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## Removal Effect of Radioactive Cesium Content in Foods by Cooking

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After the Fukushima Daiichi nuclear power plant accident happened in March 2011, the radionuclides remained in foods have been the major concerns in food safety. There have been little commercially available foods with the levels of radioactive cesium (cesium-134 and cesium-137) at larger than 100 Bq/kg for 4 years after the accident, due to the effects of decontamination operations, the radiation attenuation and the pre-marketed radionuclide test of foods. Some consumers still concerns the safety of the foods contaminated with the radioactive cesium levels at below 100 Bq/kg. Therefore, it is desirable to investigate the information about the reduction change of the radionuclide levels in foods during the process of cooking and processing from view point of food security. In 2011, we have started the study for the effects of cooking process on the reduction of radioactive cesium level in foods. The review discusses the reduction effects of radioactive cesium level in foods by conventional general cooking methods. The study indicated that the cooking methods that showed the removal rate of more than 50% of radioactive cesium were “boil”, “stew”, “removal of astringent taste” and “soak in water or liquid seasoning”. Maximum removal rate by these cooking was approximately 90%. On the other hand, removal rate of radioactive cesium levels in the foods cooked by “grill”, “deep-fry”, “kanroni (cook down the liquid)” and “dry-ing” were approximately 10% or less. These studies revealed that the moist heat cooking and the soak in a liquid significantly can reduce radioactive cesium level in foods, whereas the dry-heat cooking at high temperature cannot reduce that. The findings suggested that the amount and pH of the liquid under moist heat cooking and soak play an important role in reducing radioactive cesium levels in foods.

## Current Research and Development of Probiotics in Meiji

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### <Summary>

The average life expectancy is increasing in Japan, however, there is a gap of ten to twelve years between this and average healthy life expectancy. This raises the issue of how we can avoid becoming bedridden in the final years of our lives.

The human body is colonized by a vast number of commensal microorganisms and their gene products which has become a focus of both medical and biological research because of evidence of their interactions and effects on the health and disease susceptibility of the human host. These microorganisms are collectively referred to as the microbiome. At the same time, it has been made clear how rapidly and reproducibly the human gut microbiome responds to short-term changes in diet. Recent advances in microbial DNA sequencing technologies have made it possible to see that only one day of a change in diet can rapidly alter the gut microbiome.

Over a century ago, the famous biologist Ilya Metchnikoff unconventionally theorized that health could be enhanced and senility delayed by manipulating the intestinal microbiome with host-friendly bacteria found in yogurt. The term probiotics was coined to reflect Metchnikoff's innovative idea and concept. In this issue, I summarize recent Japanese research in the area of probiotics and fermented dairy products, especially our company's evidence related to the effect of *Lactobacillus gasseri* OLL2716 on the gut, the immunomodulatory effect of *Lactobacillus delbrueckii* ssp. *bulgaricus* OLL1073R-1 and *Lactobacillus gasseri* PA-3 which influences uric acid levels resulting from purine-rich diets.

## Current Researches of Glycidyl Fatty Acid Esters as a Process Contaminant in Edible Oil

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### <Summary>

Glycidol fatty acid esters (GE) have been found as impurities in diacylglycerol oil (brand name: Econa cooking oil) which is one of the refined edible oils in 2009. GE has a concern of possible exposure to glycidol which is classified as a genotoxic carcinogen. Food safety commission in Japan has published the risk assessment report of diacylglycerol oil containing GE in March 2015.

Four quantitative qualification methods used to detect GEs in edible oil as well as fat processed food have been registered as AOCS official method.

Because GE's occurrence mechanisms in deodorizing process of edible oil have revealed recently, practical manufacturing processes of edible oil with lowering level of GE have been discussed in especially Germany.

Three challenging research areas of GE, which are safety, analytical method and reduction method, have been updated in this manuscript.

## A Trial to Establish “Social Business” for Nutrition Improvement - Ghana Nutrition Improvement Project -

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### <Summary>

Undernutrition is a serious social problem in developing countries. There are many international movements or projects aiming to solve the problem. Business plays important roles in solving social problems in developing countries. Recently many private companies are trying to establish BOP (Base of the Pyramid) business or Social Business, which aims to achieve both solving social problems and establishing sustainability of the business. To establish Social Business, it is essential to have a wide range of partnership among private companies and government sectors through Public–Private–Partnership and through collaboration among the private sectors, international organizations and international NGOs.

