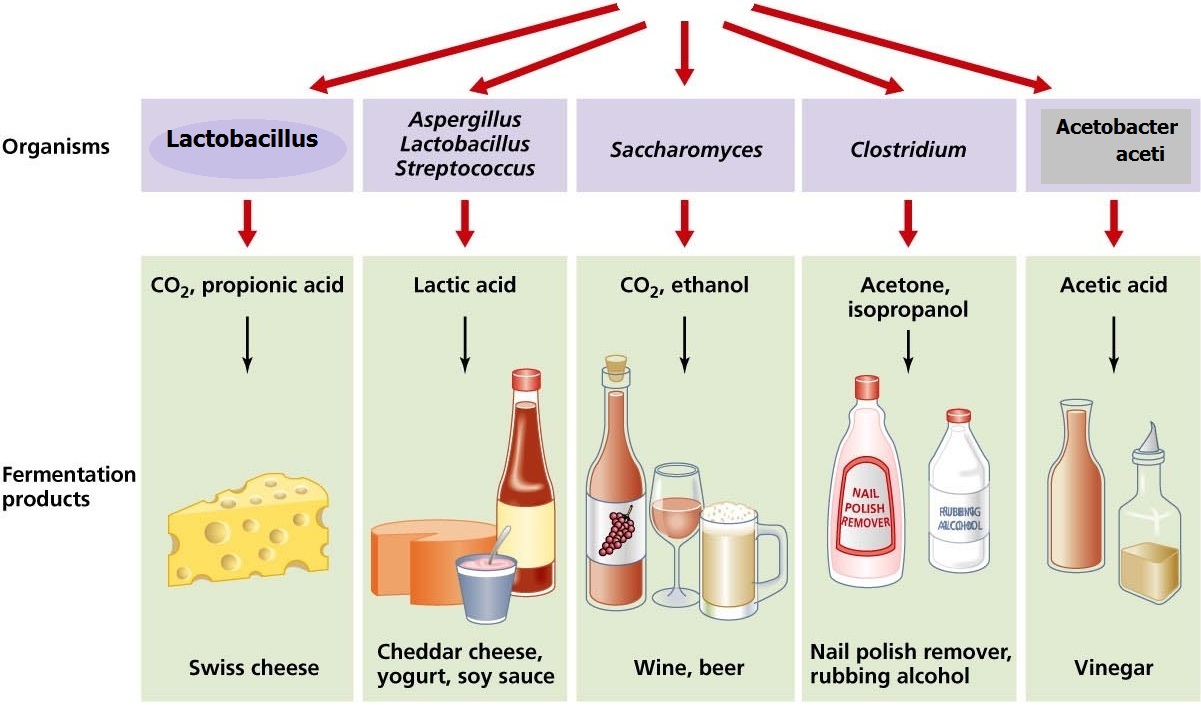
Microbial fermentation :-

Fermentation : can be defined as a metabolic process in which cheap raw materials such as carbohydrates are converted into economically important products by microorganisms (such as fungi, bacteria, algae) , these processes are carried out in equipments called as fermenter.

**Some microorganisms and their fermentation products**

**Carbon Source**



\* Examples of the most important fermentation products:

The bakery and pastry , Vinegar , Some detergents, dairy products , production of alcohol , Alcoholic beverages .

\*\*Some microorganism that contribute in the fermentation processes :

1- Lactobacillus bulgaricus & Streptococcus thermophilus . yogurt starter -----🡪 ( Lactic acid bacteria)

2- Saccharomyces cerevisiae . (Yeasts)

3- Acetobacter aceti . (Acetic acid bacteria)

4- Clostridium.

All microorganisms require carbon, carbon sources are metabolized to formation of biomass . carbohydrate sources are the most common [substrate](https://en.wikipedia.org/wiki/Substrate_(biochemistry)) of fermentation like lactose , sucrose, starch, fructose and glucose as carbon sources. So we used the Molasses as the cheapest carbohydrate sources.

Molasses syrup : is a byproduct of [cane](https://www.britannica.com/plant/sugarcane) or [beet](https://www.britannica.com/plant/beet) juice , or even the dates which is that remaining after separates the sugar crystals .