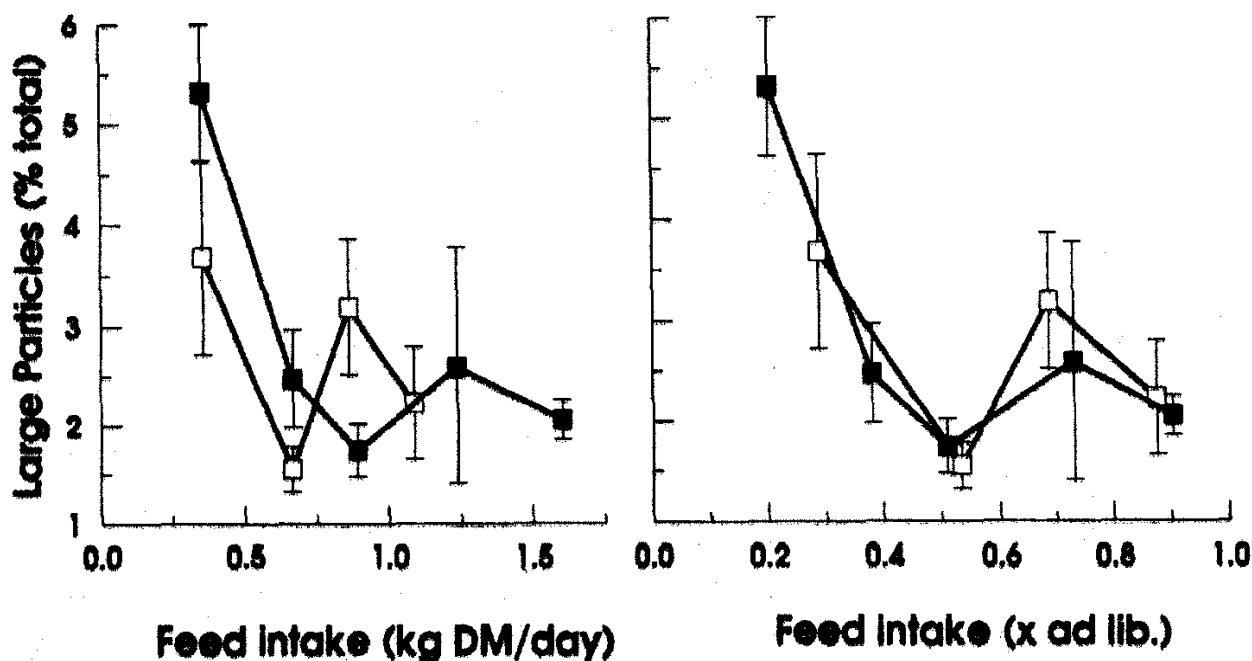


LEVEL OF INTAKE AND GRINDING OF HAY HAVE LITTLE EFFECT ON THE SIZE OF PARTICLES LEAVING THE RUMEN OF SHEEP

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Because increasing intake and the grinding of feed both led to an increase in faecal particle size, Van Soest (1982) and Van Soest et al. (1986) claimed that the "limiting particle size for passage from the rumen is not a constant". Faichney (1986) questioned this claim because the increase with grinding observed in mean particle size in the faeces applied to the distribution of particles within the size range having a high probability of removal from the rumen, i.e., particles retained on sieves with mesh size <1.18mm but >0.15mm, and fewer particles were retained on the 1.18mm sieve (1.3% cf. 2.3% of faecal particulate DM).

To examine this claim further, six Corriedale wethers (initial liveweight $43 \pm \text{SE } 1 \text{ kg}$) fitted with rumen and abomasal cannulae were given lucerne hay, either chopped or ground (6mm screen) and pelleted, at from 0.2 to 0.9 ad libitum (Faichney 1983). Particle size distribution in abomasal true digesta was determined by a wet sieving procedure (Faichney 1986). The proportion of large particles (retained on sieves >1.18mm) in the particulate DM (retained on sieves >0.15mm) is plotted against intake in the Figure.



Effect of intake on the large particle proportion of particulate DM leaving the rumen. Chopped □; ground ■. Vertical bars give standard errors.

Large particles decreased from 4-5% of the particles leaving the stomach at the lowest feed intake to 2-3% at the higher intakes; grinding of the lucerne had no effect ($P > 0.05$). The available data support the conclusion that the limiting size for passage of particles from the rumen is relatively unaffected by the level of feed intake or by grinding and pelleting of the diet.

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