We have a project in Ghana in West Africa trying to establish Social Business to improve the nutrition of infants. A nutrition supplement was developed and produced in collaboration with partners including local university and a local food company. The supplement was distributed and disseminated in collaboration with international organizations and international NGOs. Studies conducted during the pilot phase of the project suggested that the nutritional supplement would be effective in reducing stunting and anemia in children caused by undernutrition. We are now preparing for scaling up production and sales to establish sustainable business and hope to make a successful model of Social Business for nutrition improvement.

## Workshop on Genome Editing in Agricultural Area

*Plant Task Force of  
Biotechnology Research Committee,  
ILSI Japan*

### <Summary>

ILSI Japan Workshop on Genomic Editing in Agricultural Area was held at Bellesalle Yaesu, Tokyo, on Sep. 28, 2015. The agenda of the meeting was as follows.

Opening remarks by Ryuji Yamaguchi, Executive Director, ILSI Japan

Overview of genome editing and its benefits to society

- Nobuhiro Tsutsumi, Professor, Laboratory of Plant Molecular Genetics, University of Tokyo  
Application of genome editing in agricultural area
- Hiroshi Ezura, Professor, University of Tsukuba Gene Research Center  
Plant Breeding and Innovation: Importance to Private Breeders
- Bernice Slutsky, Chair of Plant Breeding & Innovation Wording Group, International Seed Federation (ISF) and Senior Vice President Domestic & International Policy, American Seed Trade Association (ASTA)  
Progress sharing; technological advancement, regulatory considerations and social acceptance
- Tomio Suzuki, Director, Research Policy Planning Division, Biotechnology Safety office. Agriculture, Forestry and Fisheries Research Council Secretariat, Ministry of Agriculture, Forestry and Fisheries, Japan
- Martin Lema, Director of Biotechnology, Ministry of Agriculture, Livestock and Fisheries, Argentina
- Michael Dornbusch, Assistant Secretary, Evaluation Branch, Office of the Gene Technology Regulator, Australia
- Joachim Schiemann, Head of the Institute for Biosafety in Plant Biotechnology, Julius Kuhn-Institute, Federal Research Centre for Cultivated Plants, Germany
- Sally McCammon, Science Advisor, Office of Deputy Administrator, Biotechnology Regulatory Services, APHIS, USDA

Panel Discussion

Modulator: Ryo Ohsawa, Professor, Plant Breeding, Graduate School of Life and Environmental Sciences, University of Tsukuba

Panels: All speakers and Fumihiko Sato, Professor, Lab. Molecular & Cellular Biology of Totipotency, Dept. Plant Gene & Totipotency, Graduate School of Biostudies, Kyoto University

Closing Remarks by Kenichi Hayashi, ILSI CERA

## The Essential Considerations before Discussing the Details of the Guidelines on Food with Function Claims - Focusing on the Considerations for the Product Effectiveness

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### <Summary>

Some business operators have expressed that the system of notification of Food with Function Claims is complex since it requires special knowledge on a clinical trial and a research review. However, it seems that some of these objections arise from the not well-established scientific perspective and way of thinking rather than the lack of special knowledge on each particular scientific technique. In the system of Food with Function Claims, matching up the study population and sample to the main target population of the product, fully explaining the proposed effect by the appropriate outcome measures, and formulating a simple and clear research question using PICO or PECO are the especially important prerequisites for the substantiation of the product effectiveness. The plain language summary on the scientific evidence for the safety and effectiveness of the product must be easy to understand for the general public. The wording of the claimed effect is required to be scientifically and logically explained by the data in hand and promote consumers' voluntary and reasonable product choices without misleading them.

## New Food Labeling System in Japan

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### <Summary>

The food labeling system in Japan had been complex due to the regulations made under three different laws: the Food Sanitation Act, the Japan Agricultural Standard Act, and the Health Promotion Act. In order to resolve this complexity, all provisions regarding food labeling in these three laws were unified, and the Food Labeling Act was promulgated in June 2013 and entered into force in April 2015.

