

# Research Brief

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## Food control measures after the Fukushima accident

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*After the outbreak of the Fukushima nuclear power plant accident in March 2011, the Japanese government has regularly inspected the levels of radioactive material in food produced in Fukushima and its neighbouring prefectures. Many places have implemented food control measures to mirror actions taken within Japan.*

*This Research Brief studies the food control measures undertaken by Hong Kong, the Mainland China, Taiwan, South Korea, Singapore, the United States ("US") and the European Union ("EU"). When viewed against the number of prefectures and categories of food covered under the food control measures, the Mainland China and South Korea are the most stringent, the US and the EU to a lesser extent, and Hong Kong, Taiwan and Singapore the least.*

### 1. Background

1.1 On 11 March 2011, the Great East Japan Earthquake, a magnitude 8.9 earthquake, generated a series of large tsunami waves that struck the Pacific Coast of Japan. The force of the tsunami caused cooling system failures at the Fukushima Daiichi Nuclear Power Plant ("Fukushima plant"), resulting in the release of radioactive material into the atmosphere and surrounding environment.

1.2 The Fukushima plant accident has posed risks to Japanese food safety as food can be contaminated directly through radioactive material deposited by air, rain or snow, or indirectly through contaminated water and soil. According to the World Health Organization ("WHO"), radioactive iodine and caesium are the main contaminants. Radioactive iodine decays naturally within weeks, but if ingested, can accumulate in the body (particularly the thyroid gland) and increase the risk of thyroid cancer. Radioactive caesium can stay in the environment for many years and exposure to it can result in an increased risk of cancer.

1.3 More than two years after the Fukushima accident, the worries of radiation still prevail after a series of revelations about contaminated water flowing from the Fukushima plant into the Pacific Ocean. Of particular concern is the disclosure by the Chief Cabinet Secretary in August 2013 that the Fukushima plant was leaking approximately 300 tonnes of contaminated water into the Pacific Ocean each day.<sup>1</sup>

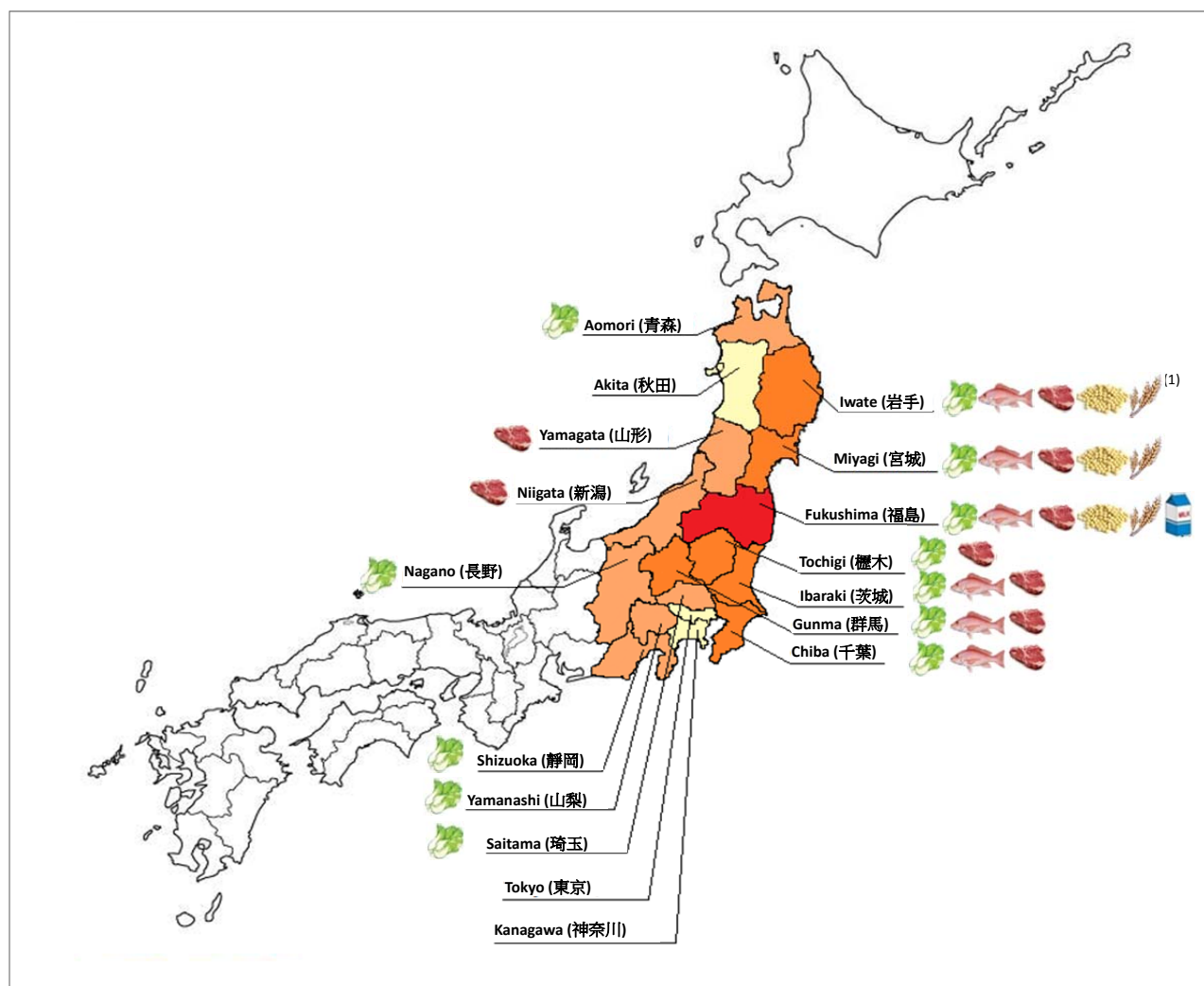
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<sup>1</sup> See Chief Cabinet Secretary (2013).

