. (2008). Trangie Wallaby grass (Austrodanthonia caespitosa (Gaudich.) H.P.Linder, Australian Journal of Experimental Agriculture. 48,575-577

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Author and date

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