

## SURVIVAL FEEDING OF HEIFERS WITH MOLASSES

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Hand-feeding of cattle for survival is a common occurrence in much of northern Australia during drought and following bushfires, and molasses is gaining wide acceptance as a survival-feed. It is well known that cattle consuming large quantities of molasses require roughage in their diets to prevent molasses toxicity, and also require supplementary nitrogen (Preston and Willis 1970). It is not known, however, whether either is necessary when cattle are in negative energy balance. This trial was designed to measure the effectiveness of molasses as a survival-feed.

Twelve groups each of four store-condition non-pregnant yearling Hereford heifers (mean fasted LW  $210 \pm \text{SE } 6.5$  kg) which had been introduced to molasses/urea diets during the previous 18 days were allocated on the basis of fasted LW's to treatments in a  $2 \times 2 \times 3$  factorial design as shown in Table 1. The molasses was fed twice weekly in open troughs, and the roughage daily. The heifers were weighed weekly prior to feeding but the preliminary period and the first week of the trial period were excluded from performance calculations to reduce the effect of changing gut fill. Differences between initial and final LW during 22 weeks are given in Table 1.

TABLE 1 Mean LW change (kg) of heifers fed molasses-based survival rations for 154 days

Molasses intake (kg/d raw)	Hay intake (kg/d)	Mol. 100	Mixture		Mean
			Mol. 80 Water 17	Mol. 80 Water 17 Urea 3	
2.0	0	-52.5	-50.3	-36.0	-46.3
2.0	0.3	-45.5	-40.3	-26.8	-37.5
3.2	0	-32.8	-35.0	-11.0	-26.3
3.2	0.3	-38.3	-23.9	-9.3	-23.8
	LSD 0.05 17.20				LSD 0.05 9.93
	Mean	-42.3	-37.4	-20.8	
	LSD 0.05 8.61				

The mean LW changes of heifers receiving 0.3 kg/d hay and zero hay were -30.7 and -36.3 kg respectively ( $\text{LSD}_{0.05} 7.03$ ). The mean LW changes of heifers receiving 2.0 and 3.2 kg/d molasses were -41.9 and -25.0 kg respectively ( $\text{LSD}_{0.01} 9.43$ ).

Increasing the molasses intake markedly reduced the LW loss, as did supplementation with urea, but there was no apparent health benefit of including roughage in the diet. A diet of 2.0 kg/d molasses/urea produced a LW loss similar to that found by Ryley *et al.* (1960) for similar heifers fed 1.4 kg/d cracked sorghum grain, suggesting that molasses/urea has about 0.8 times the energy value of sorghum grain on a DM basis.

Molasses is palatable, relatively cheap in much of Queensland, and clearly has a useful role in the survival-feeding of cattle.

PRESTON, T.R. and WILLIS, M.B. (1970). \*Intensive Beef Production"

(Pergamon Press: Oxford), p. 326.

RYLEY, J.W., GARTNER, R.J.W. and MORRIS, J.G. (1960). *Qld J. Agric. Sci.* 17:339.

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