

Original Research Article

<https://doi.org/10.20546/ijcmas.2021.1003.183>

Feeding Pattern of the Buffaloes in Bidar District of Karnataka

R. Vranda¹, K. Satyanarayan¹, V. Jagadeeswary¹ and J. Shilpa Shree^{2*}

¹Department of V and AH Extension Education, Veterinary College, Hebbal, Bengaluru, India

²Department of Animal Husbandry Economics, Madras Veterinary College, Vepery, Chennai, India

**Corresponding author*

ABSTRACT

Dairy farming is one of the important activities among the rural farmers. It provides sustainable income and reduces unemployment to a large number of the rural poor. The study was conducted in Bidar district of Karnataka state and is purposively selected for the study since it has got predominant buffalo based dairy production system. The main focus of the study was to assess the feeding and nutritional management of buffaloes. Bidar and Humnabad taluks were randomly selected for the study. A total of 180 buffalo farmers were selected for the study. An exploratory research design was adopted for the study and multistage random sampling technique was adopted for the study and data were collected using a structured interview schedule. The study revealed that majority (84.44%) of the farmers is practicing grazing along with feeding green fodder and dry fodder as per availability. Majority (68.33%) of them feeding the home made concentrates to animals by making use of available ingredients at their disposal. Majority (66.67%) of the green fodder feeding and dry fodder (89.45%) as such without chaffing and majority (63.33%) of them are not practicing any treatment of fodder method before feeding. Majority (56.67%) of them practiced feeding of concentrates by soaking in the water. Most (57.23%) of farmers were unaware of balanced feeding in buffalo farming. Majority of them feed the balanced ration during milk production and most of them are not practicing mineral mixture feeding. Common salt feeding was commonly practiced by majority and supplementary feeding was done mostly for the lactating animals followed by for heifers and least during late pregnancy.

Keywords

Feeding, Nutritional management, Buffaloes, Bidar district

Article Info

Accepted:
12 February 2021
Available Online:
10 March 2021

Introduction

India is endowed with the largest livestock population in the world. Animal Husbandry besides providing affordable nutritional food to millions of people, it is helpful in

generating gainful employment in the rural sector, particularly among the landless labourers, small and marginal farmers and women by supplementing their family incomes. Distribution of livestock is more equitable compared to that of land. Livestock

farming requires less capital and the management and production expenses are low compared to agriculture. Hence animal husbandry is carried out by all farmers regardless of their economic status and development of livestock sector would be more inclusive (Planning commission, 2012). India continues to be the largest producer of milk in the World. Karnataka state stands 6th in livestock population in India and in milk production stands 11th in the country i.e. 4.3 per cent to the total India's milk production. About 88 per cent of the milk is contributed by the cows and rest by the buffaloes. Hence, dairying has become an important source of income for millions of rural families and has assumed an important role in providing employment and income generating opportunities (BAHS, 2013). Dairying is rural land based servicing and gender neutral enterprise. It offers more favorable opportunity of employment and provides constant source of income for rural farm households. Moreover, it is scale neutral and spread all over the country. Dairy animals also function as an important converter of crop residues into essential nutrition for many soils more fertile. Despite, dairy members were exploited at all levels and by all means. In addition to the fact that India has more buffaloes than any other country of the world and it is homeland for the best milch breed in the world. In Karnataka, the diversity of the local breeds of buffalo is quite high having less variability.

Buffalo has inherent ability to produce milk with high milk fat content ranging from 6 to 8.5 per cent. Because of its higher milk fat contents, buffalo milk is preferred over cow milk and it fetches better price in the market (Khan *et al.*, 2008). In Bidar district buffalo dairy farming is more predominant hence the study was conducted to explore the feeding practices and nutritional management of buffaloes. The results of the study will be

helpful in understanding the different feeding strategies farmers are following and to educate them to identify the strengths and weaknesses in the feeding and nutritional management and to formulate suitable feeding regime for different animals.

