Milking Management Practices of Dairy Animals in Tribal Area of South Gujarat, India

G. P. Sabapara¹, P. M. Desai² and V. B. Kharadi³

¹Assistant Professor, Polytechnic in Animal Husbandry, ²Professor and Head (Retd.), Department of LPM, College of Veterinary Science and Animal Husbandry, ³Research Scientist, Livestock Research Station, NAU, Navsari, Gujarat, India.

Abstract

A field study was conducted to collect the information on milking management practices followed by dairy animal owners of Vansada taluka of Navsari district of South Gujarat. Vansada taluka is consisting of 95 villages and 20 villages having functional primary milk producer’s co-operative societies were selected randomly. Ten dairy animal owners from each selected villages were randomly selected with the help of Talati cum Mantri (Tehasildar) which constituted a total of 200 respondents. The selected farmers were interviewed personally with the help of a pre-tested and well structured interview schedule to elicit information. Perusal of data revealed that all the respondents milked their animals twice a day. All respondents practiced washing of teats and udder of animals as well as their hands before milking. Wet hand milking (96%) was the most common milking habit. They practiced mainly knuckling method (90%) of hand milking and 58% of the respondents washed their milking utensils by simply tap water followed by 42% of the respondents washed their milking utensils by hot water. Majority (99%) of the respondents doesn’t practice teat dipping procedure and sold the milk mainly (98%) to the dairy co-operatives. None of the respondents followed testing for mastitis control in their dairy animals. All the respondents allowed calves for suckle dam before milking for letdown of milk and milked their dairy animals at the same place.

Key words: Dairy animals, Milking practices, Tribal.

1. Introduction

India is the highest milk producer country in the world with an estimated quantity of 137.7 million tones in the year 2013-14 (Anonymous, 2015). Gujarat has around 5.23% of cattle and 9.55% of buffalo population of the country (Anonymous, 2014). It contributed around 10.3 million tonnes (7.8%) of milk to the total milk pool of India and per capita milk availability was 476 g/day during 2012-13 (Anonymous, 2014). However productivity per milking animal is very low i.e. wet average kg/day in indigenous cows, crossbred cows and buffalo as 1.98, 6.75 and 4.50 respectively (Hegde, 2006). This low production in India is mainly due to lack/low level of knowledge about improved dairy husbandry practices by dairy farmers (Khyalia et al., 2015). 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. Keeping these facts in mind, the present study was planned to delineate information on the milking management practices followed by the tribal dairy animal owners of Vansada taluka of Navsari district of South Gujarat.

2. Materials and Methods

A field study was conducted in Vansada taluka of Navsari district of south Gujarat. Majority of the population in the taluka is tribal. Vansada taluka is consist of 95 villages and 20 villages having functional primary milk producer’s co-operative societies were selected randomly viz. Pratapnagar, Bhinar, Navatad, Mola amba, Khambhala, Kansariya, Dholumbar,
3. Results and Discussion

Considering the importance of clean milk production practices, the respondents were interviewed for the various aspects of milking management practices followed by them. The information regarding milking management practices are presented in Table 1.

3.1 Frequency of Milking

All the respondents (100%) followed two times milking, owing to the practice of selling milk to primary village milk producers’ co-operative society at morning and evening. Thus, farmers overcome the burden of marketing the raw milk or processing milk for production of indigenous products and thereby getting increased hours in taking care of milch animals. The results are similar with the results of Chowdhry et al. (2008), Kalyankar et al. (2008), Rathore et al. (2010), Kumar and Mehta (2011) and Varaprasad et al. (2013).

3.2 Splashing of Water on Teat/ Udder before Milking

It was found that all the respondents washed teats along with udder of milking animal before milking, which must be needed for clean milk production to remove of dirt and faeces material adhered to them. Results are in agreement with Hazarika and Anand (1984), Bainwad et al. (2007), Kushwaha et al. (2007), Chowdhry et al. (2008), Gupta et al. (2008), Kalyankar et al. (2008), Rathore et al. (2010) and Kumar and Mehta (2011) who found that majority of farmers followed hygienic steps before starting of milking.

3.3 Washing of Hand before Milking and Milking Habit

It was found that all the respondents developed habit of washing hand before milking for clean milk production. Among these 96 per cent respondents had habit of wet hand milking while only 4 per cent respondents had habit of dry hand milking to their dairy animals. The present results are in agreement with Malik and Nagpaul (1999), Chowdhry et al. (2008) and Rathore et al. (2010). However Malik and Nagpaul (1999) reported 53.33 per cent farmers followed dry hand milking. These per cent are much higher than present finding. The practice of dry hand milking is superior practice than wet hand milking and the farmers of surveyed area still need to increase their awareness for adopting this practice.

3.4 Milking Method

Majority of respondents (90%) followed knuckling method of milking whereas only 9 per cent respondents practiced full hand milking method followed by stripping method (1%). Results are in agreement with Khupse et al. (1980), Bhardwaj (1999), Pawar et al. (2006), Chowdhry et al. (2008) and Rathore et al. (2010). The results are contrary to the findings of Kumar and Mehta (2011) and Varaprasad et al. (2013) who found that majority of farmers followed full hand method of milking. From the results of present studies and supporting studies it seems that the incorrect method is widely practiced throughout the western India. The farmers still need more training and educated that knuckling is a wrong method of milking which may lead to teat injury and mastitis in long term.

