

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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## Japan

**Post:** Tokyo

### April 15 Update - Japan Food and Agriculture

**Report Categories:**

Agricultural Situation

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**Report Highlights:**

Immediately following the **Great East Japan Earthquake** on March 11, 2011, FAS/Japan prepared a series of reports on Japan's rapidly evolving food and agricultural situation. These reports were designed to disseminate vast amounts of information to a broad audience of policy makers and private sector actors as quickly as possible. Topics covered in these reports include; food safety, soil toxicity, port damages, disaster assistance, feed supply infrastructure, commodity prices, retail trends, consumer psychology, and many other food and agricultural topics. As the post-quake series of reports were prepared quickly, often from Japanese translations, some liberties may have been taken with grammar and writing style.

## **WEEKLY OVERVIEW**

Monday was the one month anniversary of the earthquake and tsunami. With this milestone came the stark realization that for many that Japan's entire agricultural sector will never be the same again. Agricultural groups are starting to get organized, assess and estimate their damages, and look for compensation for their losses. Estimates of damages to the agricultural sector ranges from 850 billion yen (\$10 billion) to more than 1.2 trillion yen (\$14 billion). Over 23,000 hectares of land have been damaged and will be forced out of agricultural production. This figure is set to rise, as no decisions have yet been made regarding how to handle land with higher than acceptable levels of radioactive contamination. On Wednesday it was reported that minute amounts of strontium, which has a half life of 29 years, were detected in soil samples collected from three locations within the 30km radius of Fukushima Daiichi Plant. Experts say that the detected level is so low that it would not have any affects on human health, but unlike cesium, strontium accumulates in human bones and more likely to cause cancer. It will be very difficult for the agricultural sector in Japan to shed the perception that the land, and the food that it produces, is unsafe.

The table below illustrates the land damage by prefecture.

### ***Damage on Arable Land***

*(Unit: Hectare)*

<i>Prefecture</i>	<i>Total Arable Land</i>	<i>Land Damaged</i>	<i>%</i>	<i>Rice Paddy</i>	<i>Other</i>
<i>Aomori</i>	<i>156,800</i>	<i>79</i>	<i>0.05%</i>	<i>76</i>	<i>3</i>
<i>Iwate</i>	<i>153,900</i>	<i>1,838</i>	<i>1.19%</i>	<i>1,172</i>	<i>666</i>
<i>Miyagi</i>	<i>136,300</i>	<i>15,002</i>	<i>11.01%</i>	<i>12,685</i>	<i>2,317</i>
<i>Fukushima</i>	<i>149,900</i>	<i>5,923</i>	<i>3.95%</i>	<i>5,588</i>	<i>335</i>
<i>Ibaraki</i>	<i>175,200</i>	<i>531</i>	<i>0.30%</i>	<i>525</i>	<i>6</i>
<i>Chiba</i>	<i>128,800</i>	<i>227</i>	<i>0.18%</i>	<i>105</i>	<i>122</i>
<i>Total</i>	<i>900,900</i>	<i>23,600</i>	<i>2.62%</i>	<i>20,151</i>	<i>3,449</i>

Early in the week MAFF issued an interim report on the damages to the agricultural sector. These estimates do not consider the effects of the nuclear contamination in soil. MAFF estimates that:

Fisheries: 574.6 billion (48% of total; 315 ports devastated/damaged: 378.1 billion; 18,872 ships destroyed: 115.0 billion)

Iwate: 63.4 billion yen (11% of fisheries damaged)

Miyagi: 187.5 billion yen (33% of fisheries damaged)

Iwate: 81.0 billion yen (14% of fisheries damaged)

Agriculture: 486.4 billion (41% of total; loss/damages to arable land and facilities)

Forestry: 96.9 billion (8% of total; loss/damages to wood fabrication/distribution facilities)

While it is clear that damages are substantial, what is not clear is who is responsible, and who will pay. The Chairman of Japan Agriculture made headlines in Japan this week when he met with the TEPCO President and demanded full compensation for every affected farmer in Japan. TEPCO has made no promises to Japan's agricultural community. With damages estimated in the tens of billions of dollars the only thing that everyone seems to agree on is that the likelihood of full indemnification is rather remote.

## **BACKGROUND**

A massive 9.0 magnitude earthquake and subsequent tsunami hit Japan's north east pacific coastal region on March 11, 2011. The catastrophe devastated cities, towns, and villages of the prefectures located along the coast line. The most affected prefectures are Iwate, Miyagi, Fukushima, and Ibaragi. At last count 13,439 are confirmed dead, 14,867 are missing, and 4,900 are injured.

## **PORTS**

**The recovery and repair of berths** for grains in the Kashima port has been progressing with greater speed than was originally expected. A large size vessel with 50,000 mt is expected to arrive in the grain berth this week, and will be unloaded for Kanto Grain Terminal Silo Company. Port authorities originally stated that they it would take nearly three months to get the port back to pre-earthquake capacity, but have not revised that estimate to six weeks.

On March 25, the port of Sendai in Miyage prefecture resumed limited functioning for emergency shipments and on April 7, the Sendai airport resumed loading and unloading for commercial freight. The Sendai port was consumed by the tsunami, however the gantry cranes remained in place. Likewise, the Sendai Airport which was completely swept by the tsunami reopened for commercial flights on April 13, with the first passenger flight from Haneda airport (Tokyo) landing one month after the turmoil. The Sendai airport was cleared initially by US Forces Japan and was the major landing site for US military transports.

## **INTERNATIONAL TRADE**

On April 12, two additional Japanese prefectures, Chiba and Saitama, were added to the FDA import alert for the same products (milk, veggies, and fruits) as the other four prefectures. The FDA website has noted the update within the text of the alert, but not yet in the Q/A on the radiation safety page. That import alert can be accessed at:

[http://www.accessdata.fda.gov/cms\\_ia/importalert\\_621.html](http://www.accessdata.fda.gov/cms_ia/importalert_621.html)

The Republic of Korea has asked the Japanese government to issue "radiation-free" certificates when exporting vegetables and processed foods produced in 13 prefectures, including Tokyo and Fukushima to South Korea. The Lee administration has also reportedly set up 54 seaborne radiation monitoring posts in the Sea of Japan and the Yellow Sea in order to address mounting public apprehension about possible seawater contamination.

USDA/Foreign Agricultural Service around the world have been filing reports detailing enhanced monitoring and import restrictions for food and agricultural imports from Japan. Those reports are synopsised below and can be accessed through:

<http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Forms/SevenDayReporting.aspx>

Reports on agricultural restrictions again Japan to date include:

**4/12/2011**

Due to the earthquake in Japan on Friday, March 11, 2011, radioactivity has been released from nuclear power stations in Japan. Through Implementing Regulation (EU) No 297/2011 the European Commission requires the Netherlands, as an EU Member State, to check food (animal and non animal origin) and (ingredients for) feed imports from Japan.

[Agricultural Import Restrictions with Japan The Hague Netherlands 4-12-2011](#)

**Internal | Agricultural Imports from Japan | Trade Policy Monitoring | Bucharest | Romania | 4/12/2011**

In the aftermath of the earthquake occurred on March 11 in Japan, fears for food contamination increased worldwide. In Romania, the Veterinary and Food Safety Authority (ANSVSA) regulates agricultural and food products imports, with few exceptions (live plants, wood). As in many other respects, as a member of the European Union, Romania follows the EU legislation regarding the testing on radiation levels.

[Agricultural Imports from Japan Bucharest Romania 4-12-2011](#)

**Internal | New Zealand Restrictions on Agricultural Imports from Japan | Trade Policy Incident Report | Wellington | New Zealand | 4/10/2011**

On March 25, 2011, the New Zealand Ministry of Agriculture and Forestry announced that it would begin monitoring food imports from Japan.

