

Original Research Article

Evaluation of Urea Molasses Mineral Mixture Block (UMMMB) and Dewormer for Improvement in Herd Fertility in Dairy Animals - A On Farm Trial (OFT)

Govind Kumar Choudhary*, R. P. Chaudhary Rajendra Prasad and Rekha Singh

ICAR-Krishi Vigyan Kendra, IIVR, Bhadohi, U. P. (221301), India

**Corresponding author*

ABSTRACT

To assess the effect of urea molasses mineral mixture block (UMMMB) feeding on regularization of estrus in dairy animal, a study was undertaken in the Bhadohi district of Utter Pradesh. Buffaloes (22; age group 5–9 years) of which 11 were in anestrus and 11 were repeat breeder and Cow (6; age group 4-5 years) of which 6 were repeat breeder were selected and dewormed on first day and from next day all the animals were allowed to lick a UMMMB @ 200-300 g daily for 90 days during September to November. Observations on all closely monitored dairy animals revealed an average increase of milk production from 1-1.5 litre per animal per day in 50 % of the animals and in 50 % animals comes in heat and conceives so, milk production decline and some animal stop milking. The fodder intake was also increased following UMMMB supplementation and deworming in dairy animals. Moreover, some of the anestrus buffaloes came in heat during the study period however, after 20-30 days of completion of trial 68.18 % (15/22) of the buffaloes and 66.66% (4/6) came in heat and conceived to first impregnation, which, normally show estrus from December to march. It was concluded that anthelmintic drugs decreases the parasitic load and UMMMB being a good source of energy, protein and minerals improved milk yield, dry matter intake, general health status and reproductive performance of dairy animals.

Keywords

UMMMB,
Anoestrus,
Dairy Animal

Introduction

Presently dairy sector faces a major problem in Livestock are infertility, repeat breeding and anoestus which is a stumbling block for the farming community. The farmers and dairy man reared the animals are generally fed variable quantity of low quality feed resources like wheat straw and rice straw which are characteristically low in fermentable nitrogen, mineral, and readily available carbohydrate. These deficiencies result in low animal growth, poor reproduction, long calving interval, and infertility in animals. Inadequate nutrition is one of the factors that frequently limit the

full utilization of the productive and reproductive potential of livestock in this region. Developing alternate feeding strategies for ruminant by enhancing the nutritive value roughage is of prime importance. A urea molasses mineral mixture blocks (UMMMB) prepared from locally available agricultural byproducts like wheat bran, rice bran, mustered cakes, mineral mixture, common salt and molasses has been adoptable feed supplement which improves nutritional status of animals. (Kang *et al.*, 2007). Baseline survey to identify the commonly problem in dairy

animal and an on farm trial (OFT) were formulated and conducted. However, the successful treatment and control of mineral deficiencies lies in effective and practical methods of supplementation and also the decreases the worm burden. Feeding of only the deficient minerals may not improve the general health status, production and reproduction of animals in these areas but also lower down the worm infestation. Hence, the present study was undertaken to evaluate the effect of UMMMB as supplementary feeding and deworming on the general health condition, milk yield and reproductive performance of dairy animals.

Materials and Methods

Adult Murrah and cross breed buffaloes (22) and cross breed cow (6) from different block and villages as given below of Bhadohi district was selected by ICAR-Krishi Vigyan Kendra, Bhadohi, U.P., India.

They generally fed their animal through grazing and variable quantity of local grasses and wheat straw by 28 farmers were selected for the present study. Trial was conducted during the period from September to December. The buffaloes were in 5-9 years and cross bred cow of 4-5 years age group. Anoestrus was observed in 22 buffaloes and 6 cows and 23 animals were in lactation.

The UMMMB was prepared by cold method by UMMMB making machine prepared by ICAR-Indian Veterinary Research Institute, Bareilly by mixing molasses (40%), urea (10%), rice bran (10%), mustered cakes (10%), cement (4 %), mineral mixture(Agrimin fort[®]), common salt 4%, lime(CaCO₃) as per Singh (2009) containing DCP-70%, MgSO₄-29%, CuSO₄-0.5%, MnSO₄0.5% and K. iodate-0.09%, common salt (1%) with slight modification. All the

animals were dewormed before to allow to lick a 2-2.5 kg block of UMMMB @ 200–300 gms/day daily for 90 days. Close observations were made on buffaloes on changes, if any, in feed intake, milk yield and oestrus activity.

Statistical comparison of data was done as per Snedecor and Cochran (1994).

Results and Discussion

Most of the selected buffaloes showed poor body condition with loss of musculature, dull and depressed with rough and dried skin coat. Anoestrus was the major problem as 100 % of the selected buffaloes and cows had not shown estrus for the last over 6 months. The health condition of the selected buffaloes suggested that malnutrition and over worm load might have been the cause of anoestrus.

However, after 90 days of supplementation with UMMMB marked improvement in the general health condition, shiny and soft pliable skin coat was observed. Observations on all closely monitored buffaloes revealed an average increase in feed intake and milk yield after UMMMB supplementation. At initiation of UMMMB supplementation the daily fodder intake was 14 kg (11 kg dry and 3 kg green at grazing time) and daily milk yield 2.55 ± 0.27 kg which was increased to 19 kg (14 kg dry and 5 kg green) and 3.51 ± 0.53 kg, respectively, at the end of trial. The increase in DM intake was due to increase in nutrient intake and their utilization, which is in agreement with the earlier findings (Singh and Singh 2003).

The increased milk production may be attributed to higher supply of crude protein, energy and minerals to animals and increased digestibility of the ration (Brar and Nanda 2008).

Adult Murrah and cross breed buffaloes (22) and cross breed cow (6) from different block

Sl. No.	Name of Block	Name of Villages
1.	Aurai	Uchit pur, Gambhir Singhpur, Harihar Pur, Bhagauti Das Pur,
2.	Bhadohi	DuttiPur, Palaihyan, KhetalPur, Tarapur
3.	Abholi	Virbhadra Patti
4.	Deegh	Kurmaicha



Urea Molasses Mineral Mixture Block



UMMMB lick by the Buffalo

UMMMB increases the conception rate might be due to the changing the hormones like thyroxine, progesterone and mineral status like calcium, phosphorus, iodine of the body which leads to optimum function of the reproduction organs (Singh *et al.*, 2010).

These optimum levels of hormone initiates the normal estrus cycle and normalize the herd fertility.

Thus, it can be concluded that deworming along with the UMMMB supplementation enhanced dry matter intake, milk yield, general health status and reproductive performance of the dairy animal.

Acknowledgements

Author is thankful to Director, ATARI, Kanpur India, for funding the OFT run by Krishi Vigyan Kendra under which the work was carried.

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