Materials and Methods

The study was conducted in the state of Karnataka an important agricultural states with considerably high density of livestock population and Bidar district is purposively selected for the study since it has got predominant buffalo based dairy production system. Two taluks viz., Bidar and Humnabad were randomly selected for the study. Ninety buffalo farmers were selected randomly from each of the two taluks under study. Thus, a total of 180 buffalo farmers were selected for the study. Due care was taken for selection of respondents who are involved in buffalo management practices were truly prevailing in that area.

The study included an exploratory research design to conduct the research and a multistage random sampling technique was used for selection of respondents. The interview schedule for the livestock farmers was developed and pre tested before administering in the main sample area.

Rapport with the respondents was very essential and also played an important role in eliciting accurate responses from the respondents throughout the investigation. Keeping this in view prior to the collection of data rapport building was done and collected the information. Data was collected through informal and friendly visits to the farmers' homes and farms in the early hours of the day. The data collected were subjected to statistical analyses to know the distribution of respondents according to selected variable of the study.

Results and Discussion

Feeding practices followed by the buffalo farmers

The data presented in Table 1 revealed that majority (84.44%) of the respondents practiced grazing method and only 15.56 per cent practiced stall feeding method of feeding. This could be due to the reason that, majority of the farmers were small and medium land holders and preferred to grow cash crops rather than cultivating fodder for feeding their buffaloes.

These findings are in consonance with findings of Gupta *et al.*, (2008), Vijay *et al.*, (2008) and Kalyankar *et al.*, (2008), and with respect to type of fodder fed majority (91.11%) of the respondents fed both green and dry fodder to buffaloes followed by green fodder alone (7.22%) and dry fodder alone (1.67%).

This could be attributed to the fact that, farmers were well aware of feeding both green and dry fodder to the buffaloes for better production. Gupta *et al.*, (2008) reported similar findings with the present study.

A glance at Table 1 found that, majority (50.55%) of the respondents were cultivating the fodder for feeding their buffaloes followed by feeding on naturally grown green grasses (23.34%), both purchasing and feeding on the naturally grown green grasses (12.22%), both cultivating and purchasing of the fodder (10.00%) and purchasing the fodder (3.89%).

The reasons could be that the majority of the small farmers were landless farmers and were dependent on naturally grown grasses. But as the land holding increases, the farmers were capable of cultivating the fodder for feeding their buffaloes. The study also revealed that (Table 1), majority (58.34%) were feeding

their buffaloes, as per the availability of green fodder and based on what they were cultivating in their field (seasonal crops) like jowar, maize, sugarcane, bajra, sorgham, soyabean and also napier followed by feeding on naturally grown green grasses (12.77%), maize (7.22%), soyabean (6.11%), sugarcane (3.88%), equal percentage (3.34%) each were growing napier and bajra, 2.78 per cent and 2.22 per cent were growing sorgham and jowar.

This could be attributed to the fact that majority of the farmers may not be growing the green fodder for feeding their buffaloes and also may be lack of knowledge among the farmers regarding the fodder varieties. These results were in consonance with the findings of Sabapara *et al.*, (2010).

Majority (83.32%) of the farmers fed dry fodder to buffaloes as per seasonal cropping followed by exclusive jowarcudbi (10.00%) and 2.22 per cent each of farmers fed exclusively paddy straw, wheat straw, soyabean straw and rice straw. (Table 1). This could be because of the regular practice of recycling the crop residues based on its seasonal availability in the study area.

The Table 1 also revealed the facts about concentrate feeding that homemade concentrate was commonly used to feed the buffaloes by majority (68.33%) of the farmers followed by 21.11 per cent fed mixture of both homemade and compounded feed, 5.56 per cent did not provide concentrates to their buffaloes and 5.00 per cent of the farmers exclusively offered compounded feed.

