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Feeding and managemental practices followed by buffalo owners in Nagpur Tahsil of Nagpur District

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Abstract

The present investigation was carried out on “Feeding and Managemental practices followed by buffalo owners in Nagpur tehsil of Nagpur district”. The sample consists of 200 farmers from 10 villages which were selected randomly. In feeding practices, majority of the farmers were followed grazing + stall feeding. The adoption of processing of concentrates before feeding was 52.50 percent. Feeding of green fodder was 86.00 percent. While none of the farmers followed preparation of silage. However, 69.50 percent fed concentrate @ 50 percent of milk production. 57.50 percent buffalo owners adopted processing of roughages and processing of concentrates followed by 86.00 percent. In management practices over all farmers adopted washing udder before milking and regular cleaning of shed i.e., 95 percent. Majority of farmers (63.00%) followed loose housing system. Only (37.00%) farmers used conventional housing system. Farmers reared animal in Kaccha house (60.50%) and pucca floor of shed (41.50%). The major limitations expressed by the respondent were high cost of mineral mixture, high value of concentrates, non-availability of agro-industrial by products, lack of scientific knowledge, shortage of green fodder, lack of storage facility, lack of loan facility and lack of interest.

Keywords: Feeding practices, Management practices, Buffalo owners

Introduction

Today's world is the world of knowledge based on information and technology. Still today, the livestock are considered as backbone of Indian Agriculture. Currently India has highest buffalo population in the world 109.85 million during 2019 (Anonymous 2019) ^[1, 2]. Buffalo is more productive than cattle due to better feed conversion efficiency and more resistant to disease hence buffaloes are now more preferred by the farmers over the cattle. In India the buffalo's population are increasing and outnumber the cattle population simply because of their easy adaptability in harsh environment and producing milk of higher fat content. It is mainstay in production of butter and ghee in the country amongst various management practices (feeding, breeding, housing and health care etc.).

It is feeding and housing which play a vital role in exploiting the genetic potential of animal. Feeding alone contributes about 60-70 percent of total cost of milk production and offers the greatest scope to bring the input-output relationship to an economical level. Besides, providing proper housing to dairy animal is also equally important in order to achieve maximum return from the animals. Better housing arrangements not only provide shelter but also keep the animals in comfortable zone especially during severe environmental conditions i.e., either extreme cold or hot when animals are most vulnerable to get afflicted with stress conditions. As we are aware about feeding and management is a key factor for the success of any dairy farming, the role of feeding management is very important. Feeding management plays a very significant role in exploiting the full potential of dairy animals. The feeding constitutes about 75-80 percent of total cost incurred on milk production in dairy business (Verma and Sastry, 1994) ^[10]. Insufficient feeding of dairy cow results in poor growth, delayed maturity, late conception and poor production. Present study was conducted to study the existing feeding practices prevalent in the Nagpur Tehsil because it is necessary to obtain first-hand information on the existing buffalo husbandry practices being followed by the buffalo owners.

Materials and Methods

The present study was undertaken in Nagpur tehsil of Nagpur district of Maharashtra state. Over all 200 buffalo owners were chosen randomly that is 20 buffalo owners from ten village.

The data of present study was collected from the selected buffalo farmers with the help of presented interview schedule (Questionnaire). Based on the objectives of study, a detailed questionnaire was prepared which was used to collect data

from the buffalo owners.

Results and Discussion

Table 1: Housing management of buffaloes followed by various groups of farmers

Sr. No.	Particulars	Landless (N= 32)	Marginal (N= 78)	Small (N= 59)	Medium (N= 20)	Large (N= 11)	Total (N= 200)
A	Type of housing						
I.	Kaccha	22 (68.75)	52 (66.66)	36 (61.01)	8 (40.00)	3 (27.27)	121 (60.50)
II.	Pacca	10 (45.45)	26 (50.00)	23 (38.98)	12 (60.00)	8 (72.72)	79 (44.50)
B	Type of flooring						
I.	Kaccha flooring	20 (62.50)	57 (73.07)	32 (54.23)	6 (30.00)	2 (18.18)	117 (56.50)
II.	Concrete flooring	12 (56.25)	21 (26.92)	27 (45.76)	14 (70.00)	9 (81.81)	83 (41.50)
C	Type of roofing material						
I.	Thatched	23 (71.81)	46 (58.97)	32 (54.23)	13 (65.00)	7 (63.63)	121 (60.50)
II.	Asbestos	8 (25.00)	32 (41.04)	27 (45.76)	7 (35.00)	5 (45.45)	79 (39.50)
D.	System of housing						
I.	Loose housing	25 (78.12)	60 (76.92)	36 (61.01)	3 (15.00)	2 (18.18)	126 (63.00)
II.	Conventional system	7 (21.87)	18 (23.07)	23 (38.98)	17 (85.00)	9 (45.00)	74 (37.00)
E.	Regular cleaning of shed	30 (93.75)	75 (96.15)	57 (96.61)	19 (95.00)	10 (90.90)	191 (95.50)

