anacon 18
PATNA
19-21 Nov 2018

Effect of Customized Mineral Supplement on the Reproductive Performance of Buffaloes

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An on-farm experiment was carried out to assess the efficacy of customized mineral supplement on reproductive performance of buffaloes. The problematic buffaloes and heifers (n=52) from Makhrandpur village of Bareilly district were selected for the on-farm study. The animals were fed as per the farmers' practices along with farming system based mineral supplement @ 50g per day. The amount of concentrate mixture and basal roughages (wheat/paddy straw) were provided as per the farmers' practices. The total daily dry matter intake was improved in buffaloes with mineral supplementation. Following 66.70±5.10 days feeding of farming system based mineral supplement, 65.38% of the problematic buffaloes came into heat and were inseminated; out of which 15.38 % buffaloes returned to heat. The later animals were continued to feed the mineral supplement and became pregnant upon successive two to three cycles. The customized mineral supplement significantly improved reproductive performance of problematic buffaloes.

Keywords: Buffaloes, Minerals, Mineral supplement, Reproductive performance.

BACKGROUND

Indian livestock suffer from deficiencies or imbalances in minerals because they are mainly maintained on cereal straw based diets or grazing without access minerals. Minerals are one of the important nutritional components having significant role in health, production and reproduction of the animals. Supplementation of micro-nutrients such as area specific mineral mixture improved growth performances and plasma mineral status, without affecting nutrient intake and utilization in animals (Mahanta *et al.*, 2009). Therefore, this study was carried out to assess the efficacy of farming system based mineral supplement on the reproductive performance of buffaloes.

METHODOLOGY

A *on-farm* trial was carried out on problematic buffaloes and heifers (n=52) from Makhrandpur village of Bareilly district. The animals were fed as per the farmers' practices along with farming system based mineral supplement @ 50g per day. The amount of concentrate mixture and basal roughages (wheat/paddy straw) were provided as per the farmers' practices. The confirmation of pregnancy was done by per rectal examination after 2 months post insemination. The measurement of length and heart girth was made at 30 days interval to estimate changes in live weight. Records were kept by the researcher of the amount and type of supplement/ basal feed offered to each buffalo in consultation with farmers. The information about various parameters of the study was collected during bi-weekly visits to the households of the buffalo owners.

RESULTS

The total daily dry matter intake was improved in buffaloes by mineral supplementation but with no significant ($P<0.05$) difference (Table 1). The data revealed that 65.38% of the selected problematic buffaloes given the farming system based mineral supplement came into heat following 66.70±5.10 days of supplementation and were inseminated; out of which 15.38 % buffaloes returned to heat. The later animals were continued to be fed on the mineral supplement and became pregnant upon successive two to three cycles. However, a total of 16.24% of the buffaloes remained non-responsive and did not come to heat.

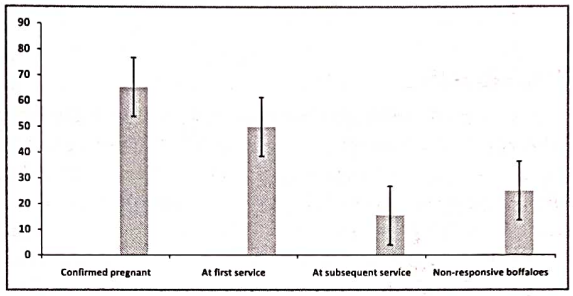

Fig. 1. Effect of Boostermin supplementation on the reproductive performance (%) of buffaloes.

Table 1. Effect of mineral supplement on the feed intake by buffaloes

Variables	Control	Treatment
Live weight (kg)	425.6	424.8
Voluntary feed intake, kg/d		
Concentrate	2.10	2.15
Straw	6.41	6.82
Green fodder	1.30	1.35
Total DM	9.81	10.32

CONCLUSION

On the basis of above results, it may be deduced that farming system based mineral supplement supplementation @ 50 g/d improved the reproductive performance of problematic buffaloes.

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