The Food Labeling Standard was established with the principal of not significantly changing the scope of the food labeling requirements such as target food and business operators. However, in integrating relevant standards established by these three laws, some standards were revised to reflect any necessary adjustments, and the parts involved the provision of information to consumers were enriched and improved.

It is desired that the food label is made in accordance with the new standard as soon as possible and promotes consumers' voluntary and reasonable product choices.

## Food Safety Management in response to Food Globalization

Hiroshi Akiyama, Ph.D.  
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### <Summary>

The globalization of food trade has rapidly been spread. Japanese economy in food trade is rapidly and internationally growing by the current politics of the strategy of Japanese government. Therefore, the Japanese companies should take consideration of international harmonization of food safety management and standards and pay attention to the insurance of food safety for the expansion of food trade.

This symposium entitled Food Safety Management in response to Food Globalization was held on May 20, 2015 at Tokyo Big Site in Koto-ku, Tokyo organized jointly by the Japanese Society for Food Hygiene and Safety, Japanese Society of Food Microbiology and Japanese Society of Food Chemistry, and jointly sponsored by Japanese Society of Mycotoxicology, ILSI Japan, Japan Food Hygiene Association and Food Chemical Newspaper Inc. Approximately 124 participants were attended and discussed in the symposium.



## The 12th Asian Congress of Nutrition / ILSI Session

Ryuji Yamaguchi, Ph.D.  
*Executive Director*  
*ILSI Japan*

### <Summary>

The 12<sup>th</sup> Asian Congress of Nutrition was held from May 14<sup>th</sup> to 18<sup>th</sup>, 2015 at PACIFICO YOKOHAMA. The main theme of the Congress was “Nutrition and Food for Longevity: For the Well-Being of All”. ILSI Asian branches had two scientific sessions, titled “Food Safety Program in Asian countries” and “Micronutrient Fortification Program”, and Exhibition booth. Since I chaired the session of Food Safety Program in Asian countries, I report mainly about this session.

At this session, by using the ILSI network in Asia, we held a session focused on food safety program in several Asian areas. In view of the external environment, it was expected to impact the global food system in the near future, including the rapid increase in food demand and on public health services due to population growth, as well as the threats to biosecurity and food safety due to the rapid globalization of food trade. Then, to facilitate effective information sharing can promise to lead activation of food industry.

Prof. Hwang shared current situations of Food Safety and Sanitation Regulations in Taiwan. Dr. Ma provided a talk on the role of risk assessment in food regulatory control focused on Aluminum containing food additive in china. After the JECFA evaluation of aluminum-containing food additive in 2011, each country has carried out risk assessment based on dietary intake survey. Ms. Chan presented on a Working group activities about Food Standards Harmonization in ASEAN. She also explained that ILSI Southeast Asia Region has actively support the various ASEAN Working Groups in utilizing science to harmonize food standards. Prof. Park provided current research activities in Korea focused on Climate change on food safety. He stressed that the climate change would alter the occurrence pattern of hazards, and then the new food safety program should be established to control the impact of climate change on food safety.

We will use four presentations as a springboard that leads to engage in vigorous discussion on issues related to Food Safety in Asia.

## Report of the 9<sup>th</sup> Session of the Codex Committee on Contaminants in Foods

Ryuji Yamaguchi, Ph.D.

*Executive Director*

*ILSI Japan*

### <Summary>

The Codex Committee on Contaminants in Foods (CCCF) held its 9<sup>th</sup> Session in Delhi, India, from March 16<sup>th</sup> to 20<sup>th</sup>, 2015, at the kind invitation of the Government of the Netherlands. The Session was attended by 316 delegates representing 55 Member Countries, one Member Organization and 13 international organizations. Ms. Wieke Tas, Chair of CCCF, Ministry of Economic Affairs, Nature and Biodiversity Department, the Netherlands, chaired the meeting as last year. Main items were “Draft Maximum Levels for Lead and cadmium in selected commodities, and for Arsenic in husked rice”, “Maximum levels for Deoxynivalenol (DON) in cereal-based foods” and “Development of a code of practice for the prevention and reduction of mycotoxin contamination in spices”