It might be due to surplus production of grains and other concentrates (chunni/husk) by the farmers, which were used in feeding of buffaloes to reduce the feeding cost. These findings were in accordance with the findings of Naik *et al.*, (2013).

Method of feeding different feeds and fodders in buffaloes

The data presented in Table 2 revealed that, majority (66.67%) of the respondents fed green fodder as such to the buffaloes and only 33.33 per cent fed after chaffing. It confirms the lack of awareness among the farmers about the chaffing of fodder and feeding of chaffed fodder to the animals is economical as it causes minimum wastage.

Similar findings were reported by Kalyankar *et al.*, (2008) and Sabapara *et al.*, (2010). Whereas majority (89.45%) of the farmers fed dry fodder as such to their buffaloes and only 10.55 per cent fed after chaffing. The findings were not in agreement with the findings of Rathore *et al.*, (2010), who reported that all the farmers used to feed dry fodder after chaffing.

The data revealed (Table 2) that, majority (63.33%) of the farmers did not practice any fodder treatment. Sprinkling of salt water was practiced by most (25.55%) of the farmers followed by equal percentage (5.56%) each of the farmers were practicing sprinkling of jaggery water and sprinkling of both salt and jaggery water to the fodder.

Lack of awareness among the farmers regarding the fodder treatment and its importance for could be the reason for non-practicing of any fodder treatment. These results are in line with the results of Sinha *et al.*, (2010). Whereas data w.r.t. feeding of concentrates revealed that, majority (56.67%) of the respondents fed concentrate after soaking in water followed by feeding of both dry and after soaking in water (23.33%), dry feeding (18.33%) and fed concentrate with combination of fodder (1.67%). It might be due to the reason that, feeding of concentrate after soaking in water increases the palatability. Similar findings were reported by Gupta *et al.*, (2008).

Awareness about feeding and nutritional management of buffaloes among buffalo farmers

The data presented in Table 3 revealed that, majority (57.23%) of farmers did not know about balanced feeding and only 42.77 per cent of the farmers had knowledge about balanced feeding. Among those who knew about the balanced feeding, majority (28.33%) were not feeding balanced ration to the buffaloes and only 14.44 per cent were feeding balanced ration. This can be attributed due to their low extension contact and lack of knowledge on balanced feeding. Similar findings were reported by Yadav *et al.*, (2008). With respect to criteria for feeding significant per cent (51.11%) of the farmers were feeding based on milk production followed by no criteria for feeding (25.00%), based combination of both age and milk production (14.44%), based on body weight (11.11%) and age (8.34%). This could be attributed to the fact that, milk is the regular source of income to the farmers and to get more profit from the sale of milk, it is evitable to feed the buffaloes based on milk production. These findings were in conformity with the findings of Tomar and Thakur (2002) and Sabapara *et al.*, (2010).

From the Table 3 indicated that, majority (53.33%) did not provide mineral mixture and only 46.67 per cent provided mineral mixture to the buffaloes. Higher cost as well as lack of knowledge could be the reason for not feeding mineral mixture among buffalo farmers. These findings were in accordance with the findings of Sinha *et al.*, (2010) and Rathore *et al.*, (2010). Whereas majority (73.88%) of the farmers were feeding common salt to their buffaloes and only 26.12 per cent were not feeding common salt. The results confirm that, farmers had good knowledge of the benefits of feeding common salt and further, it can be easily affordable by the farmers.

