

SUPPLEMENTATION OF WEANER CATTLE GRAZING DORMANT TROPICAL GRASS-  
LEGUME PASTURES WITH VARIOUS PROTEIN AND ENERGY SUPPLEMENTS

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Molasses fortified with urea (3% w/w) is an efficient supplement for cattle survival near sugar-mills in Queensland and northern New South Wales (Gulbransen 1982). The inclusion of a source of bypass protein such as cottonseed meal or meat/bone meal in the molasses/urea mixture will increase performance (Sundstrom and Palmer 1977).

This experiment was undertaken to examine the effects on liveweight performance of cattle on various protein and energy supplements and of physical treatment of maize grain as a component of a supplement containing bypass protein. The weaner cattle (Sahiwal, Hereford) were grazing a dormant tropical grass-legume pasture and supplemented with molasses and 3% urea ad libitum. The stocking rate was 2.2 weaners/ha and the three 7.3 ha paddocks used were considered uniform after two years of previous experimentation (Nicol, unpublished data).

Three groups each of 16 weaner cattle consumed (g/hd/d) either (1) 800 g cottonseed meal (CSM); (2) 460 g extruded soybeans, 20 g sodium bentonite and 320 g crushed maize (HTPM) and (3) 460 g soybeans, 20 g sodium bentonite and 320 g crushed maize extruded together (GS2); extrusion temperature was 140°C. These meals were fed in separate troughs, once each day, throughout the 105 d experiment.

The calculated ME (MJ/kg DM) and UDP (g/kg DM) contents were (1) 10.5 and 250; (2) 11.1 and 160 and (3) 11.1 and 160 respectively. On day 48 of the experiment the paddocks were burnt and 3 kg medium quality siratro hay was fed per animal per day until the end of the experiment. Results are given in Table 1.

TABLE 1 Liveweight performance and molasses intake by grazing cattle

	Supplement			SE Mean
	CSM	HTPM	GS2	
Initial liveweight (kg)	191	193	192	4.74
Liveweight change (kg)	66	52	51	2.31
Molasses intake (kg/d) d 0 - 49	2.7†	2.3	2.1	
	(1.2-3.6)	(1.0-3.6)	(1.0-3.8)	
d 49-105	3.3	3.0	3.1	
	(2.5-4.8)	(2.0-3.6)	(2.8-3.5)	

†Mean, with range in brackets, calculated from weekly disappearance rates.

There was no significantly different supplement effect on molasses intake or liveweight performance. These results suggest there is no substantial benefit in including maize as a proportion of the energy in a supplement of bypass protein offered to grazing cattle.

GULBRANSEN, B. (1982). *Proc. Aust. Soc. Anim. Prod.* 14:608.

SUNDSTROM, B. and PALMER, W.A. (1977). "Molasses based fattening rations for beef cattle" Tech. Bull. 17, Department of Agriculture, New South Wales.

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