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FEEDING AND MANAGEMENT PRACTICES ADOPTED BY MILCH BUFFALO OWNERS UNDER FIELD CONDITION OF RAMTEK TAHSIL

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ABSTRACT

The present investigation was carried at Ramtek Tahsil of Nagpur district during the year 2012 – 13, to study the feeding and management practices adopted by milch buffalo owners under field condition. Four villages viz., Bhilewada, Chargaon, Chichala and Nagardhan were randomly selected. The information on feeding management, health and sanitation and breeding aspects were collected by contacting with 200 buffalo owners. Few scientific recommendations in feeding were adopted by majority of buffalo owners. The results reviewed that the scientific feeding practices like feeding of balanced ration at regular interval, enrichment of poor quality roughages by urea, ammoniation and molasses, feeding at least 3-5 kg green fodder, feeding of concentrate @ 50% of milk production, use of 60 g common salt, mineral mixture and mineral bricks were not adopted by majority of the (more than 75 %) buffalo owners. However, majority of the farmers belonging to the category 7-10 buffalo owners (66.66%) and 4-6 buffalo owners (58.03 %) adopted feeding of dry, green and concentrate in required proportion. 81.5%, 84.00% and 75.00% buffalo owners adopted the feeding practices like processing of roughages and concentrates before feeding, chaffing / water soaking, feeding of dry matter @ 2-2.5 kg 100^{-1} kg body wt. and inclusion of agroindustrial byproducts like tur, chunni, bran etc. Thus, the results revealed that there is wide scope of improvement in the adoption of scientific feeding practices by educating properly. Health and sanitation measures such as cleaning of utensils, cleaning of sheds, washing of udder before milking and wallowing of buffalo were adopted by 100% buffalo owners. Similarly, most of the buffalo owners (95.5%) adopted vaccination. Most of the buffalo owners (88.50%) adopted natural service method for breeding in the area of study. Only 11.50% buffalo owners adopted artificial insemination. It indicates that there is wide scope for initiating artificial insemination techniques for obtaining high milching breeds.

(**Key words**: **Scientific feeding practices, housing pattern, health and sanitation, breeding method**)

INTRODUCTION

India ranks first in population of buffalo in world (Anonymous, 2007). It is estimated that milk production in India would be 121.7 MT during the year 2012. It is further projected that by the year 2020 the milk production in India will be 168 million tons (Gandhi, 2005). In India capita^{-1} consumption of milk is 214 g day^{-1} which is just short to that recommended (280 g day^{-1}) by ICMR.

The buffaloes have unique ability to utilize coarse feeds, crop residues and straw and convert them into protein rich milk and meat even under adverse agro-climate situations. Buffalo milk contains higher percentage of fat, protein and minerals (especially calcium) and it makes milk richer in nutrients. Buffalo milk contains more fat along with SNF unit^{-1} volume than indigenous cow milk. It is observed that in her lifespan buffalo secretes more solids than cow assuming the number of lactation to be similar in both species. It is clear that the country buffalo secretes almost three time more fat and SNF in milk than the indigenous cows (Ganguli, 2000).

The low productivity of buffalo is mainly due to lack of proper knowledge for balanced feeding. Buffalo owners from the rural area feed their buffaloes with roughages and concentrate but they do not have consciousness about quality and quantity of feed and also do not follow proper management practices which lead the dairy business uneconomical. Keeping these in view, an attempt was made to study the feeding and management practices adopted by milch buffalo owners under field conditions of Ramtek Tahsil, Dist. Nagpur (M.S.).

MATERIALS AND METHODS

The study was carried out in Ramtek tahsil of Nagpur district during the year 2012 – 13. Four villages viz., Bhilewada, Chargaon, Chichala and Nagardhan were randomly selected. The information on feeding and management practices was obtained from the buffalo owners through personal interaction with the help of questionnaire from the villages selected for the study. The list of buffalo owners was prepared for each village with the help of Gramsevak and Livestock Development officers of Ramtek Panchayat Samiti. These Buffalo owners were contacted from each village and accordingly total buffalo owners contacted were 200 i.e. 50 buffalo owners from each village.

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The data with regards to various aspects of study such as recommended scientific feeding practices viz., feeding of balance ration, feeding of roughages and concentrates in required quantity, processing of roughages, enrichment of poor quality roughages, rate of feeding of various feeding componants (green, dry, concentrates and mineral mixture) and data on housing pattern, health and sanitation and breeding aspects were also collected. These data were tabulated carefully while tabulating the information. To study the recommended scientific feeding practices aspect, the data were further categorized on the basis of size of herd of buffalo owners in the following groups.

