



**Asia-Pacific
Economic Cooperation**

2013/SOM1/PPFS/018

Agenda Item: 7, 10

**Importance of Food Safety - Risk Reduction and
Quality Assurance in Food Safety:
A Japanese Perspective**

Purpose: Information

Submitted by: Japan



**Policy Partnership on Food Security Meeting
Jakarta, Indonesia
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APEC PPFS: Importance of Food Safety

Risk Reduction and Quality Assurance in Food Safety: A Japanese Perspective

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Trustee, International Life Sciences Institute and Research Foundation



Brief Outline of Ajinomoto Group

- ❑ Founded in 1909 after the discovery of monosodium glutamate as a seasoning in 1908
- ❑ Products: Processed Foods, Frozen Foods, Beverages, Seasonings, Amino Acids for Food and Feed, Pharmaceuticals, Specialty Chemicals
- ❑ Annual Sales: 14 Billion USD
- ❑ Plants and offices in 23 countries and regions
- ❑ Group Companies: 115
- ❑ Group employees: ~25000

Food Security

*“Food security exists when all people, at all times, have physical and economic access to sufficient, **safe and nutritious** food that meets their dietary needs and food preferences for an active and healthy life”.*
(World Food Summit, 1996)

Outline of Presentation

- **Situation in Japan**
- **Microbial Risk and Chemical Risk**
- **Role of Risk Reduction and Quality Assurance**
 - Supply chain management
 - Informing the consumer



Japan is a Major Importer of Foods

Domestic Production	(1965)	(2011)
■ Calorie Based:	73%	39%
■ Price Based:	86%	66%

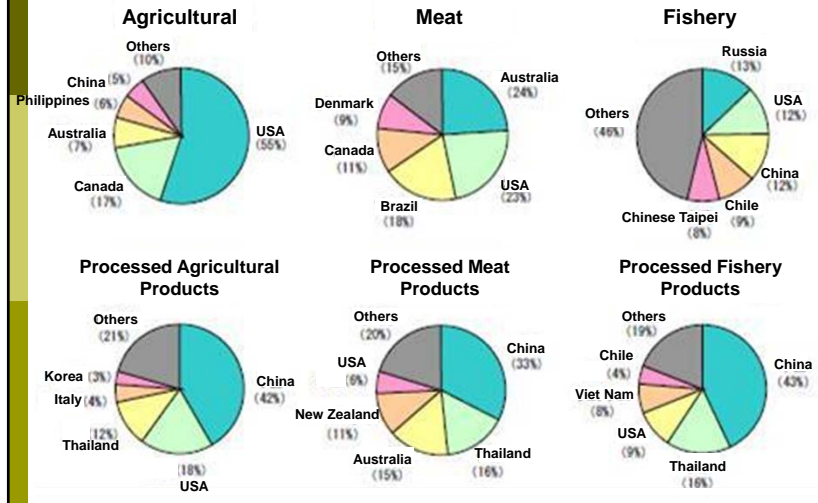
Ministry of Agriculture Forestry and Fisheries 2012

- Grains, Legumes, Sugars, Oils:
 - Under 30% self sufficiency

Ministry of Agriculture Forestry and Fisheries 2009

Japan imports food from around the world

Ministry of Health, Labor and Welfare Statistics 2007



Examples of check points in imported food

Antibacterial agents etc.:

antibiotics, synthetic antimicrobials, hormones etc.

Pesticide residue:

organophosphorus, organochlorine, carbamates and pyrethroid agents etc.

Food additives:

preservatives, colorings, sweeteners, antioxidants, anti-fungals etc.

Compositional standards etc.: (Microbiological and Poisons)

check points written in the compositional standards (viable bacteria count, coli groups, *Vibrio parahaemolyticus* etc.), pathogenic microbes (enterohemorrhagic *E. coli* O157 and *Listeria*), shellfish poison (diarrheal, paralyzing) etc.

