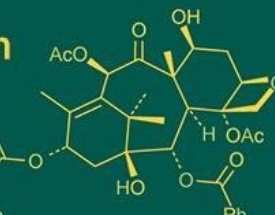
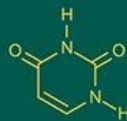
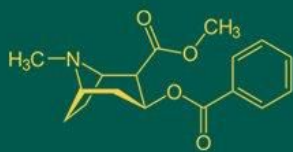


## International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693  
ISSN Online: 2617-4707  
IJABR 2025; SP-9(6): 01-03  
[www.biochemjournal.com](http://www.biochemjournal.com)  
Received: 01-03-2025  
Accepted: 04-04-2025

**Dr. GM Chaudhari**  
Assistant Professor, College of  
Veterinary Science and Animal  
Husbandry, Kamdhenu  
University, Gujarat, India

**Dr. Rajesh Kumar**  
Associate Professor, COVAS,  
BASU, Patna, Bihar, India

## Adoption of hygienic milk production practices and perceived constraints by dairy farmers

**GM Chaudhari and Rajesh Kumar**

**DOI:** <https://www.doi.org/10.33545/26174693.2025.v9.i6Sa.4478>

### Abstract

Hygienic milk production practices are critical in preventing the transmission of disease from animals to man through milk and improving the nutritional quality of milk. Dairy farmer is the key client in this process, who decides the quality of milk from milking stage at farm level to milk supply chain. Hence, the present study was undertaken to study the adoption of hygienic milk production practices and barriers in adoption of hygienic milk production practices by using scientific survey methods in the Junagadh district of Gujarat state. Two talukas were selected namely Junagadh and Keshod for the study purpose. Six villages were selected. From each village thirty farmers were randomly selected for the study. Thereby, the study involves a sample size of 180 dairy farmers. Analysis of data revealed that cleaning the shed floor by washing with water or dry cleaning 10-15 minutes before milking was found to be widely adopted by 90.56 percent of farmers while lack of good manure disposal system was perceived by majority of the dairy farmers as a major constraint. Health care facility as well as awareness level needed to be strengthened to improve adoption of hygienic milk production practices among farmers.

**Keywords:** Hygienic milk production, constraints, dairy farmer, adoption

### Introduction

Livestock rearing is one of the most important economic activities in the rural areas of the country. India continues to be the largest producer of milk in world with an annual production of 230.58 million tonnes (Annual Report, 2023-24) <sup>[1]</sup>. The nature of milk is perishable in nature. The quality of contaminated milk deteriorates quickly and produces diseases if consumed. Therefore, care has to be taken in production, storage, and transport of milk. Good quality milk is essential for production of good quality dairy products. Consumers all over the world have become quality conscious and prefer good quality milk and its products (Singh and Gupta, 2014) <sup>[7]</sup>. The good quality milk can be produced thorough hygienic measures adopted at all phases of milk production at farm level. Essentially hygienic milk production practices are critical in preventing the transmission of disease from animals to man, preventing the transmission of communicable diseases of man through milk and improving the nutritional quality of milk. Milk synthesized in udder is almost sterile, but taken out through milking, microorganisms enter from various sources like milch animal itself, milker, milking barn, milking utensil, farm water, equipment, storage and transportation. Therefore, for the farmer to produce good quality milk they must adopt the hygienic milk production practices. Dairy farmer is the key client in this process, who decides the quality of milk from milking stage at farm level to milk supply chain. Hence, the present study was undertaken to study the adoption level of hygienic milk production practices and barriers in adoption of hygienic milk production practices by using scientific survey methods.

### Materials and Methods

The study was carried out in the Junagadh district of Gujarat state. It is to be noted that the Junagadh district was purposively selected due to the larger share of dairy farmers in the study area. Two talukas were selected namely Junagadh and Keshod for the study purpose keeping in view the objective of the study. From each taluka, three villages were selected. In this way six villages were selected.

**Corresponding Author:**  
**Dr. Rajesh Kumar**  
Associate Professor, COVAS,  
BASU, Patna, Bihar, India

From each village thirty farmers were randomly selected for the study. Thereby, the study involves a sample size of 180 dairy farmers. The farmers were selected on the basis of their primary occupation being dairy business or at least 50 percent of the annual income being derived from the dairy business. An exhaustive list of hygienic milk production practices was collected. There was a total of 39 hygienic milk production practices identified using literature study and expert discussions. From the list of collected practices, finally those were selected which were considered more relevant for the farmers by subject experts and scientists of the relevant field. Finally, ten practices were selected for the study purpose. For collection of data a structured interview schedule was prepared and pre-testing of interview schedule was done on non-sample population. The data were coded, classified, tabulated and analysed using the software with appropriate statistical methods like mean, standard deviation, frequency, percentage etc. to derive the relevant information.

## Results and Discussion

### Adoption of hygienic milk production practices

Among the highly adopted hygienic milk production

practices, the practice of cleaning the shed floor by washing with water or dry cleaning 10-15 minutes before milking was found to be widely adopted (90.56%) followed by suitable size lid should always be used to cover the utensils (88.89%); milking Utensils should be cleaned and sanitize before and after their use and kept dry (86.11%); milk should bring to disposal point as quickly as possible after milking to avoid multiplication of harmful bacteria (83.33%) and Chewing, smoking and spitting with tobacco should be avoided during milking (83.33%) (Table 1). The findings are in line with result of Yankam and Bhanotra (2018) <sup>[4]</sup> that majority (83.33%) of the dairy farmers washed their dairy animals. The practice of cleaning of udder with water before milking was done by almost all the 100 percent of dairy farmers Shivkumar and Bhanotra, 2018 <sup>[4]</sup>; Bainwad *et al.*, 2007 <sup>[3]</sup>; Singh *et al.*, 2015 <sup>[5]</sup> that cleaning of udder before milking was done by 93.89 percent of the respondents and that too only with water. Though wide adoption of these practices can ensure quality milk production, the large-scale adoption of remaining hygienic milk production practices strategies may not only yield safe milk but also improve income levels of the households through quality milk production and avoid spoilage losses.