Table.1 Distribution of buffalo farmers based on feeding practice

Sl. No	Feeding practices	F	%
1	Feeding practice		
	a. Grazing	152	84.44
	b. Stall feeding	28	15.56
2	Type of roughage		
	a. Green fodder	13	7.22
	b. Dry fodder	3	1.67
	c. Green fodder + Dry fodder	164	91.11
3	Availability of green fodder		
	a. Cultivated	91	50.55
	b. Purchased	7	3.89
	c. Cultivated + purchased	18	10.00
	d. Naturally grown grasses	42	23.34
	e. Purchased + naturally grown grasses	22	12.22
4	Variety of Green fodder		
	a. As per the availability	105	58.34
	b. Napier	6	3.34
	c. Jowar	4	2.22
	d. Maize	13	7.22
	e. Sugarcane	7	3.88
	f. Bajra	6	3.34
	g. Sorgham	5	2.78
	h. Soyabeen	11	6.11
	i. Naturally grown grasses	23	12.77
5	Variety of dry fodder		
	a. As per seasonal availability	150	83.32
	b. Paddy straw	4	2.22
	c. Wheat straw	4	2.22
	d. Jowarcudbi	18	10.00
	e. Rice straw	4	2.22
	f. Soyabeanstaw	4	2.22
6	Concentrate feeding		
	a. Home made	123	68.33
	b. Compounded feed	9	5.00
	c. Homemade+Compounded feed	38	21.11
	d. Did not practice concentrate feeding	10	5.56

Table.2 Distribution of buffalo farmers based on method of feeding

Sl. No	Feeding practices	F	%
1	Method of feeding green fodder	120	66.67
	a. As such	60	33.33
	b. After chaffing		
2	Method of feeding dry fodder	161	89.45
	a. As such	19	10.55
	b. After chaffing		
3	Method of fodder treatment	46	25.55
	a. Sprinkling of salt water	10	5.56
		10	5.56
	b. Sprinkling of jaggery water		
	c. Sprinkling of salt water and jaggery water	114	63.33
d. Did not practice any fodder treatment method			
4	Method of feeding concentrate	3	1.67
	a. Mixed with fodder	102	56.67
		33	18.33
	b. After soaking in water	42	23.33
	c. Dry feeding		
d. After soaking in water + Dry feeding			

Table.3 Distribution of buffalo farmers based on awareness about feeding and nutritional management

Sl. No	Feeding practices	F	%
1	Knowledge about balanced feeding		
	a. Yes	77	42.77
	i. Provided balanced ration to the buffaloes	51	28.33
	ii. Did not feed balanced ration to the buffaloes	26	14.44
	b. No	103	57.23
2	Feeding balanced diet		
	a. Yes	51	28.33
	b. No	26	14.44
3	Criteria of feeding		
	a. Milk production	92	51.11
	b. Body weight	2	11.11
	c. Age	15	8.34
	d. Milk production + Age	26	14.44
	e. No any criteria	45	25.00
4	Feeding of mineral mixture		
	a. Yes	84	46.67
	b. No	96	53.33
5	Feeding of common salt		
	a. Yes	133	73.88
	b. No	47	26.12
6	Feeding of supplementary ration		
	i. Heifers		
	a. Yes	93	51.67
	b. No	87	48.33
	ii. During late pregnancy		
	a. Yes	22	12.22
	b. No	158	87.78
	iii. For lactating buffaloes		
	a. Yes	167	92.77
b. No	13	7.23	

Similar findings were reported by Sinha *et al.*, (2010). The data (Table 3) related to feeding of supplementary ration to the heifer, late pregnancy and lactating buffaloes revealed that, feeding of supplementary ration to the heifers was practiced by majority (51.67%) of the farmers and 48.33 per cent were not feeding supplementary ration to the heifers. These results were similar with the earlier findings of Meena *et al.*, (2007) and Vijay *et al.*, (2008) and Majority (87.78%) were not feeding supplementary ration during late pregnancy and only 12.22 per cent were feeding supplementary ration during late pregnancy. Lack of knowledge among the farmers, could be the reason for not feeding addition supplementary ration during late pregnancy. Gupta *et al.*, (2008) and Rathore *et al.*, (2010), reported the similar findings in their study. Whereas majority (92.77%) of the farmers practiced to feed supplementary ration to the lactating buffaloes and only 7.23 per cent did not feed supplementary ration. The reason might be that supplementary ration is required to meet maintenance as well as production of the buffaloes and also may be to get maximum milk production. These findings were in conformity with the findings of Sabapara *et al.*, (2010).

