



## Microorganisms Improving the Food Quality and Safety

Johannes Kromdijk\*

Department of Agriculture, Shanghai University, Shanghai, China

### DESCRIPTION

The science of the microbes that live on, produce, or infect food is known as food microbiology. This covers research on viruses that may cause disease, microbes that generate fermented foods like cheese, yoghurt, bread, beer, and wine, as well as microbes that have other important functions such as making probiotics. Important categories have been divided based on specific traits in the research of bacteria in food. These classifications have little taxonomic importance because lactic acid-producing bacteria use carbohydrates as a source of energy. The major genera are *Streptococcus thermophilus*, *Leuconostoc*, *Pediococcus*, *Lactobacillus*, and *Lactococcus*. Acetic acid is produced by bacteria that produce acetic acid like *Acetobacter acetic*. Dairy products are fermented using bacteria that make propionic acid, such as *Propionibacterium freudenreichii*. Butyric acid is produced by some *Clostridium* species, including *Clostridium butyric*. Extra cellular proteinases, which are produced by proteolytic bacteria, hydrolyze proteins. There are bacteria species in this group from the Genera *Micrococcus*, *Staphylococcus*, *Bacillus*, *Clostridium*, *Pseudomonas*, and *Flavobacterium*, *Alcaligenes*, as well as a smaller number from *Enterobacteriaceae* and *Brevibacterium*.

Complex carbohydrates are hydrolyzed by saccharolytic bacteria. Species of bacteria from the Genera *Bacillus*, *Clostridium*, *Aeromonas*, *Pseudomonas*, and *Enterobacter* are included in this group. *Bacillus*, *Clostridium*, *Pediococcus*, *Streptococcus*, and *Lactobacillus* are some of the genera of thermophilic bacteria that

can survive in temperatures exceeding 50 Celsius. Spores and other thermophilic microorganisms can endure pasteurization.

Psychotropic bacteria include taxa from various genera, including *Alcaligenes*, *Serratia*, *Leuconostoc*, *Carnobacterium*, *Brochothrix*, *Listeria*, and *Yersinia*, that can grow in temperatures as low as 5 Celsius.

Bacteria that are halotolerant can endure salinities more than 10%. This comprises a few *Vibrio* and *Corynebacterium* species. Low pH allows aciduric bacteria to survive. Food microbiology places a lot of emphasis on food safety. Food can easily spread several pathogens and disease-causing agents, including bacteria and viruses. Food may also be contaminated by microbial toxins, however microorganisms and their byproducts can also be employed to fight off these harmful germs. Pathogens can be killed and inhibited by probiotic bacteria. Due to other safety concerns, the poisons created by contaminants might not be able to transform into non-toxic forms by heating or cooking the contaminated food. Microbiological tests, such as those for infections and spoilage organisms, are necessary to assure the safety of food products. In this manner, it is possible to assess the risk of contamination under typical use circumstances and stop food poisoning outbreaks. During the whole supply chain, testing of food items and ingredients is crucial since product faults could arise at any point during the production process.

Microbiological testing can not only identify spoiling but also determine germ content, recognize yeasts, molds, and *Salmonella*.

**Correspondence to:** Johannes Kromdijk, Department of Agriculture, Shanghai University, Shanghai, China, E-mail: johannes@kro.cn

**Received:** 03-Feb-2023, Manuscript No. JPPM-23-20134; **Editor assigned:** 06-Feb-2023, Pre QC No. JPPM-23-20134 (PQ); **Reviewed:** 21-Feb-2023, QC No. JPPM-23-20134; **Revised:** 28-Feb-2023, Manuscript No. JPPM-23-20134 (R); **Published:** 07-Mar-2023, DOI: 10.35248/2157-7471.23.14.661

**Citation:** Kromdijk J (2023) Microorganisms Improving the Food Quality and Safety. J Plant Pathol Microbiol. 14:661.

**Copyright:** © 2023 Kromdijk J. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.