Type of housing

In the present study, the dairy buffalo owners of large group were (27.27%), medium buffalo owners (40.00%), small (61.01%), marginal (66.66%) and landless group (68.75%) reared the animals in kaccha type of housing. Whereas, the dairy buffalo owners from large sized group (72.72%), medium (60.00%), small (38.98%), marginal sized group (50.00%) and landless (45.45%) Pacca type of housing to the animals. At an overall level, 60.50 percent dairy buffalo owners reared the animals in Kaccha type of housing, while 44.50 percent buffalo owners has Pacca type of housing. Ghuge (2014) ^[4] observed that majority of the dairy farmers keep their animals in Kaccha type of housing system as due to conditional and financial factors.

Type of flooring

It was revealed from table 1 that, 62.50 percent buffalo owners from landless sized group provided kaccha flooring in the shed followed by marginal (73.07%), small (54.23%), medium (30.00%) and large sized buffalo owners group (18.18%). At an overall level, 56.50 percent buffalo owners were having Kaccha flooring resulting in unsanitary condition in the shed. Probably this might be due to financial limitations. Whereas, the maximum dairy buffalo owners from large sized group (81.81%) followed by medium (70.00%), small (45.76%), marginal sized group (26.92%) and landless (56.25%) provided concrete type of flooring to the animals. At an overall level, 41.50 percent dairy buffalo owners reared the animals in concrete type of flooring. Kishore *et al.* (2013) ^[5] conducted a survey and stated that, 84.17 percent of farmers has kachha type of flooring while 15.83 percent has concrete flooring. This result satisfy the finding were majority of buffalo owners has kachha type of flooring.

Type of roofing material

The dairy buffalo owners of large group were (45.45%), medium buffalo owners (35.00%), small (45.76%), marginal (41.04%) and landless group (25.00%) keep the animals in house roofed with asbestos sheet. At an overall level, 44.50 percent dairy buffalo owners reared the animals in Asbestos sheet roofing house, while remaining 60.50 percent of buffalo owners covered their house with Thatched roofing material were 71.81 percent landless farmers followed by medium land holding farmers 65.00 percent, large land holding farmers 63.63 percent, marginal land holding farmers 58.97 and small land holding farmers 54.23 percent. The similarity in the observation reported by Kishore *et al.* (2013) ^[5] where 60 percent of farmers provide Thatched roof to the housing system.

System of housing

At an average moreover farmers practices loose housing system which are as followed in accordance with land holding of farmers 78.12 percent by landless farmers, 76.92 percent Marginal farmers, 61.01 percent Small farmers, 15.00 percent by Medium farmers and 18.18 percent by large land holding farmers. The study indicates that overall 63.00 percent of farmers practices Loose housing system and the rest follows Conventional housing system. Rangamma *et al.* (2017) ^[7] in his study stated that majority of farmers practices Loose housing system.

Regular cleaning of shed

Cleaning of shed leads to a healthy surrounding which evokes production of an animal. The practice followed by overall 95.50 percent of buffalo owners in which small size group 96.61 percent followed by marginal 96.15 percent, medium 95.00 percent, landless 93.75 percent and large 90.90 percent.

The result are in similar manner to Sabale *et al.* (2018)^[8] who conducted study in Dharur tehsil of Beed in Maharashtra and

finds that every farmers who has been surveyed followed regular cleaning of shed.

Table 2: Management practices followed by buffalo owners

Sr. No.	Particulars	Landless (N= 32)	Marginal (N= 78)	Small (N= 59)	Medium (N= 20)	Large (N= 11)	Total (N= 200)
A.	Washing of Buffaloes	20 (62.50)	44 (56.41)	46 (77.96)	18 (90.00)	11 (100)	139 (69.50)
B.	Washing of udder before milking	27 (84.37)	77 (98.71)	56 (94.91)	19 (95.00)	11 (100)	190 (95.00)
C.	Washing of floor	08 (25.00)	39 (50.00)	45 (76.27)	17 (85.00)	11 (100)	120 (60.00)
D.	Vaccination	20 (62.50)	50 (64.10)	40 (67.89)	16 (80.00)	10 (90.90)	136 (68.00)
E.	Regularity in breeding by AI/Natural means	24 (75.00)	53 (67.94)	51 (86.44)	19 (95.00)	09 (81.81)	156 (78.00)
F.	Shaving of buffaloes	17 (53.12)	47 (60.25)	48 (81.35)	16 (80.00)	09 (81.81)	137 (68.50)
G.	Deworming	18 (56.25)	52 (66.66)	43 (72.88)	18 (90.00)	10 (90.90)	141 (70.50)
H.	Wallowing	25 (78.12)	37 (47.73)	40 (67.89)	05 (25.00)	03 (27.27)	110 (55.00)

Washing of buffaloes

It was observed from the Table 2 that, 69.50 percent buffalo owners were adopting washing of the animals regularly, while 30.50 percent buffalo owners were not adopting this practice at an overall level. Majority of the large sized buffalo owners 100 percent followed by medium 90 percent, small 77.96 percent, landless 62.50 percent and marginal 56.41 percent buffalo owners were adopting washing of animals. Kishore *et al.* (2013)^[5] stated that, 49.16 percent of farmers washed their animal by splashing water manually.

