Dairy Science &Technology

(Animal Husbandry and Dairying)

Microbiology of Fermented milk

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MICROBIOLOGY OF FERMENTED MILK

A products prepared from milk and fermented by means of specific culture (organism). Currently about 2.3% of the total dairy products market is in the form of cultured dairy products.

Advantages of Fermented milk –1.Better keeping quality

2. Easier to produce

3. Better nutritive and Therapeutic values

4.Possess different flavour and acidity

TYPE OF FERMENTED MILK

Dahi = S. lactis, S. thermophilus, L.bulgaricus, Mixed culture (not defined).

Yoghurt= S. thermophilus + L. bulgaricus (1;1)

Srikhand= S. thermophilus, L.bulgaricus

Acidophilus milk= L.acidophilus

Kefir= S. lactis, Lecco.spp., Saccharomyces kefir.

Kumiss= L.bulgaricus, L.acidophilus

Leben= S. lactis, S. thermophilus, ,L.bulgaricus, Lactose fermenting yeast.

MICROBIOLOGICAL STANDARS OF FERMENTED MILK

1. COLIFORM COUNT<10/g

2.YEAST AND MOLD COUNT <100/g

Microbial Action and Metabolism

Acidification: Lactic acid bacteria convert lactose into lactic acid, reducing the pH and forming a coagulum.

Flavor Development: Acetylaldehyde is the main flavor compound in yogurt, produced by Lactic acid bacteria Other compounds include diacetyl and acetoin.

- **Texture:** Exopolysaccharides (EPS) produced by some LAB improve the viscosity and texture of the fermented milk
- **COMMON MICRBIOLOGICAL DEFECTS-**

1.Flavour defects-absence of typical flavor and aroma is mainly inadequate acid formation due to use of improper strain or poor quality of milk.

Prevention- Use proper amount strain and good quality of milk**.**

2. Whey separation-This is due to incorrect salt balance in milk.

Prevention- Reduce the heat treatment or by addition of calcium chloride in milk.