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EFFECT OF UREA-MOLASSES-BLOCK ON MILK PRODUCTION OF LOCAL COWS UNDER VILLAGE CONDITION

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Twelve local cows in an early lactation stage (2nd-3rd lactation) were assigned to 4 treatments having 3 animals in each group. All cows were offered rice straw *ad libitum*, 0.5 kg rice bran and 3 to 4 hours roadside grazing a day. Treatments were arranged in a 2 x 2 factorial design, in which 2 levels of urea-molasses-block (UMB) (0 and 400 g/h/d) and 2 levels of green grass (0 and 2 kg/h/d) were considered as the factors. Total dry matter intake (DMI) and milk yield were higher ($P<0.05$) in animals provided with UMB. UMB and green grass interacted significantly (P/0.05) to increase the total DM intake and milk yield. The most economical return was obtained with 400 g UMB with 2 kg green grass/h/d where the feed conversion was 2.93 (kg DMI/kg milk).

INTRODUCTION

Rice straw is the principal feed for cattle throughout the year in Bangladesh. But after the flood or drought there is an acute shortage of cattle feed or even of straw. In this situation, urea-molasses-block (UMB) may be a valuable supplement to a straw based ration. The UMB supplies energy, nitrogen and minerals to the animals and thus improves condition of rumen microbes to ferment the ingested feed and provide microbial protein. It also supplies some bypass nutrients to the animals (Amanat and Mirza, 1986). Soetanto (1987) indicated the potentiality of UMB as a supplement for cattle in straw based diets. The present experiment was conducted to study the effect of UMB during scarcity period on the milk production performance of local cows in village condition.

MATERIALS AND METHODS

The feeding trial was carried out from December, 1988 to February, 1989 after the devastating flood of 1988 in Gokulnagar, a village 2 km north west to Bangladesh Livestock Research Institute (BLRI), Savar, Dhaka. Twelve local cows at an early lactation stage (2nd-3rd lactation) having 144-152 kg body weight were assigned to 4 treatments with 3 animals in each group were offered *ad libitum* rice straw, 0.5 kg rice bran and 3 to 4 hours grazing.

The composition of UMB is presented in Table 1. The feeding period lasted for 60 days after an adjustment period of 15 days. Data on feed intake and milk production were recorded daily. Animals were weighed initially.

The DM and CP content of UMB were 85.5 and 19.8%, whereas DM and CP of rice straw and green grass were 88.6, 2.9 and 19.8 and 6.4% respectively.

RESULTS AND DISCUSSION

The DM intake of cows receiving no green grass but UMB at 0 and 400 g level/head/day was 90.12 and 96.76 g, respectively. In contrast, the DM intake of cows fed 2 kg green grass with UMB at 0 and 400 g level per head per day was 99.91 and 110.35 g, respectively (Table 2). UMB and green grass interacted significantly ($P<0.05$) to increase the total DM intake. These results are in line with the findings of Soetanto (1987) who reported that the total DM intake of bull calves fed rice straw, rice bran and block lick was 97.8 g.

Table 1. Percentage composition of the urea-molasses-block

Ingredients	Parts
Molasses	56
Wheat bran	20
Rice bran	12
Calcium oxide	6
Urea	5
Common salt	1

The milk yield of cows for 60 days having no green grass but UMB at 0 and 400 g level/head/day was 55.2 and 84.6 litres, respectively while the milk yield of cows fed 2 kg green grass with UMB at 0 and 400 g level per head per day was 66.6 and 108.0 litres, respectively. The feeding of 2 kg green grass with 400 g UMB showed favourable effect on milk production.

The feed conversion ratios (kg DM intake/litres milk) of the cows receiving no green grass but UMB at 0 and 400 g level/head/day were 4.50 and 3.24, respectively while these ratios were 4.21 and 2.93 for the animals received 2 kg green grass supplemented with 0 and 400 g UMB/head/day. The feed conversion rate was better in the groups where 2 kg green grass and 400 g UMB were supplied.

Based on the findings of above study it may be concluded that rice straw with 2 kg green grass and 400 g UMB supplementation/head/day will be useful for local milking cows during feed scarcity period.

Table 2. Dry matter intake (g) per kg metabolic body weight, 60 days milk yield and feed conversion of cows receiving 0 and 2 kg green grass with UMB at 0 and 400 g levels

UMB (g/day) level	Green fodder intake (kg/day)					
	0			2		
	DM intake	Milk yield (litres)	Feed conversion	DM intake	Milk yield (litres)	Feed conversion
0	90.12	55.2	4.50	99.91	66.6	4.21
400	96.76	84.6	3.24	110.35	108.0	2.93

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