

THE EFFECT OF LIVELWEIGHT MAINTENANCE ON
DISSECTED CARCASS COMPOSITION OF SHEEP

D.M. MURRAY* and OLGA SLEZACEK**

Although at pasture sheep commonly exhibit long periods of liveweight maintenance, the authors are unaware of any published data of the effect of liveweight maintenance on dissected carcass composition.

A study was conducted to investigate the effect of varying periods of liveweight maintenance on dissected carcass composition. Sixteen castrate male progeny of Border Leicester X Merino ewes and Dorset Horn rams were transferred from pasture to individual pens when their mean live weight was 27.6 kg. Animals were fed a pelleted mixture of lucerne (80%) and cereal grain (20%) *ad libitum* to 30 kg when four animals were slaughtered. The remaining 12 animals were fed to maintain this weight and slaughtered after 25, 50 or 75 days. After slaughter, one side of each carcass was dissected. Some results from carcass dissections and also dry matter intakes during liveweight maintenance are shown in Tables 1 and 2, respectively.

TABLE 1. Effect of varying periods of liveweight maintenance on the weights (kg) of dissected carcass components

Mean	Period of liveweight maintenance (days)			
	0	25	50	75
Slaughter weight (\pm SD)	30.0 (0.56)	29.7 (0.49)	30.0 (0.16)	30.1 (0.59)
Dissected carcass side wt	6.99 ^a	7.13 ^{ab}	7.09 ^{ab}	7.51 ^b
Muscle	4.119	4.108	4.082	4.301
Bone	1.096	1.058	1.091	1.039
Subcutaneous fat	0.486 ^a	0.572 ^{ab}	0.594 ^{ab}	0.789 ^b
Intermuscular fat	0.807	0.937	0.871	0.933
Perirenal fat	0.137	0.148	0.128	0.202

Within rows means with different letters differ significantly ($P < 0.05$).

TABLE 2. Pooled mean values for average daily dry matter intakes (g) for consecutive 10-day periods of liveweight maintenance

	Consecutive 10-day period						
	First	Second	Third	Fourth	Fifth	Sixth	Seventh
Dry matter intake	791 ^a	740 ^a	589 ^b	521 ^b	517 ^b	527 ^b	492 ^b

Values with different letters differ significantly ($P < 0.05$).

The dissection results clearly indicate that the periods of liveweight maintenance studied here had little effect on dissected carcass composition. The increased weight of both the carcass and subcutaneous fat depot after 75 days may have resulted from a change in the relative amounts of protein and energy being absorbed from the hind-gut of these animals (Black *et al.* 1976).

BLACK, J.L., FAICHNEY, G.J., and GRAHAM, N.McC. (1976). *Europ. Assoc. Anim. Prod. Publ.* 16:477.

* School of Wool and Pastoral Sciences, University of New South Wales, Kensington, N.S.W. 2033.

** Hawkesbury Agricultural College, Richmond, N.S.W. 2753.