FAQ'S (FREQUENTLY ASKED QUESTIONS)

- What are the various sources of contaminating milk?

Ans. Contamination of milk occurs from various sources these are

1 contimination from cow

2 milking utensils

3 microorgainisms

- Which types of microorgainisms are responsible for spoilage of milk and milk products?

Ans. Microorganisms normally present in air which are:

sporeformers

micrococci and

mold spores.

- Give the types and sources of spoilage microorgainisms of milk and milk products?

Ans. Types and sources of spoilage microorganisms are;

Psychotrops: Psychrotrophic microorganisms represent a substantial percentage of the bacteria in raw milk, with pseudomonads and related aerobic, Gram-negative, rod-shaped bacteria being the predominant groups

Coliforms: Like psychrotrophs, coliforms can also reduce the diacetyl content of buttermilk and sour cream, subsequently producing a yogurt-like flavor. In cheese production, slow lactic acid production by starter cultures favors the growth and production of gas by coliform bacteria

Lactic acid bacteria: Excessive viscosity can occur in buttermilk and sour cream from the growth of encapsulated, slime-producing lactococci.

- What are the factors affecting the spoilage of cheese?

Ans. Factors that determine the rates of spoilage of cheeses are water activity, pH, salt to moisture ratio, temperature, characteristics of the lactic starter culture, types and viability of contaminating microorganisms, and characteristics and quantities of residual enzymes.

- Give the prevention and control measures of spoilage of dairy products?

Ans. Cultured products such as buttermilk and sour cream depend on a combination of lactic acid producers, the lactococci, and the leuconostocs (diacetyl producers), to produce the desired flavor profile. Cheesemakers can use the addition of high numbers of lactic acid bacteria to raw milk during storage to reduce the rate of growth of psychrotrophic microbes. For fresh, raw milk, brined cheeses, gassing defects can be reduced by presalting the curd prior to brining and reducing the brine temperature to <12◦c.

- Give the microbial activity of spoilage microorgainisms in various dairy products?

Ans. The shelf life of pasteurized milk can be affected by large numbers of somatic cells in raw milk. Increased somatic cell numbers are positively correlated with concentrations of plasmin, a heat-stable protease, and of lipoprotein lipase in freshly produced milk. Factors that determine the rates of spoilage of cheeses are water activity, pH, salt to moisture ratio, temperature, characteristics of the lactic starter culture, types and viability of contaminating microorganisms, and characteristics and quantities of residual enzymes.

- Give the role of psychotrops in raw milk?

Ans. Psychrotrophic microorganisms represent a substantial percentage of the bacteria in raw milk, with pseudomonads and related aerobic, Gram-negative, rod-shaped bacteria being the predominant groups. Typically, 65–70% of the psychrotrophs isolated from raw milk are *Pseudomonas* species. Important characteristics of pseudomonads are their abilities to grow at low temperatures (3–7◦C) and to hydrolyze and use large molecules of proteins and lipids for growth

- Which microbes are responsible for the gassiness in different types of cheese?

Ans. Cracks in cheeses can occur when excess gas is produced by certain strains of *Streptococcus thermophilus* and *Lactobacillus helveticus* that form CO2 and 4-aminobutyric acid by decarboxylation of glutamic acid.

- Define the terms contamination and contaminants?

Ans. Any accidental entry or introduction of foreign material into the milk is called contamination and the foreign materials are called contaminants.

- **Describe the two major categories of milk that are introduced into the milk?**

Ans. The two broad categories of contaminants that can have their entry into the milk are

a) **Physical contaminants:**

Physical contaminants like dirt particles, hair, leaves, rubber and metal particles, paper pieces etc. can get entry in to the milk at the time of milking.

b) Chemical contaminants:

Veterinary, cleaning, agricultural and disinfecting chemicals can contaminate the milk.