

EFFICACY OF MOLASSES INCLUSION IN MAIZE BASED SUPPLEMENTS FOR EARLY WEANED *Bos Indicus* CROSS CALVES

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Schlink *et al.* (1988) showed that early weaning reduced lactational anoestrous and 50 to 60 kg liveweight weaned calves could be successfully reared using maize based supplements. Molasses is considerably cheaper and a more readily available energy source in northern Queensland. The present experiment examines the potential of molasses to substitute for maize in the concentrate supplements for early weaned *Bos indicus* cross calves.

The experiment was carried out in covered pens at Lansdown Research Station (19°40'S, 146°48'E). Thirty six early weaned *Bos indicus* cross calves (initial weight 83±9 kg) were paired on the basis of similar liveweight, 1 of 6 supplements was allocated to 1 of 18 pens and fed with *ad Zibitum* chaffed, *Stylosanthes hamata*/grass hay (DMD 46.4% and N 1.2%) for 84 days. Control supplement was fed at the rate of 1.96 kg DM/day and contained 69.2% crushed maize, 26% formaldehyde treated sunflower seed meal, 2.4% limestone, 1.3% salt and 1.1% sodium monophosphate. The 5 supplements containing molasses were fed at an iso-energetic rate with 7.5, 14.7, 29.2, 44.5 and 58.3% molasses inclusion substituting for maize on an ME basis in the supplement. Supplements and hay were fed daily in separate containers. Calves were weighed weekly prior to feeding along with the recording of chaff and supplementorts. Chrome oxide slow release capsules were administered at day 70 to determine DMD in the last 7 days of the experiment. Results were analysed for significance using analysis of variance. The results are shown in Table 1.

Table 1. Mean initial and final liveweights (kg), daily liveweight gain (ADG ;kg/head.day), chaff intake (kg DM/day), supplement intake (kg DM/day), daily feed intake to ADG (FCR) and DMD (%) for calves fed with increasing concentrations of molasses inclusions in the supplement

Molasses content (%)	0	7.5	14.7	29.2	44.5	58.3
Initial weight	82	82	83	82	82	86
Final weight	132	132	132	126	119	117
ADG	0.66 ^{aA}	0.65 ^a	0.64 ^a	0.57 ^{ab}	0.47 ^{bc}	0.42 ^c
Chaff intake	1.10	1.21	1.18	1.24	1.43	1.33
Supplement intake	1.62 ^a	1.67 ^{ab}	1.63 ^a	1.39 ^{ab}	1.03 ^b	1.11 ^b
FCR	4.15 ^a	4.46 ^{ab}	4.37 ^{ab}	4.61 ^{ab}	5.19 ^{bc}	5.78 ^{ab}
DMD	66	66	66	66	63	66

^A Means within rows bearing different superscripts are statistically different (P<0.05).

Increasing molasses concentrations in the supplement significantly (P<0.05) reduced supplement intake with a non-significant increase in chaff intake. Dry matter digestibility of the total diet was unaltered by increasing levels of molasses in the supplement. Overall, high molasses inclusion in the diets of early weaned calves resulted in poorer liveweight gains in this type of calf, from molasses reducing energy density (overall reduction of 8% in density) and inefficient utilization of the supplements.

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SCHLINK, A.C., GIBSON, D.S., LIANG, Z.J. and DIXON, R.R. (1988). *Proc. Aust. Soc. Anim. Prod.* **17**: 326-9.