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Short Communication

Effect of Supplemental Feeding of Multi-nutrient Feed Block on Growth Performance of Marwari Lambs

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Sheep farming is a major livestock activity providing employment and supplementing family income in arid and semi-arid regions of the country. During last five decades in the country total area under grazing has declined by 47%, while population of small ruminants has increased by 105%, and the natural pastures available are unable to meet the feed requirement, resulting in poor growth rate (Mohanty *et al*., 2005). Supplementation of non-conventional feeds like urea may give an alternative to overcome this problem to some extent and may substitute natural protein, if found suitable. In the present study an attempt was made to investigate the effect of supplementing multi-nutrient feed block (MNB) in the feeding regime on growth of Marwari lambs.

Twenty Marwari lambs (4-5 months age) were randomly divided into two equal groups for a period of 12 weeks at animal farm and were housed in two separate well-ventilated sheds. Lambs under Group-I (control) were maintained on 6 to 8 hr daily grazing on natural grassland; whereas Group-II lambs were offered MNB after return from grazing. The vegetation available for browsing in the pasture were basically *Lasiurus sindicus*, *Cenchrus* grasses, *Ziziphus nummularia* alongwith tree leaves of *Prosopis cineraria, Acacia senegal*, *Tecomella undulata*, *Acacia tortilis, Azadirachta indica,* etc. One MNB per animal was offered at free of choice. The composition of feed blocks (24x15x6 cm), prepared in animal nutrition laboratory, is presented in Table 1. Clean drinking water was provided free of choice to the flock during confined hours of the day. MNB intake of individual lamb was recorded by weighing the block before and after licking by the lamb. Live body weights of all the experimental lambs were recorded individually at weekly interval till the end of the experiment. Net return per lamb was worked out in context to prevailing market price of feed ingredients and market value of lambs. Data collected were analyzed as per Snedecor and Cochran (1994).

Data analyzed revealed that supplemental feeding of MNB had a highly significant ($P<0.01$) effect on growth of Marwari lambs (Fig. 1). Average daily gain (ADG) of lambs under Group-II was significantly higher by 47% than those under control group (Table 2), which indicated that supplementation of MNB licks had stimulated the growth as evidenced by close observation for good appetite, good health and better digestion (due to proper nutrient balance) in lambs. Further, higher intake of both energy and nitrogen through MNB might have improved the growth performance of lambs. Similar results were reported by Mousa (1993), Mohanty *et al*. (2007) and Rohilla and Bohra (2007). Average daily intake of MNB by a

Table 1. Composition and chemical constitution of MNB

Ingredients	
Molasses	44.5%
Urea	4.3%
Common salt	4.3%
Dolomite	4.3%
Vitamin mineral mixture	4.3%
Wheat bran	32.2%
Guar gum powder	1.0%
Guar meal	5.1%
Constituents	
Dry matter	97.3%
Organic matter	78.3%
Crude protein	22.9%
Ether extract	4.1%
Minerals	21.7%
Total carbohydrates	51.3%
Gross energy (kcal)	381%

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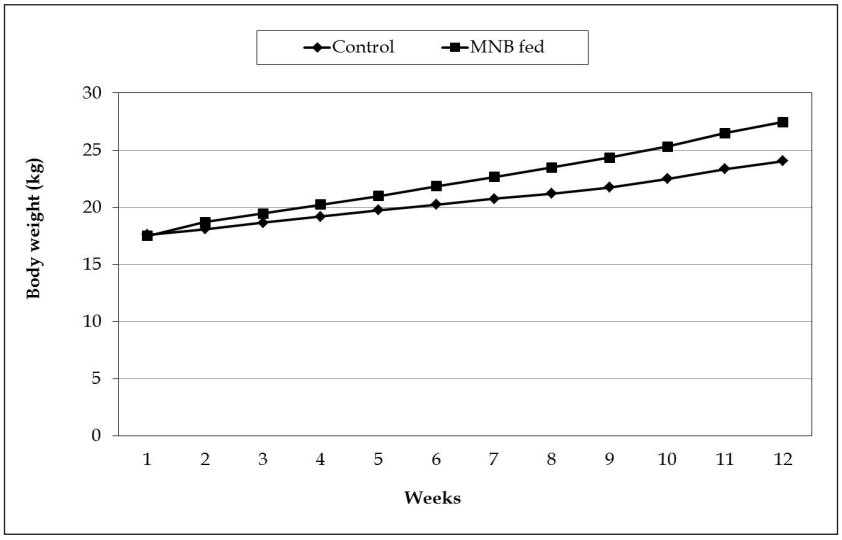

Fig. 1. Weekly body weight of experimental lambs after imposing treatment.

lamb was 62.54 g during the experiment. It was also observed that lambs given MNB consumed more water (40%) in comparison to control lambs; that might be due to urea content in the feed block. However, no side effect or mortality was observed among lambs. Supplementation with MNB to the grazing animals is rather justified, because animals maintained only on grazing do not receive trace minerals and other essential nutrients. Hence, growth, production and reproduction performance of such animals is adversely affected. It has been worked out in several studies (Karim and Rawat, 1996).

Table 2. Growth performance of Marwari lambs fed MNB

Particulars	Control	MNB-fed
Initial body weight (kg)	17.60±1.46	17.50±0.86
Final body weight (kg) *	24.05±1.28	27.45±0.85
Total gain (kg) *	6.45±0.42	9.95±0.28
Average daily gain (g/d) *	75.60±7.65	111.31±13.88
Average daily intake of UMMB (g/d)	---	62.54±2.51
Cost of feeding UMMB (Rs 9.0/kg of UMMB)	---	44.71
Returns from lamb @ Rs 50/ kg live weight	1202.50	1372.50
Net Returns/ lamb	1202.50	1327.79

* Level of significance (P<0.01)

The feeding cost of MNB to lambs for the experimental period indicated that it was really economical. Net return per lamb was found to be higher (Rs. 125.79) than control group. It was concluded from the study that MNB supplementation to grazing lambs significantly improved the growth performance and gave higher returns as compared to control.

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