

## Milking Practices Adopted in Individual and Community Milking System at Animal Level

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### ABSTRACT

The study was aimed at assessing the milking practices adopted at animal level under Individual Milking System (IMS) and Community Milking System (CMS). Three Individual Milking Cooperative Societies (IMCS) and three Community Milking Cooperative Societies (CMCS) each from Bangarpet and Kolar taluks of Kolar district were randomly selected. Ten farmers from each IMCS and a supervisor from each CMCS were randomly selected with a objective of assessing the milking practices adopted under IMS and CMS at animal level. Results from the study found that, in case of Individual Milking System, cent per cent of the farmers tested the animal's milk for mastitis before milking by physical observation and practiced the fore stripping. While in case personnel under CMS of study areas, majority (83.34%) of the personnel did not practice fore stripping but maintained the time duration of 6 to 10 minutes for milking.

**Key words:** Adopted, Community Milking System, Individual Milking System, Kolar, Milking practices and Animal level.

### INTRODUCTION

The hygienic practice during milking is the most important steps in clean milk production. Clean milk production results in milk that is safe for human consumption, free from disease producing microorganisms, holding high keeping quality, high commercial value and high quality base suitable for processing, resulting in high quality finished products. Milk needs to be protected from all possible sources of microbial contamination. Potential sources of contamination of milk are dung,

water, utensils, soil, feed, air, milking equipment, animal and the milker. Contamination of milk can occur during storage and transport<sup>4</sup>.

Kolar-Chikkaballapura District Co-operative Milk Producers Union Ltd., (KOMUL) has installed "Bulk Milk Coolers and Community Milking Machines" on pilot basis at society level in the year 2001 to get the quality milk required for ultra high temperature processing packed at Kolar dairy.

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With this Idea study was conducted to assess the milking practices adopted at animal level in Individual Milking System (IMS) and Community Milking System (CMS).

### MATERIALS AND METHODS

Exploratory research design was adopted to formulate a problem for more precise investigation and to develop working hypothesis from an operational point of view. The Kolar district of Karnataka was purposefully selected as it has got both Individual milking system and community milking system. Three Individual Milking Cooperative Societies (IMCS) and three Community Milking Cooperative Societies (CMCS) each from Bangarpet and Kolar taluks of Kolar district were randomly selected. Ten respondents from each Individual Milking Society were randomly selected. Similarly a supervisor from each Community Milking Society was selected. Thus 60 respondents from Individual Milking Society and 6 respondents from Community Milking Society were selected.

The interview schedule was developed in consultation with the subject matter specialists and data was collected on milking practices at personnel levels from farmers of IMS and CMS were statistically analyzed.

### FINDINGS AND DISCUSSION

Milking Practices adopted in Individual Milking System at animal level are shown in Table 1. Cent per cent of the respondents did not adopt the practice of washing the tail, flank region, hind quarters before milking, similarly none of the farmers tied the tail during the milking in the study area but all farmers tied the animals during milking.

Majority (80%) of the farmers did not adopt the practice of tying the legs during milking. 71.66 per cent of the farmers practiced teat manipulation, followed by allowed the calf (25.00%), offered concentrates (3.34%) for let down the milk and none of respondents used oxytocin. Regarding washing of udder before milking, cent per cent of the farmers practiced it but none of the

farmers used the antiseptic solutions or cooled hot water for washing the udder and 98.33 per cent of the farmers did not wipe the udder with clean cloth after washing. Cent per cent of the farmers tested the animal's milk for mastitis before milking by physical observation and practiced the fore stripping but 91.66 per cent of them did not discard the fore striped milk safely.

None of respondents discarded the milk of animals during treatment period where as with regard to collecting and discarding the milk of animal suffering from mastitis practice, cent per cent of the farmers have adopted it in the study area. Cent per cent of the farmers maintained the time duration of 6 to 10 min for milking.

None of the respondents did not practice post dipping of teats with antiseptic and 78.34 per cent of the respondents did not wash the udder after milking. About 55 per cent of the farmers prevented the animal from lying down till 45 min after milking.

As farmers were well aware about certain practices at animal level, still awareness on some more important practices like washing of tail, flank region, hind quarters, hair clipping, tying of tail, post teat dipping needs to be improved which have greater impact on hygienic milk production.

Similar findings were reported by Patel *et al.* (2009), Ahirwar *et al.* (2010), Rathore *et al.* (2010), Sinha *et al.* (2010), Aulakh and Rajbir Singh (2012), Singh *et al.* (2013), Vranda (2014), Sabapara *et al.* (2015).

The findings were not in agreement with findings of Jacob and Anu George (2013), who reported that nobody had ensured that animal had to be in a standing posture for at least for 15 minutes once milking was done.

Milking Practices adopted in Community Milking System at animal level are shown in Table 2. Regarding the practice of testing for mastitis before going to milking, all the personnel of societies of CMS practiced by physical observation. All the personnel of CMC washed the udder before milking but none of them used either antiseptic solutions or cooled hot water washing. None of

personnel of community milking centers (CMC) under the study washed the tail, flank region, hind quarters and tied tail of animal before milking. Similarly none of the society personnel dried udder after washing and discarded the milk of animals during treatment period whereas all the personnel collected and discarded the milk of animals suffering from mastitis in the study area. Cent per cent of the personnel practiced teat manipulation for letdown of milk in animals and maintained the time duration of 6 to 10 minutes for milking. Majority (83.34%) of the personnel did not practice fore stripping in the study area. Half

of the personnel of CMC (50.00%) washed the udder after milking and none of the societies of CMS followed post dipping of teat with antiseptic solutions.

