

EFFECTS OF SILAGE-BASED DIETS ON CARCASS QUALITY OF PRIME LAMBS

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Over fat carcasses have been identified as the major problem in meeting consumer demands for lamb (Currie 1986). Apart from genotype, this trait is dependent on dietary energy and protein (Bass *et al.* 1990). At present, the practice of finishing carryover lambs on high grain diets is increasing. However, a high energy diet during this period, prior to slaughter, results in an increased level of carcass fatness.

Fifty-six first cross Border Leicester x Merino wether lambs ( $3\ 1.3 \pm 0.22$  kg) were used to evaluate the effects of subterranean clover silage supplemented diets (Table 1) on carcass characteristics. The lambs were randomly allocated to 8 treatment groups (7 lambs/group). All lambs were individually penned in an animal house and were fed *ad Zibitum*. Experimental animals were slaughtered at approximately 45 kg (68 days for treatment groups and 104 days for the control). Lambs on high grain diets were introduced to concentrates over a 14-day period. Hot carcass weight (HCW), fasted liveweight (FLW), tissue depth over the 12th rib 110 mm from the midline (GR) were measured. Mean values for FLW and adjusted mean ( $\pm$  s.e.) for HCW and GR are presented in Table 2.

Table 1. The percentage of components in experimental diets

All diets supplemented with vitamin-mineral premix

Diet:	Control	2	3	4	5	6	7	8
Silage	100	75	50	25	75	50	25	25
Barley	—	25	50	75	—	—	—	—
Barley + lupins	—	—	—	—	25	50	75	75
Crude protein	17.9	16.8	15.6	17.9	17.9	17.9	17.9	20

Table 2. Means for fasted liveweights (FLW) and adjusted means for hot carcass weight (HCW) and GR measurements

Standard errors of means are in parentheses

Diet:	Control	2	3	4	5	6	7	8	l.s.d. ( <i>P</i> = 0.05)
FLW (kg)	40.3(0.8)	41.2(0.8)	44.0(1.2)	43.9(2.0)	42.7(1.1)	47.4(0.9)	47.1(0.6)	46.5(1.3)	
HCW (kg) <sup>A</sup>	20.8(0.5)	20.6(0.4)	19.9(0.6)	20.2(0.9)	20.2(0.6)	19.3(0.5)	19.1(0.9)	19.5(1.0)	1.04
GR (mm) <sup>A</sup>	15.8(1.3)	16.1(1.6)	15.5(1.6)	15.3(1.8)	15.6(1.5)	15.6(0.7)	15.1(0.9)	15.9(1.0)	

<sup>A</sup>Adjusted to a common fasted liveweight (FLW) of 44.1 kg.

Analyses of covariance indicated a dietary effect on HCW, however, there was no dietary effect on carcass fatness as indicated by GR. These results are in agreement with Black (1983), who stated that the extent to which body composition can be manipulated by dietary means is relatively small.

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