Mycotoxins:

afatoxin, deoxynivalenol, patulin etc.

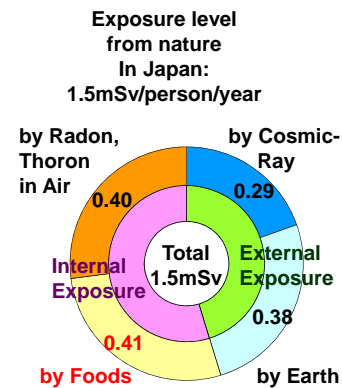
GM foods:

GM foods and additives not evaluated as safe

Irradiation:

with or without irradiation

Radioactivity Standards



New Limits of Radioactive Cesium

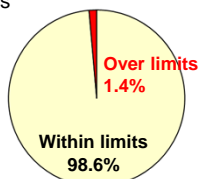
Food Group	Limit (Bq/kg)
Drinking water	10
Milk	50
General Foods	100
Infant Foods	50

Based on acceptable limit, 1mSv/y, by Codex Alimentarius Commission

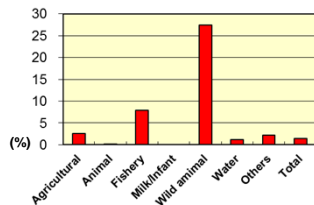
Checking of Radioactive Substrates in Foods



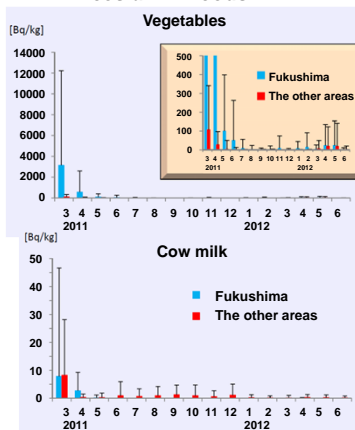
Excess rate of limits after 2012 April (91,740 samples)



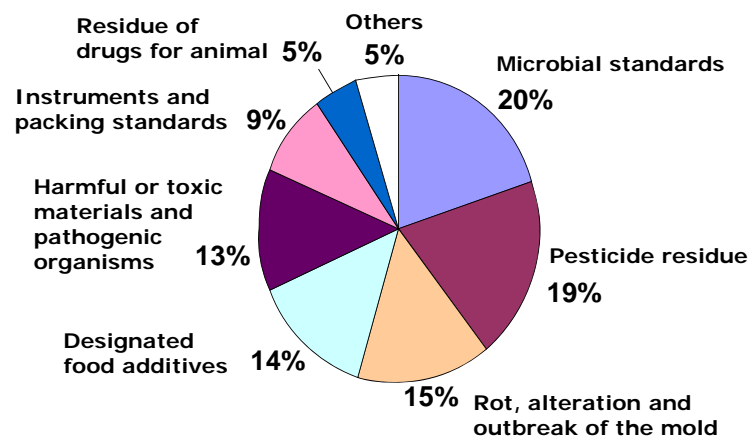
Excess rate of food groups



Change of radioactive cesium in foods



Infractions sorted by inspection category



Violations Low

Ministry of Health, Labor and Welfare Statistics 2010

□ USA

- Import Applications: 214,590
- Imported Weight: 11,860,686 tons
- Violations: 152 (0.7% of tested samples)

□ China

- Import Applications: 607,994
- Imported Weight: 3,977,749 tons
- Violations: 322 (0.3% of tested samples)

