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Feeding Practices in Crossbred Cattle and Its Relationship with Days Open – An Exploratory Study in Rural Bangalore

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ABSTRACT

India is predominantly an agrarian society where animal husbandry forms the backbone of agricultural economy. Dairy farming provides sustainable income and reduces unemployment of a large number of the rural poor. The study on feeding practices of crossbred cattle and its relationship with days open was purposively conducted in Bengaluru rural district of Karnataka. Four taluks viz; Devanahalli, Doddaballapur, Hoskote and Nelamangala were randomly selected and a total of 120 respondents were selected for the study. An exploratory research design and multistage random sampling technique was applied for the study and data were collected using a structured interview schedule. The study revealed that majority (98.00%) of the respondents allowed the animals for grazing for 7 hours to 8 hours a day, 98 per cent provided 5- 10 kg of green fodder to the dairy animal after grazing, 97 per cent did not report any incidence of feed contamination, 86 per cent offered 3 to 5 kg of dry fodder and allowed animals to have access to drinking water three times a day (71.00%). Only 7 per cent adopting the practice of feeding optimum concentrate supplement feed and 3 per cent of farmers supplemented mineral mixture for improving reproductive performance. Only 3 per cent incidence of feed contamination can be identified as critical practices which could result in lower conception. Fifty seven per cent of the respondents had medium score in adopting overall scientific feeding practices. But still, there was a considerable gap existing between recommended scientific feeding practices and the existing feeding practices. So, there is a need to sensitize the dairy farmers about the modern technologies and scientific interventions in feeding strategies, in order to enhance milk yield and reproductive performance of dairy animals.

Key words: *Crossbred Cattle, Feeding, Management, Days open.*

INTRODUCTION

India is predominantly an agrarian society where animal husbandry forms the backbone of agricultural economy. Dairying provides millions of small and marginal farmers and landless labourers a major source of income. Hence animal husbandry is carried out by all farmers regardless of their economic status and development of livestock sector would be more inclusive[5].

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The unique characteristic of Indian dairy industry is that the bulk of milk production is produced and handled by small and marginal farmers. 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. The reproductive efficiency of the cow plays a key role in determining the profitability of a dairy farm. As the main purpose of keeping dairy herd is to generate income, profitability is an important benchmark for measuring the success of dairy farming. Days open which is from calving to next conception is normally linked with profitability in dairy cows. Days open has been widely used as a success measure of dairy enterprise. The results of the study will be helpful in understanding the feeding management practices followed by the dairy farmers and its relationship with days open and to educate them on scientific feeding management and to formulate suitable intervention policies. With this background, the study was conducted with the objectives to assess the cattle feeding management practices by the farmers during days open in Bengaluru rural district.

MATERIAL AND METHOD

The study was conducted in Bangalore Rural district of Karnataka and this district was purposively selected for the study since it has got predominant crossbred cattle population and dairy based activities. Thirty livestock farmers from each of the four taluks of Bangalore rural district *viz;* Devanahalli, Doddaballapur, Hoskote and Nelamangala, possessing crossbred cows were considered randomly for the study. Thus a total of 120 respondents were selected for the study. The study adopted an exploratory research design and multistage random sampling technique was used for selection of respondents. The interview schedule for the dairy farmers on feeding practices during days open was developed and pre tested before administering in the main sample area. 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 in crossbred cattle:

The distribution of dairy farmers based on feeding practices was depicted in the Table 1. It revealed that majority of the respondents allowed the animals to access drinking water three times a day (71.00%), for grazing for 7 hours to 8 hours per day, Majority of the farmers provided 5- 10 kg of green fodder and 3 - 5 kg of dry fodder to the dairy animal, 81 per cent of the farmers provide less than 1 kg of concentrates for the maintenance of cow. Similar findings were reported by Ahirwar *et al.*[1] that majority of rural farmers let their animals for grazing. The results indicated that none of the respondents practiced feeding optimum quantity and quality ration based on physiological requirements and milk production of the cattle to improve the reproductive performance. Improper feeding during pre and postpartum period will affect the reproductive performance of the cows by reducing estrous expression and increases the number of AI for conception. Similar findings were reported by Yadav *et al*.[7] where most of the farmers did not have knowledge about balanced feeding. Contrary findings were reported by Mali *et al*.[4] in their study area that majority had knowledge about balanced feeding.

