conferenceseries.com

J Food Microbiol Saf Hyg 2017, 2:4(Suppl)
DOI: 10.4172/2476-2059-C1-006

7th EUROPEAN FOOD SAFETY & STANDARDS CONFERENCE

November 13-14, 2017 | Athens, Greece

Factors affecting the microbial growth in food

Mohamed Saad Abo-Elenain
Pepsico, Egypt

When microorganisms grow in food, they cause varying degrees of change in the food's characteristics as a result of metabolic activity. Some of these changes, like those taking place during fermentation, are desirable, while others, like those resulting in food spoilage and food poisoning, are undesirable. The most important factors that affect microbial growth in foods can be summarized in the following categories: (i) "Intrinsic factors" related to the food itself which include (Nutrient content, water activity, pH value, and the presence of antimicrobial substances); (ii) "Extrinsic factors" related to the environment in which the food is stored, including (Temperature of storage, and the composition of gases and relative humidity in the atmosphere surrounding the food); (iii) "Implicit factors" related to the microorganisms themselves, including (interactions between the microorganisms contaminating the food and between these microorganisms and the food), e.g., their abilities to utilize different nutrient sources, tolerate stresses, and produce promoters or inhibitors of growth of other microorganisms, etc.; (iv) "Processing factors" include treatments such as (heating, cooling, and drying that affect the composition of the food and also affect the types and numbers of microorganisms that remain in the food after treatment). Eventually, (v) "The combined effects" interaction between the above-described factors can also affect the growth of microorganisms in foods in a complicated way; the combined effects may be additive or synergistic.

mohamadsaad2057@gmail.com