



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2017; 6(3): 468-469
Received: 17-03-2017
Accepted: 19-04-2017

Vijay Chandra
Krishi Vigyan Kendra
Maharajganj, Narendra Dev
University of Agricultural and
Technology, Faizabad, Uttar
Pradesh, India

VB Singh
Krishi Vigyan Kendra
Maharajganj, Narendra Dev
University of Agricultural and
Technology, Faizabad, Uttar
Pradesh, India

Manoj Kumar Singh
Krishi Vigyan Kendra
Maharajganj, Narendra Dev
University of Agricultural and
Technology, Faizabad, Uttar
Pradesh, India

Study on the efficiency of feed additives in milk production of buffalo in Tarai areas of district Maharajganj, UP

Vijay Chandra, VB Singh and Manoj Kumar Singh

Abstract

An On Farm Testing (OFT) conducted to study the effect of feeding Mineral Mixture (M.M.), Himalaya Battisa (H.B.) and Urea Molasses Mineral Bricks (U.M.M.B.) in four groups of buffaloes on their productivity level. The study was under taken at the village- Khesrari in district Maharajganj, UP. In the village Khesrari a total of 20 buffaloes were selected and divided into 4 groups of five buffaloes in each group. First group was kept as control group second group of buffalo was given routine feeding material along with 30 gm of Albendazole/animal every month. In third group each buffalo was provided 40 gm Mineral Mixture (M.M.) 40 gm H.B. and 30 gm common salt per day for three months, while buffaloes in fourth group were provided one U.M.M.B. per month continuously for 3 months. On the basis of experiments conducted it was observed that the third group of buffaloes which was given MM, H.B. and common salt in addition to the routine feeding material produced 700 ml milk more than the other the groups and net profit was Rs. 11.20/-animal/day. It may be concluded that the use of MM.H.B. & common salt helps not only in increasing the milk yield of buffaloes but also proved to be economically viable for the poor communities of the experimental area.

Keywords: Mineral mixture, Himalayan Battisa, urea, molasses

Introduction

Buffaloes are considered as milking machines in India. Cattle & buffaloes share a complementary & sustainable relationship with crops under mixed farming system prevalent in India. Buffalo population is only one third (94.13million) of the national bovine herd (219.64million, FAO. 2002). India has ten well-defined buffalo population in Maharajganj District is 1.13 lakh. Buffalo play an important role in the economics of the country and UP State. Buffalo is emerging as an important species in UP particularly. Although buffalo population is less than cattle population in India, even then it contributes about 60% milk production (46.5million tones) through during winter season; buffaloes are in cold stress, thus adversely affecting their milk production. This cold stress on animals can be reduced by providing proper housing & feeding higher proportions of concentrate in the daily ration. The improved scientific management practices have not reached in remote rural areas. The dairy farmers rearing buffaloes in Maharajganj district rear them under mixed farming system and lack the latest technology knowledge of feeding and management etc. Which in the term lower the productivity of these animals.

Therefore it is essential that the farmers particular Schedule TARAI should be demonstrated about improved feeding practices. Hence efforts have been made to assess the impact of improved management practices on low milk producing buffaloes in farmers heard with the following specific objectives to measure the effect of Mineral Bricks & deforming agent on milk production of buffaloes.

Materials and methods

Village Khesrari of district Maharajganj was selected for On Farm Testing (OFT) Where. Agriculture is the main profession and livestock is subsidiary occupation. Therefore farmers have adopted mixed farming. Trial was conducted on 15 farmers herds keeping 20 buffaloes. The entire population was divided in four groups with 5 buffaloes in each treatment viz T₁- Control with traditional practices of feeding T₂- Traditional feeding + Albendazole (30gm/buffalo/doze.), T₃- Traditional feeding + mineral mixture (40gm) + Himalaya Battisha (40gm) + salt (30gm) buffalo/day, T₄- Traditional feeding + urea molasses mineral bricks (one brick/animal/month). All the buffaloes selected had calved 3 months prior to this trial. Hence all buffaloes were at similar stage of lactation.

