# How Will TPP Affect Japanese Agriculture and the Food Industry?

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TPP has been one of the most sensitive political issues in Japan over the last few years. Japan participated in intensive negotiations as a member country from March, 2013 to October 14, 2015 when the TPP agreement was successfully concluded. On the occasion when the TPP was formally signed, February 4, 2016 in New Zealand, the Japanese Minister of Agriculture, Forestry and Fisheries announced in a statement that, as a result of tough negotiations conducted by the government, Japan could introduce a new system into the TPP framework in order to avoid negative effects to the nation's agriculture, forestry and fisheries.

Particularly for the five the most sensitive and critical products rice, wheat and barley, meat products, dairy products and sweeteners (sugar and starches), Japan could successfully create rules to maintain the state trading system and tariff rate quotas, obtain safeguard measures and implement an annual tariff reduction system, despite the TPP demanding member states to implement 100 % tariff eliminations without exception.

In addition, the government established a countermeasures office on October 9, 2015 to create and manage policy principles for the purpose of protecting and promoting the nation's interests through the TPP mechanism. The office has estimated that TPP may boost the nation's economy by a total of +2.59% of GDP even though the amount of imports that may affect GDP amounts to - 0.61 % of GDP.

On the other hand, Ministry of Agriculture, Forestry and Fisheries reported that TPP may result in a 130 to 210 billion yen reduction in the annual production of agriculture and fisheries overall. Whereas, there are many opinions that these figures are an underestimation, in fact, it is not easy to estimate how much imported processed foods will increase over fresh food imports.

The policy principle consists of three major objectives (a) Japan aims to reach new markets in the Asia-Pacific region for Japanese industrial products as well as agricultural products, (b) Japan aims to play the role of a global hub for international trade and as an investment market and (c) Japan aims to reform agricultural policy substantially to meet environmental changes affecting Japanese agriculture including effective countermeasures for the above five most important agricultural products.

The Japanese government has already introduced a bill to the Diet in order to approve the TPP together with another eleven bills acting as countermeasures. In addition, the government acting to harmonize Japanese assurance systems and regulations related to agricultural production and food safety like GAP and HACCP to international standards which are essential for promoting international exports to new markets.

# Process of Evolution of Dietary Reference Intakes and Nutritional Guidance

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**<Summary>**

To increase healthy life expectancy, a paradigm shift in nutritional guidance is necessary. This is a conversion from an indirect method based on food compositions to a direct method based on human biological information. Urine samples are non-invasive biological materials and urine collection can be conducted by the subject him or herself. Vitamins are essential, organic micronutrients. Different vitamin forms can result in similar activities and vitamin content among samples of the same food item can vary. In addition, vitamins are generally unstable and break down during preservation, food processing, and cooking. The accuracy and precision of measuring vitamin intakes is not reliable. Thus, we have developed a more reliable method to predict the intakes of various vitamins. Urinary excretory amounts of vitamins closely reflect the surplus amount of vitamins present in the body. However, it has been pointed out that the urinary levels of vitamins reflect the levels of available free forms of vitamins, but these do not reflect the physiological functions of vitamins such as the levels of coenzymes and enzyme activities requiring coenzymes. This was a very important caveat. Vitamins are involved in the catabolism of amino acids. We have found that the urinary excretion levels of vitamins were appropriate measures, but the excretion levels of 2-oxo acids were lowered by the addition of vitamins. We think this phenomenon may indicate inadequate coenzyme levels. Therefore urine 2-oxo acid levels may be possible to be utilized as a functional biomarker for vitamins. Nutritional guidance using dietary assessment and biomarkers (urine vitamin levels) and functional biomarkers (levels of urine 2-oxo acids) can be very persuasive and may lead to the transformation of habitual dietary intakes.