[New Zealand Restrictions on Agricultural Imports from Japan Wellington New Zealand 4-11-2011](#)

**| Actions Taken Regarding Food Imports from Japan | Trade Policy Monitoring | Ottawa | Canada | 4/8/2011**

Effective April 1, 2011, Canada has implemented enhanced import controls on all food and animal feed products from areas in Japan affected by the ongoing nuclear crisis. These products will not be allowed entry into the food and feed systems without acceptable documentation or test results verifying their safety. Canada has also launched a sampling and testing strategy to monitor radiation levels of products being imported from Japan.

[Actions Taken Regarding Food Imports from Japan Ottawa Canada 04-08-2011](#)

**| Additional Testing Required for Japanese Food Products | Trade Policy Monitoring | Canberra | Australia | 4/7/2011**

In response to the nuclear accident in Japan, Australia is requiring additional testing for radionuclides for certain food sources from prefectures close to where the incident occurred since March 11, 2011.

[Additional Testing Required for Japanese Food Products Canberra Australia 4-8-2011](#)

## **GRAINS AND OILSEEDS**

### ***MAFF Postpones Reduction of Feed Grain Stocks***

The GOJ maintains feed grain stocks to cope with emergencies. Stocks consists of **600,000 mt** of corn and milo and 350,000 mt of rice (for feed). However, due to a budget reduction last year, MAFF had planned to reduce the volume of the corn and milo to **400,000 mt, and maintain the current rice stock. As of now the corn and milo stocks have only been drawn down by 30,000 mt, and MAFF has announced that it is postponing a decision on what then the appropriate levels of reserves should be.**

### ***Compound feed production in March***

The 12 feed millers in Kashima produced 352,400 mt of compound feed in March 2011, an astonishing 98.5% over the production volume of March 2010. Additional production is intended for the Tohoku area.

The government hold a meeting on April 8, to discuss how to cope with shortage in electricity power in the area covered by TEPCO and Tohoku Electric Power Companies(Tohoku Power). To avoid the forced rolling blackouts, large power users such as feed millers are being asked to voluntarily conserve 20-25% of energy usage in the peak hours (from 1 to 2 p.m.). Feed millers are reportedly coping with this request by; (1) co-using power generators, (2) producing in early morning and late at night, and (3) producing on Saturdays and Sundays.

Itochu Feed company issued a press release informing that their feed mill operation in Hachinohe is fully restored. The Itochu mill in Ishinomaki is not back to pre-quake capacity, and there is no firm date as to when that mill will be back on line.

### **Natto (fermented soybeans) Return to Market in Limited Quantities**

It was reported previously that natto (fermented soybeans) manufacturers supplying products to the greater Tokyo area were majorly affected by the earthquake and tsunami. Those manufacturers are back in operation now but there is still an inadequate supply of natto on store shelves. Purchases remain limited to one pack for each family. These manufacturers are now struggling to procure materials for natto production including nutshell packages, film printed product labels, and packets of mustard and sauce. Yogurt is reportedly in a similar situation. In response to this situation, MAFF announced on March 29, 2011, that strict food labeling regulations under JAS law would be eased. MAFF will allow processed foods manufacturers to use labels that are slightly different from standard requirements for products and display point-of-purchase signs indicating product contents.

## **WOOD PRODUCTS**

According to MLIT, the Ministry of Land, Infrastructure, Transport and Tourism, as of April 12, 2011, 10,279-units of emergency temporary housing are either under construction or will be by mid-April. The Government plans to build 60,000 housing units in total and create related jobs for quake victims. The most difficult part of the process is developing suitable sites due to the wreckage from the tsunami, however sites for 26,000 units has already been determined.

Based on articles in several wood industry periodicals, the local government in the devastated areas has reportedly decided to use a bidding process to find constructors to build additional 30,000-units of temporary housing.

- Miyagi Prefecture: 20,000-units. Bids will be accepted from construction companies in Miyagi prefecture or outside of Miyagi prefecture including overseas. The guidelines for applicants will be given the 3rd. week of April through the 'Federation of Housing & Community Centers' website.
- Iwate Prefecture: 9,200-units: Bids will be accepted from regional construction companies in Iwate.
- Fukushima Prefecture: 4,000-units: Bids will be accepted from regional construction companies in Fukushima.

## **POULTRY, MEAT, DAIRY AND LIVESTOCK**

On April 10 the Japanese government lifted shipment restrictions on fluid milk produced in Ibaragi prefecture. The decision was made based on the fact that testing results from all samples taken throughout Ibaragi prefecture have been determined to have radiation levels below the established tolerance. The Japanese government also announced that it will partially lift shipment restrictions imposed on Fukushima fluid milk from certain localities where testing results show radiation detection below the fluid milk standard. This measure should improve the supply of fluid milk used in drinks

(various drinking milk products including yogurt) for Tokyo and surrounding prefectures in coming weeks.

As a result of the disasters and subsequent restrictions the dairy industry disposed of 33,000 MT in fluid milk produced in the Tohoku and Kanto regions, valued at JP Yen 3.3 billion yen.

MAFF compiled its preliminary earthquake/Tsunami damage estimates related to the livestock sector (as of April 4). Total damages are estimated at JP Yen 41.3 billion with the following breakdowns. Of this amount: JP Yen 6 billion was from from floods, runoff and death of animals/birds; and JP Yen 35.3 billion in estimated damage to livestock sheds/facilities

In terms of pricing of domestic meat, JA Zen-noh Fukushima held an auction sale of Wagyu beef carcass the week. The average price for one dressed carcass was 662,260 JYEN (\$7,900), which was 190,860 JYEN (\$2,300) lower than the price in April 2010.

## **SEAFOOD**

There have been several reported findings of sand lance fish taken from the ocean areas around Fukushima and Ibaraki prefectures with radionuclide levels above safety thresholds. Iodine-131 has been detected twice with one finding as high as 4,080 becquerels per kilogram, in excess of the established tolerance level of 2,000 Bq/kilo. Radioactive cesium has been detected at 25 times the legal limit of 500 Bq/kilo. As a consequence, all fishing has been suspended in Fukushima and fishing for sand lance prohibited in Ibaraki.

Last week, the Miyagi Fisheries Cooperative Association decided to place a temporary hold on fishing and farming along the coast of Miyagi prefecture through the end of May due to the wreckage and heavy oil now prevalent in these fishing grounds. Under these conditions it would be difficult to ensure that fishery operations are performed safely. Furthermore, serious concerns remain over the quality of seafood from the damaged area.

### ***Disposal of Rotten Fish***

On April 7, 2011, the Ministry of Environment gave approval for Miyagi Prefecture to permit the disposal of rotten fish as a special measure under the Seawater protection law.

