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Evaluation of Grooming and Bathing Practice in Dairy Buffaloes in Village Condition

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ABSTRACT

An on farm trial (OFT) was conducted at farmer's field in Morena district of MP. to evaluate the effect of combination of grooming and bathing (grooming followed by bathing two times a day) on milk yield during rainy season on 10 graded Murrah buffaloes. Per day milk yield of Farmer's practice group buffaloes (T_1) and Trial group buffaloes (T_2) were recorded in liters. The data on milk yield as influenced by combination of grooming and bathing in buffaloes revealed 9.11% increase in T_2 group buffaloes over T_1 group buffaloes. There was 17.80% increase in net return in Trial group buffaloes (T_2) over Farmer's practice group buffaloes (T_2). On the basis of results it can be concluded that grooming followed by bathing (two times a day) practice can be suggested to buffalo farmers as a routine managemental practice in rural conditions.

Keywords Grooming, Bathing, On farm trial (OFT), Milk yield, Buffalo.

INTRODUCTION

Today, milk production in India has increased to 210 million tonnes in 2020-21 and is growing at the rate of two per cent in the whole world, whereas in India, its growth rate is more than six per cent. The per capita availability of milk in India is much higher than the world average. In three decades (the 1980s, 1990s and 2000s), the daily milk consumption in the country rose from a low of 107 grams per person in 1970 to 427 grams per person in 2020-21 as against the world average of 322 grams per day during 2021(PIB,GOI,2022). Dairying is acknowledged as the major instrument in bringing about socio–economic transformation of rural people in India (Srivastava 2014). Dairy buffalo and cattle are social animals. They perform optimally until they are in touch of fellow animals. Animals when notice danger, get closer to each other to protect themselves. The animals, exhibit the social behavior when they graze, bellow (Buffalo) and resting. Besides providing health benefits grooming strengthens group communication. In addition to social effect of grooming, healthy

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animal appearance can be understood from clean, glossy and bright skin. Because of these grooming is considered as innate and unavoidable activity of animals primarily to protect skin health. Grooming plays an important role in maintaining the normal physiology of the animals at the production level and in the healthy functioning of their temperature control mechanism to maintain their health and well-being. These animals perform grooming by mutual rubbing to each other or licking each other or themselves with their tongues. Buffaloes mostly used the nearby surrounding object such as manger, nearby trees, walls of shed, hooks available in sheds. The overall objective of grooming of animal is to give them the best overall conformation. Grooming has considerable biological importance to dairy animals. The most obvious importance is in reduction of the number of ectoparasites on the animal's body coat. Animal grooming is an art and science both that results into expressing the best attributes of the animal. Grooming in Indian context is very old practice and considered as a means of bonding of animals with their owners. Environmental enrichment attempts to allow the dairy animal to express their natural behavior and fulfill biological needs. Stress reduces well-being of dairy animal and it may actually lead to decreased performance. Environmental enrichment helps to improve dairy animal's well-being by offering them "behavioral opportunities" to reduce stress naturally. Heat stress is a major factor that reduces milk production, feed intake and reproductive performance in dairy animal. Water is commonly used to cool dairy buffalo in summer. Stress as the magnitude of forces external to the body which tend to displace its systems from their normal physiological condition. The experimental findings revealed significant positive effect of different combinations of grooming and bathing on Standard plate count, Lactic acid bacterial count, Proteolytic bacterial count and Lipolytic bacterial count except, Coliform count in raw milk during winter and summer seasons (Aslam *et al.* 2017).

Keeping these facts in mind the present study was planned as an on farm trial (OFT) in the adopted village of Joura Block of Morena district of Madhya Pradesh India, to evaluate the managemental practice of grooming and bathing during rainy season in graded Murrah buffaloes.

