

## GROWTH, PASTURE INTAKES AND CARCASS PRODUCTION OF FARMED MALE FALLOW DEER BETWEEN 4 AND 14 MONTHS OF AGE

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**INTRODUCTION** About 30 000 fallow deer (*Dama dama*) are presently farmed for venison production in New Zealand. However, there is little information on growth, feed intakes and carcass production of male fallow deer on pastoral grazing regimens.

**METHODS** In April of 1983 and 1984 40 weaner (4 months old) fallow bucks were allocated to 2 stocking rate (SR) treatments of 32 and 48 bucks/ha. Within years, bucks on each SR treatment were balanced for farm of origin ( $n = 2$ ) and initial liveweight. Each SR group was rotationally grazed on a 0.5 ha farmlet subdivided into 8 paddocks (0.063 ha). Grazing periods varied between 2 and 7 days depending upon season and year, with paddock changes being made on the same day, within years, for both SR groups. While the grazing cycle varied with season it did not differ between SRs in either year except in spring. Over spring the grazing cycle varied with SR due to the proportion of each farmlet's area being conserved for silage. In 1983 2 paddocks per farmlet were conserved for silage at both the high and low SR, whereas 3 paddocks were conserved at the lower SR only in 1984. Pasture dry matter (DM) intake was the sum of the differences between pasture DM offered and residual pasture DM for each grazing period. Total dry matter intakes included supplementary winter feed where appropriate. Bucks were weighed at 28 day intervals and slaughtered at 14 months of age.

**RESULTS AND DISCUSSION** Bucks exhibited seasonal patterns of liveweight gain, with growth being lowest in winter and highest in spring and autumn. This corresponded to the seasonal pattern of daily pasture

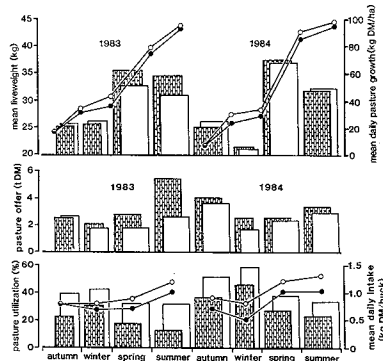


Figure 1. Seasonal changes in mean liveweight and intakes of low (○) and high (●) SR bucks and mean pasture parameters on low (patterned bar graph) and high (unpatterned) SR farmlets.

Table 1. Carcass yield characteristics of fallow bucks up to 14 months of age.

Year	SR (bucks/ha)	Mean hot carcass wt (kg)	Carcass yield/ha (kg)	Net carcass gain/ha (kg)	DM intake/kg net carcass gain
1983	32	24.7	789	402	19
	48	24.1	1156	580	17
1984	32	25.5	816	430	21
	48	24.7	1184	622	17

growth (Figure 1). All groups of bucks attained mean slaughter liveweights of 44-45 kg and there was no significant difference between the 2 contrasting SR in either year ( $P > 0.05$ ). Total pasture offer in each season was generally higher at the lower SR but pasture utilisation by these groups was always lower (Figure 1). Maximum pasture utilisation (~59%) for both SR occurred in winter and, to a lesser degree, autumn. The high pasture offer to the low SR group in summer 1983 (5.5 t DM) and the low consequent pasture utilisation (~10%) resulted from a high standing mass of rank pasture due to inadequate conservation measures in the previous spring. Mean daily DM intakes of individuals were generally higher for low SR bucks, ranging from 0.7 kg at 4-6 months of age to 1.2 kg at 11-14 months of age (Figure 1). The mean hot carcass weight at 14 months of age (Table 1) was slightly, but not significantly, higher for low SR bucks in both years ( $P > 0.05$ ). However, the total carcass yield/ha was ~45% higher for the high SR groups. Similarly, net carcass gain/ha, estimated as the difference between total carcass yield and 50% of initial total liveweight, was ~45% higher for the high SR groups (Table 1). The DM intake per kg of net carcass gain, an approximate indicator of productive efficiency, ranged from 17 kg for high SR groups to 19-21 kg for low SR groups. These values were very

similar to those for red deer stags from 3-15 months of age, reared on similar trials (1). The results indicate that the 2 contrasting SR of fallow bucks resulted in large differences (~45%) in per ha productivity but had little influence on individual animal performance.

**REFERENCES** (1) Adam, J.L.; Asher, G.W.; Sandrey, R. 1986. Proceedings of the 38th Ruakura Farmers' Conference pp.5-9.