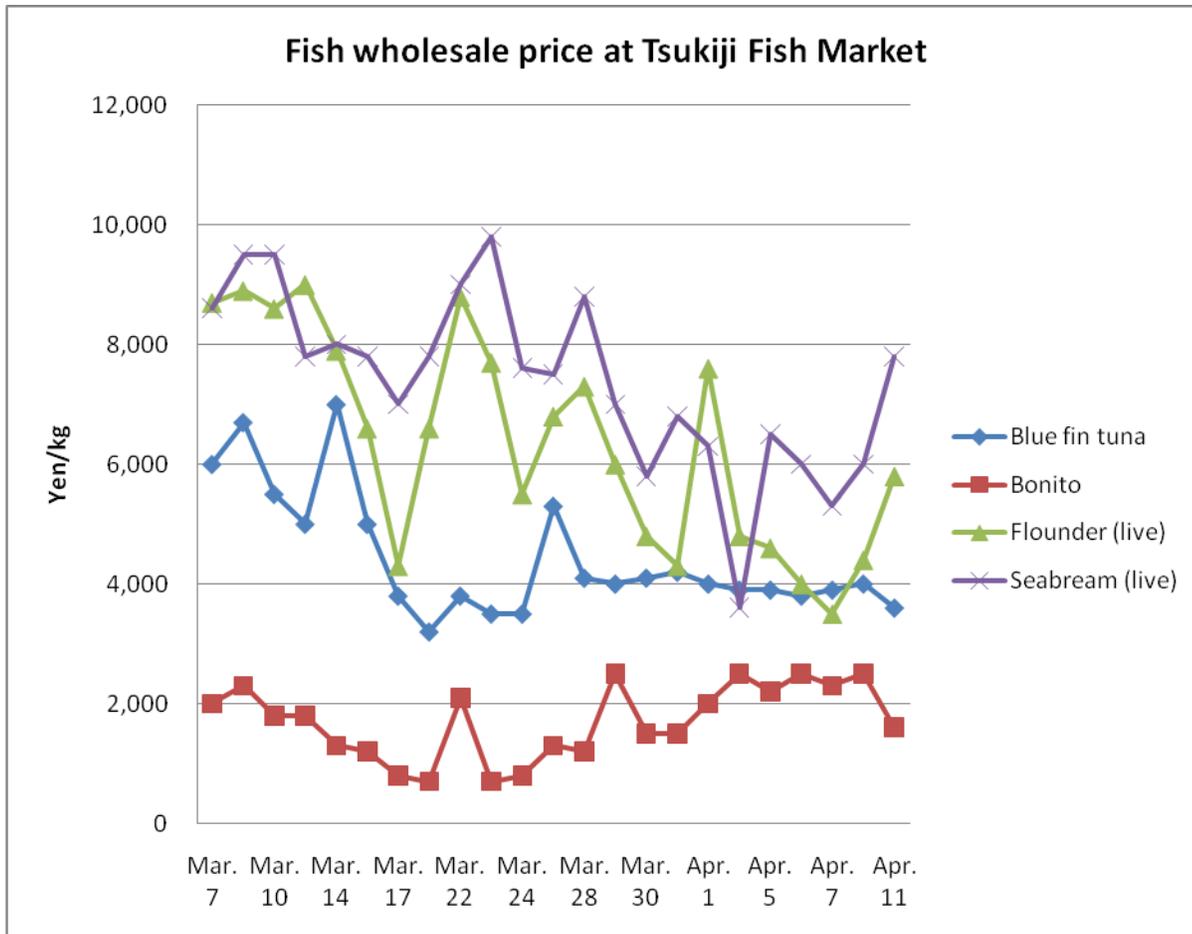
Consequently, the industry will dispose of a total of 68,000 mt of bonito, mackerel and sauri from Miyagi prefecture and the areas of Kesen-numa, Ishinomaki and Onagawa. Of that amount, 35,000 mt will be disposed of in the ocean approximately 100km from the coastline beginning April 8 and continuing through the end of this month. The rest will be placed in landfills or incinerated. The disposal of rotten fish also began in Ofunato, Iwate on April 3, 2011. A total of 15,000 tons of spoiled sauri, salmon, and squid will be disposed of in a landfill due to sanitary concerns. The problem arose in connection with electrical blackouts that would not allow proper temperature control of fish supplies.

### ***Volume of Fresh Fish at Tokyo Fish Market Decreases Following Earthquake***

The average volume of fresh fish handled at the Tokyo Metropolitan Wholesale Market from March 12 to April 8th was 588 metric ton (mt) a day; a decrease of 18% from 717 mt a day last year.

Consumption of expensive fresh fish varieties decreased due to the cancellation of many celebratory events such as receptions, dinners, cherry blossom festivals, and parties, which are generally held at the

end of the fiscal year. Due to the rolling blackouts and inability to ensure fish would remain fresh, retailers have been hesitant to purchase fish and consumer themselves have favored the purchase of processed foods due since they tend to have a longer shelf-life. The volume of fresh fish consumed the first week of April was about the same as last year, but following news that low level radioactive water from the damaged Fukushima nuclear facilities was dumped into the Pacific Ocean on April 6, the volume of fresh fish decreased by half the volume of the previous year. Currently no fish are coming from Fukushima and Ibaraki prefectures and some traders have even become reluctant to handle fish from other areas such as the famous Choshi region in Chiba, lying in close proximity to Ibaraki. The price of high-quality fish has remained sluggish.



Species	Blue fin tuna	Bonito	Flounder (live)	Sea bream (live)
Mar. 7	6,000	2,000	8,700	8,600
Mar. 8	6,700	2,300	8,900	9,500
Mar. 10	5,500	1,800	8,600	9,500
Average before earthquake	6,067	2,033	8,733	9,200
Mar. 11	5,000	1,800	9,000	7,800

Mar. 14	7,000	1,300	7,900	8,000
Mar. 15	5,000	1,200	6,600	7,800
Mar. 17	3,800	800	4,300	7,000
Mar. 18	3,200	700	6,600	7,800
Mar. 22	3,800	2,100	8,800	9,000
Mar. 23	3,500	700	7,700	9,800
Mar. 24	3,500	800	5,500	7,600
Mar. 25	5,300	1,300	6,800	7,500
Mar. 28	4,100	1,200	7,300	8,800
Mar. 29	4,000	2,500	6,000	7,000
Mar. 30	4,100	1,500	4,800	5,800
Mar. 31	4,200	1,500	4,300	6,800
Apr. 1	4,000	2,000	7,600	6,300
Apr. 4	3,900	2,500	4,800	3,600
Apr. 5	3,900	2,200	4,600	6,500
Apr. 6	3,800	2,500	4,000	6,000
Apr. 7	3,900	2,300	3,500	5,300
Apr. 8	4,000	2,500	4,400	6,000
Apr. 11	3,600	1,600	5,800	7,800
Average after earthquake	4,137	1,642	5,858	7,074
Ratio after/before	68%	81%	67%	77%

## **FOOD SAFETY AND SOIL TOXICITY**

### ***Tap Water Contamination by Radioactive Materials***

There is no change in restriction of tap water consumption. Currently there is only one on-going restriction in Iitate village, which recommends against infant consumption of drinking water.

Current restriction of tap water consumption

Prefecture	Area	Infant		General public	
		Starting	Ending	Starting	Ending
Fukushima	Iitate Village	3/21		3/21	4/1
	Date City	3/22	3/26		

		3/27	4/1		
	Kawamata Town	3/22	3/25		
	Koriyama City	3/22	3/25		
	Minami Soma City	3/22	3/30		
	Tamura City	3/22	3/23		
		3/26	3/28		
	Iwaki City	3/23	3/31		
Ibaraki	Tokai Village	3/23	3/26		
	Hitachi Ota City	3/23	3/26		
	Kita Ibaraki City	3/24	3/27		
	Hitachi City	3/24	3/26		
	Kasama City	3/24	3/27		
	Furukawa Cit	3/25	3/25		
	Toride City	3/25	3/26		
Chiba	Nogikuno Haka Filtration Plant, Kuriyama Filtration Plnat	3/23	3/25		
	Kashiwai Filtration Plant	3/26	3/27		
	Kitachiba water system	3/23	3/26		
	Inbagun water system	3/26	3/27		
Tokyo	23 wards and 5 cities	3/23	3/24		
Tochigi	Utsunomiya City	3/25	3/25		
	Nogi Town	3/25	3/26		

