

Food Risk Analysis : A New Paradigm of Food Safety

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ABSTRACT

According to the World Trade Organization Agreement of the Application of Sanitary and Phytosanitary (SPS) Measure, essentially the international trades have been related with some technical measures or barriers as previously known as the Agreement on Technical Barriers to Trade (TBT agreement). Therefore WTO members are allowed to take SPS measures necessary for the protection of human, animal or plant life or health as long as such measures are consistent with SPS agreement. Furthermore these measures should be compatible with standards, guidelines and recommendations from the Codex Alimentarius Commission (CAC). Even though Article 5 of SPS agreement indicated that SPS measures are based on an assessment of the risks to human life or health, CAC regards risk assessment as a major component of risk analysis. In 2003, CAC has been working with FAO and WHO to develop and adopt food safety risk analysis as a novel framework to improve (inter) national food safety. Food risk analysis is comprised of risk management, risk assessment, and risk communication. Risk management is perhaps the forefront component to designate acceptable level of risk in terms of Appropriate level of SPS protections (ALOP) and also converted to Food Safety Objective (FSO) which is the contamination level of pathogen in foods. Risk assessment is a 4-steps process characterizing the adverse health affect as a result of exposure of pathogen contaminated in food consumed. ¹Hazard identification is the first step to describe the knowledge of pathogen causing the foodborne disease epidemics with the implicated foods. ²Exposure assessment is to estimate the likelihood of exposing pathogen via food. ³Hazard characterization (or dose-response assessment) is to estimate the illness caused by exposing pathogen. ⁴Risk characterization is the last step of risk assessment integrating exposure assessment and hazard characterization. Risk communication is the interaction between risk manager and risk assessor.

Keywords : food risk analysis, risk assessment, risk management