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## Aim to Lengthen the Healthy Life Expectancy

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At the ILSI Japan which will turn 35 years this year since foundation, we continue our activities toward a social issue to lengthen the healthy life expectancy as a most important theme led by the President, Dr. Nishiyama. The principle of Metabolic syndrome (Visceral fat syndrome), which is the logical basis for a state measure “Specific Health Checkups & Specific Health Guidance” started from 2008, has triggered to make a paradigm shift of Japanese healthcare from the treatment to the prevention dynamically. Clear concept that changing life habit will prevent and improve the obesity (particularly visceral fat obesity) should be effective to lengthen the healthy life expectancy seems to be widely penetrated, however, no small number of experts express that it takes more significant time and devices required to prove its effect epidemiologically. “Moderate exercise and balanced diet” is well known keyword for the good health. In the meantime, it is a most difficult thing to continue. Taking the rest rather than exercise and eating tasty foods indulgently are the basic physiological desire. Besides, because of current stressful social life, people’s attitude and behavior tend to move to the desire.

While ILSI Japan has been working for the activities at sectional meeting of research, events and symposium in relation to “Food and Health”, it is essential in future to focus on the research and enlightenment of the effective meal for people to sustain easily without so called diet-stress for maintenance and improvement of the health based on the theme to lengthen the healthy life expectancy. There are recently many arguments on labeling regulation for functional claim to the foods and beverages. However, the research in terms of functionality of meal should be focused on prior to the investigation of individual food or ingredient. I think that it is important to precede the research further for the meal such as nutritional balance, timing to eat which are supposed to be effective to maintain the good health rather than individual food or ingredient.

From the observation of last 70 years trend, recent Japanese average energy intake reduced until similar level of intake at the end of World War II. However, the incidence of obesity and diabetes obviously increased. While reduction of physical activity is one of reasons, quality of meal and timing to eat are also suggested as the reasons. The quality of meal and timing to eat in Japanese have largely changed within last 70 years. If those changes caused increase of obesity and diabetes, detailed analysis of primary factor and its applied research might suggest new type of quality of meal and timing that match the today’s lifestyle and favorite. Besides, the development of safe and effective food based on those elements may become possible. For example, above mentioned big data regarding Japanese diet and health over 70 years analyzed with latest technology may lead to clarify the factors influencing obesity and lifestyle disease. Also if effective meals and foods for prevention of obesity and lifestyle disease can be designed by rearranging the composition of meals and ingredients based on discovered factors, I aspire to provide certain functional and safe epoch making proposal for the health which have never been realized by the approach in the past.

This type of development cannot be realized by individual corporate or single organization. The development with workforce associated by so to speak “Team Japan” is expected. It

means to create new meals and foods matching the health and favorite of modern people based upon “Washoku” being widely noticed in the world and propose to the world from Japan as world first aging society. I wish to realize that ILSI Japan, which raises a flag of aim to lengthen the healthy life expectancy takes a lead of “Team Japan” and demonstrates the contribution to the health for the people in the world.

## Vitamin D and Prevention of Colorectal Cancer, Diabetes, and Depression

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### <Summary>

Vitamin D, known as an important nutrient for the prevention of skeletal disease, has been shown to have various physiologic functions including suppression of carcinogenesis, improvement of glucose metabolism, and regulation of neurotrophins. This article summarizes the evidence on these issues from epidemiologic studies in which the author has been involved. In a large-scale case-control study in Fukuoka, a lower risk of colorectal cancer was observed among individuals who consumed higher amount of vitamin D and/or had a greater opportunity of spending outdoor. In a large-scale multicenter cohort study throughout Japan, a higher calcium intake was associated with lower risk of type 2 diabetes only in men and women whose vitamin D intake was high. In a cross-sectional study among Japanese employees, higher circulating vitamin D concentrations were associated with fewer depressive symptoms. These results are compatible with those of recent meta-analyses. Evidence from well-designed randomized clinical trial is required to confirm whether vitamin D supplementation can prevent such diseases.

