

# THE EFFECT ON FEED INTAKE OF HARNESSING SHEEP FOR FAECAL COLLECTION

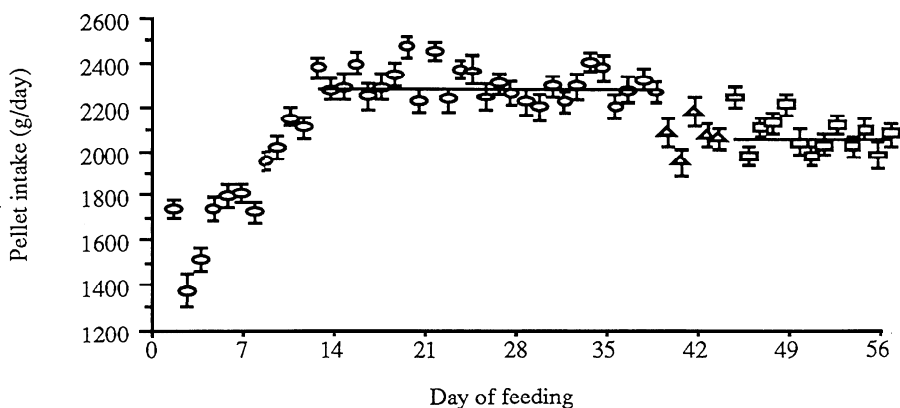
P.J. MURRAY

Faculty of Agriculture (Animal Science), The University of Western Australia, Nedlands, W.A. 6009

The feed intake of grazing sheep can be calculated from faecal output and the digestibility of the forage eaten (Langlands 1975). Faecal output can be measured using faecal collection equipment. Although numerous researchers using these techniques have stated that the equipment should not interfere with normal feeding behaviour there has been no attempt to quantify the effect of harnessing sheep on feed intake. This study reports the effect of harnessing for faecal collection on feed intake of individually penned sheep fed *ad libitum*.

Forty eight 16 month old sheep, starting liveweight  $33.2 \pm 1.24$  kg (mean  $\pm$  se), were fed a pelleted diet based on lucerne and lupin grain. As part of an introductory period all sheep were fed at 1.5% or 2.2% of their liveweight for a minimum of 4 weeks prior to *ad libitum* feeding (see Murray *et al.* 1994 for details). The sheep were fed the ration for 8 weeks in 3 consecutive periods and as there were no differences in intakes between periods the data has been combined. Each day sheep were offered 500 g above the preceding day's intake. On day 38 of each period sheep were fitted with harnesses. After 5 days the bags were zipped up and total faecal collections were taken daily from day 44 to 56. Analysis of variance was used to determine statistical differences in average feed intake prior to and during the period of faecal collection.

There were significant differences ( $P < 0.001$ ) in feed intake between the time prior to the harnesses being fitted (after intake had stabilised) and for the duration of the faecal collection ( $2.28 \pm 0.04$  vs  $2.05 \pm 0.04$  kg/day) (Figure 1). There were no significant differences in mean feed intake for the 5 days when collection bags were open and for the 5 days at the start or end of the faecal collection ( $2.07 \pm 0.05$ ;  $2.11 \pm 0.04$  and  $2.04 \pm 0.04$  kg/day respectively).



**Figure 1.** Feed intake of sheep fed *ad libitum* (circles), then fitted with faecal collection harnesses (triangles) for 5 days prior to a 13 day total faecal collection (squares). Horizontal lines indicate mean intake prior to and during faecal collection.

The data indicate that the wearing of harnesses may reduce feed intake by 10% even when faeces are not being collected. This raises the possibility that previous studies, using harnessed sheep, may have underestimated the maximum feed intake of penned and grazing sheep.

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