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## Report of the 47<sup>th</sup> Session of the Codex Committee on Food Additives

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*ILSI Japan CHP*

### <Summary>

The Codex Committee on Food Additives (CCFA) held its 47<sup>th</sup> Session in Xi'an, Peoples Republic of China from March 23<sup>rd</sup> to 27<sup>th</sup>, 2015. The Session was chaired by Dr. Junshi Chen and attended 300 delegates representing 52 Member Countries and 34 Member organizations and international organizations. The summary and conclusions of the Session are as follows;

#### 1. Matters for Adoption/Approval by the 38<sup>th</sup> CAC (July 6 -11, 2015)

##### (1) For adoption by the 38<sup>th</sup> Session of the CAC at Step 8 or 5/8

The Committee forwarded;

- Proposed draft Specifications for the Identity and Purity of Food Additives;
- Draft and proposed draft food additive provisions of the General Standard for Food Additives (GSFA); and
- Proposed draft amendments to the International Numbering System for Food Additives.

##### (2) Codex Standard and Related Text for revocation

The Committee agreed to request the 38<sup>th</sup> Session of the Commission to revoke;

- Food additive provisions of the GSFA; and
- Specifications for the 2,5-dimethyl-3-acetylthiophene (No. 1051).

##### (3) For approval as a new work The Committee agreed to;

- Revision of the food category 01.1 “Milk and dairy-based drinks” and its sub-categories of the General Standard for Food Additives (CODEX STAN 192-1995); and
- Revision of the Sections 4.1.c and 5.1.c of the General Standard for the Labelling of Food Additives When Sold and Such (CODEX STAN 107-1981).

##### (4) Other matters for adoption The Committee forwarded;

- Revised food additives sections of the standards for Bouillons and Consommés (CODEX STAN 117-1981);
- Revised food additives provisions of GSFA food category 12.5 “Mixes for soups and broths” and its sub- categories; and
- Corrections of the GSFA provisions related to the five meat commodity standards.

#### 2. Other Matters of Interest to the Commission and FAO/WHO

The Committee;

- Provided replies regarding the status of implementation of selected activities of the Codex Strategic Plan 2014-2019;
- Endorsed the provision for carrageenan (INS 407) in the Standard for Infant Formula and Formulas for Special Medical Purposes Intended for Infants (CODEX STAN 72-1981);
- Agreed to continue work on alignment food additive provisions of the commodity standards and relevant provisions of the GSFA;
- Could not find a consensus on how to progressing discussion on Note 161 and stop

discussion for the time being; and

- Forwarded the Priority List of the substances proposed for evaluation to FAO and WHO for their follow-up.

3. Matters Referred to Codex Committees

The Committee;

- Reminded active commodity committees that it was their responsibility to consider the alignment of the food additive provisions of the standards with the GSFA for all commodity standards under their responsibility;
- Replied to the requests by CCNFSDU36;
- Endorsed the food additive provisions forwarded by CCPFV27 with some amendments;
- Endorsed the food additive provisions forwarded by the CCASIA19 except the provisions for the tocopherols (INS 307a,b,c), caramel II and IV (INS 150b and 150d); and
- Endorsed the food additive provisions forwarded by the CCFO24.

<Friends in ILSI>  
ILSI SEA Region Seminar on Food Allergens  
- Science and Challenges for Southeast Asia -

Ryuji Yamaguchi, Ph.D.  
*Executive Director*  
*ILSI Japan*

<Summary>

Food allergies are becoming an increasingly important public health issue in Southeast Asia. In response, many ASEAN food safety authorities are starting to require mandatory allergen labeling of food products to help protect consumers. Under the circumstances, ILSI Southeast Asia Region held a seminar focused on “Food Allergens” on the sidelines of the its AGM. The objective of the seminar is to provide an overview of the various food allergy and allergen issues to facilitate the understanding of the underlying science of food allergies and allergens and to cover the basic concepts for the risk assessment of allergens and how these risk assessment outcomes can be translated into guidance for risk-based allergen labeling for the food industry.