3.5 Dry Period

Drying off milking animals during advance stage of pregnancy preferably last two months before the commencement of next lactation is an important art of milking management, particularly for high yielding dairy animals. The present observations revealed that 73.5 and 26.5 per cent respondents adopted practice of drying off their dairy animals for less than two months and two months / more time before calving, respectively. The dry period given by the farmers in the present study seems to be short.

3.6 Teat Dipping

Majority of respondents (99%) did not follow teat dipping after milking, whereas only 1 per cent of respondents followed teat dipping after milking. Similarly Deshmukh et al. (2009) observed 3 per cent respondents following teat dipping after milking in buffaloes. This might be due to the lack of awareness of the respondents about teat dipping in relation to maintenance of good udder health in milking animals.
Table 1: Distribution of the dairy animal owners according to milking practices followed

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frequency of milking</td>
<td>Once</td>
<td>000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Twice</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>Splashing of water on teat/udder before milking</td>
<td>Yes</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>000</td>
</tr>
<tr>
<td>3</td>
<td>Washing of hands before milking</td>
<td>Yes</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>000</td>
</tr>
<tr>
<td>4</td>
<td>Milking habit</td>
<td>Dry hand</td>
<td>008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet hand</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>Milking method</td>
<td>Full hand</td>
<td>018</td>
</tr>
<tr>
<td>5</td>
<td>Drying period</td>
<td>&gt;2 months</td>
<td>053</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;2 months</td>
<td>147</td>
</tr>
<tr>
<td>6</td>
<td>Teat dipping followed</td>
<td>Yes</td>
<td>002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>198</td>
</tr>
<tr>
<td>7</td>
<td>Cleaning of milking utensils</td>
<td>Hot water</td>
<td>084</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tape water</td>
<td>116</td>
</tr>
<tr>
<td>8</td>
<td>Disposal of Milk</td>
<td>Co-operative society</td>
<td>196</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Home use</td>
<td>004</td>
</tr>
<tr>
<td>9</td>
<td>Testing for mastitis control</td>
<td>Yes</td>
<td>000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>200</td>
</tr>
</tbody>
</table>

This modern practice has yet not reached to the farmers in rural area and especially tribal area.

3.7 Cleaning of Milking Utensils

It is observed that all respondents have knowledge about cleaning of milking utensils. Out of all, 58 per cent of the respondents washed their milking utensils by simply tap water and 42 per cent of the respondents washed their milking utensils by hot water. This finding is well supported by finding of Shirsat et al. (1994), Malik and Nagpaul (1999), Bainwad et al. (2007), Kushwaha et al. (2007), Rathore et al. (2010) and Kumar and Mehla (2011). From the personal discussion during interview some of them informed that they are using detergent powder also to remove the stickiness of milk. This is a good practice for cleaning the utensils.

3.8 Disposal of Milk

The study area has well developed network of Valsad district dairy co-operative union (Vasudhara). Hence, majority (98%) of respondents disposed off their milk through village primary milk co-operative society, while very few respondents (2%) used at home in diet for family members. Easy disposal of milk through the network of co-operative society encourages farmers for adoption of more and more dairy husbandry practices. Thus, farmers got economic benefits on account of white revolution. Similar results were observed by Chowdhry et al. (2008) in Banaskantha district of North Gujarat. Whereas, Gupta et al. (2008) observed the majority sale of milk through private vendors in Rajasthan. This shows that in Gujarat the network of dairy co-operative is powerful which has reached to the interior parts in tribal belt too.

3.9 Testing for Mastitis Control

It was found that none of the respondents followed testing for mastitis control in their dairy animals. The test is standard qualitative and easy to follow by farmers, but this technique has not reached at farmers’ level in rural and tribal areas. Zero level awareness is suggestive of probably absence of efforts in communication and training.

3.10 Calf is Allowed to Suckle

It was found that all the respondents allowed calves for suckle dam before milking for letdown of milk. Gupta et al. (2008) reported that more than 91 percent of the respondents allowed the calves to suckle before milking. However, Rathore et al. (2010) who observed fairly high percent of farmers allowed the calves to suckle before and after milking.
3.11 Place of Milking

It is observed that all of the respondents milked their dairy animals at the same place. The present results are higher than the results of Gupta et al. (2008) and Rathore et al. (2010). However, present findings are contrary to the results of Malik and Nagpaul (1999) and Kumar and Mehla (2011) who observed that majority of the respondents milked their animals at separate and dry place. It might be due to the fact that farmers of these areas were aware of the clean milk production practices.

4. Conclusions

The study concluded that all the respondents followed two times milking of animals and practiced washing of teats and udder of animals as well as their hands before milking. Knuckling method of milking and wet hand milking was the most common milking habit. Majority of respondents washed their milking utensils by simply tap water. Majority of respondents don’t practice teat dipping procedure and sold the milk mainly to the dairy co-operatives. None of respondents followed testing for mastitis control in their dairy animals. All the respondents allowed calves for suckle dam before milking for letdown of milk and milked their dairy animals at the same place. Therefore, efforts should be made to convince tribal dairy farmers about the adoption of improved milking practices for quality milk production. They should be motivated through organizing trainings and demonstrations at field levels.

References