Washing of udder before milking

Almost of the buffalo owners were 95.00 percent adopted washing of udder before starting of milking to avoid dust and dung particles entry in the milk. Majority was of Large size group 100 percent followed by marginal 98.71 percent, medium 95.00 percent, small 94.91 percent and landless 84.37 percent. Tadavi *et al.* (2017)^[9] stated that, only 10 percent respondent were washing udder before milking, the given finding does not follow it as 95 percent of buffalo owners followed washing of udder before milking.

Washing of floor

It was observed from the Table 2 that, overall 60.00 percent buffalo owners were adopting washing of floor regularly along with proper drainage facility. The washing of floor was adopted by large sized cattle owners (100.00%), medium (85.00%), small (76.27%), marginal (50.00%) and landless (25.00%) buffalo owners regularly. The finding was in consideration with Kumar *et al.* (2017)^[6] who concluded that, only 54.17 percent of buffalo owners have slope for proper drainage of urine and faeces such as cleaning of floor within it.

Vaccination

It was revealed from the Table 2 that, at an overall level 68 percent buffalo owners adopted vaccination against the diseases while 32 percent buffalo owners were not adopting the vaccination of the animals. The trend in adopting vaccination was more in large (90.90%) followed by medium (80.00%), small (67.89%), marginal (64.10%) and landless (62.50%). Atkare *et al.* (2017)^[17] conducted a study in Umred

tehsil and stated that, farmers were well aware regarding regarding health care practices such as eradication of ectoparasite, vaccination and deworming, such as given finding is also in consideration were 68 percent of buffalo owners followed timely vaccination against diseases.

Regularity in breeding

The two different method of breeding followed by buffalo owners are Artificial insemination and Natural mating.

It was observed from table 2 that, majority of buffalo owners of medium group (95.00%) followed by small (86.44%), large (81.81%), landless (75.00%) and marginal (67.94%) buffalo owners adopted timely breeding. At an overall level 78 percent buffalo owners adopting regular breeding of animal. The findings are in accordance with Sabale *et al.* (2018)^[8] who concluded that, breeding via artificial insemination technique followed by 78.25 percent farmers whereas 25.25 percent farmers followed mating of animal.

Shaving of buffaloes

It was observed from the Table 2 that, overall, 68.50 percent buffalo owners were adopting shaving of buffaloes, while 31.50 percent buffalo owners were not adopting this practice at an overall level. Majority of the large buffalo owners (81.81%) were adopting shaving of buffaloes followed by small (81.35%), medium (80.00%), marginal (60.25%) and landless (53.12%) buffalo owners regularly. Atkare *et al.* (2017)^[17] conducted a study in Umred tehsil and stated that, farmers were well aware regarding regarding health care practices such as eradication of ectoparasite, vaccination and deworming, such as given finding is also in consideration were 68.50 percent of buffalo owners followed shaving of buffaloes against parasites and pests.

Deworming

It was revealed from the Table 2 that, at an overall level 70.50 percent buffalo owners adopted deworming for healthy livestock. The trend in doing deworming was more in large (90.90%) followed by medium (90.00%), small (72.88%), marginal (66.66%) and landless (56.25%). Atkare *et al.* (2017)^[17] conducted a study in Umred tahsil and stated that, farmers were well aware regarding regarding health care

practices such as eradication of ectoparasite, vaccination and deworming, such as given finding is also in consideration were 70.50 percent of buffalo owners adopted deworming for healthy livestock.

Wallowing

Wallowing is very important way for buffaloes to maintain their body temperature. When buffalo enter the water they defecate and urinate. This seems to be a way to mark their wallow.

It was observed from the Table 2 that, overall 55.00 percent buffalo owners were practicing wallowing, while 45.00 percent buffalo owners were not adopting this practice at an overall level. Majority of the landless buffalo owners (78.12%) were adopting wallowing followed by small (67.89%), marginal (47.73%), large (27.27%) and medium (25.00%) buffalo owners regularly. The findings was in accordance with Kishore *et al.* (2013) [5] who stated that, as a part of summer management 51 percent farmers allowed their buffaloes to wallow in village tanks.

Conclusion

In terms of management practices, at the most of buffalo owners adopted regular cleaning of shed. More than half of the buffalo owners reared animals in Kaccha flooring and majority of buffalo owners were adopted loose system of housing. Most of the buffalo owners were aware about health Management practices of buffalo such as Vaccination, breeding and deworming. Majority of buffalo owners adopted processing of concentrates and scientific feeding of green and dry fodder while none of the farmers who practices silage preparation.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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