

Fat and energy additives to molasses–urea supplements for beef cattle fed a low–quality roughage diet

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Molasses–based mixtures are widely used in northern Australia to provide cost–effective dry season supplements to remedy shortages of energy and protein in pasture (Lindsay and Laing 1996). However, there is a continued need for an energy–dense additive to further boost production of cattle fed these molasses–based supplements.

A pen study was conducted using sixty *Bos indicus* crossbred steers (mean 142 kg liveweight) with twelve animals in three pens of four per treatment. The basal diet of native pasture hay (0.4% N, 45% DMD) was offered *ad lib*. The supplement, M8U, was molasses (100), urea (8) and salt (1) and was also fed *ad lib*. Energy–dense supplements of rice pollard (18% fat) were included at 10 or 20% and cotton oil was included at 2 or 4% to give a total of 5 different treatments.

The steers on M8U+4CSO (40 g/kg cotton oil) performed poorly in the first 45 days. Hay intake was

significantly reduced to 1 kg/d and fibre digestion would have been lower due to the high oil intake. The supplement was changed to 500 g/d whole cottonseed and LWG and hay intake increased markedly. The only significant increase in LWG was when 20% rice pollard was added. This supplement also improved FCR from 62:1 to 23:1.

These results show that the addition of 20% rice pollard to an M8U mixture will improve both LWG and FCR. However adding cotton oil had a nil or detrimental effect on growth rate.

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Lindsay, J.A. and Laing, A.R. (1996). In: *A User's Guide to Drought Feeding Strategies*, p. 55. University of New England Press, Armidale NSW.

Table 1 Liveweight gain, feed intake, and feed conversion ratio (FCR) when lipid additives to a molasses-urea supplement were fed to steers in pens for 72 days.

Treatment	LWG (kg/day)	Feed intake (kg/day)		FCR
		M8U	Hay	
M8U	0.06	1.14	2.56	62
M8U+10RP	0.10	1.29	2.71	40
M8U+20RP	0.18	1.53	2.59	23
M8U+2CSO	0.04	1.15	2.51	92
M8U+4CSO*	0.09	1.12	1.98	34
s.e.	0.03	0.08	0.12	–

* Changed to 500 g/day whole cottonseed at day 45.