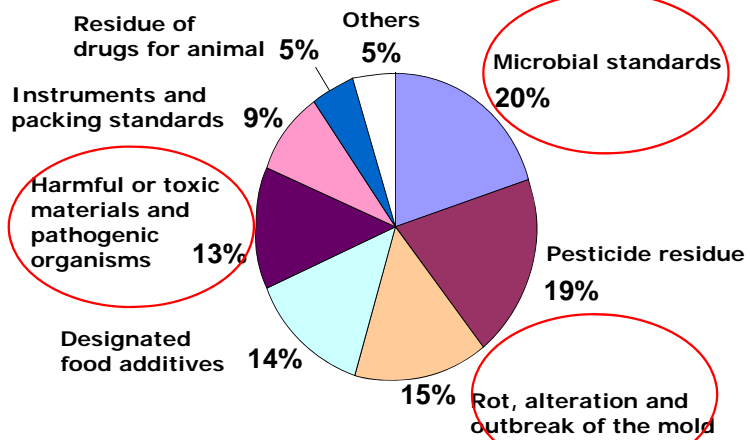
□ Viet Nam

- Import Applications: 43,924
- Imported Weight: 298,735 tons
- Violations: 128 (0.9% of tested samples)

Foodborne Disease

- The global incidence of foodborne disease is difficult to estimate, but it has been reported that in 2005 alone 1.8 million people died from diarrhoeal diseases. A great proportion of these cases can be attributed to contamination of food and drinking water. (WHO 2007)
- CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. (CDC 2011)

Microbiological Risk



Foodborne Illness and Nutritional State

- Microbial risk influenced by physiological and nutritional state of population
- Adequate nutrition also Important
 - Nutrient deficiency still a problem
- Link between Food safety and Nutrition
- More data needed on interrelationship between microbial risk and nutrition

Amino Acid(Lysine) and Vitamin Fortification for Post-Weaning Food in Ghana



Collaboration with US and Japanese Government, Ghana University, Local Women's Groups, NGOs, DSM



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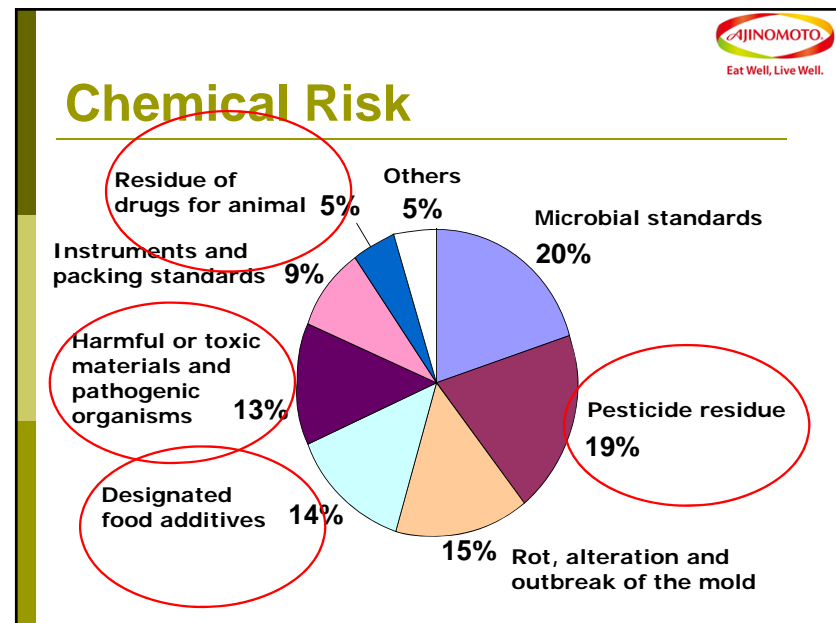
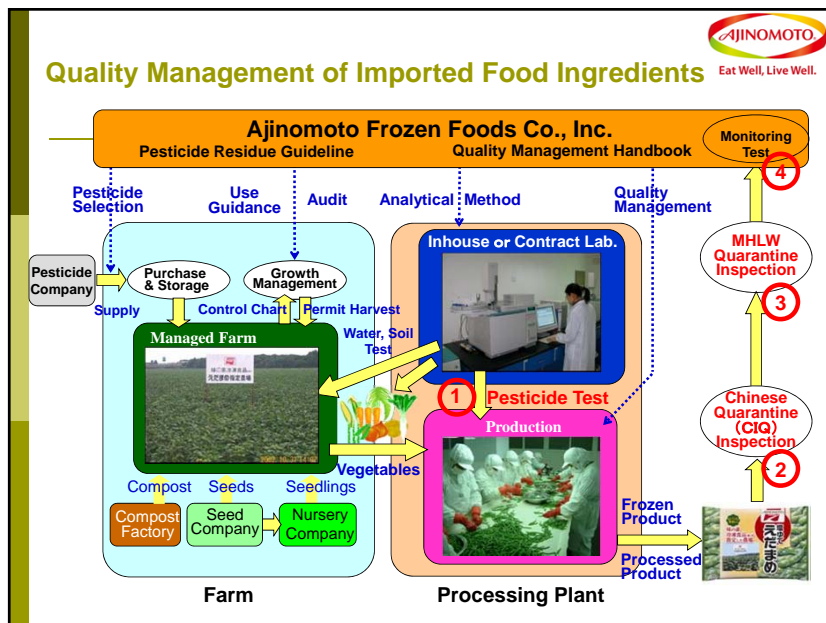
A Company Perspective: Establishing Trust in the Supply Chain



