

Growth patterns of perennial ryegrass varieties

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Several perennial ryegrass varieties are commercially available in Australia but there is little information available comparing their growth patterns. This information was required to compare with the growth of overseas varieties, so that the possible value of the overseas varieties under Australian conditions could be determined.

Methods

A trial was sown at Wrightson Research Centre near Naracoorte in the south east of South Australia in winter, 1981. Yield cuts were made to measure seasonal production in 1982/83 and 1983/84.

The soil was a sandy loam (0-30cm) over heavy mottled clay. The plot size was 4m x 2m and there were three replicates. The plots were maintained as mono-specific swards and the trial was irrigated with adequate nutrients being supplied.

Results and Discussion

Table 1 Seasonal Dry Matter Yields. t/ha Dry Matter

Season	Early Aut	Late Aut	Win	Early Spr	Late Spr	Early Sum	Late Sum	Total
Variety Means								
Nui	3.41a	2.84a	2.56c	3.90b	4.49ab	1.67a	1.42a	20.28a
K.Valley 1	2.88b	2.65b	3.73b	3.51c	4.83a	1.30ab	0.85bc	19.75a
K.Valley e	2.70b	2.61b	4.49a	3.17d	4.15ab	1.12bc	0.80bc	19.04a
Tasdale	2.94b	2.68ab	2.83c	4.41a	3.95bc	1.16bc	0.98b	18.94a
Victorian	2.91b	2.40c	2.67c	4.46a	3.19c	0.83c	0.65c	17.12b
Year Means								
82/83	3.22	2.75	3.41	4.70	1.06	1.69	1.13	17.97
83/84	2.72	2.52	3.10	3.08	7.18	0.74	0.75	20.09
p	***	**	*	***	***	***	***	***
Variety x year								
Interaction	NS	NS	NS	**	NS	NS	NS	NS
K.Valley 1 = Kangaroo Valley late								
K.Valley e = Kangaroo Valley early								
*P<.05 **P<.01 ***p<.001								
Variety Means followed by the same letter are not significantly different (P=.05)								

There were significant variety differences in each of the seasons, which were consistent in each of the two years. The seasonal year means were also significantly different but there was only one significant variety x year interaction.

Each variety had its growth peak at different times of the year with Kangaroo Valley early being best in winter, Victorian and Tasdale in early spring, Kangaroo Valley late and Nui in late spring and Nui in summer and autumn. The good winter growth of Kangaroo Valley early was associated with its tiller elongation prior to its very early flowering.

Other commercial varieties tested but not included in this analysis were Tasmanian No.1, which was very similar to Tasdale, and Ellett, which was very similar to Nui.

The overseas varieties tested have mostly been late-flowering compared to the Australian varieties, have inferior winter and early spring growth and generally inferior summer growth to Nui.

