

## MICROBES IN HUMAN WELFARE

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Dairy product: -

##### (1) Curd

Micro-organisms such as *Lactobacillus* and others commonly called lactic acid bacteria (LAB) grow in milk and convert it to curd. During growth, the LAB produce acids that coagulate and partially digest the milk proteins. A small amount of curd added to the fresh milk as inoculum or starter contain millions of LAB, which at suitable temperatures multiply, thus converting milk to curd. which also improves its nutritional quality by increasing vitamin B<sub>12</sub>. In our stomach too, the LAB play very beneficial role in checking disease causing microbes.

##### (2) Cheese

Cheese, is one of the oldest food items in which microbes were used. Different varieties of cheese are known by their characteristic texture flavor and taste, the specificity coming from the microbes used.

The large holes in 'Swiss cheese' are due to production of a large amount of CO<sub>2</sub> by a bacterium named ***Propionibacterium Sharmaine***.

Nearly 400 varieties of cheese available which can be classified into following type -

	Types of cheese	Microorganisms used for ripening
1.	Soft (Camembert cheese)	<i>Penicillium camembert</i>
2.	Semi hard (Roquefortine cheese)	<i>Penicillium roquefortine</i>
3.	Hard (Swiss cheese)	<i>Propionibacterium Sharmaine</i>

**OTHER PRODUCT: -**

- The dough , which is used for making foods such as dosa and idli is also fermented by bacteria. The puffed-up appearance of dough is due to the production of CO<sub>2</sub> gas. Similarly, the dough, which is used for making bread, is fermented using baker's yeast (*Saccharomyces cerevisiae*).
- A number of traditional drinks (e.g. 'Toddy' prepared from sap of palms) and foods are also made by fermentation by the microbes.
- Microbes are also used to ferment fish, soya bean and bamboo shoots to make foods