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LIVEWEIGHT RESPONSE IN HEIFERS FED A MEATMEAL-MOLASSES SUPPLEMENT

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During winter in the Stanthorpe area of Southern Queensland, large liveweight losses and even deaths can occur in pregnant cattle grazing native pasture. These pastures are characterized by low protein and low available energy content.

We have used urea in this district to supplement the rumen with available nitrogen without much success (Llewelyn, 1977). Recent work, however, suggests that consumption of dry roughage by cattle may be stimulated by supplementation with bypass amino acids although productivity may still be limited by available energy.

For these reasons a supplement of meatmeal (bypass protein) and molasses (available energy) as a 1:12 w/w mixture has been examined with heifers grazing these pastures. In the winter of 1976, 37 three year old pregnant Hereford heifers were offered the mixture *ad libitum* during a 133 day period whilebeingstocked in a 223 ha paddock with 300 ewes. Intakes of supplement by individual animals were estimated using the method of Nolan *et al.* (1974) and related by regression analyses to individual liveweight changes over this period.

Intakes of dry supplement ranged from 0 to 2.6 kg/day with 62% of animals consuming some supplement. The rate of liveweight loss was significantly reduced by supplementation as shown in the Table.

TABLE: Effects of consumption of a meatmeal-molasses mixture on winter liveweight changes of cattle (8/5/76 to 12/8/76).

	Eaters	Non-Eaters	Total	Significance
n =	23	14	37	
Intake (kg/d)	0.97 ± 0.19	-	0.60 ± 0.14	
Liveweight loss (kg/d)	-0.08 ± 0.03	-0.25 ± 0.02	-0.14 ± 0.03	(P<0.001)

The relationship between liveweight change (DWT, g/day) and intake of supplement (INT, g DM/day) was curvilinear, *viz:*

$$DWT = -259 + 0.35\ INT - 0.00008\ INT^2 \quad R^2 = 0.81,\ RSD = 73.0$$
$$(\pm 0.056) \qquad (\pm 0.00002)$$

The results suggest that the rate of liveweight loss in cattle grazing on low quality pastures in the winter can be considerably reduced by supplementation with bypass protein and a source of available energy.

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