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Milking Practices Followed by Dairy Farmers of Kheda and Panchmahal Districts of Middle Gujarat

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Abstract

The present study was undertaken in Kheda and Panchmahal districts of middle Gujarat to know the existing milking management practices followed by the dairy farmers. The study was conducted in randomly selected four talukas each from Kheda and Panchmahal districts. From each taluka five villages and from each village five respondents were randomly selected. Thus, total 200 respondents were included in the study. Data revealed that all the respondents milked their animals twice a day and majority (79.50 %) of them were using knuckling method of hand milking. Further, more than two third of respondents were practicing wet hand milking. Bathing and/or grooming of animals before milking, washing of teats/udder prior to milking and washing of the hands before milking were practiced by 76.50, 81.00 and 74.50 % of the dairy farmers, respectively. Farmers of Panchmahal district neither followed post-milking teats' dipping nor carried out mastitis detection tests. However, in Kheda district some dairy farmers practiced post-milking teats' dipping (6.50 %) and mastitis detection tests (3.50 %).

Key Words: Milking practices, Dairy animals, Middle Gujarat.

Introduction

India ranks first in the world with annual milk production of 155.5 million tones. The per capita availability of milk was an average of 337 grams per day in India and 545 grams per day in Gujarat (TOI, 2016). During 11th five year plan (2007-08 to 2011-12), the average annual growth rate of milk production in India was 4.5%. Gujarat has around 5.23% of cattle and 9.55% of buffalo population of the country (Anonymous, 2014). However productivity per milking animal is very low, i.e. wet average in indigenous cows, crossbred cows and buffalo is 1.98, 6.75 and 4.50 kg/day, respectively (Hegde, 2006). Gujarat is an important state in milk production and marketing in India on co-operative dairy system basis and proverbially known as "Milk bowl of India". This credit was achieved owing to development of wide network of co-operative dairy system based on Anand pattern. Good milking practices also enhance productivity, assist in keeping teat and udder in healthier condition and contribute significantly in clean milk production. Poor quality of milk and milk products are another concern and barrier to entry to the export market. Clean milk production is an important part of any dairy operation. Producing clean milk has many positive benefits to the

dairy farmers. By adopting better milking practices milk quality and quantity can be improved significantly (Dang and Anand, 2007). Keeping these things in mind the present study was designed to gather information on different aspects of milking management practices followed by the farmers of middle Gujarat.

Materials and Methods

The study was conducted in Kheda and Panchmahal districts of middle Gujarat. Four talukas from each district and five villages from each taluka were selected randomly. Thus, total 40 villages were included in the present study. In all 200 respondents/dairy farmers, five from each village, were selected for the study. While selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly represented animal milking management practices prevailing in the area. The selected dairy farmers were single interviewed and the desired information was collected regarding milking management practices with the help of pre-designed and pre-tested questionnaire. Data were tabulated and analyzed as per standard statistical tools to draw meaningful inference.

Results and Discussion

Existing milking practices followed by respondents of Panchmahal and Kheda district have been presented in table. The data indicated that all the respondents milked their animals twice a day and majority (79.50 %) of them were using knuckling method of hand milking. This is in close conformity with the findings of Sunilkumar and Mishra (2011), Rao *et al.* (2014) and Sabapara et *al*. (2014). Further, more than two third of respondents practiced wet hand milking as reported by Patbandha et *al*. (2014). Bathing and/or grooming of animals before milking, washing of teats/udder prior to milking and washing of the hands before milking were practiced by 76.50, 81.00 and 74.50 % of the dairy farmers, respectively, which was in accordance with the earlier study (Patbandha et *al*., 2014). Sanitary condition of the house was found moderately clean (35.50 %) to clean (38.00 %). Farmers of Panchmahal district neither followed post- milking teats' dipping nor carried out mastitis detection tests. However, in Kheda district some dairy farmers practiced post-milking teats' dipping (6.50 %) and mastitis detection tests (3.50 %). Sabapara et *al*. (2014) also found that majority of the respondents (99.00 %) didn't practice teat dipping procedure and none of them followed testing for mastitis control in their dairy animals in South Gujarat. More than half (52.00 %) of the respondents were using tap water to clean the dairy utensils followed by 26.5 and 18.5 % using detergents and hot water for cleaning the utensils, respectively. Similar were the findings of Patbandha et *al*. (2014). Dairy animals owned by 87.50 % of the dairy farmers had more than 8 month lactation period. Moreover, 46.50 % respondents had dairy animals with optimum dry period of 2 to 3 months. The present findings are in agreement with the results reported by Sabapara et *al.* (2015). Nearly 50.00 % of the dairy farmer's animals had longer dry period of more than three months duration.

