

CLEAN MILK PRODUCTION



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Clean Milk Production

Milk:

- Milk contains approximately 86% water, 4.7% sugar (lactose), 4.1% fat, 4.2% protein and 1% minerals.
- It supports the growth of micro-organisms and thus is prone to contamination. The purpose of milking a dairy cow is to obtain milk that is fit for human consumption.
- **Milk from the udder of a healthy cow contains very few bacteria and to ensure that it remains fresh for long it should be handled under conditions of good hygiene.**
- Unclean milk can be a source of disease to the consumer, rejected at the market and so is a loss to the farmer, does not keep for long and is not good for processing.

Milking:

The milking procedure is the first step in obtaining clean milk. At the farm this starts with ensuring the cow to be milked is healthy.

The cow:

- **Feeding very high amount of concentrates and low amount of forages result in milk with low butter fat. On the other hand feeding too little concentrates leads to low milk yield.**
- An unhealthy cow will feed less and produce less milk.
- Farmers are encouraged to vaccinate their animals against brucellosis. Animals should also be checked periodically for all types of contagious diseases and treated promptly in case they are infected.
- Mastitis is an inflammation of the mammary glands in the udder caused by infection with disease-causing bacteria which can be controlled by observing general hygiene and proper milking procedure.

Guidelines for clean milk production:

The milker:

Should:

- be healthy and clean.
- **Maintain short nails and hair (for ladies, cover the head when milking).**
- Never smoke during milking time.
- Milk quickly and completely without interruptions.

The environment:

- A milking shed (parlor) which can be permanent or movable should be constructed.
- **It should be located away from any smells.**
- The floor of shed should be clean and dry and if possible have a cement floor for ease of cleaning.
- The shed should be cleaned after every milking and animals kept off outside milking time.

Equipments:

- **Use seamless aluminum or stainless steel cans for milking and storing milk. Plastic container is difficult to clean.**
- Clean utensils immediately after milking or after emptying milk: rinse with cold water, scrub with a brush using hot water with detergent then rinse with cold water.
- **Place upside down on a rack and dry in the sun.**
- Store utensils in a safe, clean and well ventilated room.

Sources of milk contamination that needs to be avoided:

Milk containing dirt, dust, foreign materials, and high bacterial count and with off flavor is called contaminated milk.

Milk is contaminated by various sources:

1. Udder:

Unsanitary conditions of milking barns and bedding of the animal causes bacterial growth. Such bacteria may enter in to the udder through teat canal, which causes infection the udder like mastitis resulting contamination of milk.

The fore milk may be discarded as it contains high bacterial counts.

Complete milking should be done. Incomplete milking may lead to infection of the udder.

2. Exterior of cow's body:

Bacteria present on the animal body may enter in to the milk at the time of milking. Maintenance of clean skin, washing flank and udder with clean damp cloth before milk reduces the contamination from this source.

3. Milking barns:

It should be provided with good ventilation and neat flooring. Dry feeds or forage should be fed after milking.

4. Milker:

Dirty hands and clothing of the milker may be the source of contamination causing spread of bacterial diseases to the consumer through milk. **Persons suffering from diseases like T.B., Typhoid fever, diphtheria may not be employed for milking. Dirty habits like smoking, drinking should be avoided.**

5. Utensils:

Clean sanitized, smooth **copper free and dry utensils may be used for handling milk.**

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