### ***Agricultural Product Contamination by Radioactive Materials***

Restriction in distribution and consumption (as April 15, 2011)

			Distribution Restricted (effective date)								Consumption Restricted (effective date)			
			Fukushima			Ibaraki	Tochigi	G u n m a	Chiba			Fukushima		
			Kitakat a and 6 towns* 1	Shinchi Town & 15 municipal ities*2	Re st of pr ef	Entire pref	Entire pref		E n t i r e p r e f	A s a h i C i t y	Katori City and Tako Town	R e s t o f p r e f	E n t i r e p r e f	Iida te Vill age
Raw milk			3/21 Lifted on 4/8	3/21	3/21	3/23/ Lifted on 4/10	—	—	—	—	—	—	—	—
Ve get abl es	Non- head vegetabl es	Spinach	3/21			3/21	3/21	3/ 2 1 Li	4 / 4	4/4	-			3/23

								ft e d o n 4/ 8				
	Kakina (a local leaf veg)	3/21			3/21	3/21 Lifted on 4/14		3/21 Lifted on 4/8	-	-	-	3/23
	Shungiku (leaves of Garland Chrysanthemum)	3/23			-	-		-	4/4	-	-	3/23
	Pak Choi	3/23			-	-		-	4/4	-	-	3/23
	Cos (non-head lettuce)	3/23			-	-		-	4/4	-	-	3/23
	Other non-head leaf vegetables	3/23			-	-		-	-	-	-	3/23
	Head leaf vegetables	3/23			-	-		-	-	-	-	3/23
	Flowerhead brassicas (e.g., broccoli, cauliflower)	3/23			-	-		-	-	-	-	3/23
	Turnip	3/23			-	-		-	-	-	-	-
	Parsley	-			3/23	-		-	4/4	-	-	-
	Celery	-			-	-		-	4/4	-	-	-
	Shiitake mushroom (open field production)	-			4/3	-		-	-	-	-	-
												-
												4/3

\*1 Kitakata City and Towns of Bandai, Inawashiro, Mishima, Aizumisato, Shimogo and Minamiaizu.

\*2 Sinchi town, Date City, Iidate vill., Soma city, Minami Soma City, Namie Town, Futaba Town, Okuma Town, Omioka Town, aruha Town, Hirono Town, Kawamata Town, Kuzuo violage, Tamura City, Kawauchi Village, Iwaki City

### Radioactivity testing and detections, as of April 15

	Item	# of Tests		# Tested Above Tolerance		Items Above Tolerance	#
		Total	Late st update	Total	Late st update		
Fukushima	milk	150		18		raw milk	18
	vegetables	359		103		broccoli	21
						spinach	36

						other veggies (leafy, etc)	39
						cabbage	5
						turnip	2
	meat	40	2	0			
	egg	17		0			
	fish, seafood	12		2		sand lance fish	2
	subtotal	578	2	123	3		
Ibaraki	milk	30	5	5		raw milk	5
	vegetables	183	4	37		spinach	29
						parsley	6
						lettuce	1
						other	1
	meat	5	2	0			
	egg	2					
	fish, seafood	49	3	2		sand lance fish	2
	other	2		0			
subtotal	271	14	44				
Tochigi	milk	7	1	0			
	vegetables	78	16	11		spinach	9
						other leafy veggies	2
subtotal	85	17	11				
Gunma	milk	6		0			
	vegetables	121	2	3		spinach	2
						other leafy veggies	1
	meat	3					
	egg	1					
subtotal	131	2	3				
Saitama	milk	6	2	0			
	vegeta	71	7	0			



	al					
Niigata	milk vegetables	4		0		
		131	6	0		
	subtotal	135	6	0		
Nagano	milk vegetables	2		0		
		10		0		
	subtotal	12		0		
Shizuoka	vegetables	2		0		
	subtotal	2		0		
Ehime	vegetables	2		0		
	subtotal	2		0		
Kyoto	vegetables	2		0		
	subtotal	2				
Hyogo	vegetables	6				
	subtotal	6				
	TOTAL	1494	50	193	0	193

### ***Radioactive Substances in Fish and Seafood***

This week the fisheries agency in MAFF presented their monitoring plan of radioactive substances in fish and seafood. The monitoring plan includes, but is not limited to, area to be surveyed, type of fish to be sampled, and the testing method to be used. Their plan is based on the published scientific and statistical data of major ocean currents, seasonal changes of currents, type of major fish to be harvested, characteristics of radioactive substances in environmental and fish. Methodology considerations include:

1. Sampling area was decided by ocean current and seasonal change statistics and covers the coast of southern Fukushima to south of Shizuoka Prefectures, as well as a part of Iwate (reference 1) . Please note that fishing at the coast of Fukushima is restricted.

2. Primary target fish to be tested includes Chub mackerel, Alfonsino, Anchovy, Olive flounder Spear squid based on statistical data and business practice (reference 2).
3. There are 74 samples with published data since March 24 (reference 3). Among them, radioactive substances above regulatory threshold were found only in one type of fish (sand lance fish, four tests, marked in reference 3).
4. Information from scientific literatures and observation in GOJ's radioactive monitoring plan, which started in the 1950s, suggest that biological accumulation of radioactive cesium, iodine, uranium and plutonium is far less than mercury, DDT and PCB (reference 4). For instance, biological concentration factor (BCF, index of a particular substance being concentrated in biological tissue under the environment with the substance) of DDT is 12,000. On the other hand, BCF of cesium and iodine is 5 to 100 and 10, respectively. Cesium belongs to the same group of potassium (Alkali Metals, reference 5), behaves like potassium (reference 6). In addition, iodine has a short half life (8 days), which lowers the BCF. There is no observation of specific high accumulation in any particular type of fish (reference 7). Therefore, testing of the most popular fish (such as ones shown in reference 2) in each area will serve as a proxy for the monitoring of radioactive materials concentration in fish in general.



On April 14, Fishery Research Agency of GOJ will hold a training workshop for technical experts in public testing institutions. The purpose of workshop is ensure standardized and uniform procedures of sample preparation and testing will be done in public testing institutions.

Useful link for information fisheries, and the GOJ's testing regime are as follows:

