

Functional Food

Risk assessment and regulation of functional food: European strategies for balancing food safety and nutritional goals

Brief description

The project investigated the regulatory responses, media coverage and public perception of functional food ingredients, in particular glycidol-FE and 3-MCPD-FE. 3-MCPD-FE is a precursor of free 3-MCPD in refined cooking oil and processed food. The toxicological effect of 3-MCPD-FE is unknown; however, if it is true that 3-MCPD is released from its esters in the human gut, this results in considerable amounts of exposition. When the potential risk of glycidol-FE was discovered, there barely was any reaction from industry and consumer organizations. There was also no mass media hype on 3-MCPD-FE or glycidol-FE, again because only few things are known about these contaminants. The pressure for further scientific research on both chemical substances is the reason why no risk assessment (apart from the German Federal Institute for Risk Assessment/Bundesinstitut für Risikobewertung, BfR) has taken place since only limited data on chloroesters are available. However, some authorities agreed to the assessment of the BfR – nevertheless, without reviewing the assessment of the BfR by conducting an own risk assessment. Future plans to get the matter under control include the producer's duty to develop strategies for minimising the amount of these compounds in fats and oils; industrial research especially on the refinement of fats and oils; research on the mechanisms of the formation of these chloroesters; development and validation of, as well as agreement on standardized analytical methods; experiments addressing their absorption, distribution, metabolism and excretion; development of fundamentally alternative techniques in the production of refined fats and oils; collaboration among different research institutes, industry and authorities; and to consider possible maximum levels of the chloroesters. Those goals are demanded both by authorities and the industry.

Project duration

June 1 to October 30, 2009

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Funding agency

Japanese Food Safety Commission

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