

EVALUATION OF ANIMAL FEED BLOCKS MADE FROM WHEY AND WHEY ULTRAFILTRATE

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Acceptable outlets for whey are needed to comply with environment protection laws. With animals at pasture there may occasionally be a need for supplementary energy and prophylactics. Molasses based blocks are available for these purposes and this report is concerned with the evaluation of whey (W) or whey ultrafiltrate (WUF) as a substitute for molasses (M) with or without the incorporation of 35 % magnesium oxide (MgO), a supplement used to control grass tetany (hypomagnesaemia).

Feed blocks with W or WUF, + MgO, were made as described by Hargrove, McDonough and Alford (1974) whilst M and M+MgO blocks were obtained from commercial sources. Three blocks of each of the six types were offered separately to one of six herds of 16 fifteen month old dairy heifers (mean live weight 248 kg) grazing ad lib. perennial pasture in 2 ha paddocks in spring. The relative hardness of each block was measured as the penetration of a 20 mm² probe, weighted to 615 g, dropped down a tube from a height of 280 mm. Blocks were weighed at the start and end of a three week feeding period and changes corrected for weathering effects on control blocks placed in animal enclosures.

TABLE 1: Probe penetration, block weight and disappearance and animal intake.

	Mean probe penetration (mm) + S.E.	Mean block weight (kg)	Mean block disappearance (kg day ⁻¹) + S.E.	Calculated mean animal intake (g head ⁻¹ day ⁻¹)
W	41.8	6.0	20.2	> 10.1 +
WUF	19.9	5.5	18.8	> 9.4 +
M	0.58	0.06	20.2	0.90 0.004
W+MgO	1.12	0.06	18.8	0.03 0.004
WUF+MgO	1.58	0.26	18.7	0.02 0.004
M+MgO	1.75	0.12	14.9	0.38 0.082

+ W and WUF blocks consumed within two days

Proportionate animal intake of the relatively soft W and WUF blocks was estimated to be similar to the 25 % of total intake reported by Hargrove, McDonough and Alford (1974) for younger animals in a feedlot. These blocks could serve as an energy supplement provided their use could be economically justified. Addition of 35 % MgO to W or WUF produced hard blocks which, unlike M or M+MgO, did not exhibit surface deliquescence. Negligible consumption indicates that these combinations are unsuitable for Mg supplementation although lower levels of MgO might be suitable for supplementation or for controlling intake. Incorporation of other prophylactics also needs investigation.

HARGROVE, R.E., McDONOUGH, F.E. and ALFORD, J.A. (1974).

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