

Summer forage quality and lamb growth in the northern rainfall zone

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The impact of seasonal conditions on perennial pastures on the Northern Tablelands can result in a summer-autumn feed gap with lower quality herbage available for animal production. Good growth rates for lambs have been achieved in the southern winter rainfall zone with brassicas (Chin *et al.* 1993). The aim of this study was to determine the *in vitro* digestibility of a range of summer-active forages and assess the growth of lambs.

Methods

Border Leicester x Merino x Dorset lambs were randomly allocated on liveweight into groups of 15 animals per treatment to graze the following forages: Australian phalaris (*P. aquatica*), Chicory (*Cichorium intybus* cv. Puna)/Red clover (*Trifolium pratense*), Triumph fescue (*Festuca arundinacea* cv. Au Triumph), Pasja (*Brassica rapa*), Arran rape (*Brassica napus*), Bonar rape (*Brassica napus*) and Purple top (*Brassica rapa*).

achieved between forages over the late summer and autumn period of 1995. Digestible organic matter (DOM%) for total herbage available in February-March for phalaris, Triumph fescue, Puna chicory, Pasja, Arran rape, Bonar rape and Purple Top were 51, 65, 62, 85, 78, 81 and 87, respectively. Values for phalaris and Puna chicory were low as a result of bulk dry summer grass present in these plots. The growth of lambs grazing the phalaris and Puna do not reflect these low values suggesting that animals were selecting green leaf material with a higher digestibility than the total herbage available.

Results and Discussion

Analysis of variance showed significant differences in the growth rates of the XB lambs were

Table 1. Growth rate (g/day) of lambs (aged 4-6 months) for the months of January, February and March.

Forage	Growth period (days)				
	D1 D16	D17 D30**	D51 D65*	D66 D78	D79 D92
Phalaris	245	235	153	161	206
Triumph fescue	267	189	169	153	247
Puna chicory	249	327	212	168	231
Pasja	203	284	-	-	-
Bonar rape	-	-	293	163	-
Arran rape	-	-	188	171	-
Purple top	-	-	-	-	221

Brassicas were grazed in order of their maturity from January-March and not regrazed, thus resulting in missing values (-); ** P<0.001 and * P<0.05.

For the summer months, Puna chicory and the early maturing brassicas were superior to phalaris pasture in terms of nutrition and animal productivity. Over a one month period Puna chicory, Pasja and Bonar rape achieved maximal liveweight gains of 327, 284 and 293 g/day respectively (Table 1). Trials are continuing to assess if these growth rates can be sustained over a longer period.

References

- Chin, J., Spiker, S. and Arnold, M. (1993). Turnips, the superior fodder crop in south west Victoria. *Grassland Society of Victoria 34th Annual Conference*, pp. 155-156.