Consortium for Educational Communication

SUMMARY

Although the deterioration of foods is a result of several factors (such as physical, chemical enzymatic and microbial change), the most important cause of spoilage of foods is activity and growth of microorganisms. The kinds and numbers of microorganisms that are present in food depend primarily on the type of food and degree of contamination. Every food has a typical natural microflora. For example, fruits and vegetables contain mainly yeasts and molds, while meat and eggs are generally spoiled by bacteria. In addition to the natural microflora of foods they may be contaminated with microorganisms during all steps of handling. Whenever the food is handled personally by a human being, there always is the possibility of the addition of human pathogens. Air, water, dust, ingredients may add their quota of contaminants. The kind and number of microorganisms will determine the keeping quality of the food and the rate of spoilage. Due to their low moisture content, cereal grains and flours made from them are not prone to microbial spoilage if they are prepared and stored properly. Fruits and vegetables are good media for microorganisms due to their high moisture and sugar content which may be fermented by microorganisms to alcohol and acids. Formation of color compounds and unwanted changes of flavor may occur. In the case of meats, changes of color, surface slime and, in the most drastic spoilage, decomposition of proteins (putrefaction) are typical signs of spoilage. Souring or acid formation is the main type of milk spoilage. Like meat, fish and other sea foods may be spoiled by autolysis, oxidation or most commonly by microorganisms.