## 2. Food control measures adopted in Japan

2.1 After the Fukushima accident in March 2011, the Japanese government has regularly inspected the levels of radioactive material in food produced in Fukushima and nearby areas. Food products containing radioactive material that exceed the regulatory limits are restricted from domestic distribution and export. As at November 2013, the Japanese government had restricted distribution of specified food products, including fruits and vegetables, marine and livestock products, from Fukushima and its 13 neighbouring prefectures. The prefectures subject to the Japanese government's food control measures are shown in **Map 1**.

**Map 1 – Prefectures subject to the government's food control measures implemented after the Fukushima accident**



■ Tier-one prefecture with six categories of food products restricted from distribution.

■ Tier-two prefecture with two to five categories of food products restricted from distribution.

■ Tier-three prefecture with only one category of food products restricted from distribution

■ Tier-four prefecture with selected food products tested but not restricted from distribution.

Note: (1) Food categories restricted from distribution are: = Fruits and vegetables; = Marine products; = Meat; = Soybean/Azuki bean; = Grain; and = Milk and milk products.

Sources: Ministry of Agriculture, Forestry and Fisheries (2013) & Ministry of Health, Labour and Welfare (2013).

### **3. Food control measures adopted in places outside Japan**

3.1 Many places have implemented food control measures to mirror actions taken within Japan. According to WHO, these measures include suspension of food imports from Japan, submission of documents verifying the safety of products and/or the prefecture of origin of food, and increased inspection of Japanese food imports. This Research Brief studies the food control measures implemented by Hong Kong, the Mainland China, Taiwan, South Korea, Singapore, the United States ("the US") and the European Union ("the EU"), which together accounted for about three-quarters of Japanese exports of agricultural and marine products in 2012.<sup>2</sup> These places have implemented one or more of the following food control measures as mentioned by WHO:

- (a) prohibiting the import of food products from certain Japanese prefectures, particularly radiation-affected prefectures;
- (b) requiring certificates of radiation inspection issued by the Japanese government to ensure that the levels of radioactive material in the imported food products do not exceed the relevant standards;
- (c) requiring certificates of origin issued by the Japanese government to identify the sources of Japanese food products that are allowed to be imported; and
- (d) conducting inspection of radiation level of Japanese food imports under targeted and regular food surveillance programmes.

