

What is Pasteurization



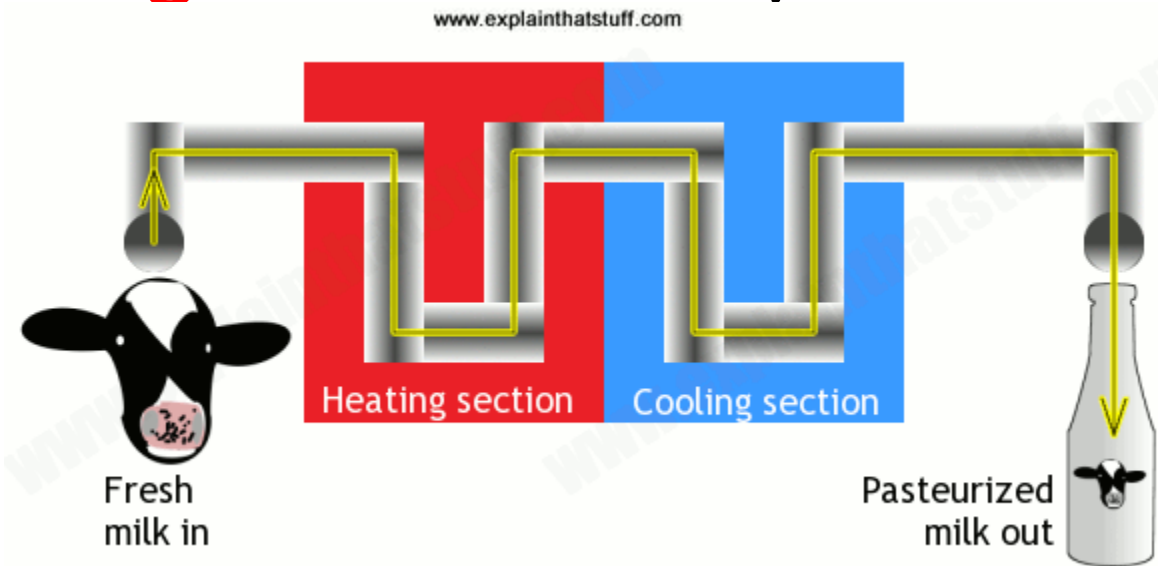
Discovery of Pasteurization

- The process of pasteurization was named after **Loius Pasteur in 1863**
- He was searching for the reason behind the **spoilage of wine**
- Discovered a **bacteria** was transforming **wine into vinegar**
- By **heating** the wine for a **few minutes**, the bacteria could be **destroyed** and the wine could be kept much longer.
- Perfected the **process** in 1865
- The process would be later applied to **milk**



Pasteurization is:

- A process that consists in **heating a food** for a given period of time and then **rapidly cooling** it in order to **destroy harmful microorganisms** which may cause rapid **spoilage of food** and/or **disease**.



Process of Pasteurization

- Micro-organisms such as **bacteria** are responsible for deterioration of **food**.
- Bacteria cannot survive at **temperatures that are too high**.
- Pasteurized foods are heated between 72-78 degrees celsius for about **15 seconds**.
- Rapidly **cooled**
- Destroys harmful **bacterias**
- **Preserves** food quality

Used for three main reasons

- **To provide healthier food** by eliminating harmful bacteria. Ex: non-pasteurized milk can contain E.Coli which can cause vomiting or diarrhea.
- **To prolong shelf-life of food** by destroying the harmful bacteria. Slows down the deterioration of food, stays fresh longer and thus can be transported over longer distances. Lowers cost of economic losses.
- **To preserve the nutritional properties of food** because pasteurization does not affect the look, taste or nutritional value of food, unlike other preservation processes.

Benefits:

- Reduces the risk of food contamination
- Reduces infant mortality rates
- Many food we eat regularly are pasteurized: milk, cheese, fruit juice, jams, honey.



Concerns

- Can destroy useful elements in food, such as “ good ” bacteria and vitamins.

Sterilization

- Performed at temperatures over 150 degrees celsius for a few seconds.
- Destroys all micro-organisms and modifies chemical integrity, look and taste of food.