

Food Risk Communication

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<Summary>

Based on the “Food Safety Fundamental Law” enacted in 2003, risk communication became part of food safety administration in Japan. Risk communication is organized by administrators to reflect the national consensus in the form of a risk management plan. To achieve this goal, basic information is shared and different views are debated among the concerned parties. By participating in the formation of the risk management plan, concerned parties form a deeper understanding of risk management which, in turn, strengthens the credibility of the risk management system. The basic way people measure risk is by emphasizing information indicating danger and then judging whether the risk is high or not. The gray area where it is difficult to judge whether it is dangerous or safe is usually considered dangerous. On the other hand, people accept fairly broad risks by judging the gray area to be white or safe when they benefit from accepting risk. Judging risk is always difficult and people often accept the conclusion of leaders with extensive knowledge and experience. Leaders consider the merit of avoiding risks vs the disadvantages and take measures which minimize the sum of all risks, that is, risk optimization. For successful risk communication, it is important to consider the benefits of not only avoiding risk, but also to accept risk, while trying to build trust in and raise the level of expertise of administrators.

International Trends of Food Safety in the 82nd and the 83rd JECFA Meetings

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<Summary>

The outlines of the safety assessment in the 82nd and 83rd JECFA meeting were described from a viewpoint of international trends of food safety. In the 82nd JECFA meeting, 10 food additives were evaluated. In particular, the safety evaluation of food additives used in infant formula such as Carbo bean gum, Pectin and Xanthan gum was noted. Because this was the first time to evaluate substances of this kind according to the guideline established in the 79th JECFA meeting. The proposal to revise the procedure for the safety evaluation of flavouring agents in EFSA/WHO Expert Workshop on Threshold of Toxicological Concern (TTC) held in Brussels, 2014 was approved. This new procedure will be applied on the next safety evaluation of flavouring agents. In the 83rd JECFA meeting, the Committee recommended the use of dose-response modelling to undertake toxicological evaluation of contaminants in terms of their exposure levels being low. The JECFA Secretariat established an expert working group to develop detailed guidance for the application of the methods most suitable to the work of the Committee.

History of Norovirus Fundamental Study and Recent Remarkable Progress with in vitro Cell Culture System

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<Summary>

Human norovirus (HuNoV) is major cause of infectious gastroenteritis and large-scale food poisoning outbreaks, and the elucidation of the infection mechanisms and vaccine development are urgently needed. Although HuNoVs were identified more than 40 y ago, our understanding of the replication cycle and mechanisms of pathogenicity is limited, because these viruses remain noncultivable in vitro, a robust small animal model to study viral infection is not available, and reports of successful passage of HuNoVs in a 3D cell culture system have not been reproduced. Recent advances in molecular and structure biology revealed the mechanisms for cell entry, infection, and replication of the viruses. The construction of norovirus cell culture system using human small intestinal organoids will be able to proteinaeous cellular receptor also contributed to the progress in therapeutic drug, vaccine and animal model development. Thus, basic research has made significant contributions to accelerating the development and practical use of infection control measures of norovirus. In this review, we summarize recent topics regarding norovirus research and vaccine development.

Novel Markers for Evaluation of Food Functionalities

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<Summary>

With rising public health consciousness, interest in food functionality has been increasing. Food intake based on exact understanding of food functions helps people to maintain the homeostasis or balance, and to reduce the risk of various diseases. While there are many methods available to evaluate the function of foods, following the launch of the “Foods with Function Claims” system with leading consumer affairs agency, government of Japan, the requirement for human clinical intervention trials has become standard. In this paper, we discuss problems related to human clinical intervention trials for the evaluation of food functionalities, and approaches to resolve these problems, mainly focusing on the use of novel markers and extrapolating from animal to human models.

< Research Institute of ILSI Japan Members >
Fuji Oil Group's R&D System and the Fuji Science Innovation Center
(Rinkū Co-creation Lab)

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<Summary>

Using a proprietary R&D system, the Fuji Oil Group is engaged in the development of food ingredients with new properties, created using vegetable fats and soybeans. In August 2016, the Group opened a new research facility in Japan, the Fuji Science Innovation Center at its Hannan office, located near Kansai International Airport. The Center is an R&D hub for domestic and international groups and is modeled around the idea of co-creation. It is dedicated to the development of products aligned with the triple goal of taste —health —environment. The working environment at this new Center is designed to promote communication and foster co-creation among researchers by establishing new laboratories, placing the previously ingredient-wise separated rooms on a single floor, and creating a non-territorial workspace. In addition, the Center facilitates co-creation with customers through the newly established Value Creation and Market Development within the Ingredient Development Division, enabling developers to share new products with customers and receive feedback. To realize the Group's potential, the Basic Research Division is expanded into a research center—Institute for Creating the Future—to create new enterprises. Furthermore, the Engineering Development Division is continuously engaged in R&D to improve the core technologies.

Fuji Oil Asia that covers the rest of Asia, launched the Asia R&D Center in Singapore in March 2015. And it has established reciprocal relationships with domestic and foreign R&D centers. The goal of the three Centers is to develop unique products intended for international markets.

The 14th International Symposium on the Biosafety of Genetically Modified Organisms (ISBGMO)

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<Summary>

The 14th International Symposium on the Biosafety of Genetically Modified Organism was held at Guadajarara, Mexico from June 4th to June 8th, 2017. The Symposium has been held biannually at various countries where industry, regulator and academia can share the most update information and exchange opinions on the safety assessment of GM crops. As is indicated by the theme of this year: “Environmental Risk Assessment of Genetically Modified Organisms: past, present and future”, science-based environmental risk assessment was discussed comprehensively, considering the experience of the safety assessment of GM crops in the past 30 years as well as the new technologies such as so-called NBTs.