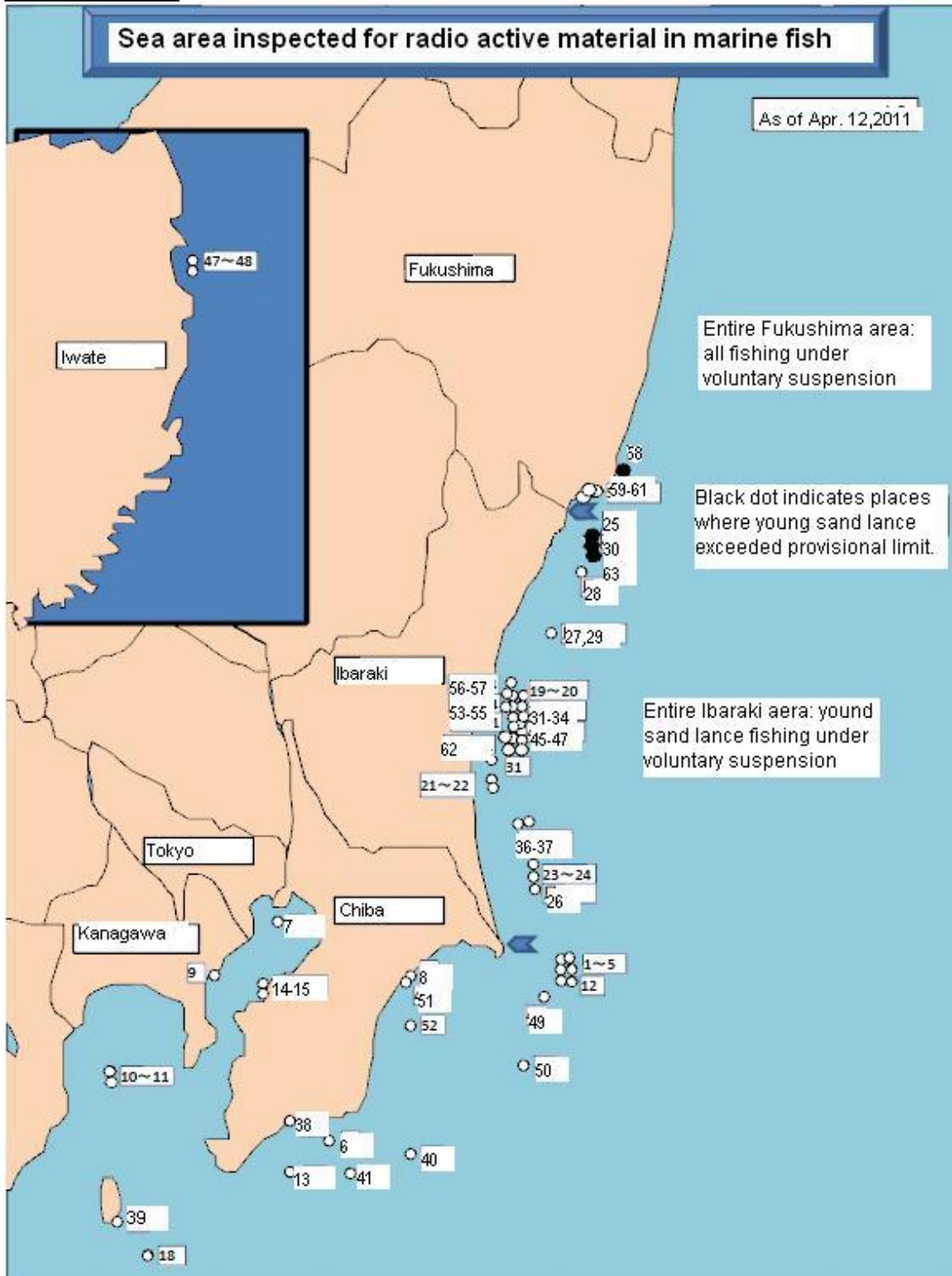
MAFF, Fishery Agency - Questions and answers on fishery products

[http://www.jfa.maff.go.jp/e/q\\_a/index.html](http://www.jfa.maff.go.jp/e/q_a/index.html)

MAFF, Fishery Agency - Results of the inspection on radioactivity level in fisheries products

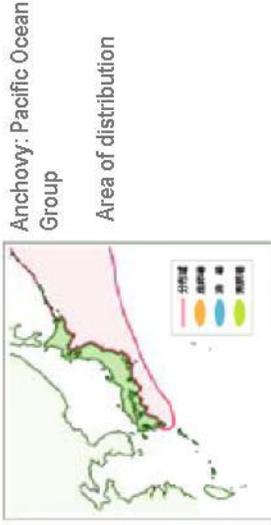
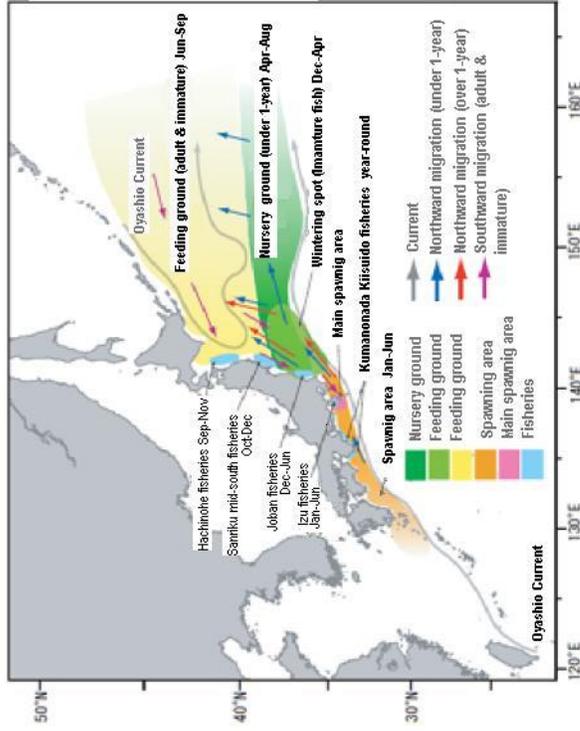
<http://www.jfa.maff.go.jp/e/inspection/index.html>

# Reference #1



**Reference #2**

**Characteristics of distribution of fish species**



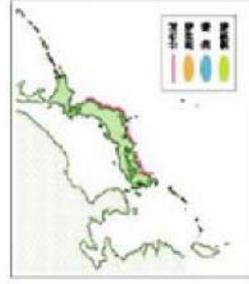
Anchovy: Pacific Ocean Group

Area of distribution



Olive flounder: Mid Pacific Ocean group

Area of distribution  
(Half of total volume is caught in Chiba prefecture.)



Spear squid: Pacific Ocean group

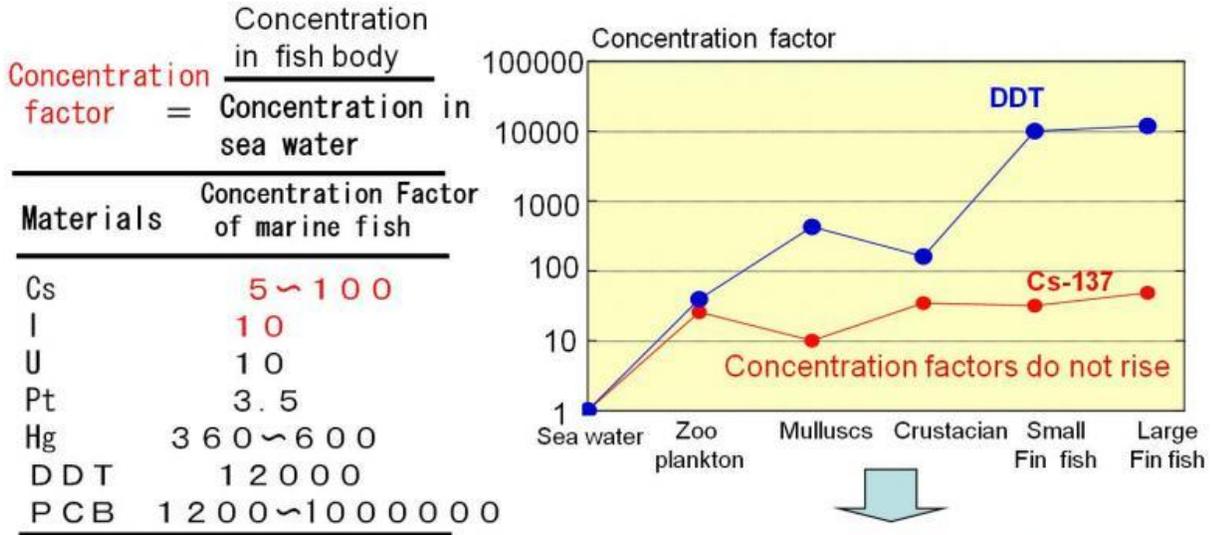
Area of distribution

Chub mackerel: Pacific Ocean group

Life history and formation of fisheries

**Reference 3** (original source; <http://www.jfa.maff.go.jp/e/inspection/index.html>)

**Reference 4; Bio-accumulation or bio-concentration of radionuclides through food chain** (original source; <http://www.jfa.maff.go.jp/e/radionuclides/index.html>, for ref 4-8)



**Very low Concentration Factors**

Reference:  
Fujio Kasamatsu  
bio-concentration Edit. N. Yamagata,  
Radioisotopes 48, 1999.