**Table 1:** Hygienic milk production practices adopted by dairy farmers (N=180)

| Sl. No. | Clean milk production practice                                                                                       | Adopter s | % of adoption |
|---------|----------------------------------------------------------------------------------------------------------------------|-----------|---------------|
| 1       | Cleaning the shed floor by washing with water or dry cleaning 10-15 min. before milking                              | 163       | 90.56         |
| 2       | A suitable size lid should always be used to cover the utensils                                                      | 160       | 88.89         |
| 3       | Milking Utensils should be cleaned and sanitize before and after their use and kept dry                              | 155       | 86.11         |
| 4       | Milk should bring to disposal point as quickly as possible after milking to avoid multiplication of harmful bacteria | 150       | 83.33         |
| 5       | Chewing, smoking and spitting with tobacco should be avoided during milking                                          | 150       | 83.33         |
| 6       | The utensils and the storage vessels should be of stainless steel or aluminum and free from sharp edges              | 145       | 80.56         |
| 7       | Boil milk that is used for own consumption within 3 hours after milking to maintain quality                          | 135       | 75.00         |
| 8       | Complete milking process within 5-7 minutes                                                                          | 130       | 72.22         |
| 9       | Practice full hand method for milking                                                                                | 100       | 55.56         |
| 10      | Flies, hay, husk, dry cow dung cake or other extraneous matter should not get into the milking vessel                | 100       | 55.56         |

### Constraints perceived by dairy farmers in adoption of hygienic milk production practices

**Table 2:** Constraints perceived by dairy farmers (N=180)

| Sl. No. | Constraints perceived by dairy farmers                                                        | Total Score | Mean Score | Rank |
|---------|-----------------------------------------------------------------------------------------------|-------------|------------|------|
| 1       | Lack of availability of separate milking area                                                 | 465         | 2.58       | 3    |
| 2       | Lack of good manure disposal system                                                           | 476         | 2.64       | 1    |
| 3       | Lack of knowledge on various aspect of hygienic milk production practices                     | 419         | 2.32       | 5    |
| 4       | Not putting too much importance to personal hygiene                                           | 312         | 1.73       | 7    |
| 5       | Lack of awareness on testing the animal for tuberculosis and brucellosis at least once a year | 475         | 2.63       | 2    |
| 6       | Lack of knowledge on udder management practices                                               | 336         | 1.86       | 6    |
| 7       | Economic loss on separation of milk from diseased animals                                     | 244         | 1.35       | 8    |
| 8       | Lack of training on milking animal management                                                 | 429         | 2.38       | 4    |

Lack of good manure disposal system was perceived by majority of the dairy farmers as a major constraint as it is evident from table 2. Further, lack of awareness on testing the animal for tuberculosis and brucellosis at least once a year, lack of availability of separate milking area, lack of training on milking animal management and lack of knowledge on various aspect of hygienic milk production practices were some of the major constraints which were major obstacles in adoption of hygiene milk production practices.

### Conclusion

Dairy farmers have adopted most of the selected hygienic milk production practices at their farm with the variation of adoption percentage within 72-92. Further, there are wide scope to increase adoption percentage of remaining practices which were not adopted by farmers. Manure disposal management system and health care facility as well as awareness level needed to be strengthened to improve adoption of hygienic milk production practices. For widespread adoption efforts should be made to convince

dairy farmers about the importance of adoption of preventive measures likewise cleanliness of milch animal, personal hygiene of milking person, cleaning of milking place and shed, cleaning of milking vessel and utensils of milk collection at the society for quality milk production.

## References

1. Department of Animal Husbandry and Dairying. Annual Report 2023-24. Overview of achievements. Ministry of Fisheries, Animal Husbandry and Dairying, Government of India; 2024. p. 1-9.
2. Bafanda RA, Nanda R, Khandi SA, Choudhary F, Choudhary S, Shehjar F. Clean milk production practices adopted by the dairy farmers of R. S. Pura in Jammu District. *Asian Journal of Agricultural Extension, Economics & Sociology*. 2018;26(3):1-10. <https://doi.org/10.9734/AJAEES/2018/39985>
3. Bainwad DV, Deshmukh BR, Thombre BM, Chauhan DS. Feeding and management practices adopted by buffalo farmers under watershed area. *Indian Journal of Animal Research*. 2007;41(1):68-70.
4. Shivkumar RY, Bhanotra A. Health management and clean milk production practices followed by dairy farmers of Nanded district of Maharashtra, India. *International Journal of Current Microbiology and Applied Sciences*. 2018;7(4):3592-3598.
5. Singh M, Chakravarty R, Bhanotra A, Kumar M. Dairy animal health and housing management practices followed by tribal dairy farmers of Ranchi, Jharkhand. *International Journal of Farm Sciences*. 2015;5(3):199-206.
6. Singh V, Gupta J. Status of milk quality at farmer's field. *Indian Journal of Animal Sciences*. 2014;84(12):1304-1308.
7. Usadadiya NH, Prajapati RR, Parikh NL. Challenges in clean milk production: a comprehensive look at constraints faced by dairy farmers in North Gujarat and their profile. *International Journal of Development Research*. 2023;13(12):64459-64462.
8. Aneetta VA, Verma A, Choudharya U, Sen B, Dixit AK. Constraints in adoption of clean and safe milking techniques by dairy farmers in Kerala: an assessment. *Journal of Experimental Agriculture International*. 2022;44(11):175-180.