3.2 The places studied differ in the number of prefectures and categories of food products covered under their food control measures. Nevertheless, all broadly target at milk and milk products, vegetables and fruit, seafood and meat from those prefectures with a perceived risk of contamination, specifically Fukushima, Chiba, Gunma, Ibaraki and Tochigi.<sup>3</sup>

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<sup>2</sup> Total exports of agricultural and marine products, excluding alcoholic drinks, tobacco and pearl, from Japan amounted to ¥375 billion (HK\$36 billion) in 2012. Major export markets included Hong Kong (accounting for 21% of the total), the US (16%), Taiwan (11%), the Mainland China (10%), South Korea (8%), the EU (5%) and Singapore (3%).

<sup>3</sup> See Congressional Research Service (2011).

## Prohibiting food imports from Japan

3.3 While the Japanese government has restricted distribution of specified food from 14 prefectures (i.e. the tier-one, tier-two and tier-three prefectures in **Figure 1**), the prefectures and food products covered under the import prohibition measure in the seven places studied vary according to their own assessment of the food safety risk of imported Japanese food. **Table 1** shows the specific prefectures covered under the import prohibition measure implemented by the places studied.

**Table 1 — Japanese prefectures under the distribution/import prohibition measure**

Prefectures covered	Japan <sup>(1)</sup>	Hong Kong	The Mainland China	Taiwan	South Korea	Singapore	The United States	The European Union
Number of prefectures	14	5	10	5	13	1	14	Not applicable
- Fukushima (福島)	✓	✓	✓	✓	✓	✓	✓	
- Chiba (千葉)	✓	✓	✓	✓	✓		✓	
- Gunma (群馬)	✓	✓	✓	✓	✓		✓	
- Ibaraki (茨城)	✓	✓	✓	✓	✓		✓	
- Tochigi (栃木)	✓	✓	✓	✓	✓		✓	
- Miyagi (宮城)	✓		✓		✓		✓	
- Iwate (岩手)	✓				✓		✓	
- Aomori (青森)	✓				✓		✓	
- Nagano (長野)	✓		✓		✓		✓	
- Saitama (埼玉)	✓		✓		✓		✓	
- Shizuoka (静岡)	✓				✓		✓	
- Yamanashi (山梨)	✓				✓		✓	
- Yamagata (山形)	✓						✓	
- Niigata (新潟)	✓		✓				✓	
- Tokyo (東京)			✓					
- Kanagawa (神奈川)					✓			
- Akita (秋田)								

Note: (1) For reference, Japan prohibits six categories of food from 14 prefectures from domestic distribution and export.