- Risk assessment of supplier
 - New supplier
 - Risk assessment including compliance
 - Periodic audits

- Trust Ranking
 - Selecting core suppliers
 - Low ranking suppliers cut or advised to improve
 - **Help improve quality for selected suppliers**

Capacity Building Important !!



Inadvertent or deliberate contaminants and adulterants



Ideally:

Quality of material on market

Should be equivalent to

Quality of material used for safety assessment

However:

Specifications are set so everyone can measure and they do not become barriers to trade

Risks:

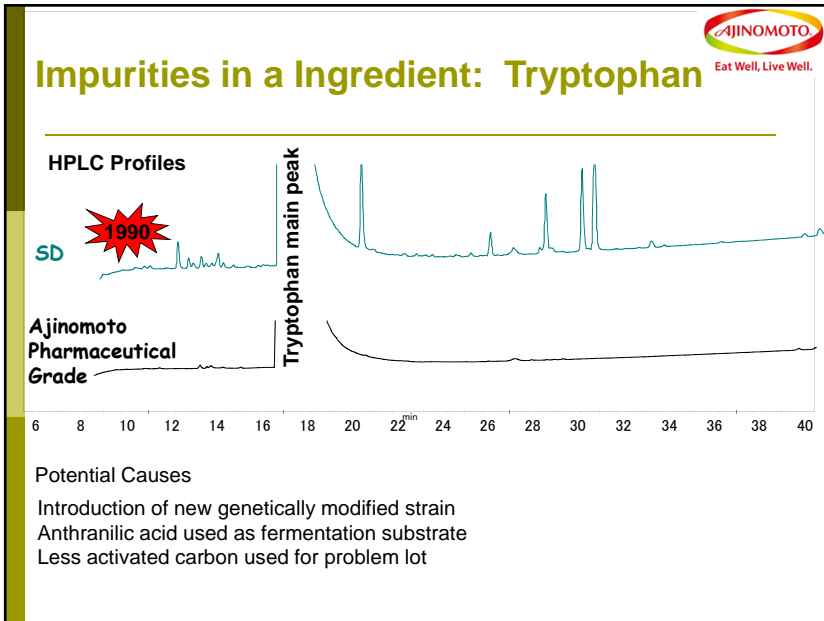
1. New contaminants arising from new processes not covered
2. Deliberate attempt to cheat system by using adulterants that pass specification tests

Inadvertent Contaminants



□ Example of Problem

- Tryptophan Eosinophilia Myalgia Syndrome
- Tryptophan: Amino Acid used mainly in US as supplement to aid sleep
- Low quality material made by Japanese company (SD) resulted in 37 deaths in USA
- Problem with impurities (but **within specifications**)



