

Register of Australian Herbage Plant Cultivars

A. Grasses

23. *Digitaria*

(b) *Digitaria milanjiana* (Rendle) Stapf. (finger grass) cv. Arnhem

Reg. No. A-23b-2

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Origin

Digitaria milanjiana is a native of tropical east and southern Africa, from Ethiopia south to South Africa (Hacker and Wong 1992). It grows in semi-arid (450 mm) to wet tropical (1700 mm) habitats (Hall *et al.* 1993) in grassland on sandy loam soils and in open woodland on heavy black and sandy soils. The species is cross-pollinating (Hacker and Cowper 1984). Arnhem is derived from a collection of *Digitaria milanjiana*, CPI 59749, made on 18 February 1972 by R. Strickland of CSIRO, on the Umtali Road near Beira, Mozambique (20°S; 45 m above sea level; average annual rainfall 1200 mm). Arnhem was evaluated by the Northern Territory Department of Primary Industry and Fisheries and recommended for registration by the Northern Territory Herbage Plant Liaison Committee.

Morphological description

Culms are erect and tufted. Arnhem differs from *D. milanjiana* cv. Jarra (Hall *et al.* 1993) and cv. Strickland (Anon. 1995) in the absence of stolons, foliage glabrous and green (dark green to purple in Jarra and blue green in Strickland), and having a higher density of inflorescences. Arnhem is diploid ($2n = 18$, J. B. Hacker pers. comm.), whereas cv. Jarra is a hexaploid. There is little chance that they will hybridise.

Agronomic characteristics

Digitaria milanjiana accessions have been evaluated in the Northern Territory over many years (Cameron *et al.* 1984). Arnhem showed good growth on 3 soil types at Mount Bunday Station, Northern Territory, in plant introduction trials (Cameron and McCosker 1986). It persisted for over 11 years at Mount Bunday Station under uncontrolled grazing and occasional burning (Cameron 1991). Spread was limited under

these conditions. It also persisted for over 5 years at Coastal Plains Research Station and Texfern Station, Northern Territory. Arnhem has grown well on a range of soil types including lithosols, red earths, sandy red earths, yellow earths and seasonally flooded solodic soils.

Annual dry matter yield was 17.8 t/ha from well fertilised, rain-grown swards at Berrimah Farm (A. G. Cameron unpublished data). Under continuous stocking at 1 animal/ha at Coastal Plains Research Station, April–May dry matter yields were 4.0–5.5 t/ha (B. G. Lemke and A. G. Cameron unpublished data). Plant density in this stand increased and developed into a dense sward from sowings at 500 and 45 g/ha.

When continuously grazed by steers at a stocking rate of 1 animal/ha at Coastal Plains Research Station, annual liveweight gain was 121–138 kg. While this is less than that recorded for pangola grass (*Digitaria eriantha*), it exceeded *D. milanjiana* cv. Strickland and *Brachiaria humidicola* (Koronivia grass) cv. Tully in 4 of the 5 years of testing. In 1994–95 when the Arnhem paddock was stocked at 2 animals/ha for 7 months, annual liveweight gain/ha was 272 kg. In the 5 full years of the grazing comparison at Coastal Plains Research Station, the Arnhem paddock was not destocked and carried extra animals for 7 months. The pangola grass paddock was destocked for 2 months, and the cv. Tully and cv. Strickland paddocks were destocked for 7 months each. The legume content of the sward increased from 6% in March 1990 to 25% in April 1994, the last year of grazing.

Arnhem has not escaped from the sown paddock at Coastal Plains Research Station into bordering native vine shrub vegetation, roadside verges or the adjacent cv. Strickland or pangola grass pastures. The seed is not wind-borne and has not escaped from any of the sites where it has been sown. Arnhem did not spread from the trial sites at Mount Bunday Station into native bushland over a period of 11 years (Cameron 1991). Arnhem can be controlled by glyphosate (36% a.i.) at a dilution of 1:100 L water.

There are 2 references to the weed potential of *D. milanjiana*, one referring to cultivation in Africa (Hall *et al.* 1993), the other to control by the herbicide Fusilade in a forest nursery (Krokhalev 1993).

References

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