The bacterial load of milk may be reduced by using milking machines which are there in CMS but there is a need to concentrate on some milking practices at animal level like washing of tail, flank region, hind quarters, hair clipping, tying of tail, post teat dipping, fore stripping and drying the udder after washing which have a greater impact on clean milk producing process.

**Table 1: Milking practices adopted in Individual Milking System at Animal Level**

Sl. No.	Milking practices	Respondents No. = 60		
		F	%	
1	<b>Washing tail, flank region, hind quarters before milking</b>			
	a. Yes b. No	00 60	00.00 100.0	
2	<b>Tying the animal during milking</b>			
	a. Single side b. Both side	19 41	31.66 68.34	
	<b>Tying legs during milking (hind)</b>			
	a. Yes b. No	12 48	20.00 80.00	
	<b>Tying tail during milking</b>			
	a. Yes b. No	00 60	00.00 100.0	
3	<b>Washing udder before milking</b>			
	a. Plain water b. Antiseptic solution	60 00	100.0 00.00	
4	<b>Wiping udder after washing with water</b>			
	a. Yes b. No	01 59	01.66 98.33	
5	<b>Type of practice used for letting down the milk</b>			
	a. Teat manipulation b. Offer concentrate c. Allowing calf d. Oxytocin	43 02 15 00	71.66 03.34 25.00 00.00	
	6	<b>Practicing fore stripping</b>		
		a. Yes b. No	60 00	100.0 00.00
	<b>Discarding the fore striped milk safely</b>			
	a. Yes b. No	05 55	08.34 91.66	
7	<b>Testing for mastitis before going to milking</b>			
	a. California mastitis test (CMT) b. Physical observation of udder and milk	00 60	00.00 100.0	
8	<b>Discarding milk during treatment period</b>			
	a. Yes b. No	00 60	00.00 100.0	
	<b>Discarding the milk of animals suffering from mastitis</b>			
	a. Yes b. No	60 00	100.0 00.00	

9	<b>Following the quarter milking</b>		
	a. Yes	00	00.00
	b. No	60	100.0
10	<b>Maintaining time duration between 6 to 10 min for milking</b>		
	a. Yes	60	100.0
	b. No	00	00.00
11	<b>Post dipping of teat with antiseptic</b>		
	a. Yes	00	00.00
	b. No	60	100.0
12	<b>Washing the udder after milking</b>		
	a. Yes	13	21.66
	b. No	47	78.34
13	<b>Preventing the animal from lying down till 45 min after milking</b>		
	a. Yes	33	55.00
	b. No	27	45.00
14	<b>Maintaining the milking record</b>		
	a. Yes	52	86.66
	b. No	08	13.34

**Table 2: Milking practices adopted in Community Milking System at Animal level**

Sl. No.	Milking practices	Respondents No. = 6	
		F	%
1	<b>Washing tail, flank region, hind quarters of animal before milking</b>		
	a. Yes	00	00.00
	b. No	06	100.0
2	<b>Tying animal during milking</b>		
	a. Single side	06	100.0
	b. Both side	00	00.00
	<b>Tying animal tail during milking</b>		
	a. Yes	00	00.00
	b. No	06	100.0
3	<b>Washing udder before milking</b>		
	a. Plain water	06	100.0
	b. Antiseptic solution	00	00.00
	c. Cooled hot water	00	00.00
4	<b>Drying udder after washing</b>		
	a. Yes	00	00.00
	b. No	06	100.0
5	<b>Type of practice used for letting down of the milk</b>		
	a. Teat manipulation	06	100.0
	b. Offer concentrate	00	00.00
	c. Allowing calf	00	00.00
6	<b>Practice of fore stripping</b>		
	a. Yes	01	16.66
	b. No	05	83.33
	<b>Discarding fore striped milk safely</b>		
	a. Yes	00	00.00
	b. No	01	100.0
7	<b>Testing for mastitis before going to milking</b>		
	a. California mastitis test (CMT)	00	00.00
	b. Physical observation of udder and milk	06	100.0
8	<b>Discarding milk during treatment period</b>		
	a. Yes	00	00.00
	b. No	06	100.0
	<b>Discarding milk of animals suffering from mastitis</b>		
	a. Yes	06	100.0
	b. No	00	00.00

9	<b>Maintaining the time duration between 6 to 10 minutes for milking</b> a. Yes b. No	06 00	100.0 00.00
10	<b>Post dipping of teat with antiseptic</b> a. Yes b. No	00 06	00.00 100.0
11	<b>Washing udder after milking</b> a. Yes b. No	03 03	50.00 50.00

### CONCLUSION

Extension programmes need to be planned in both IMS and CMS for adoption of scientific milking practices through which bacterial load of milk can be decreased so that shelf life of milk can be improved and also export of milk can be increased. The present system of payment is based on fat and SNF needs to be changed to payment based on bacteriological quality, so that highest standards of bacteriological quality of milk can be maintained.

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