



# NEW ERA AGRICULTURE MAGAZINE

## Clean Milk Production

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### Abstract:

India has emerged as the highest milk-producing country in the world. Clean milk is defined as milk drawn from the udder of healthy animals, which is collected in clean, dry milking pail and free from extraneous matter like dirt, dust, flies, hay, manure etc. Clean milk has a normal milk flavour with low bacterial count and is safe for human consumption. Clean milk production is considered as one of the important factors in the economy of the state.

**Keywords:** Milk, clean, measures, practices, production.

### Introduction:

Milk is the main product of the dairy farm industry, produced mainly for human consumption. The milk is a complete food and nature's most wonderful gift for human being. But due to its high nutritional content it become a perfect growth medium for microorganisms including pathogenic bacteria. Therefore, there is need to protect it from all possible sources of contamination. Normal whole milk contains a balanced proportion of milk fat (4 per cent), lactose (4.8 per cent), proteins (3.5 per cent), minerals (0.7 per cent), vitamins and other minor constituents such as enzymes and hormones. The pH of normal raw milk is about neutral (pH 6.7) with a corresponding titratable acidity of 0.16-0.17 per cent due to the natural buffering capacity

of milk proteins and salts.

An efficient hygiene program should begin at the farm. Essentially milk hygiene practice has interests in preventing the transmission of disease from animals to man, preventing the transmission of communicable diseases of man through milk, preventing diseases or physical defects that may arise from malnutrition and improving the nutritional status of man in general and of infants, children, and mother in particular. In order to bring out considerable change in the prevailing situation throughout the country, a systematic approach is required for milk production and manufacturing of different products. Therefore, a multidimensional team work should be initiated in which the team workers will look into the areas of animal

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management, nutrition, health, microbiological aspects of the milk and milk products as well as the residues of other unwanted contaminations in the milk. This should first generate information on the base line for each aspect and identify the critical points during the process of milk production and processing.

### Sources of milk contamination

The main sources of bacterial contamination of milk are the milker himself, milking shed, milking environment, udder and flanks of milking animal, milking equipment and vessels used for milk storage and process of transportation. The animal itself and the milking environment act as contaminants of particulate matters like dirt, dust, urine and dung etc.

Some of the zoonotic diseases that spread through milk are Brucellosis, Tuberculosis, Salmonellosis, etc.,. The prevention of tuberculosis is by avoiding unpasteurized dairy products. People get infected Salmonella from half-cooked contaminated meat, infected eggs, or unpasteurized milk products. In the absence of proper hand wash after direct contact with infected faeces, accidental ingestion of bacteria can also occur (Pelzer *et.al.* 2009).

Milk has the potential to cause food borne illness. Raw milk is also known to be associated with pathogenic bacteria which cause milk-borne diseases such as

tuberculosis, brucellosis or typhoid fever, etc. Hygienic milk production, proper handling and storage of milk, and appropriate heat treatment can reduce or eliminate pathogens in milk.

### Steps for clean milk production

1. Regular soiling of teat surface should be avoided.
2. Washing with disinfectant must be practised.
3. Drying of teats before milking should be done.
4. Cloths may be used for only one cow separately and moistened in sanitizers after each use.

### Hygienic Milk Production at the Farm

Good hygiene is essential whether the animals are milked by hand or machine. This requires that:

- a) The milkers' hands and clothes are clean and he or she is in good health.
- b) The milking machine and milk storage equipment such as milk churns are kept clean and are in good condition.
- c) Immediately after milking, the milk must be cooled preferably to 4°C. This requires mechanical refrigeration or milk cooling tanks.

### Benefits of Clean Milk Production

- Reduces contamination and ensures safe milk production
- Increased shelf life of milk and better keeping quality

- Prevents transmission of food borne and zoonotic diseases
- Increases income to farmers

## Conclusion

The first step to clean milk production should be education and training of milk producers on hygiene, sanitation, housekeeping, milking methods and milking from healthy animal. Efforts should be made to convince dairy farmers to adopt clean milk production. Clean milk production should be motivated through organizing training and demonstrations at the field level. To maintain the highest standards of bacteriological quality of milk, the present system of payment, which is based on fat and SNF needs to be changed to incorporate the payment as an incentive based on bacteriological quality.

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