Table : Existing milking management practices for dairy animals in Panchmahal and Kheda districts

Sr. No.	Particulars	Dairy farmers			
		Panchmahal	Kheda	Overall	
		No.	No.	No.	%
1	**Frequency of milking**				
	Twice a day	100	100	200	100.00
	Thrice a day	-	-	-	-
	Once a day	-	-	-	-
	Total	**100**	**100**	**200**	**100.00**

2	**Milking Method**				
	Full hand	11	13	24	12.00
	Full hand and stripping of last milk	-	10	10	05.00
	Stripping	-	07	07	03.50
	Knuckling	89	70	159	79.50
	χ^2 =19.43 p<0.01 Total	**100**	**100**	**200**	**100.00**
3	**Milking habit**				
	Wet hand milking	70	64	134	67.00
	Dry hand milking	30	36	66	33.00
	χ^2 =0.81 NSTotal	**100**	**100**	**200**	**100.00**
4	**Bathing and/or grooming before milking**				
	Yes	71	82	153	76.50
	No	29	18	47	23.50
	χ^2 =3.36NSTotal	**100**	**100**	**200**	**100.00**
5	**Washing of teats/udder prior to milking**				
	Yes	87	75	162	81.00
	No	13	25	38	19.00
	χ^2 =4.67 p<0.05Total	**100**	**100**	**200**	**100.00**
6	**Washing of the milkers' hands before milking**				
	Yes	79	70	149	74.50
	No	21	30	51	25.50
	χ^2 =2.13 NSTotal	**100**	**100**	**200**	**100.00**
7	**Sanitary condition of house**				
	Clean	25	51	76	38.00
	Moderately clean	43	28	71	35.50
	Dirty	32	21	53	26.50
	χ^2 =14.34 p<0.01 Total	**100**	**100**	**200**	**100.00**
8	**Washing of utensils**				
	By tape water	48	56	104	52.00
	By hot water	08	29	37	18.50
	Use of detergent	38	15	53	26.50
	Use of ash	06	00	06	03.00
	χ^2 =28.51 p<0.01 Total	**100**	**100**	**200**	**100.00**
9	**Post milking dipping of teats**				
	Yes	00	13	13	6.50
	No	100	87	187	93.50
	χ^2 =13.90 p<0.01 Total	**100**	**100**	**200**	**100.00**
10	**Testing for mastitis detection**				
	Yes	00	07	07	3.50
	No	100	93	193	96.50
	χ^2 =7.25 p<0.01 Total	**100**	**100**	**200**	**100.00**

11	**Lactation period**				
	5-7 months	02	23	25	12.50
	8-10 months	75	55	130	65.00
	More than 10 months	23	22	45	22.50
	χ^2=20.73 p<0.01 Total	**100**	**100**	**200**	**100.00**
12	**Dry period**				
	Less than 2 months	00	11	11	05.50
	2-3 months	36	57	93	46.50
	More than 3 months	64	32	96	48.00
	χ^2=26.44 p<0.01 Total	**100**	**100**	**200**	**100.0**

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Conflict of Interest: All authors declare no conflict of interest.

References :

Anonymous (2014). 19th Livestock Census-2012 All India Report. Ministry of Agriculture Department of Animal Husbandry, Dairying and Fisheries, Government of India, Krishi Bhawan, New Delhi.

Dang, A.K. and Anand, S.K. (2007). Effect of milking systems on the milk somatic cell counts and composition. *Livestock Res. Rural Develop.*, **19**(6): 1-9.

Hegde, N.G. (2006). Livestock development for sustainable livelihood of small farmers. In Souvenir:*39thAnnual General Meeting and 48thNational Symposium on "Energizing Rural India – A Challenge to Livestock Industry.* Compound Livestock Feed Manufactures Association of India, Manesar, Haryana, August 26, pp.50-63.

Patbandha, T.K., Ravikala, K., Marandi, S., Gadariya, M.R.,Ahlawat, A.R and Chavda, M.R. (2014). Milking management practices opted by dairy farmers in south Saurashtra agro-climate of Gujarat. *In Proc. National Seminar on "Revisiting Management Policies and Practices for Indigenous Livestock & Poultry Breeds as Eco-Friendly Economic Producers".*Vanbandhu College of Veterinary Science & AH, NAU, Navsari,Gujarat, India, 9-11 October, 2014.

Rao, T.K.S., Patel, N.B., Singh, R.R. and Sabapara, G.P. (2014). Breeding, health care and milking management of dairy animals in tribal area of high rain coastal India. *In Proc. National Seminar on "Revisiting Management Policies and Practices for Indigenous Livestock & Poultry Breeds as Eco-Friendly Economic Producers".*Vanbandhu College of Veterinary Science & AH, NAU, Navsari, Gujarat, India, 9-11 October, 2014.

Sabapara, G.P., Desai, P.M. and Kharadi, V.B. (2014). Study on milking management practices for dairy animals in Vansada taluka of Navsari district. *In Proc. National Seminar on "New Dimensional Approaches for Livestock Productivity and Profitability Enhancement under Era of Climate Change" & XXI Annual Convention of ISAPM*, College of Veterinary Science & AH, AAU, Anand, Gujarat, India, January 28-30, 2014.

Sabapara, G.P., Fulsoundar, A.B. and Kharadi, V.B. (2015). Milking and health care management practices followed by dairy animal owners in rural areas of Surat district. *Sch. J. Agric. Vet. Sci.,***2**(2A):112-117.

Sunilkumar and Mishra, B.K. (2011).Existing calf rearing and milking management practices followed by dairy farmers in Uttarakhand.*J. Hill Agri.,* **2**(1): 79-84.

TOI (2016).Times of India, Report, 23.07.2016

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