1. 1 – 3 Buffaloes
2. 4 – 6 Buffaloes
3. 7 – 10 Buffaloes
4. Above 10 Buffaloes

The data collected in respect of above parameters were tabulated and subjected to statistical evaluation by adopting the standard technique prescribed by Snedecor and Cochran (1967).

RESULTS AND DISCUSSION

Adoption of scientific feeding practices :

Data on adoptions of recommendations regarding scientific feeding practices by various categories of buffalo owners are presented numerically in table 1.

It is revealed from the table 1 that among the scientific feeding practices, majority of the buffalo owners from all categories did not adopt many feeding practices such as feeding of balance ration at regular interval, enrichment of poor quality roughages by urea, ammoniation and molasses, feeding at least 3-5 kg green fodder, feeding of concentrate @ 50% of the milk production, use of mineral mixture and use of mineral bricks and feeding concentrate mixture @ 1 to 1.5 kg to pregnant buffaloes.

Adoption of feeding of dry and green fodder and concentrate in required proportion was done by the buffalo owners of 7-10 buffalo category (66.66%) followed by the category of 4-6 buffalo owners (58.03%). 1-3 buffalo owners (33.33%) and above 10 buffalo owners (30.76%) had low adoption on these feeding practices. Processing of roughages and concentrate before feeding, chaffing / water soaking was adopted by the 4-6 buffalo owners category (95.53%), followed by 7-10 buffalo owners (76.66%) and above 10 buffalo owners (53.84%). However, only 20% buffalo owners having 1-3 buffaloes adopted these practices. Inclusion of agroindustrial byproducts like tur, chunni, bran etc. in the feeding of buffaloes was adopted by 93.75% buffalo owners belonging to 4-6 buffaloes category, followed by 58.33% by 7-10 buffalo owners and (53.84%) by buffalo owners having more than 10 buffaloes. However, poor adoption for these practices was found by the 1-3 buffalo owners category.

Thus, regarding adoption of recommended scientific feeding practices majority of the practices were not adopted even upto 30.00% and only few practices like feeding of dry and green fodder and concentrate in required proportion, feeding of dry matter @ 2 – 2.5 kg 100^{-1} kg body wt., inclusion of agroindustrial byproducts have been adopted by majority of the farmers belonging to the category of 4-6 buffalo owners followed by 7-10 buffalo owners and above 10 buffalo owners but the buffalo owners having 1-3 buffaloes had also poor adoption of these practices. This indicates that there is wide scope to educate the buffalo owners to adopt advanced scientific feeding practices to produce quality and quantity milk. Jagdale *et al.* (2000), Kavathalkar (2002) and Aulakh *et al.* (2011) observed that adoption of scientific recommendation i.e. feeding of dairy animals were meager.

Housing management :

Data regarding housing pattern adopted by buffalo owners are presented in table 2.

It is observed from the data that 91.00% buffalo owners adopted open shed for housing their buffaloes and only 9.00% had closed shed. It was further noticed that 95.00%, 97.50%, 93.00% and 96.50% buffalo owners adopted kaccha shed, separate shed, kaccha flooring and no drain for urine respectively for housing their buffaloes and 100% buffalo owners had fully ventilated housing shed for their buffaloes. On the other hand 5.00%, 7.00%, 2.50% and 3.50% buffalo owners adopted pacca shed, parts of residence for buffalo shed, pacca flooring and pacca drain for urine to drain out respectively.

Table 1. Adoption of recommended scientific feeding practices to milch buffaloes by various sizes of herd buffalo owners in Ramtek Tahsil