Correspondence

Vijay Chandra
Krishi Vigyan Kendra
Maharajganj, Narendra Dev
University of Agricultural and
Technology, Faizabad, Uttar
Pradesh, India

The milk recording was done on 1st day and last day of trial for which lasted 90 days. Drinking water and feeding was provided adlib as per existing farmers practices in all groups. The composition of Urea Molasses Mineral Bricks (UMMB) was Urea 10, molasses 40, Calcium oxide 9, phosphoric acid 2, mustard cake 12, DORP 24, Salt 1 and mineral mixture 2 in percentage [1]. The local buffalo production system was studded. The causes for low productivity were indentified and the major constraints were poor housing imbalance feeding and lack of professional scientific management. The cost includes for purchase of M.M. @Rs.23 per kg HB Rs 98/kg U.M.M.B. Rs.29/brick common salt Rs 5/kg one Albendazole Rs 110/300 gm pkt. The standard statistical analysis was done as per standard procedure [14].

Result and discussion

The milk production at the beginning and end of the trial is presented in Table. It was observed that the increase in milk production was lowest with 0.200 ± 0.235 in T₃ while in T₂ and T₄ it was equal. The T₃ group was significantly ($P < 0.05$) superior to all other group while the T₂ and T₄ groups did not differ significantly among themselves. The highest improvement in T₃ was basically due to addition of mineral

mixture. Himalaya Battisa and common salt. It can be inferred from these results. that there deficiency of minerals and salts in buffaloes of this area as well as due to roughage feeding their digestion seems to be not- proper therefore it had results were in conformity with numbers of research workers [3, 5, 6, 8, 9, 10, 11, 12, 13, 15] same assumption in their studies and found positive effect of enrichment of wheat straw with Urea in the animals.

The cost of feed additives was estimated it was observed that T₃ was most costly amounting to Rs 4.66/d/animal while the cost for T₄ was Rs. 0.97 and T₂ Rs. 0.67/day/animal. The net profit day/animal from this input was higher with Rs. 11.20 in T₃ Rs 6.40 in T₂ and to remaining groups while T₂ & T₄ did not differ significantly. This is in agreement with earlier studies [2, 7].

Conclusion

The increase of milk yield in buffaloes resulted through feed additives as MM, H.B. & Salt in addition to farmers existing practices as well as economic production systems. It can be inferred from this trial that feeding of feed additives in beneficial to the buffaloes. Therefore, farmers may be recommended to add feed additives for higher net net profit in the milk production of buffaloes.

Table 1: Milk production of buffaloes along with their costs and net profit.

| S. No. | Particulars | Existing Practice | | Under O.F.T. | |
|--------|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | | T ₁ | T ₂ | T ₃ | T ₄ |
| 1 | Treatment | | | | |
| 2 | Milk Yield (lit. /day/Animal) | | | | |
| | i) Initial prod. | 4.2 ^a ±0.234 | 3.6 ^a ±0.210 | 5.2 ^b ±0.316 | 4.1 ^a ±0.312 |
| | ii) Final Prod. | 4.4 ^a ±0.188 | 4.0 ^a ±0.203 | 5.9 ^b ±0.255 | 4.5 ^a ±0.321 |
| 3 | Average increased | | | | |
| | Yield | 0.200 ^a ±0.235 | 0.400 ^b ±0.489 | 0.700 ^c ±0.235 | 0.400 ^b ±0.200 |
| | (Lt./day/animal) | - | 300 | 2099 | 435 |
| 4 | Total Additional Cost (Rs.) | - | 0.67 | 4.66 | 0.97 |
| 5 | Additional Cost (Rs.) day/animal | | | | |
| 6 | Net Profit (Rs.) Animals /day | 3.2 | 6.4 | 11.2 | |

Values in a particular mean different superscripts differ significantly ($P < 0.05$)

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