MATERIALS AND METHODS

OFT has been conducted on ten graded Murrah buffaloes in mid-lactation phase (100-150 d) by performing grooming of animal with the help of brush followed by bathing of animals two times a day (grooming for 7.5 minutes followed by bathing of animals), ten similar Murrah buffaloes maintained under almost similar rearing practice have been reared under farmer's practice (no practice of grooming and bathing) at Farmers field, in Morena district of MP to evaluate the practice of grooming and bathing. Before conducting OFTs, a list of farmers was prepared from group meeting and specific skill training was imparted to the selected farmers regarding different aspect of dairy farming. The necessary step for selection of site and farmers, layout of trial, were followed as per the prescribed norms. Farmers selected for trial were trained to adopt the standard managemental practices during the study period. Data on daily milk yield were recorded for both Farmer's practice group buffalo and trial group buffaloes. Data on daily milk yield were collected from both farmers practice group and recommended practice group animal owners.

RESULTS AND DISCUSSION

The data revealed that milk yield in T_2 group buffaloes was higher than the buffaloes reared under farmers practicing T_1 group during the period of trial (Table 1 and Fig. 1). There was a increase in milk yield of

Table 1. Milk yield and economic Performance of OFT in graded Murrah buffaloes.

Milk yield (Litters/animal/3 months)		% change in yield over farmers practice T_1	Net return (Rs/buffalo/3 month)		B:C ratio	
Farmers practice (T_1)	Recommended practice (T_2)		T_1	T_2	T_1	T_2
587.5	641.5	9.19%	11232.5	13232.5	2.20	2.41

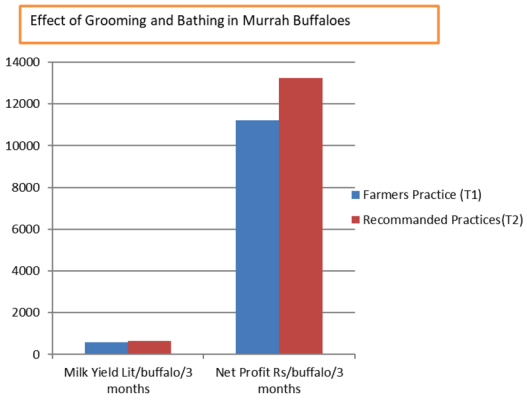

Fig. 1. Effect of grooming and bathing in graded Murrah buffaloes.

T_2 group buffaloes over T_1 group buffaloes to the tune of 9.11%. There was increase in net return in T_2 group buffaloes to the tune of 17.80% over the farmers practice group buffaloes. The benefit cost ratio was 2.21 and 2.42 respectively in T_1 and T_2 group animals. The information regarding grooming practices in buffaloes is rare however few papers are available regarding the practice of grooming and bathing in dairy crossbred cows in which increase in milk production was reported (Mishra 2012, Mishra 2014, Pandey and Neeraj 2014 and Verma *et al.* 2017) which indicated the positive effect of grooming and bathing in dairy cows. Some of the scientists (Mandel *et al.* 2013) reported that the frequency of mechanical brush use decreases in case of stressful situations. It can be accepted that increased brush use may be indicator of positive emotional status of cows. Looking to the positive effects of grooming and bathing in dairy cattle further extension of these practices was found beneficial in dairy buffaloes at village conditions.

CONCLUSION

There was increase of 9.11% and 17.80% in milk yield and net profit respectively trial group buffaloes over farmer's practice group buffaloes, which suggested the superiority of grooming followed by bathing practice two times a day of dairy buffaloes during rainy season.

Health of the dairy animal and its hygiene are the two broad factors for clean milk production. Considering the health of dairy buffaloes it is said that she should be free from any type of disease particularly of Zoonotic nature. The problem of unhygienic production of milk is of tremendous public health importance in developing country like India where the existing condition of milk production at most of the places is far below the level of satisfaction. Therefore adoption of two times grooming and two time bathing a day, graded murrah buffaloes under hot and humid conditions of rainy season may be practiced by buffalo keepers as an effective husbandry practice to harness full potential of milk yield besides getting hygienic milk.

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