Sr. No.	Recommended scientific feeding practices	1-3 buffalo owners (15)	Per cent	4-6 buffalo owners (112)	Per Cent	7-10 buffalo owners (60)	Per cent	Above 10 buffalo owners (13)	Per cent	Over All (200)	Per cent
1.	Feeding of balanced ration at regular interval	4	26.66	22	19.64	12	20.00	3	23.07	41	20.50
2.	Feeding of dry, green and conc. in required proportion	5	33.33	65	58.03	40	66.66	4	30.76	114	57.00
3.	Processing of roughages and concentrates before feeding, chaffing / water soaking	3	20.00	107	95.53	46	76.66	7	53.84	163	81.5
4.	Enrichment of poor quality roughages by Urea, ammoniation and molasses.	-	-	2	1.78	1	1.66	-	-	3	1.50
5.	Feeding at least 3-5 kg green fodder	2	13.33	15	13.39	18	26.66	5	38.46	40	20.00
6.	Feeding of dry matter @ 2-2.5 kg 100^{-1} kg, body wt.	4	26.66	111	99.10	42	70.00	11	84.61	168	84.00
7.	Inclusion of agroindustrial byproducts like tur, chunni, bran etc.	3	20.00	105	93.75	35	58.33	7	53.84	150	75.00
8.	Feeding of conc. @ 50% of milk production	2	13.33	55	49.10	10	16.66	2	15.38	69	34.50
9.	Use of 60 g common salt	3	26.66	40	35.71	10	16.66	-	-	53	26.50
	Use of mineral mixture	2	13.33	4	3.57	2	3.33	-	-	8	4.00
	Use of mineral bricks	-	-	-	-	-	-	-	-	-	-
10.	Feeding of conc. mixture @ 1 to 1.5 kg to pregnant buffalo	2	13.33	30	26.78	11	18.33	2	15.38	45	22.50

Table 2. Housing pattern adopted by selected buffalo owners (N=200)

Sr.No.	Component	Name of selected villages				Overall Total	Per cent
		Bhilewada	Chargaon	Chichala	Nagardhan		
1	Open Shed	46	43	47	46	182	91.00
	Closed Shed	4	7	3	4	18	9.00
2	Kaccha Shed	48	47	49	46	190	95.00
	Pacca Shed	2	3	1	4	10	5.00
3	Separate Shed	45	46	48	47	186	93.00
4	Kaccha Flooring (without Cement concrete)	5	4	2	3	14	7.00
	Pacca Flooring (Cement concrete)	50	50	47	48	195	97.50
5	Ventilated	-	-	3	2	5	2.50
	Non ventilated	50	50	50	50	200	100
6	Pacca drain for urine to drain out is available	2	2	-	3	7	3.50
	Drain for urine not available	48	48	50	47	193	96.50

Table 3. Health and sanitation adopted by buffalo owners (N=200)

S.No.	Component	Name of selected villages				Overall	Per cent
		Bhilewada	Chargaon	Chichala	Nagardhan		
A	Cleaning						
1	Cleaning of milking utensils	50	50	50	50	200	100
2	Cleaning of sheds	50	50	50	50	200	100
3	Washing of udder before milking	50	50	50	50	200	100
B	Health						
1	Removals of hairs regularly	48	47	46	50	191	95.50
	Not regularly	2	3	4	-	9	4.50
2	Wallowing	50	50	50	50	200	100
3	Vaccination	48	46	47	50	191	95.50
C	Breeding						
1	Natural service	44	42	45	46	177	88.50
2	Artificial Insemination	6	8	5	4	23	11.50

Thus, ideal housing pattern was not used by any of the buffalo owners and used the traditional way of housing their buffaloes**.** The housing pattern reported by Bainwad *et al.* (2007) are in conformity with the findings of present study. They also observed that Kaccha flooring adopted by 92 per cent buffalo owners. They further noticed that due to absence of pucca floor drain out not available to maximum number of buffalo owners (90.5 per cent).

Health and sanitation and breeding method management :

The data regarding health and sanitation adopted by the respondents buffalo owners are given in table 3. It is seen from the data that all the buffalo owners were careful in maintaining the highest standard of sanitation (100%) pertaining to cleaning of milking utensils, cleaning of shed and washing of udder before milking.

So far as maintaining the health of buffaloes is concerned, wallowing of buffaloes was adopted by 100% buffalo owners followed by removal of hairs regularly by 95.50% buffalo owners and vaccination also by 95.50%. However, so far as breeding method is concerned, 88.50% buffalo owners adopted breeding by natural service method and only 11.50% buffalo owners adopted artificial insemination method. It indicates that there is wide scope for improved breeds with increased milk production through artificial insemination. The results of present study are in line with the findings of Jagdale *et al*. (2000). They also noticed that washing of buffalo was adopted by cent per cent (100 per cent) buffalo owners. With regards to adoption of breeding methods, Bainwad *et al.* (2007) reported that due to availability of purchased the buffalo breeding bull all buffalo owners used natural service method of breeding and were also well aware about adoption of vaccination (95.00 per cent).

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