

EFFECTS OF ADDITIONS OF SORGHUM GRAIN TO MOLASSES SUPPLEMENTS ON GROWTH RATES OF BEEF CATTLE

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Tropical regions of Australia have an abundant local supply of molasses which is usually a cheaper source of energy than a cereal grain. However, growth rates on rations containing high levels of molasses are lower than on cereal-based mixtures (Sundstrom and Palmer 1977).

The present experiment used a 65-day pen study to examine the effect of adding cracked sorghum grain to a molasses, urea and cottonseed meal mixture. Seventy-two Brahman crossbred steers (mean 180 kg liveweight) were offered *ad lib.* access to low-quality native pasture hay (0.4%N, 45%DMD) and one of four supplements: (i) *ad lib.* grain mixture; (ii) molasses plus (w/w) 4% urea and 5% cottonseed meal (M4U) plus 50% grain; (iii) M4U plus (w/w) 25% grain; and (iv) M4U alone.

The responses in liveweight gain (LWG) and feed intake are shown in Table 1.

Table 1. Effect of adding sorghum to a molasses mixture plus hay fed to steers in pens for 65 days

Treatment	Grain (%)	LWG (kg/day)	Feed intake (kg/day)		
			Hay	Grain	M4U
1. Grain	100	0.91 ^a	1.24 ^a	4.00 ^a	0
2. M4U* + grain	50	1.06 ^a	1.98 ^b	2.49 ^b	2.49
3. M4U + grain	25	0.74 ^b	2.51 ^c	0.98 ^c	2.94
4. M4U	0	0.45 ^c	2.79 ^c	0	2.75
s.e.	-	0.06	0.15	0.41	0.32

Within column values followed by different letters are significantly different at $P < 0.05$

* Molasses plus (w/w) cottonseed meal 4%, urea 4%, salt 1%, plus monensin

The steers offered grain or M4U plus 50% grain grew significantly faster than the other two treatments. Hay intake was inversely related to grain intake and the lower intake of energy supplement largely explained the reduction in LWG on treatments 2 and 4.

These results indicate that LWG of steers fed a molasses, urea and cottonseed meal supplement can be significantly increased by including grain in the mixture.

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SUNDSTROM, B. and PALMER, W.A. (1977). Molasses-based fattening rations for beef cattle. (Technical Bulletin 17: NSW Agriculture).