**Bio-accumulation or bio-concentration of radionuclides through food chain is not increasing.**

**Why are not accumulated ?**

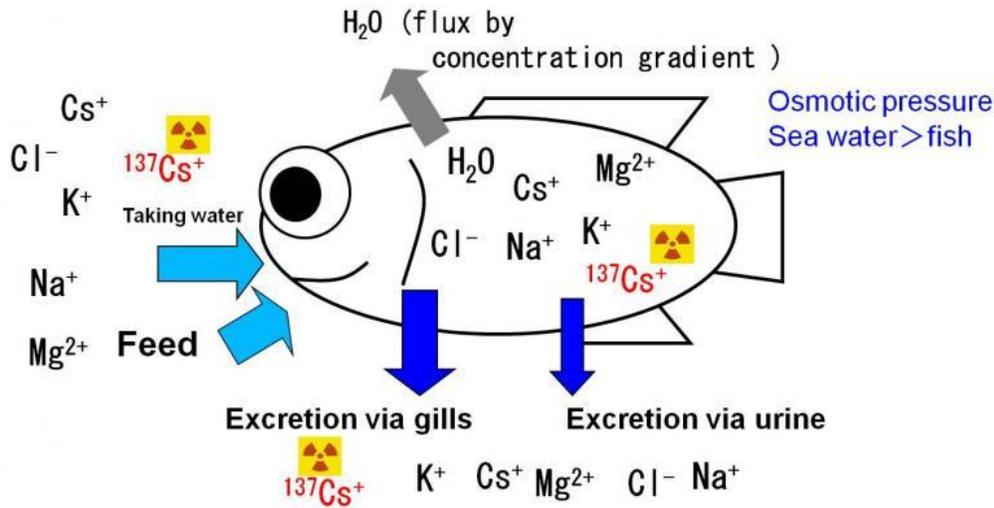
**Reference 5; Iodine and Cesium characteristics**

- Iodine .....solid/gaseous (sublimation nucleotide)  
I-131 (Half life time: 8.04 days)
- Cs.....solid , behaves like potassium :  
does not accumulate to specific organs  
Cs-137 (Half life time :30.1years),  
Cs-134 (Half life time: 2.07years)

Periodic table

	1A	2A	3A	4A	5A	6A	7A	8	1B	2B	3B	4B	5B	6B	7B	0		
1	H															He		
2	Li	Be									B	C	N	O	F	Ne		
3	Na	Mg									Al	Si	P	S	Cl	Ar		
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	Cs	Ba	*	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
7	Fr	Ra	**															
*	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu			
**	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr			

**Reference 6; The flow of salts in marine fish body**

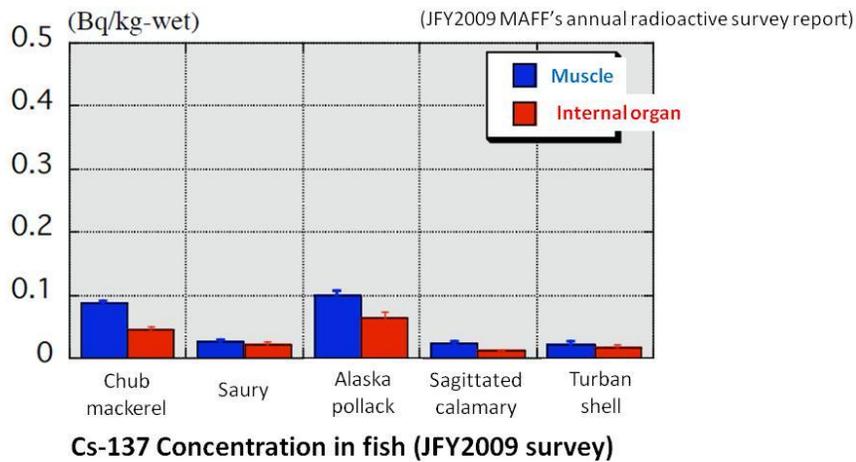


- Radionucleotides excrete, not accumulate.
- The concentration in fish is depend on the concentration of environmental water .

(Ref: Fundamental physiology of fish  
Edit. K. Aida)

**Reference 7; Sample data from monitoring of radioactive materials in fish and seafood**

# Sample data from monitoring



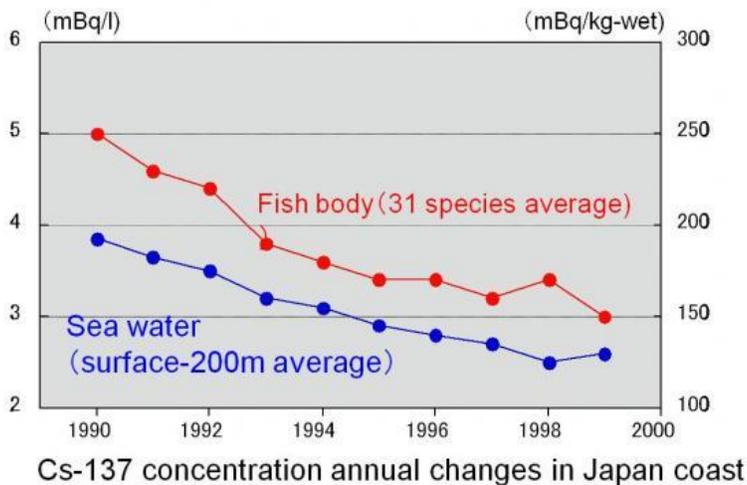
- No specific accumulation of Cs-137 in particular fish or seafood  
=> **Don't need to test all fish. Test only most popular fish**
- Cs-137 concentration tends to be higher in muscle  
=> **Need to test muscle which is edible part in most cases (also high potassium)**

Technical reference; [http://www.kankyo-hoshano.go.jp/series/pdf\\_series\\_index.html](http://www.kankyo-hoshano.go.jp/series/pdf_series_index.html)

(Provisional and selected translation of slides prepared by GOJ)

Original source can be found at [http://www.ifa.maff.go.jp/j/kakou/Q\\_A/pdf/110331\\_1suisan.pdf](http://www.ifa.maff.go.jp/j/kakou/Q_A/pdf/110331_1suisan.pdf) and [http://www.ifa.maff.go.jp/j/kakou/Q\\_A/pdf/110331\\_2suisan.pdf](http://www.ifa.maff.go.jp/j/kakou/Q_A/pdf/110331_2suisan.pdf)

