

INFLUENCE OF PREVIOUS INTAKE OF GREEN PASTURE OR  
PASTURE HAY ON ADAPTATION TO PELLETTED DIETS FOR LIVE EXPORT SHEEP

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Sheep for live export must adapt to a change in diet from pasture to pelleted rations within a period of five to ten days. There is a belief within the industry that sheep transferred from green pastures have more difficulty in adapting to pelleted rations than do sheep previously grazing dry, mature pastures. This paper compares the influence of the composition of pelleted rations with that of previous intake of green pasture or pasture hay on the adaptation of wether sheep.

In mid January 1987, 180 four year old Merino wethers were allotted on the basis of fasted (24 h) liveweight (FLW) to one of two groups and grazed on irrigated, perennial pastures (G) or dry, annual pastures (D) for five weeks. Following rain at this time germination of the annual pasture occurred and the D group were transferred to bare earth pens and offered pasture hay ad libitum for three weeks; the G group continued to graze green pastures. The pasture hay had an in vitro digestibility of 57.6% and contained 1.9% nitrogen. The animals within each group were then allocated on the basis of FLW (means and standard error, G = 56.0±0.5 kg, D = 52.1±0.6 kg) to one of 3 pelleted rations and to one of four replicates. The rations consisted of 30% wheat (W), 60% W or 60% lupins (L) and either 68% or 38% roughage (equal proportions of oat hulls and pasture hay) and 2% minerals. The sheep were offered the diets ad libitum for 12 days and FLW was recorded on day 13. The digestibility of each diet was determined with four sheep per diet.

Voluntary intake of digestible dry matter (DDMI) during the 12 days was influenced by ration type (60% L > 30% W > 60% W) and loss in FLW by both ration (60% W > 30% W and 60% L) and by previous feeding (D > G-Table 1).

Table 1 Influence of ration type on digestible dry matter intake (DDMI) and fasted liveweight change (FLWC) of sheep during 12 days following consumption of green pasture (G) or pasture hay (D).

Attribute	Ration						Significance	
	30% wheat		60% wheat		60% lupins		of effect (P)	
	D	G	D	G	D	G	Ration	DvG
DDMI (kg/hd/d)	0.67	0.58	0.49	0.47	0.75	0.72	<0.01	NS
FLWC (kg/hd/12d)	-3.5	-2.0	-4.5	-2.8	-3.7	-1.2	<0.01	<0.01

The apparently greater loss in FLW of the sheep previously offered pasture hay may have been associated with an overestimate of the initial FLW of these animals relative to those on green feed. In any event there was no evidence that sheep grazing green pasture adapted less readily to pelleted diets than sheep offered pasture hay. Although the plane of nutrition of the D group was probably higher than that experienced by sheep grazing dry summer pastures we believe the results indicate that differences between composition of pellets are more important than previous grazing of green or dry feed in determining response during adaptation of sheep to pelleted diets.

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