COMPARISON OF THE NUTRITIVE VALUE OF STANDOVER AND REGROWTH RHODES GRASS (*Chloris gayana* cv. Callide) DURING SUMMER AND AUTUMN IN A SUBTROPICAL ENVIRONMENT

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Pasture availability is limited during late summer and autumn in subtropical dairying areas due to the low growth rates of both tropical and temperate pastures. One management option is to stand over tropical grasses from summer to autumn and then to graze this pasture. However, the opportunity cost of this practice is the loss of herbage that could be rotationally grazed during this standover period. Insufficient information is available to allow this opportunity cost in terms of yields and nutrient quality to be calculated.

A trial was conducted at Mutdapilly Research Station in south-east Queensland where Rhodes grass (*Chloris gayana* cv. Callide) was stood over from 30 November 1994 to 19 April 1995. An adjacent area of the sward was cut on 28 December 1994, 8 February 1995 and 22 March 1995 with all cut material removed. The experimental plot received 656 mm of rainfall and irrigation during the experimental period. Urea was applied every six weeks at a rate of 100 kg/ha. Four quadrants (0.16 m^2) were harvested to a height of 5 cm from each treatment every two weeks. Dry matter content was determined by drying herbage at 100°C for 24 h.

Results shown in Table 1 for 30 November 1994, 14 December 1994 and 28 December are averages for the experimental area before the regrowth area was cut. The very low growth rates of Rhodes grass during April can be attributed to low minimum air temperatures (Ivory and Whiteman 1976). Although 3823 kg DM or 30 966 MJ ME/ha of leaf was available on 5 April 1995 after the sward was stood over, this was at the opportunity cost of 4802 kg DM or 39 464 MJ ME/ha of regrowth leaf during the same period indicating a marginal benefit for the regrowth system. Accompanying the standover leaf on 5 April 1995 was 8353 kg of stem which was of low nutritional quality (52 g crude protein/kg DM and 7.2 MJ of ME/kg DM). The high stem content of the standover sward would probably limit intakes of standover tropical grass pastures by dairy cows.

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Table 1. Dry matter yields and nutrient content of standover and regrowth Rhodes grass leaf

Sampling date	Leaf dry matter yields (kg/ha)		Metabolisable energy[A] (MJ/kg DM)		Neutral detergent fibre (g/kg DM)		Crude protein (g/kg DM)	
30.11.94	684		10.0		609		167	
14.12.94	870		9.6		642		146	
28.12.94	1490		9.5		623		149	
	standover	regrowth	standover	regrowth	standover	regrowth	standover	regrowth
11.01.95	1828	722	8.8	9.9	703	580	101	229
25.01.95	2081	970	9.1	9.6	677	626	118	151
08.02.95	3111	1302	8.9	7.2	665	646	115	116
22.02.95	2742	893	8.0	9.5	770	644	90	168
08.03.95	4389	1548	9.3	9.1	712	734	104	89
22.03.95	4175	1666	8.8	7.5	726	720	74	97
05.04.95	3823	344	8.1	10.0	719	628	104	200
19.04.95	2946	368	6.6	9.2	717	611	73	201

[A] MJ ME/kg DM = 0.15 (In vitro dry matter digestibility(%) + 2% units) * (100 - ash%/100) (Wan Hassan 1981)

IVORY, D.A. and WHITEMAN, P.C. (1978). *Aust. J. Plant Physiol.* **5**, 131-148.
WAN HASSAN, W.E. (1981). *Proc. 5th Ann. Conf. Malay. Soc. Anim. Prod.* pp. 192-201.