

Aim:

Preparation of soya bean milk and its comparison with the natural milk with respect to curd formation, effect of temperature and taste.

Theory:

Natural milk is an opaque white fluid secreted by the mammary glands of female mammal.

The main constituents of natural milk are proteins, carbohydrates, minerals, vitamins, fats and water and are a complete balanced diet.

Fresh milk is sweetish in taste.

However, when it is kept for a long time at a temperature of $35 \pm 50^{\circ}\text{C}$ it becomes sour because of bacteria present in air.

These bacteria convert lactose of milk starts separating out as a precipitate.

When the acidity in milk is sufficient and temperature is around 36°C , it forms semi-solid mass, called curd.

Soya bean milk is made from soya beans.

It resembles natural milk.

The main constituents of soya bean milk are proteins, carbohydrates, fats, minerals and vitamins.

It is prepared by keeping soya beans dipped in water for sometime.

The swollen soya beans are then crushed to a paste which is then mixed with water.

The solution is filtered and filtrate is soya bean milk.

Materials required:

Beakers, pestle and mortar, measuring cylinder, glass-rod, tripod-stand, thermometer, muslin cloth, burner.

Soya beans, buffalo milk, fresh curd, distilled water.

Procedure:

- Soak about 100 g of soya beans in sufficient amount of water for 24 hours.
- Take out swollen soya beans and grind them to a very fine paste with a pestle-mortar.
- Add about 250 ml of water to this paste and filter it through a muslin cloth.
- Clear white filtrate is soya bean milk.
- Compare its taste with buffalo milk.
- Take 50 ml of buffalo milk in three beakers and heat the beakers to 30°C , 40°C and 50°C respectively.
- Add spoonful curd to each of the beakers and leave the beakers undisturbed for 8 hours and curd is ready.
- Similarly, take 50 ml of soya bean milk in three other beakers and heat the beakers to 30°C , 40°C and 50°C respectively.
- Add ¹ spoonful curd to each of these beakers. Leave the beakers

4 undisturbed for 8 hours and curd is formed.

Type of milk	Beaker no	Temperature	Quality of curd	Taste of curd
Buffalo milk	1	30°C		
	2	40°C		
	3	50°C		
	4	30°C		
Soya bean milk				
	5	40°C		
	6	50°C		

Result: For buffalo milk, the best temperature for the formation of good quality and tasty curd is... $^{\circ}\text{C}$ and for soya bean milk, it is $^{\circ}\text{C}$.