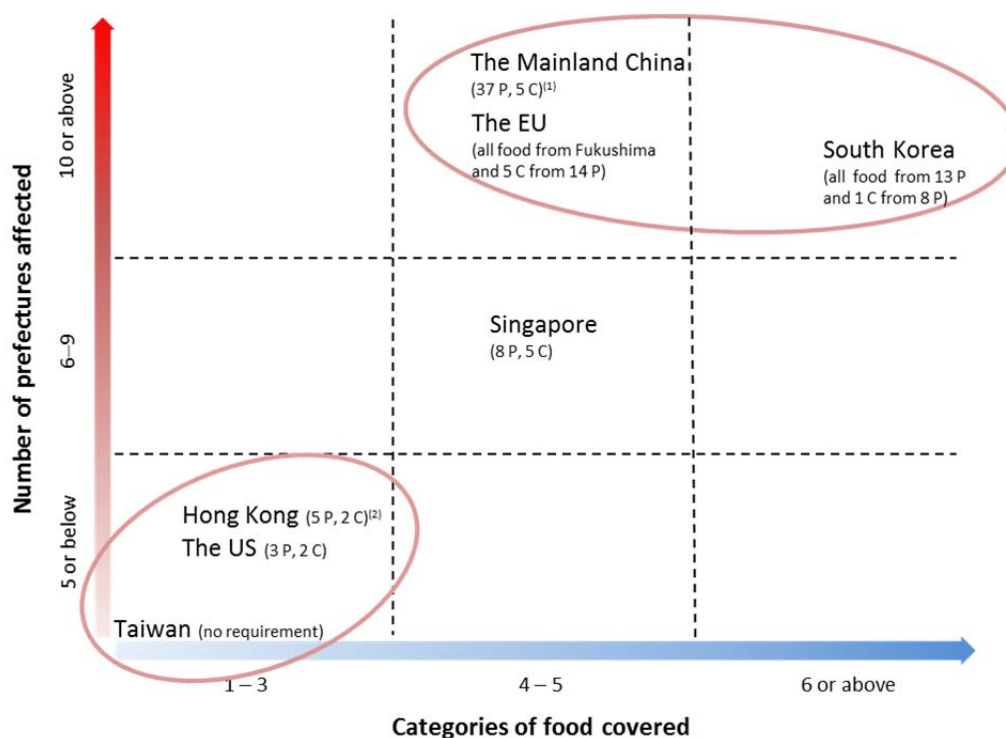
3.4 The US bans the import of six categories of food products from the 14 prefectures that are subject to the domestic distribution prohibition measure. The Mainland China bans *all* food imported from 10 high-risk prefectures, while South Korea prohibits the import of five categories of food products from 13 high-risk prefectures.

3.5 The EU, Hong Kong and Singapore are less stringent among the places studied in terms of imposing prohibition on importing Japanese food. The EU does not prohibit any imports of Japanese food. For Hong Kong, it bans the import of two specified categories of food (i.e. fruits and vegetables, and milk and milk products) from five Japanese prefectures in the closest proximity to the Fukushima plant. Singapore prohibits import of five specified categories of food products from Fukushima only.

#### Requiring certificate of radiation inspection

3.6 **Figure 1** shows the number of prefectures and categories of food subject to the requirement imposed by the places studied for certificates of radiation inspection issued by the Japanese government to verify food safety. South Korea imposes the most stringent requirement that covers *all* food categories in 13 prefectures. The Mainland China and the EU are also strict on imposing the requirement for food imported from Japan. The Mainland China requires documentation of selected food products from 37 prefectures and the EU from 14 prefectures.

**Figure 1 – Number of prefectures and categories of food required for submission of certificate of radiation inspection**



Notes: (1) P = Prefectures & C = Categories of food.

(2) Hong Kong imposes the requirement on five Japanese prefectures (Fukushima; Chiba, Gunma, Ibaraki and Tochigi) and two food categories (marine products, and meat and meat products).

