



A REVIEW ON STANDARD MILK HYGIENE PRACTICES IN INDIA WITH SPECIAL REFERENCE TO CLEAN MILK PRODUCTION

Vijay Sharma¹, Subha Ganguly^{2*}

¹Assistant Professor, Department of Veterinary Public Health & Epidemiology, Arawali Veterinary College, Sikar, Rajasthan, India

²Associate Professor, Department of Veterinary Microbiology, Arawali Veterinary College, Sikar, Rajasthan, India

*Corresponding Author Email: ganguly38@gmail.com

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ABSTRACT

Milk is the complete food. It contains in a balanced form of all the necessary and digestible elements for building and maintaining the human and animal body. In addition, it contains immunoglobulins which protect the newly born against a number of diseases. Generally, Goat milk is the substitute for human milk. Research has shown that milk and milk products have an immune enhancing property as well, particularly for the benefit of HIV/AIDS affected people. Generally, animals are milked at least twice a day worldwide including India, which can influence hygiene quality of milk considerably.

Keywords: Hygiene, Milk, Milk products, Pasteurization

INTRODUCTION

In India, milk production and distribution are currently being followed in an unorganized way. Only 10% of total milk production in India is under organized sector. In a highly-organized way like ANAND pattern co-operative system operating in Gujarat, the individual milk producer supplies the milk within 1-3 hours of production to a village level society.² This is transported twice-a-day in cans within 3-5 hours to the district level dairy plant under ambient conditions. But before this milk is cooled below 5°C at the chilling centers.³ Here, it is pasteurized and supplied to the consumer. In developed countries, it is a common practice to cool the milk immediately in the farm, and the same is collected by the dairy plants every day or alternate day or twice a week. In western countries, the problem of milk borne diseases has been solved completely by enforcing strict laws. Animals are periodically tested for contagious diseases and all measures are taken to produce milk free from pathogens.^{4,5} In our country, these conditions are not strictly followed in our country, the habit of boiling the milk before consumption by the consumer has saved them from serious milk borne infections and intoxications.

Sanitary Requirements as per MMPO

The premises shall be clean, illuminated, ventilated, properly white washed or painted. There shall be proper arrangements for disinfection.⁶⁻⁹ There should be space around it on all sides. The building shall be made of brick, masonry / cement concrete. The doors shall be fitted with hydraulic door closures to prevent insects, flies etc. The ceiling or roof shall be of permanent nature. The floor should be cemented, tiled or stoned to withstand the use of acid or alkali. Walls should be tiled or made impervious to water up to a height of at least 1.5 meters from the floor level. The premises shall not be used as residential premises, nor shall it have or be capable of having direct access with such premises.¹⁰⁻¹¹ There shall be proper supply of water. Water shall be of pure quality and free from any pathological microorganisms. The water shall be examined chemically and bacteriologically by a recognized laboratory. There shall be an effective drainage system and provision for treatment of refuse and effluents before disposal. Such facilities shall conform to the requirements laid down by the local water and drainage control authorities and the respective state pollution control board. Whenever 5 or more employees of either sex are employed, sufficient number of toilets for each sex as under shall be provided (IS: 1172-1971).

| Number of Workers | Number of toilets | Number of wash basins | Number of urinals |
|-------------------|-------------------|-----------------------|-------------------|
| Up to 25 | 1 | 1 | 2 |
| 25 to 49 | 2 | 2 | 3 |
| 50 to 100 | 3 | 3 | 4 |
| 100 and above | 5 | 5 | 7 |

It should be ensured that the employees wash their hands with soap or any other antiseptics before they resume work. The staff should be medically examined once in 6 months to ensure that they are free from infectious, contagious and other disease and shall be inoculated against the enteric group of diseases and vaccinated against small pox once in a year and a certificate

shall be kept for inspection. In case of epidemic, all workers should be vaccinated. A person having a bandage, plaster etc. for any injury shall not be allowed to handle raw materials or any other products and the staff working in processing and preparation of product shall be provided with white aprons or uniforms and head gears, which shall be clean. The management

shall also provide facemasks to all workers working in butter, powder and cheese making and packing section.^{12, 13} Motor vehicles, tank wagons, trolleys, etc. used for transport or distribution of milk products shall always be maintained in clean condition and all the parts coming in contact with milk shall be made of stainless steel or food grade resin coating impregnated with fibre glass.

CONCLUSION

Every three years the surfaces shall be coated with food grade resin and a certificate thereof shall be kept for inspection in case of resin coated vessels and proper CIP (cleaning in place) system shall maintained, each consisting of hot water, acid and tank with necessary pipes and fittings provided in such a way that the CIP solution is circulated to each and every equipment till all equipment and accessories are cleaned up to required standards. The equipment used for handling milk and milk products shall confirm to sanitary standards as may be fixed from time to time by Milk and Milk Products Advisory Board (MMPAB).

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