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Short Communication

Effect of Farm prepared Feed on the Production Performance of Buffaloes

Kumar Sandip[1], Jain Aklank[2] and Gupta Anoop Kumar[3]
JNKVV Krishi Vigyan Kendra, Shahdol-484001, MP, INDIA

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Abstract

The on farm trail was conducted in district Shahdol, MP, India at farmer's field during winter season on fifteen improved breeds of buffaloes of similar stage of lactation (mid-lactation). They were divided in three groups of five buffaloes each. During trail period milk yield per animal per day of T_1 group was significantly ($P<0.05$) lower than T_2 and T_3 groups. There were no significant difference ($P>0.05$) in milk production between T_2 and T_3 groups. There were no significant differences in fat percentage among different groups also. The highest economic group is T_2 where the benefit cost ratio was highest i.e. 2.9:1.

Keywords: Maize, mineral mixture and buffalo.

Introduction

The successful economics of dairy cattle and buffalo production lies in ensuring the proper optimal reproductive rhythm of each individual in the herd. Any deviation in the breeding rhythm results in progressive economic loss[1,2]. When animals are underfed certain metabolic changes occur which reflects on their productivity, reproduction and blood and tissue values. Certain mineral constituents in blood have been found to be associated with the fertility status of buffalo and their reproductive behaviour[3,4]. Diet of animals is composed of carbohydrates, fats, proteins, minerals and vitamins. Among these nutrients, minerals and vitamins are required in very small amounts and are referred as micronutrients[5]. Now a day, lot of information is coming up on the role of minerals and vitamins in animal health, production and reproduction. Under field conditions, most animals receive imbalanced net energy (NE), dry matter (DM), etc. overfeeding of nutrients leads to economic loss as well as environmental pollution whereas underfeeding of nutrients results in loss due to decline in production. A study was conducted to reveal discrepancies between nutrients offered and those required as per BIS and to evaluate the effect of altering the level of minerals on the performance of buffaloes under field condition.

Material and Methods

The trail was conducted in district Shahdol, at farmer's field during winter season on fifteen improved breeds of buffaloes of similar stage of lactation (mid-lactation). The buffaloes were divided in three groups of five buffaloes in each. All the buffaloes were maintained on similar feeding and managemental conditions. The buffaloes were under stall fed condition. The study was conducted for sixty days. T_1 is control group was allowed to be fed as per feeding schedule (1 kg arhar chuni, 1 kg mustard cake and 1 kg wheat bran) designed by the dairy farmer. Farm prepared concentrate mixture (contained maize 40 kg, arhar chuni 13 kg, mustard cake 30 kg, wheat bran 15 kg and salt 2 kg) was fed at the rate of 1 kg for every 2 kg of milk produced to treatments group (T_1 and T_2). Farm prepared concentrate mixture was based on the protein and energy requirement as advised by the BIS (1992). 5 kg wheat straw offered to each animal per day. In T_2 40 gram mineral mixture per day per buffalo and in T_3 50 gram mineral mixture per day per buffalo supplemented with sani to each animal per day. After adaptation of 21 day period the data on milk production was recorded on weekly basis. The mean and standard error were estimated and test of significances among the treatments were statistically analyzed[6]. Agrimin forte product was used as mineral mixture.

Results and Discussion

The average daily milk yield of all the experimental animals were recorded on weekly basis mean of all the three groups were calculated table-1.

Table-1
Composition of feed

Nutrients (%)	Control	Treatment
Dry matter	90.0	92.0
Crude protein	21.7	18.2
Ether extract	5.2	4.9
Crude fibre	11.0	6.8
TDN	71.0	75.0

Overall, milk yield per animal per day of T_1 group was significantly ($P<0.05$) lower than T_2 and T_3 groups. There was no significant difference in milk production between T_2 and T_3

groups. There were no significant differences (P>0.05) in fat percentage among different groups table-2.

Table-2
Weekly milk yields (l/d/animal)

Milk production	T1	T2	T3
I	6.68±0.21a	7.80±0.33b	7.82±0.29b
II	6.68±0.20a	7.90±0.27b	7.92±0.32b
III	6.48±0.18a	7.96±0.31b	7.90±0.30 b
IV	6.76±0.17a	7.94±0.26b	7.86±0.32b
V	6.54±0.14a	7.96±0.27b	7.90±0.29 b
VI	6.50±0.15a	7.90±0.32b	7.86±0.30b
VII	6.48±0.17a	7.94±0.29b	7.90±0.33b
VIII	6.56±0.20a	7.90±0.27b	7.90±0.28b

Economics of dairy farming was calculated over the experimental period and calculated on daily basis table -3. If considering all other factors constant among all the treatments for expenditure except feed, the highest economic group is T_2 where the benefit cost ratio was highest than others i.e. 2.9:1 the similar effect result observed by other authors also[7-10].

Table- 3
Fat percentages among different group

FAT %	T_1	T_2	T_3
I	5.80±0.05	5.80±0.07	5.82±0.06
II	5.74±0.04	5.82±0.04	5.82±0.08
III	5.82±0.04	5.81±0.08	5.80±0.03
IV	5.76±0.04	5.84±0.07	5.92±0.08
V	5.74±0.02	5.80±0.03	5.88±0.06
VI	5.74±0.05	5.94±0.04	5.94±0.07
VII	5.80±0.05	5.82±0.05	5.84±0.02
VIII	5.86±0.05	5.88±0.04	5.88±0.06

Table-4
Economics

Particulars	T_1	T_2	T_3
Gross return	7902	9495	9459
Cost of feeding	3180	3300	3360
Net profit	4722	6195	6099
B:C ratio	2.5:1	2.9:1	2.8:1

Conclusion

The economic milk production was highest in T_2 group than others and there was no difference in fat percentage. This was concluded that concentrate mixture with 40 gram mineral mixture per day per buffalo is economical in the given geographical area.

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