Table 1: Feeding practices of dairy farmers (N =120)

Sl. No	Feeding Practices	F	%
1.	**Are you providing water to your cow?**		
	a. 4times	4	3.00
	b. 3 times	85	71.00
	c. 2 times	31	26.00
	d. 1 time	0	0.00
2.	**For how many hours the animal is allowed for grazing?**		
	a. 0-6 hours	2	2.00
	b. 7 hours to 8 hours	118	98.00
3.	**After grazing, how much of green fodder is provided in the shed?**		
	a. Less than 5 kg	0	0.00
	b. 5-10 kg	117	98.00
	c. 10-20 kg	0	0.00
	d. More than 20 kg	3	2.00
4.	**After grazing, how much of dry fodder is provided in the shed?**		
	a. More than 5 kg	0	0.00
	b. 3-5kg	103	86.00
	c. 1-3 kg	14	12.00
	d. Less than 1 kg	3	2.00
5.	**If the animal is not allowed for grazing, how much of green fodder is provided in the shed?**		
	a. Less than 5 kg	9	8.00
	b. 5-10 kg	73	61.00
	c. 10-20 kg	28	23.00
	d. More than 20 kg	10	8.00
6.	**If the animal is not allowed for grazing, how much of dry fodder is provided in the shed?**		
	a. More than 5 kg	6	5.00
	b. 3-5kg	76	63.00
	c. 1-3 kg	38	32.00
	d. Less than 1 kg	0	0.00
7.	**For the maintenance (on daily basis) of cow how much concentrate are you feeding?**		
	2-3 kg	1	1.00
	1-2 kg	10	8.00
	Less than 1 kg	98	81.00
	None	11	10.00
8.	**For every 1 litre of milk produced by your cow, how much concentrate are you providing apart from the maintenance?**		
	a. More than 75% of the standards	8	7.00
	b. 50-75% of the standards	61	51.00
	c. 25-50% of the standards	43	36.00
	d. Less than 25% of the standards	8	6.00
9.	**Are you providing mineral mixture supplements to cows for improving reproductive performance?**		
	a. Yes	4	3.00
	b. No	116	97.00
10.	**How much of concentrates do you provide in dry period?**		
	a. 2-3 kg	0	0.00
	b. 1-2 kg	60	50.00
	c. Less than 1 kg	59	49.00
	d. None	1	1.00
11.	**Are you following fodder enrichment practices?**		
	a. Yes	0	0.00
	b. No	120	100.0
12.	**How are you providing extra fodder and feed after calving?**	117	98.00
	a. According to milk yield	3	2.00
	b. Anticipating milk production (considering earlier milk production)	0	0.00
	c. To increase conception rate or breeding efficiency		
13.	**Was there any incidence of contamination of fodder/ feed after calving? (Pesticides, Fungal, Toxin, etc)?**		
	1. Yes	3	3.00
	2. No	117	97.00
14.	**Are you maintaining any feed records?**		
	a. Yes	1	1.00
	b. No	119	99.00

Table 2: Distribution of dairy farmers based on adoption of the overall scientific feeding practices (N=120)

Category	Frequency	Percentage (%)
Low (22-28)	12	10
Medium (22-35)	68	57
High (36-42)	40	33

None of the respondents practiced scientific feeding of concentrates and only 7 per cent adopting the practice of feeding optimum concentrate supplement feed. Only 3 per cent of farmers supplemented mineral mixture for improving reproductive performance. This indicated low level of awareness among farmers regarding these practices which resulted in decreased reproductive performance. Similar findings of low adoption of feeding concentrate were reported by Sabapara *et al.*[6] in their study area. Contrary findings were reported by Gupta *et al*.[3] who reported farmers provided required quantities of concentrate during dry period. Cent per cent farmers do not follow any fodder enrichment practices. Only 3 per cent of farmers encountered the incidence of feed contamination after calving and they did not maintain any feed records.

Results in Table 2 revealed that, with regard to overall feeding practices related to days open 57 per cent of respondents adopted medium level of practices. Ben Salem *et al*.[2] reported poor feeding management of dry and early postpartum cows, inappropriate heat detection and breeding programs, lack of heat stress relief management techniques and strategies as the major causes of the low reproductive efficiency of dairy cows in their study.

Days open: The distribution of crossbred cattle based on days open was depicted in Table 3. From the table, it revealed that, majority (52.00 %) of the animals had medium days open (147-207) followed by low (28%) and high (20%) days open.

Table 3: Distribution of crossbred cattle based on days open

Sl. No	Category	Frequency	Percentage (%)
1	Low (86-146)	34	28
2	Medium (147-207)	62	52
3	High (208-268)	24	20

The feeding practices followed by dairy farmers had a positive and non-significant correlation (0.1585) with days open of crossbred cattle.

CONCLUSION

The present study conducted on feeding practices followed by dairy farmers and its relationship with days open in Bengaluru rural district revealed that majority of the respondents allowed the animals for grazing for 7 hours to 8 hours a day, 98 per cent provided 5- 10 kg of green fodder to the dairy animal after grazing, 97 per cent did not report any incidence of feed contamination, 86 per cent offered 3 to 5 kg of dry fodder and allowed animals to have access to drinking water three times a day (71.00%). Only 7 per cent adopting the practice of feeding optimum concentrate supplement feed and 3 per cent of farmers supplemented mineral mixture for improving reproductive performance. Only 3 per cent incidence of feed contamination can be identified as critical practices which could result in lower conception. Fifty seven per cent of the respondents had medium score in adopting overall scientific feeding practices. But still, there was a considerable gap existing between recommended scientific management practices and the existing management practices. So, there is a need to sensitize the dairy farmers about the modern technologies and scientific interventions in dairy production, in order to enhance milk yield and reproductive performance of dairy animals**.**

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