

THE EFFECT OF PARTIAL SHEARING ON THE VOLUNTARY  
FOOD INTAKE AND PRODUCTION OF MERINO WETHERS

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Shearing immediately prior to lambing has been proposed as a means of inducing ewes to seek shelter during cold weather with a consequent improvement in lamb survival rates (Alexander and Lynch 1976; Alexander pers. comm.). In practice ewes are often crutched before lambing in southern Australia whereas other managerial considerations determine the shearing season. Of the known and physiological and behavioural responses to shearing, the most frequently recorded objective measure is the variation in voluntary food intake (VFI) (e.g. Ternouth and Beattie 1970). Thus VFI can be considered a simple index of the response to cold in sheep. However the change in VFI following partial fleece removal (e.g. crutching, wiggling) has not been documented.

Forty mature Merino wethers, individually penned and sheltered from rain but not wind were fed an ad libitum diet of commercial sheep pellets (12.5% crude protein.) for six weeks. Thereafter they were allocated to four treatment groups (Table 1) according to mean VFI ( $\text{g kg}^{-1} \text{day}^{-1}$ ). Following treatment daily VFI was recorded for a further six weeks (Table 1).

TABLE 1: Mean voluntary food intake following treatment ( $\text{g kg}^{-1} \text{day}^{-1}$ ).

Area shorn	Weeks after treatment						Mean weeks 2-5
	1	2	3	4	5	6	
Fully shorn (S)	33.7	39.2	40.2	34.5	31.6	28.9	36.4
Crutch and belly (C)	33.7	39.7	36.8	33.9	30.2	27.2	35.2
Head and neck (W)	32.6	33.0	34.5	32.4	28.2	27.0	32.0
Unshorn (U)	33.9	33.6	34.7	31.8	27.2	28.8	31.8
L.S.D. (P = 0.05)	N.S.	4.3	4.4	3.1	3.6	N.S.	2.4

The mean VFI in weeks 2-5 following treatment was elevated in groups. S and C (Table 1) but there was no significant difference between treatments in liveweight gain, body condition score. or wool growth.

The similarity in VFI of sheep in treatments S and C may be due to the presence of specific cold receptors in the inguinal region. Alternatively the area of skin exposed to treatment C - estimated at between 15-20% of total skin - may have been sufficient to elicit the observed response. No observations of behavioural characteristics of sheep in this experiment were made. Further study of the effects of crutching, particularly with respect to the sheltering behaviour of lambing ewes, is warranted. A small increase in the area of skin exposed by crutching before lambing could be a simple means of improving lamb survival,

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