

## RAPID ASSESSMENT OF FAECAL DRY MATTER CONTENT IN SHEEP

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Soft wet faeces and scouring are commonly seen in sheep grazing improved pasture in early spring, in sheep too rapidly introduced to grain feeding, and as a possible hypersensitivity reaction to certain feeds and internal parasites (Greeff and Karlsson 1997). Apart from spoilage of wool and the increased risk of fly strike, wet faeces can present problems in feedlot management and hygiene, and may be associated with disruptions to feed intake and poor feed conversion efficiency. This paper describes a subjective means of assessing faecal dry matter content that may have application in management studies in commercial operations where measurement of faecal dry matter, using conventional or microwave ovens, or by other means, is impractical. The study was conducted in relation to the export sheep industry where sheep are generally subject to fairly rapid change in diet and where shipboard conditions, including high stocking densities and solid flooring, exacerbate the adverse effects of wet faeces.

The study was conducted on 48 individually penned sheep in each of two studies, conducted eight months apart, and set up to examine the intake and digestibility of pelleted 60% grain diets containing (1) four different ratios of lupins to cereal grains and (2) different buffering compounds and described by Round (1998a and 1998b). The sheep were harnessed for faeces collection and total faeces were collected at 0800 hours daily over 10 and 5 consecutive days during the preliminary feeding periods in (1) and (2) respectively. The faeces were assessed for apparent dry matter content by a single operator on the basis of appearance and on physical firmness assessed by hand where this was deemed helpful in improving the assessment. The faeces were then oven dried at 105°C for 48 hours for dry matter determination. In both studies, the data on faecal dry matter (DM) content were combined for all the diets.

Faeces were scored for apparent moisture content on a six point scale where 1 = firm pellets, 2 = soft pellets, 3 = pellets moist and clumped, 4 = no pellets formed but faecal mass maintains shape, 5 = faecal mass does not maintain shape, and 6 = runny faeces. The relationships found between faecal DM and faeces score (FScore) in the two studies were:

(1) Faecal DM % = 58.0 ( $\pm$  0.59) - 5.82 ( $\pm$  0.216) FScore. ( $R^2$  = 0.63, r.s.d. = 4.72,  $P < 0.001$ )

(2) Faecal DM % = 60.7 ( $\pm$  0.68) - 6.46 ( $\pm$  0.266) FScore. ( $R^2$  = 0.73, r.s.d. = 4.91,  $P < 0.001$ )

The similarity between the two relationships, in lieu of a formal validation procedure, indicates that the technique could have a reliable and useful application in commercial situations. The scoring system described above for faeces dry matter is similar to that described by Greeff and Karlsson (1997) in their studies on the relationship between faecal scouring and selection against faecal worm egg count in sheep. We have since scored faecal DM in two surveys of sheep housed under intensive conditions simulating export shipment (three sheep/m<sup>2</sup>). We found the procedure to be very rapid (over 300 sheep/hour) where two people worked together in yards to confine, assess and mark sheep, and call out and record scores. In the surveys, faecal matter in the rectum was scored for dry matter primarily by feel alone though the pen studies did not differentiate the separate effects of visual appearance and feel in the relationships described. In the two surveys, empty rectums accounted for 1.6 and 6.3% of the sheep under study.

GREEFF, J.C. and KARLSSON, L.J.E. (1997). *Proc. Advmt. Anim. Breed. Genet.* **12**, 333-7.

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