- AJINOMOTO**
Eat Well, Live Well.
- ## Specifications Important (Response to Tryptophan incident)
-
- **Europe (EP)**
 - Specifications for Tryptophan tightened (require HPLC)
 - **USA (USP)**
 - Tryptophan use made illegal in supplements (until 1994)
 - Import ban (until 2005)
 - Revised specifications in 2010(HPLC)
 - **Japan**
 - Any genetic modification made in producing strain of a food ingredient must be reported to the Government
 - Food Safety Commission assesses the need for safety evaluation
 - Need to present equivalency data
 - **Ajinomoto**
 - Strict rules for introducing new strains
 - Impurity profiles checked



Deliberate adulterants

- Melamine to falsify nitrogen content
- Diethylene glycol used as glycerin
- Oversulfated chondroitin sulfate in place of heparin

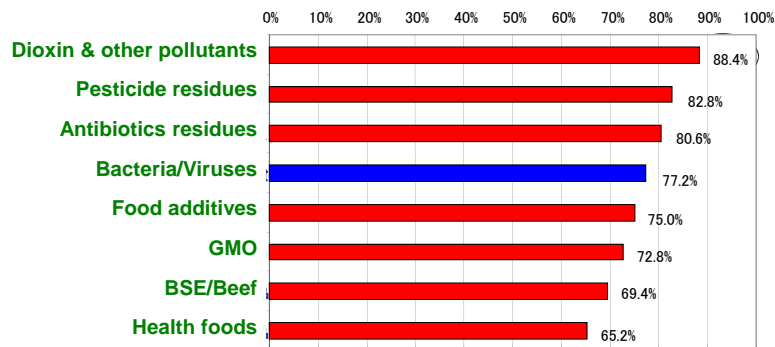


A Company Perspective: Food Defense Standards

- Purpose :
Prevent from intentional contamination of hazardous, poisonous, and toxic materials by malicious people
- Point of view of the standard : priority issue are 1,3
 - ✓ Prevention of intentional contamination by outsiders
 - ✓ Prevention of intentional contamination by employees
 - ✓ Trace back in the production, preservation, and transportation process
- Scope :
the product control divisions, production divisions, preservation and transportation divisions of Products marketed by Ajinomoto group companies

Informing the Consumer

Real Risks and Perceived Risks



Food Safety Fears by Consumers

Food Safety Commission, 2006

Informing the Consumer A Company Perspective

- Information through Ajinomoto Web Site
 - Explanatory material on Food Safety Issues by prominent Scientists
 - Country of origin or ingredients listed

- Information on Package
 - Extensive allergy information
 - Explanation for use of certain ingredients
 - Factory location



Frozen Dumplings

Made by Ajinomoto Frozen Foods Co., Inc. in Japan

Kanto Plant (Gunma Prefecture)
Chubu Plant (Gifu Prefecture)
Kyushu Plant (Saga Prefecture)



Additional Information on the Label

Producing Plant Name
Individual ID Number

Allergen Information List
Explanations for Certain Ingredients



Country of Origin of Ingredients

Main ingredients for frozen foods disclosed via internet.

From <http://www.ffa.ajinomoto.com/>

Main Ingredients	Country of Origin
Pork	Canada, USA, Japan
Chicken	USA, Brazil
Cabbage	Japan, China
Onion	China, USA, Japan, Australia
Leek	China
Garlick	China



Ajinomoto Frozen Foods Website
Introducing International Employees



農業は、日本で使用が認められているものしか使いません。

わたしが、味の素冷凍食品です。

I'm **A**

残留農薬検査は、日本の味の素冷凍食品と同じ厳しい基準で実施しています。

To Ensure Food Safety

- **Companies**
 - Quality Management System
 - Education on Quality for all People Involved
 - Establishing Trust in the Supply Chain

- **Governments**
 - Enforcing Quality Management (GMP etc..)
 - Risk Communication

- **International**
 - Capacity Building
 - Review of International Specifications
 - Exchange of Information on Quality



**Thank you very much
for your attention**
