

SIMULTANEOUS MEASUREMENT OF PASTURE AND SUPPLEMENT INTAKE IN GRAZING, LACTATING EWES

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Large responses in lamb liveweight gain can occur as a result of supplementing grazing ewes during late pregnancy or lactation (e.g. Dove et al. 1984). One factor contributing to the magnitude of these responses is the degree of substitution, in individual ewes, between intake of pasture and intake of supplement. Indirect attempts have been made to assess this (Milne et al. 1981) but direct measurement has been hampered by the lack of a means of simultaneously measuring individual intakes of supplement and pasture in free-grazing animals.

Fourteen crossbred ewes, suckling single lambs, grazed pasture consisting mainly of phalaris and subterranean clover (945 kg DM/ha), as part of a larger study of intake, digesta flow and metabolite turnover during lactation. All ewes had rumen and abomasal cannulas and half were offered a daily supplement of pelleted sunflower meal from a feed trough, at a rate of 460 g DM per head. Supplement intake by individual ewes was estimated in week 4 of lactation by the tritiated gypsum method of Dove (1984). Over the same period, all ewes received continuous infusion of chromium-EDTA intraruminally. Faecal grab samples were taken over 3 days in such a way as to represent 12 two-hourly periods of a 24 h cycle. Bulked, freeze-dried faeces samples and the infusate were analysed for Cr to determine faecal output by dilution. Pasture intakes were then computed from supplement intakes, faecal outputs and in vitro estimates of the digestibility of the supplement and of pasture diet samples collected from oesophageal-fistulated sheep.

In the supplemented group the mean daily intakes of dry matter from supplement and pasture were 359 g/head (range 20-1030g) and 1076 g/head, respectively, compared with a mean of 1113 g/head of pasture dry matter by the unsupplemented ewes. Although, under these conditions, the mean substitution rate was only 0.1, the main feature of the results was the high variability in supplement intake between individual ewes.

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