It can be concluded that the buffalo farmers are practicing grazing along with feeding green fodder, dry fodder as per availability and also feeding the home made concentrates to animals by making use of available ingredients at their disposal. The farmers should be encouraged to grow more of green fodder which is very much essential for the dairy animals and also to feed the animals after chaffing as it reduces the wastage of fodder. Farmers have to be educated with respect to feeding of buffaloes at different stages in order to get more income and also low cost balanced preparation and feeding should also help them to improve the farm income. Feeding of mineral mixture along

with common salt can be encouraged so that important nutrients required by the animals can be met which in turn helps in better production. Adoption of suitable feeding and nutritional strategies for different types of animals in buffalo farming will substantially helps in improvement of in production as well as income generation.

References

- Basic animal husbandry statistics, 2013. Department of animal husbandry, dairying and fishery. Karnataka
- Gupta, D. C., Suresh, A. and Mann, J. S., 2008. Management practices and productivity status of cattle and buffaloes in Rajasthan. *Ind. J. Anim. Sci.*, 78(7): 769–774
- Kalyankar, S. D., Chavan, A. A., Khedkar. C. D. and Kalyankar, S. P., 2008. Studies on management practices of buffaloes in different agro-climatic zones of Maharashtra. *Indian J. Anim. Res.*, 42(3): 147-163
- Khan, A. M., Baset, M. K. and Fouder, S. K., 2010. Study on management and production system of small scale dairy farm in a selective rural area of Bangladesh. *J. Sci. Foundation.*, 8(1 & 2): 13-23
- Meena, H. R., Ram, H., Sngh. S. K., Mahapatra, R. K., Sahoo, A. and Rasool, T. J., 2007. Animal husbandry practices at high altitude (>6000feet) in Kumaraon region of Uttrakhand, India. *Livestock research for rural development.* 19(11)
- Naik, P. K., Dhuri, R. B., Swain, B. K., Karunakaran, M., Chakurkar, E, B. and Singh, N. P. 2013. Analysis of existing dairy farming in Goa. *Ind. J. Anim. Sci.*, 83(3): 299–303
- Planning Commission, 2012. Report of the working group on animal husbandry & dairying, 12th five year plan(2012-17),

- Government of India.
- Rathore, R. S., Rajbir Singh, Kachwaha, R. N. and Ravinder Kumar. 2010. Existing management practices followed by the cattle keepers in Churu district of Rajasthan. *Ind. J. Anim. Sci.*, 80(8): 798–805
- Sabapara, G. P., Desai, P. M., Rana Ranjeet Singh and Kharadi, V. B., 2010. Breeding and health care management status of dairy animals in the tribal area of south Gujarat. *Ind. J. Anim. Sci.*, 80(11): 1148–1151
- Sinha, R. K., Triveni Dutt, Bharat Bhushan, Mukesh Singh. And Sanjay Kumar. 2010. Feeding and housing management practices of dairy animals in Uttar Pradesh. *Ind. J. Anim. Sci.*, 79(8): 829-833
- Tomar, S. K. and Thakur, S. S., (2002). Feed resources, feeding practices, milk production and disposal pattern in Karnal District. *Indian J. Dairy Sci.*, 55(5): 309-306.
- Vijay Avinashilingam., Upayana and Ram Kumar., 2008. Existing dairy farming practices of six major dairy tribes of Nilgiris District of Tamil Nadu. *Indian J. Dairy Sci.*, 61(1): 80-87

How to cite this article:

Vranda, R., K. Satyanarayan, V. Jagadeeswary and Shilpa Shree, J. 2021. Feeding Pattern of the Buffaloes in Bidar District of Karnataka. *Int.J.Curr.Microbiol.App.Sci.* 10(03): 1488-1496. doi: <https://doi.org/10.20546/ijcmas.2021.1003.183>