

Microlaena persistence, protein and productivity in comparison with *Danthonia* and four introduced grass species

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Many of Australia's native grasses have in-built mechanisms for drought survival and are well-adapted to low fertility soils (Lodge 1992). A trial on sedimentary soil was established in March 1994 at the University property Clarks Farm to compare the persistence and forage value over four years of two native grasses, *Microlaena* and *Danthonia*, with that of four introduced species: phalaris, cocksfoot, fescue and ryegrass.

Methods

The metre square replicated plots were chisel-ploughed and disced six months prior to sowing. Starter 15 (14:13:0) was applied pre-planting at the rate of 150kg/ha and incorporated by rotary hoe. Plants were watered during the establishment phase only. Plant number (per 50 x 50 cm quadrat) at establishment and at seven months was used to determine survival percentage. Plant material above 3 cm was harvested from the quadrats for crude protein and dry weight determination.

Results and Discussion

The percentage survival and crude protein of *Microlaena*, determined seven months after sowing (Table 1), were generally higher than for the other species. The oven-dry weight of herbage produced in the two-month period November/December 1994 was roughly equivalent for all species with the exception of cocksfoot (Table 1). The persistence, nutritive value and dry matter production of all species will be monitored at three monthly intervals for a further four years.

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References

Lodge, G. (1992). Domestication of Australian Native Grasses. *Australian Seed Industry Magazine*, **10**: 2-3.

Table 1. Percentage survival and percentage crude protein of *Microlaena* compared with five other grass species sown in March 1994, data collected October 1994, Dry weight data are for two months growth (November and December) as determined in January 1995.

Species/cultivar	Survival (%) 7 months	Crude protein (%) October 1994	Dry weight (kg/ha) 2 months growth
<i>Microlaena</i> cv. Shannon	68bc	16.0d	1618a
<i>Microlaena</i> cv. Wakefield	56b	15.1d	1676a
<i>Microlaena</i> cv. Griffin	71c	14.3d	1418a
<i>Danthonia</i> cv. Taranna	31a	13.1bcd	1813a
Fescue cv. Demeter	71c	8.3ab	1395a
Cocksfoot cv. Porto	47b	11.7abcd	2668b
Phalaris cv. Sirosa	27a	8.8abc	1127a
Ryegrass cv. Roper	34a	7.4a	1236a

Means within columns with the same letter are not significantly different at 5% level (Duncan's Multiple Range Test).