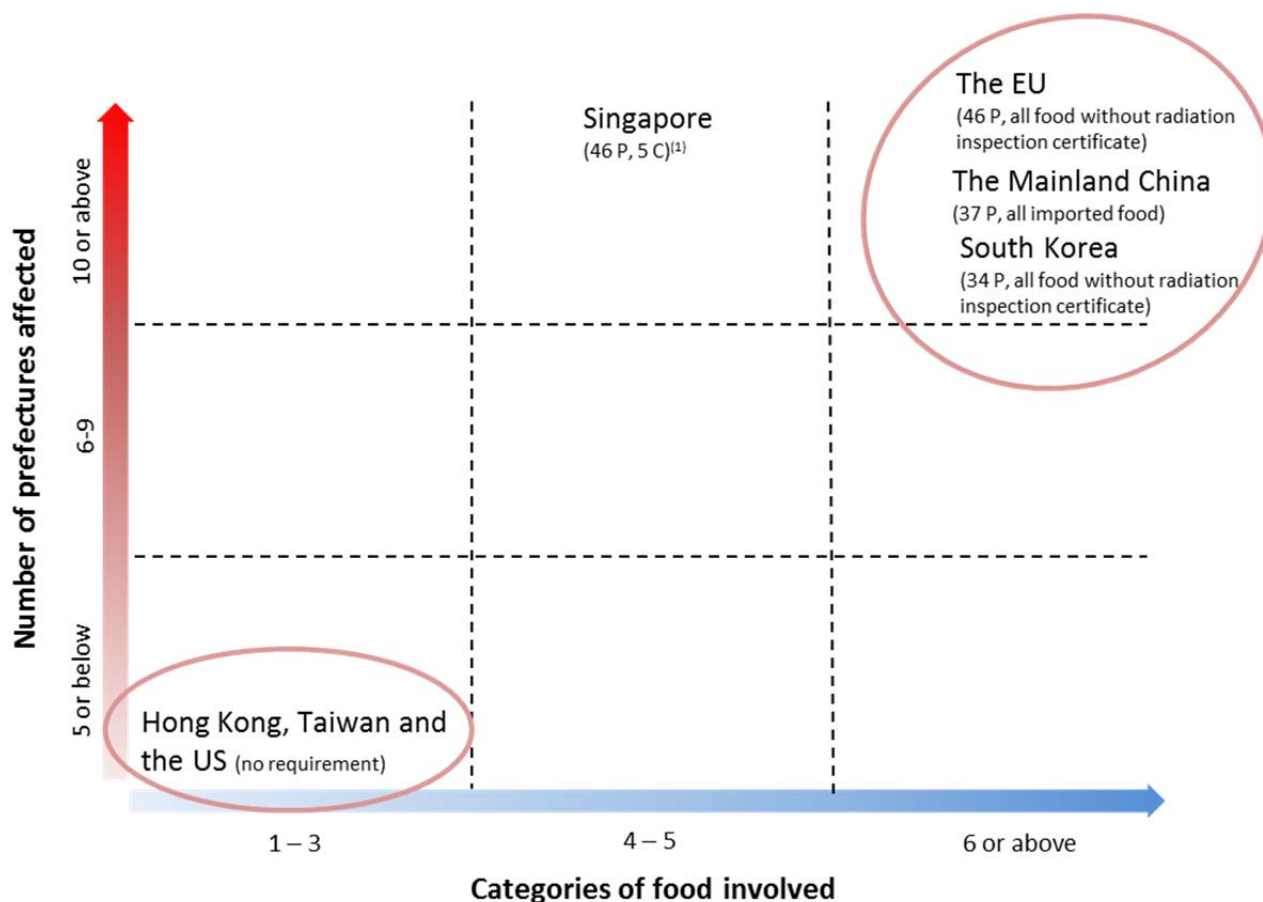
Source: 農林水産省(2013).

3.7 In contrast, Taiwan, the US and Hong Kong are less stringent among the places studied. Taiwan does not require any certificate of radiation inspection for Japanese food imports, while the US imposes the requirement only for two categories of food imported from three radiation-affected prefectures. For Hong Kong, it requires documentation for two categories of food imported (i.e. marine and meat products) from five prefectures in close proximity to the Fukushima plant.

#### Requiring certificate of origin

3.8 **Figure 2** shows the number of prefectures and categories of food subject to the requirement imposed by the places studied for certificates of origin issued by the Japanese government to verify food safety. The Mainland China, South Korea and the EU impose the requirement for all or most Japanese prefectures from which food imports are allowed. For Hong Kong, Taiwan and the US, they do not require the certificate of origin for food imported from Japan.

**Figure 2 – Number of prefectures and categories of food required for submission of certificate of origin**



Note: (1) P = Prefectures & C = Categories of food.

Source: 農林水産省(2013).

## Conducting inspection of radiation level of Japanese food imports

3.9 All the places studied conduct targeted surveillance of the radiation level of food shipped from Japan at the import level. Hong Kong, the Mainland China, South Korea, the EU and the US inspect all categories of food products that are allowed to be imported from the Japanese prefectures.<sup>4</sup> Hong Kong inspected 166 790 food samples<sup>5</sup> between 12 March 2011 and 18 December 2013, while the EU conducts inspection on at least 5% of the consignments of imported food from Japan. The US conducts targeted inspection on samples of all food products imported from three high-risk prefectures. It also inspects food products from the other prefectures that are subject to the regular food surveillance procedures, and the inspection covered about 1.9% of the total number of food import lines (groups of product in a shipment) in 2012.

