

SIMULATED SHIP TRANSPORT - THE EFFECT OF PRESENTING THE RATION AS PELLETS ON THE INCIDENCE OF FAILURE TO EAT

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A failure to eat syndrome is the largest cause of deaths during the shipping phase of export of sheep (Beers and Kelly 1988, Richards et al. 1989). Experiments carried out at the Animal Research Institute, Werribee have indicated that neither variation in level of feeding (restricted v *ad libitum*), trough space (5 cm/hd v 38 cm/hd) or stocking density (0.33 m²/hd v 1.5 m²/hd) eliminate the failure of some sheep to eat pelleted rations similar to those fed on board ship (Hodge et al. unpublished). However, the possibility exists that some sheep refuse to eat simply because they do not recognize or accept pellets as **food**. These sheep if offered food in a form with which they are more familiar with may begin to eat.

One of the difficulties associated with examining this concept experimentally is to know which foods would be recognized by all sheep and could be used as a control. Presumably grass would be the ideal but for practical reasons 'good quality hay' was used in this study. Hay can be pelleted and it is perhaps reasonable to assume that all sheep would recognize hay in its normal physical form as an acceptable food.

An experiment was carried out with adult Merino wethers from 3 different sources. The sheep spent one week in outside experimental feedlot pens and 2 weeks in indoor pens under conditions simulating the stocking density (0.33 m²/hd) and changes in temperature (15°C - 32°C) experienced on board ship. The experiment consisted of 2 consecutive 'voyages'. Each 'voyage' consisted of 16 blocks of two treatments in a randomized block (paired comparison) design with 6 animals from each of the 3 sources per pen. Within each source pens were filled consecutively by animals passing through a race. Altogether each treatment had 576 animals. The treatments were pasture hay or pellets made from the same hay. No additives were added to the pellets and both feeds were offered *ad libitum*. Core samples of the hay contained 15.5% crude protein and had an *in vitro* dry matter digestibility of 65.5%. The two animals in each pen losing the most live weight or animals losing 7 kg live weight or more were slaughtered and, together with two animals that died suddenly, examined for evidence of failure to eat (Beers and Kelly 1988).

The percentage of animals failing to eat the pelleted hay (2.25%) was similar to that observed on board ship (Beers and Kelly, unpublished) but only 0.35% of animals refused to eat the unpelleted hay (P = 0.039 using exact two-sided sign test). These results suggest that the failure to eat syndrome is associated in large part with a lack of ability to recognize or accept pellets as food.

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