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THE EFFECT OF RESTRICTION OF PASTURE INTAKE IN LATE LACTATION ON THE MILK PRODUCTION AND BODY CONDITION OF DAIRY COWS

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It is a common practice in the Goulburn Valley to restrict the pasture intake of cows in late lactation to enable a greater transfer of autumn pasture to the winter when it can be fed to dry or freshly calved cows. The aim of this experiment was to derive quantitative information on the effect of restricting pasture intake in late lactation on the production and body condition of dairy cows.

Two herds of 18 cows were used for two phases of pasture restriction coinciding with the eighth (Phase I) and ninth (Phase II) months of lactation. In each phase, there was an ad libitum pasture fed group and three restricted groups. In Phase I, the ad libitum group consumed 10.8 kg D.M./cow/day of irrigated perennial pasture while the restricted groups received 93%, 69% and 45% of this. In Phase II, 12.4 kg D.M./cow/day was consumed by the ad libitum group, with the restriction levels being 85%, 65% and 42% of this. After treatment, all cows were grazed on ad libitum pasture. Dry matter intake, change in body condition score, milk yield and milk constituents were measured for each cow. This data was analysed by linear regression using each cow as an analytical unit.

Reduced dry matter intake in lactation linearly decreased milk yield and condition score change as shown in Table 1. Restriction in dry matter intake also significantly increased butterfat percentage. The response in both phases was similar.

TABLE 1: Relationship between dry matter intake (DMI, kg/cow/d), and daily milk production (MY, kg/cow/d), change in condition score (CSC) and butterfat percentage (BF). Standard errors of regression coefficients are shown in parenthesis.

	Regression equations	Level of significance	Residual standard deviation
Phase I	MY = 1.73 + 0.46 (±0.08)DMI	P<0.01	0.75
	CSC = -1.51 + 0.19 (±0.02)DMI	P<0.01	0.20
	BF = 6.68 - 0.05 (±0.03)DMI	P<0.01	0.30
Phase II	MY = 0.36 + 0.56 (±0.02)DMI	P<0.01	0.24
	CSC = -0.87 + 0.14 (±0.03)DMI	P<0.01	0.39
	BF = 6.94 - 0.11 (±0.04)DMI	P<0.01	0.45

Ad libitum feeding during the post-experimental periods enabled the previously restricted groups to substantially increase their daily milk production, so that ten days after the treatment period there was no significant difference in milk yield groups.

. The data provided by this experiment enables a decision to be made as to whether the cost involved in saving pasture in late lactation can be recovered in winter when the autumn-saved pasture is utilized.

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