

Chapter - 10

Microbes in human welfare -

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- Microbes are present everywhere - in soil, water, air, inside the body of animal, plants, humans.
- microbes also present - at high temperature, acidic condition, alkaline condition.
- Microbes are diverse (protozoa, bacteria, fungi, virus, viroids)
- prions are proteinacious infectious agents.
- can be grown on nutritive media to form colonies. Colonies can be seen with naked eyes.

Microbes in household products:

I) Curd - Lactobacillus and Lactic acid bacteria (LAB) grow in milk and convert it to curd.

LAB produce acid that coagulate and partially digest milk protein.

- In fresh milk LAB added as an inoculum or starter culture converting milk to curd.

Curd - high vitamin B₁₂

II) Dough - Dosa, idli is also fermented by bacteria. The puffed up appearance of dough is due to the production of CO₂ gas.

In bread making - baker's yeast (*Saccharomyces cerevisiae*)

III) Microbes are also used to ferment fish, soyabean, bamboo shoots, to make food.

IV) cheese - microbes are used for texture, flavour and taste development. large hole in Swiss cheese is due to production of a large amount of CO₂ by bacterium *propionibacterium sharmani*

Microbes in industrial products -

- Used to synthesise product valuable to human being, Beverages, and antibiotics.
- Fermentor - to grow microbe in large scale.