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## Energy and Protein Supplementation Can Improved Liveweight Gain of Steers Grazing Good Quality Tropical Pasture in the Wet Season

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### Abstract

To achieve market standard weight at younger age requires a higher growth rates of grazing steers either in the wet and the dry season. The present experiment aimed at maximising wet season growth rates by providing extra energy and protein to steers grazing good quality tropical pasture during the wet season. Twenty-five Brahman crossbred steers ( $203 \pm 4.2$  kg) were allocated into 5 treatments, namely control (Con; grazing only), Con + molasses/urea (3 % urea) at an intake of 0.5 % liveweight (W) (5MU) or 1.0 % W (10MU), and Con + mixture of molasses/urea (55 %), fish meal (25 %) and whole cottonseed (WCS; 20 %) at an intake of 0.5 % W (5MWF) or 1.0 % W (10MWF). All steers grazed fertilised pangola grass pasture (*Digitaria eriantha* cv Steudal) for 84 d between January and April (wet season). Total DM for all paddocks was maintained at  $>1.9$  t/ha. Mean green leaf yield was 1.9 t DM/ha. *In vitro* dry matter digestibility 64 % and crude protein content 15 %. Control steers gained weight at 960 g/d. Providing molasses/urea did not increase liveweight gain (LWG) but inclusion of fishmeal and whole cottonseed markedly increased ( $p < 0.05$ ) daily LWG above control by 34 % and 39 % for 5MWF and 10MWF respectively. There was no statistical difference in the LWG response between the level of supplements. It was concluded that provision of molasses/urea as rumen fermentable energy and protein alone will not increase LWG of steers grazing good quality pangola grass pasture, but the inclusion of whole cottonseed and fishmeal as rumen bypass protein and energy will significantly increase LWG, most probably as a result of the higher bypass protein and energy intake from the MWF supplement.

**Keywords:** Energy protein, grazing, steers, tropical pasture