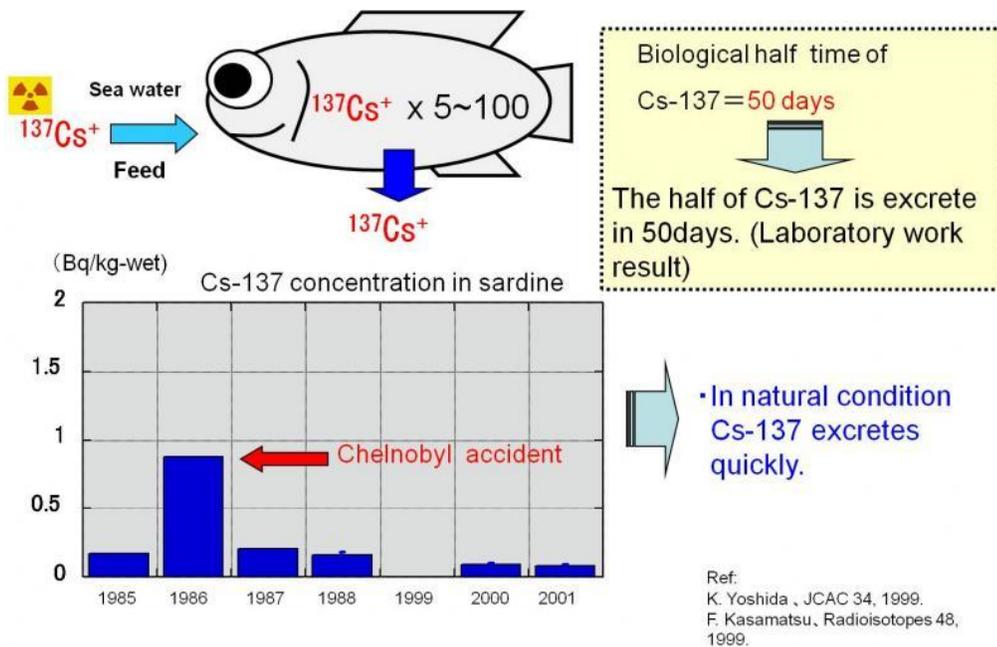
## Reference information; Comparison of Cs-137 concentration between sea water and fish body



- **Fish body concentration depends on sea water concentration**

(Ref. : F. Kasamatsu Aquabiology 122, 1999)

## Reference information; Excretion of radio nucleotides



## HORTICULTURAL PRODUCTS

**Spinach:** On April 8, Japan's Ministry of Health Labor and Welfare (MHLW) lifted restrictions for spinach shipments from the Gunma prefecture. MHLW's decision came after three consecutive inspections of Gunma spinach showed radioactivity levels in compliance with Japanese safety standards (Please see toxicity section.) MHLW's ban still remains for spinach from the prefectures of Ibaraki, Tochigi, Fukushima and Chiba (the cities of Asahi, Katori and the town of Takomachi.)

On Monday (April 11) Tokyo's wholesale market resumed trading of Gunma spinach for the first time since shipments were banned on March 21. Gunma is one of the largest spinach suppliers to the Tokyo Metro Area. Correspondingly, this week's average daily volume of trade spinach rose to 16 tons double the daily volume traded during the last three weeks. Nonetheless, this trade volume is still well below the volume traded before the earthquake (about 34 tons a day). Fearing that a sudden influx of spinach would cause the market price to drop, Gunma spinach farmers reportedly held on to some of their product. As it turns out, the price for Gunma spinach did not drop as some traders anticipated. Gunma spinach traded at 105 yen for 200 grams on April 11, the same price as before the earthquake.

Similarly, prices for spinach from the Saitama prefecture, the main source during the ban on Gunma, held steady for a second week trading at 147 yen for 250 grams. Over the past week, the Japanese Agriculture Cooperatives (JA) and retailers from the affected prefectures have actively conducted a series of promotional and educational campaigns seeking to reassure consumers of the safety of their produce. Traders report that these efforts are beginning to pay off and may be preventing further erosion in consumer demand. While trading volumes are up this week, spinach traders do not expect trading volumes to fully recover to their usual levels. This is mainly because when the ban was announced, some Gunma farmers decided to completely abandon their spinach producing operations.

**Kakina:** "Kakina" is a native Japanese leafy green (very similar to spinach) only grown in the Northern Kanto region. On April 14, MHLW lifted restrictions on kakina shipments from Tochigi following three successful inspections. Restrictions remain on kakina from the Ibaraki and Fukushima prefectures.



Kakina is marketed and consumed locally during March and April, and is seldom seen in Tokyo supermarkets. The Tochigi prefecture produces approximately 200 tons of kakina annually.

**Lettuce:** Similar consumer campaigning efforts by agriculture cooperatives and retailers in the Ibaraki prefecture appear to also be restoring demand for Ibaraki lettuce. According to the industry, recent retail promotions for Ibaraki produce, including lettuce, has helped ease consumer food safety concerns. This week, at Tokyo's wholesale market Ibaraki lettuce was traded at 2,415 yen for a 10-Kg box, a 15 percent increase from last week. Conversely, prices for lettuce from Western Japan decreased roughly 5 percent from last week to 2,835 yen for a 10-Kg box. Generally in Tokyo, lettuce from Western Japan trades at about 200-300 yen higher than Ibaraki lettuce as a result of additional transportation costs. As soon as consumer concerns about radiation contamination spread, Ibaraki lettuce began trading at significantly lower levels than lettuce from Western Japan. Now, as consumer confidence recovers the price gap between lettuce suppliers is beginning to narrow. Overall trading volumes for lettuce increased slightly from last week.

**Shiitake Mushrooms:** On April 13, MHLW announced a ban on shipments of shiitake mushrooms (not grown in greenhouses) from the eastern part of the Fukushima prefecture. Prior to the ban, the prefectural government had asked farmers to voluntarily refrain from shipping mushrooms from the region including from Iwaki, Date, Iitatemura and Shinchimachi. The ban was imposed after MHLW detected high-levels of radioactive substances in a sample of the region's shiitake mushrooms. So far, as Fukushima is a small supplier of shiitake mushrooms, there has been little change in prices. However, Japanese daily news report that farmers in the region are concerned over the possible negative impact the ban may have on sales of greenhouse shiitake mushrooms. Prices for greenhouse shiitake mushrooms remain unchanged from last week.

**Broccoli:** As expected, supplies of broccoli to the Tokyo wholesale market have increased as the transition to spring varieties continues. This week, the average traded volume reached 56 tons, a significant increase from an average daily supply of 33 tons last week. Aichi (Central Japan) is still the major supplier of broccoli to the Tokyo Metro area. Aichi shipments of spring broccoli began on April 1 with wholesale prices at 2,520 yen per 5 Kg box. (Note: Different than spring varieties Aichi winter varieties are usually shipped in 4 Kg box. With the switch in varieties this report will now track prices for spring variety shipped in 5 Kg boxes.) This week, prices for Aichi broccoli began to normalize trading at about 1,890 yen. Similarly, broccoli at the Osaka wholesale market, including U.S. broccoli also traded at lower prices.

According to traders, Fukushima usually starts shipping broccoli to the Tokyo market in May. This year, however, as MHLW banned broccoli shipments from Fukushima traders are concerned possible shortages. Fukushima broccoli supplies accounts for 10 percent of the total broccoli traded at the Tokyo wholesale market. If the ban continues through May, one importer reportedly plans to increase imports of U.S. broccoli by about 10 to 20 percent to make up for the lack of Fukushima supplies.

**Strawberries:** Currently, demand for strawberries is stable (neither noticeably strong nor weak). Prices and trading volumes for Tochigi strawberries remain consistent with last year's strawberry season.

**Apples:** According to Japanese media sources, after the earthquake (March 11) demands for many fruit items weakened while prices stagnated. Interestingly, demand for apples and consequently prices peaked temporarily after March 11. Japanese consumers worried about food shortages and rolling blackouts, reportedly sought apples as they can last longer without refrigeration. The Metro Tokyo Government data shows that daily trading volume of apples (all wholesale market combined) increased by approximately 10 percent after the quake. Since, then prices appear to have return to normal levels with some fluctuations on overall volumes. Prefectures affected by the earthquake are not major suppliers of apples, except the Iwate and the Fukushima prefectures. Iwate and Fukushima produce approximately 7 percent and 4 percent of Japan's apples, respectively.