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## Surveillance of Radioactive Cesium Concentration in Retail Foods

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### <Summary>

The Fukushima Daiichi nuclear power plant accident caused by the great earthquake and tsunami in March 2011 resulted in the release of radionuclides into the surrounding environment. The radionuclides have been detected in foods produced not only close to the nuclear plant but also in the surrounding area, causing great concern among local people.

In 2014, the Division of Food, National Institute of Health Sciences started surveillance of radioactive cesium in retail foods produced in the area where contamination with radioactive cesium was expected. More than 1,000 samples were tested in the years from 2011 to 2014, and the surveillance continues to the present. The proportion of samples that contained more than 100 Bq/kg of radioactive cesium was 1.5% in 2011, 0.3% in 2012, and 0.4% in 2013. Now less than 1% of retail foods contain radioactive cesium above 100 Bq/kg. The food categories that contain radioactive cesium above 100 Bq/kg throughout the surveillance period are mushrooms and fresh water fish. In the samples from Fukushima Prefecture, only one sample contained radioactive cesium more than 100 Bq/kg in 2011 and only 2 samples in 2012. In 2013 no samples from Fukushima Prefecture contained radioactive cesium more than 100 Bq/kg. Although Fukushima Prefecture is near the Fukushima Daiichi nuclear power plant and suffers from severe contamination with radionuclides, the foods containing radioactive cesium in high concentrations have essentially been removed from the distribution chain. This is the result of great efforts by all the parties concerned.

## New Physiological Functions of Branched-chain Amino Acids (BCAA) - Evidence from Biotechnological Studies

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### <Summary>

Branched-chain amino acids (BCAA: leucine, isoleucine, and valine) are building blocks of body proteins in humans and account for about 20% of amino acids composing the proteins. On the other hand, our body contains free BCAA, which have been demonstrated to have diverse physiological functions. A sum of free BCAA concentrations are as low as around 0.5 mM and are rapidly increased by BCAA supplementation and protein intake, resulting in inducing the diverse BCAA functions. Recent advances in biotechnology allow us to manipulate expression of specific genes. This technique has been applied to enzymes in the BCAA catabolic system, resulting in manipulation of the concentrations of free BCAA in mice. These studies have discovered new physiological functions of BCAA. For example, the defect in BCAA catabolism at the first enzyme of the catabolic system (branched-chain aminotransferase) induced markedly high plasma concentrations of free BCAA in mice, which showed increased turnover of body proteins, elevated insulin sensitivity, and low endurance exercise capacity. In contrast, acceleration in BCAA catabolism by chronic activation of the second enzyme of the catabolic system (branched-chain  $\alpha$ -ketoacid dehydrogenase complex) induced significantly low plasma and brain concentrations of free BCAA in mice, which showed neurological abnormality and impaired adaptation to endurance exercise training. We here introduce the new physiological functions of BCAA and new congenital BCAA metabolic diseases related to the functions of BCAA.

## Ensuring Food Safety and Risk Analysis

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### <Summary>

Japan and other major countries introduced the risk analysis approach to their food safety administration systems, in response to the events such as the occurrence of BSE which made big influences to the societies. Food Safety Commission of Japan (FSCJ) was established in 2003, and since then it has accomplished over 1,800 risk assessments based on scientific evidences, on the requests of risk management organizations such as Ministry of Health Labor and Welfare and Ministry of Agriculture, Forestry and Fisheries and also as its self-tasking assessments. FSCJ also engaged in spread of information including the risk assessment reports and basic knowledge on food safety.

FSCJ plays an important role in the society, since food is what everyone consumes every day and its safety has significant impact on people's health. FSCJ continues to conduct a risk assessment in a scientific, neutral and fair manner. In addition, FSCJ will work on development of new assessment methodologies using data of in vitro studies and TTC (Threshold of Toxicological Concern) approach, which are also being discussed in overseas. As for Risk Communication, FSCJ continuously makes effort on providing information which meets the society's needs in an easy-to-understand manner, using various media including social networking services.

## 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

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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.  
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### <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.

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*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”

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

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### <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.  
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<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.