## 4. Observations

4.1 **Table 2** below compares the stringency of food control measures implemented by the places studied in terms of the number of prefectures/categories of food covered under the measures.

**Table 2 — Summary of control measures on food imported from Japan in the places studied**

	Prohibiting food import	Requiring certificate of radiation inspection	Requiring certificate of origin	Conducting inspection of radiation level
The Mainland China	★★★★	★★★★	★★★★	★★★★
South Korea	★★★★	★★★★	★★★★	★★★★
The United States	★★★★	★	No requirement	★★
The European Union	No requirement	★★★★	★★★★	★★★★
Singapore	★	★★	★★★★	★★
Hong Kong	★	★	No requirement	★★★★
Taiwan	★★	No requirement	No requirement	★★

★★★★ - Covering a large number of prefectures and/or categories of food

★★ - Covering a moderate number of prefectures and/or categories of food

★ - Covering a small number of prefectures and/or categories of food

<sup>4</sup> The Mainland China, South Korea and the EU also conduct inspection on all feeds that are allowed to be imported from the Japanese prefectures.

<sup>5</sup> According to the Centre for Food Safety, the information for the relative size of the samples taken from the food imported from Japan cannot be disclosed.

4.2 As shown in the Table above, the Mainland China and South Korea are the most stringent, the US and the EU to a lesser extent, and Hong Kong, Singapore and Taiwan the least. The stringency reflects, among other things, the latest developments in the food control measures implemented by these seven places. In addition, Hong Kong's food control measures focus more on inspection of the radiation level of food imported from Japan<sup>6</sup>, and less on prohibition of imports and documentation verifying the safety of products and/or the prefectures of origin of food.

#### Recent developments in food control measures of the places studied

4.3 Among the places studied, South Korea, the US, the EU and Singapore have reviewed the prefectures and categories of food products to be covered under their food control measures based on changes in radiation contamination situation in Japan or test results on radiation level of food imported. For example, South Korea has widened the import ban on Japanese food to cover all marine products from eight prefectures since September 2013 due to growing concern about the leakage of contaminated water from the Fukushima plant into the Pacific Ocean. In April 2013, Singapore lifted the ban on food import from seven of eight Japanese prefectures<sup>7</sup>, but every consignment of specified products (including dairy products and fresh produce) from these prefectures has to be accompanied by a certificate of origin and a pre-export laboratory report.<sup>8</sup>

4.4 On the other hand, the Mainland China largely maintains its stringent food control measures on food imported from Japan, albeit lifting the ban on food import from two prefectures of Japan (i.e. Yamagata and Yamanashi) in June 2011. Hong Kong and Taiwan maintain the food control measures which have been in place since March 2011. In Taiwan, there have been public concerns that the food safety measures imposed on imported Japanese food are not stringent enough. In response, the Taiwanese government has stressed that it has restricted the import of all food from the high-risk prefectures and the standards adopted for testing radioactive material of imported Japanese food are comparable to other places.

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<sup>6</sup> According to the Centre for Food Safety, it has adopted (a) a strategy of surveillance on the radiation level of every consignment of food products imported from Japan, and (b) a risk-based approach in collecting samples for radiation testing at the wholesale and retail levels, with reference made to the test results of the Japanese authority and Hong Kong. As for other processed food imported from Japan, for example, biscuits, candies, cakes, and frozen confections, the Centre for Food Safety conducts tests at the import level for radiation level.

<sup>7</sup> Following the lifting of the suspension, only food from Fukushima remains suspended.

<sup>8</sup> The laboratory report is to certify that the food has been tested for radioactivity and found to be free from radioactive containments.



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Research Office  
Information Services Division  
Legislative Council Secretariat  
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Tel: 3919 3630

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