## **WHOLESALE, RETAIL AND DISTRIBUTION**

An ATO contact at JFSA, a Sendai based independent grocer, has begun to supply U.S. frozen vegetables for school lunches and the food service industry in Tohoku region. Last year, ATO accompanied JFSA executives to the National Restaurant Association Show in Chicago in 2010, where they made contact with US vegetable suppliers. JFSA previously products from China and Taiwan, however, JFSA often had issues with reliability. The reverse trade mission resulted in a shift to U.S. suppliers for school lunch supplies in Japan. JFSA reports that it can receive 4 to 5 containers of U.S. frozen vegetables a month at the Sendai port. (JFSA imports the U.S. products from Watts Brothers Farms, a Washington State based ConAgra group company, through Lamb Weston.)

Mr. Souma, General Manager of JFSA, expressed his great appreciated for Operation Tomodachi, the U.S. Military's relief mission. He also has reported that his customers were pleased and relieved to see the U.S. military mission was promptly deployed and helped hasten the reopening of the port and the airport in Sendai.

### ***Tokyo***

Shortages of packaging material are still a problem. Stocks of can tabs, bottle caps, plastic film and inks/paints are low at food factories in Eastern Japan. This is primarily due to the closing of major Mitsubishi and Sumitomo chemical plants in Tohoku. Even though the chemical factories in Kansai and Shikoku regions have increased supply, food manufactures are cautious about higher price from suppliers new to them, and hesitate to buy materials from new account sources. (This catch-22 situation happens not only among the food industry but among construction and other industries too.)

The total import from South Korea to Japan from March 12 through 29 increased by 50 percent compared to the same period last year. The import of mineral water increased 8.8-fold, instant noodles rose 2.2-fold, Konbu and Nori seaweeds increased up to 5 times. Korean food manufactures are evidently running factories operation around the clock in order to keep pace for the order from Japan.

### ***Retail: Convenience Store Sales up 5-10 %***

A run on water, instant noodles and other emergency supplies lifted same-store sales 5-10% at the five leading convenience store operators last month. "Konbini," as the stores are known in Japan, took on greater importance as a lifeline in the weeks after the March 11 earthquake, even as department stores and specialty retailers lost business.

Industry leader Seven-Eleven Japan Co., part of Seven & i Holdings Co., saw a 9.5% year-on-year increase in sales, the biggest jump since last September, when cigarette buying surged ahead of a tax hike. Sales were up 7-8% at Lawson Inc., 5.2% at Family Mart Co., 5.5% at Circle K Sunkus Co. and 9.6% at Ministop Co. Family Mart sold 60% more bottled water and 15% more cup noodles than a year earlier. All store chains saw higher sales of batteries, cell phone chargers and the like. For some, sales dropped 10% in the hard-hit Tohoku region amid shortened store hours and inventory trouble, but the Tokyo area and other regions where shoppers bought in bulk pushed up overall results. Convenience stores in disaster areas are starting to make a comeback. Two to three deliveries of prepared foods are coming in daily, instead of just one as in the days after the earthquake, and other products have gradually returned to store shelves.

Major retailers have resumed bargain sales which they restrained since the earthquake. Some retailers focused on local products from severely affected area by earthquake. For instance, Ito-Yokado starts bargain sale of miso from Sendai area.

AEON and Family Mart already started the production Private Brand (PB) bottled water and milk. As the production and distribution channels were disrupted, AEON doubled PB's milk production in contracted manufacturers in Kumamoto.

### ***Restaurants***

Restaurants are bringing back menu items that were suspended due to supply problems in the wake of the Great East Japan Earthquake. It remains to be seen, however, whether full food lineups will be enough to stimulate waning appetites for dining out. Production has begun to pick up at food-processing factories, and many restaurant operators whose suppliers have been affected by the quake have secured alternative sources.

Some examples: 'iCon'Chicken' McDonald's Holdings Co. (Japan) on Monday resumed sales of its iCon'Chicken Salt & Lemon sandwich due to the resumption of production at a seasoning maker in quake-hit northeastern Japan. The company also put a breakfast hot dog back on the menu the same day after securing an adequate supply of buns.

Doutor Coffee Co., a coffee chain operator under Doutor-Nichires Holdings Co., has returned its menu to full strength after halting sales of sandwiches and cakes due to a limited bread supply. Its bread factory was damaged in the March 11 quake, and large amounts of bread are being rerouted to the Tohoku region for relief purposes. But production boosts at bread manufacturers have eased supply problems.

Mos Food Services Inc., operator of Japan's No. 2 burger chain, has resumed sales of its hot dog offerings in northeastern Japan.

Seven & i Food Systems Co., (7-11) which operates the Denny's family restaurant chain, last Wednesday put corn soup and some noodle dishes back on the menu after its processing factory resumed production.

Subway has begun placing signs in their restaurants informing customers of where the vegetables are procured, which sometimes come from affected areas like Ibaragi. Subway interviewed some of their customers at a few outlets in Tokyo, who commented that "they care about the product origin and look

at the labels when buying vegetables at retail stores for home use, but don't care about it when we eat at restaurants" and "It is good to combat false rumors and support Ibaragi farmers. We support restaurants making efforts to do it."

### ***Kansai Region***

According to a Kobe-based importer, the situation is severe due to the continuing slump in consumption slump. While some predict that demand for imported agricultural products will increase in coming months as a result of the radiation issue, retailers do not seem to have taken action yet as far as American products are concerned. (There is a rumor that demand for Chinese and Korean cabbage for kimchi is starting to rise in response to predictions that domestic supply in northern Kanto would be affected.)

In addition, the slow sales in Kanto is creating a glut in supply of some fresh products. The excess supply has been brought to Kansai, pushing down the prices, affecting importers. The weakening yen is also adding to their concern.

Of particular concern is broccoli. Importers had expected the market price to rise at this time of the year, when the domestic supply starts to decline. Instead, Kansai is seeing more supply of domestic broccoli. As a result, retailers seem to have enough domestic supply and some imported broccoli is not sold and sitting in a warehouse in Kobe (probably in Kanto as well.) It is a reversal from the last year, when the demand was brisk. (One warehouse source says supply for warehouses in Kobe is getting tight.)

The medium bidding price of broccoli per 4 kilograms in Osaka Wholesale market of Kochi (Shikoku) was 1,050 yen on April 11, down from 1,575 yen on March 30. US broccoli was traded one-on-one 2,415-2,625 (per 9 kilograms) on April 11, compared to 2,100 yen (the medium bidding price) on March 30.

### **DONATIONS BY U.S. AGRICULTURE**

FAS has been in contact with the Ministry of Agriculture, Fisheries, and Forestry and has obtained the below contact number.

If your firm has a supplier network in Japan, and you wish to make a donation, please ask your Japanese partners to email the contacts below. MAFF will work with your firm to match your donation with the expressed needs of an affected community in the Tohoku region.

For the sake of efficiency, and in order to ensure that donations are allocated appropriately, the initial contact should be in writing. If a phone call is needed, please do so during normal Tokyo business hours from 9:30am to 6:00pm. When contacting MAFF, please inform them of the nature and volume of the product you wish to donate, the location of the product, and your delivery capabilities. In some cases MAFF can arrange for a pickup at your warehouse.

Mr. Mitsuhiro Inamura

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In addition, the U.S. Agency for International Development manages a site where companies can propose product donations - <http://www.cidi.org/commodity-available-registration?view=commodityavailable>. This site allows companies to register and list offers of in-kind donations, which then will be matched to stated requests from the Government of Japan.

Naturally, the above options do not preclude you and your Japanese counterparts from distributing assistance through private sector distribution channels.

***RECENT DONATIONS BY U.S. AGRICULTURE***

Silver Bay Seafoods, a major Alaska seafood processor, made a donation to Japan through the Daily Minato totaling US\$150,000.