# Soy Intake and Breast Cancer

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**<Summary>**

Soybeans are the main source of isoflavones, which are classified as phytoestrogens. There has been much interest in the potential of soy foods to reduce the risk of breast cancer. The favored mechanisms by which soy isoflavones may influence breast cancer development are via their affinity and competition with endogenous estrogens and via anti-proliferative, proapoptic, antiangiogenic, anti-oxidative, and anti-inflammatory properties. Studies on soy intake and breast cancer risk among Japanese population have been reviewed and summarized that soy isoflavone intake possibly decreases the risk of breast cancer among Japanese women. Previous meta-analyses of observational epidemiological studies showed that soy intake was inversely associated with breast cancer risk in Asian populations but not in Western populations. The lack of association in Western populations may be related, in part, to the much lower soy intake. In addition to the amount of soy isoflavones consumed, the form and food source of isoflavones, equol-producer status, timing of isoflavone exposure, etc. may modify the association between soy isoflavone intake and the risk of breast cancer.

# Recent Regulatory Developments on New Breeding Techniques

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**<Summary>**

Today, we are witnessing the development of various new breeding techniques (NB Ts), such as genome editing, reverse breeding, and so on, These techniques are characterized by their precise modification of genome or their transient use of genetic modification at a certain stage of the breeding process. However, their regulatory status is mostly undecided and attracts wide attention in each jurisdiction. In this paper, I will refer to several countries and review their regulatory developments regarding NBTs.

In Europe, the European Commission is still discussing NBTs' regulatory status from the view point of the Environmental Release Directive (2001/18/EC). Their repetitive extension to disclose their legal opinion has given impetus to some Member States to make their own decisions regarding the regulatory status of NET-derived products, such as Cibus ODM-derived rapeseed. Recent regulatory issues discussed in Germany, France and Sweden were also referred. A court case related to the above-mentioned Cibus product needs to be paid attention closely in the future.

In the US, the Department of Agriculture (USDA) has been disclosing their regulatory opinions upon inquiries from developers. The USDA seems to take a case-by-case approach when judging the regulatory status of the product in question. The USDA's current authority over plant pest is also under discussion. The USDA is now considering to extend its regulatory authority to noxious weed and to introduce regulatory concept of "product of biotechnology".

New Zealand Environmental Protection Authority recently expressed their intention to the HSNO (Hazardous Substance and Novel Organisms) Regulation, and proposed that mutagenesis inducing techniques which was employed before July 29, 1998 would be regarded as exempted from the HSNO Regulation. In other words, novel techniques employed after that date would result organisms regulated under HSNO Regulation.

In contrast, Argentina government has introduced early consultation procedure, that is the administrative decision-making process on regulatory status of a NBT-derived product. Within the current regulatory framework, the procedure is employed by the Ministry of Agriculture, Livestock and Fisheries, and establishes a process to consult with the risk assessment body, the CONABIA (National Advisory Commission on Agricultural Biotechnology). As far as there is no new combination identified in the product in question, the product is regulated as Non-GM.

In sum, each jurisdiction has initiated their regulatory discussions regarding the NBT-derived products based on their existing regulations, and this would lead to further complicated picture of regulation and very difficult to achieve internationally coordinated policy for these products for the time being.

# Report of the 10th Session of the Codex Committee on Contaminants in Foods
# - Update Issues of the Codex Risk Management on Food Contaminants

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**<Summary>**

The Codex Committee on Contaminants in Foods (CCCF) held its 10th Session in Rotterdam, Netherland, from April 4th to 8th, 2016, at the kind invitation of the Government of the Netherland. The Session was attended by 191 delegates representing 55 Member Countries, one Member Organization and 14 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 "inorganic arsenic in (husked) rice", "my co toxin contamination in cereals", "lead in selected fruits and vegetables", "mycotoxins in spices", "cadmium in cocoa and cocoa-derived products" and "methylmercury in fish".

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# ILSI Southeast Asia Region Annual Meeting 2016

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**<Summary>**

ILSI Southeast Asia Region annual meeting was held on April 25th and 26th at Hilton Singapore. After the executive board of ILSI SEAR half day meeting, the representative of each science clusters make a presentation regarding the 2015 performance and the next year plan and actions. At day 2 afternoon, the symposium on dietary intakes was held. The speakers from the US, Australia and majors ASEAN countries have shared the update activities.