

Recent Topics of Microbiological Criteria for Foods - Activities in Codex Alimentarius Commission and ICMSF -

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< Abstract >

Codex Alimentarius Commission has introduced risk analysis framework and recently started discussions to revise principles for the establishment and application of microbiological criteria (MC) for foods, by incorporating risk-based metrics such as Food Safety Objectives (FSO), Performance Objectives (PO) and Performance Criteria (PC). Introduction of these new metrics into food safety aims to achieve public health goals represented by Appropriate Level of Protection, ALOP.

A microbiological criterion consists of microorganisms of concern and/or their toxins/metabolites, the analytical methods and sampling plans including the microbiological limits. A sampling plan determines the probability of acceptance of the lot and accordingly has influence on the performance of testing. The probabilistic distribution of the microbiological contamination should be taken into consideration in selecting a sampling plan.

The International Commission on Microbiological Specifications for Foods (ICMSF, <http://www.icmsf.org/>) has been providing scientific advices to FAO/WHO and Codex since its establishment in 1962, and the application of HACCP, content of MC and the new concepts of FSO and other metrics were first generated and developed by the ICMSF.

In Japan, existing microbiological criteria and standards have been developed based on the historical events regarding food safety and requests from the public, but not all of them work well under current new techniques and conditions of food manufacturing and transportation. Fundamental considerations on the revision of the current criteria might be needed, reflecting international trends.

However, any test cannot ensure that a product is free from pathogen. It should be recognized that the most important food safety management is to control the food production processes comprehensively, including the selection of raw materials and application of GHP and HACCP during production, distribution, storage, and to the preparation and cooking. Those systematic approaches are much more effective than end-product testing.