

Food and Radiation Q & A

Preface

Food safety has become a matter of concern due to the nuclear power plant accident following the Great East Japan Earthquake. The Consumer Affairs Agency supports local governments, investigates radioactive substances in food for human consumption from the aspect of consumers, and takes actions to ensure the safety of food. Further, to ensure that consumers have accurate understanding of measurement results, symposiums are held around the country for consumers and experts to exchange opinions.

With a Q&A format, this brochure aims to explain, in a way that is easy to understand, the details of food safety and radioactive materials about which people have questions and concerns. I hope the information herein will help ensure the safety and security of food as well as the prevention of groundless rumors.

Hisa Anan, Secretary-General

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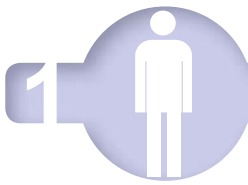
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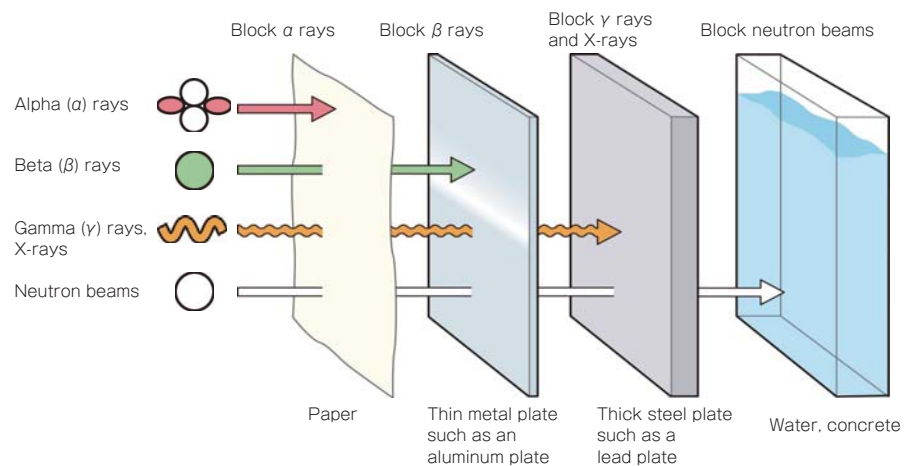


Q1 What are the differences among radiation, radioactivity and radioactive materials?

Answer

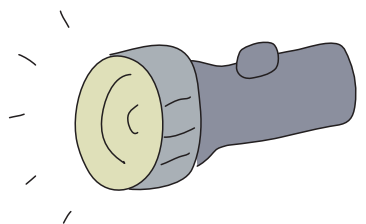
- 1 “Radiation” is similar to light rays, and has the ability to penetrate matter, and includes alpha (α) rays, beta (β) rays, gamma (γ) rays, X-rays, and neutron beams. As different types of radiation differ in their abilities to penetrate matter, they can be blocked by different materials.

Types of radiation and their abilities to penetrate



Source: "Nuclear Energy 2010" from the Agency for Natural Resources and Energy

- 2 The ability to release radiation is called “radioactivity,” and materials with such ability are called “radioactive materials.” To illustrate this with a flashlight, the light is radiation, the flashlight-device is a radioactive material, and its ability to emit light is radioactivity.



- 3 What is commonly called “leakage of radioactivity” is actually “leakage of radioactive materials,” which is the leakage of radioactive materials releasing radiation outside nuclear power facilities.

Q2 What kind of impact does radiation have on the human body?

Answer

1 Regardless of the nuclear power plant accident, we are exposed in our everyday lives to a certain amount of radiation originating from the natural world (the world annual average is 2.4 mSv [millisieverts] per person, see Page 12).

Through exposure to radiation, the DNA in cells is partially damaged by the energy of radiation. However, because organisms have a system to repair the DNA damage, most cells can be restored. Further, most unrecoverable cells die and are replaced with healthy cells.

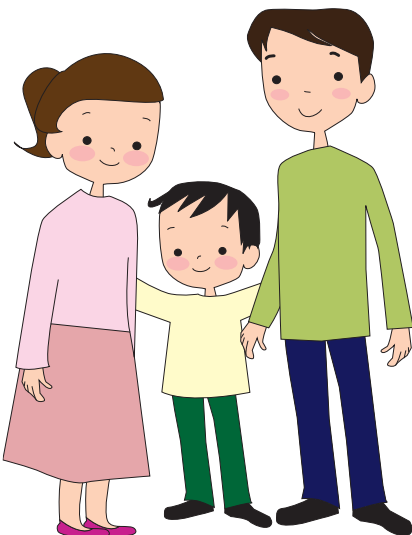
Consequently, we are able to live without particularly noticing the effects of radiation on our health in our daily lives, despite the fact that we are constantly exposed to radiation.

2 However, exposure to a large amount of radiation at one time will cause death of a large amount of cells, leading to health impacts such as acute disorder in the tissues of the hematopoietic organs, the genital glands, the intestinal tract and the skin.

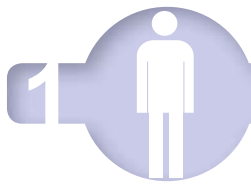
3 Even an exposure not amounting to acute disorders still partially damages the DNA (gene) in cells, and may, fairly infrequently, interfere with the recovery of the cells and cause health effects.

The impacts of additional exposure to radiation are assessed with methods such as one that compares the rate of health effects occurrence in a group exposed to radiation with the rate of natural occurrence of health effects in an unexposed group.

Reduction in the dose of additional exposure to radiation leads to a decline in the rate of health effects occurrence. Moreover, when a radiation exposure dose is so low that the impacts of other factors (see table on next page) render such exposure negligible, it is considered difficult to prove that health effects are actually caused by radiation.



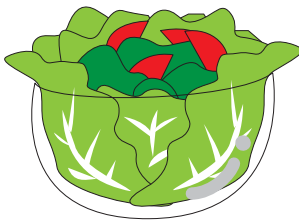
* See Page 14 for the concepts of the establishment of limits for radioactive materials in food on the basis of the Food Sanitation Act. Further, in relation to effects in everyday life, actual food products were purchased in various regions and tested to estimate the radiation dose from one-year's consumption of such food products containing radioactive cesium. See Page 46 for the estimation results.



Basic knowledge of radiation and its impacts on humans

Reference

Examples of health effects (comparison between radiation and other carcinogenic factors)



Smoking	Equivalent to 1,000 - 2,000 mSv (millisieverts)
Obesity (Note 1)	Equivalent to 200 - 500 mSv (millisieverts)
Passive smoking (Note 2)	Equivalent to 100 - 200 mSv (millisieverts)
Insufficient intake of vegetables (Note 3)	Equivalent to 100 - 200 mSv (millisieverts)

Note 1) For the group with BMI 23.0 to 24.9 (obesity index calculated from height and weight), the risk is proportional to that for a group with BMI 30 or over.

Note 2) For the group of women whose husbands are non-smokers, the risk is proportional to that for a group of women with smoking husbands.

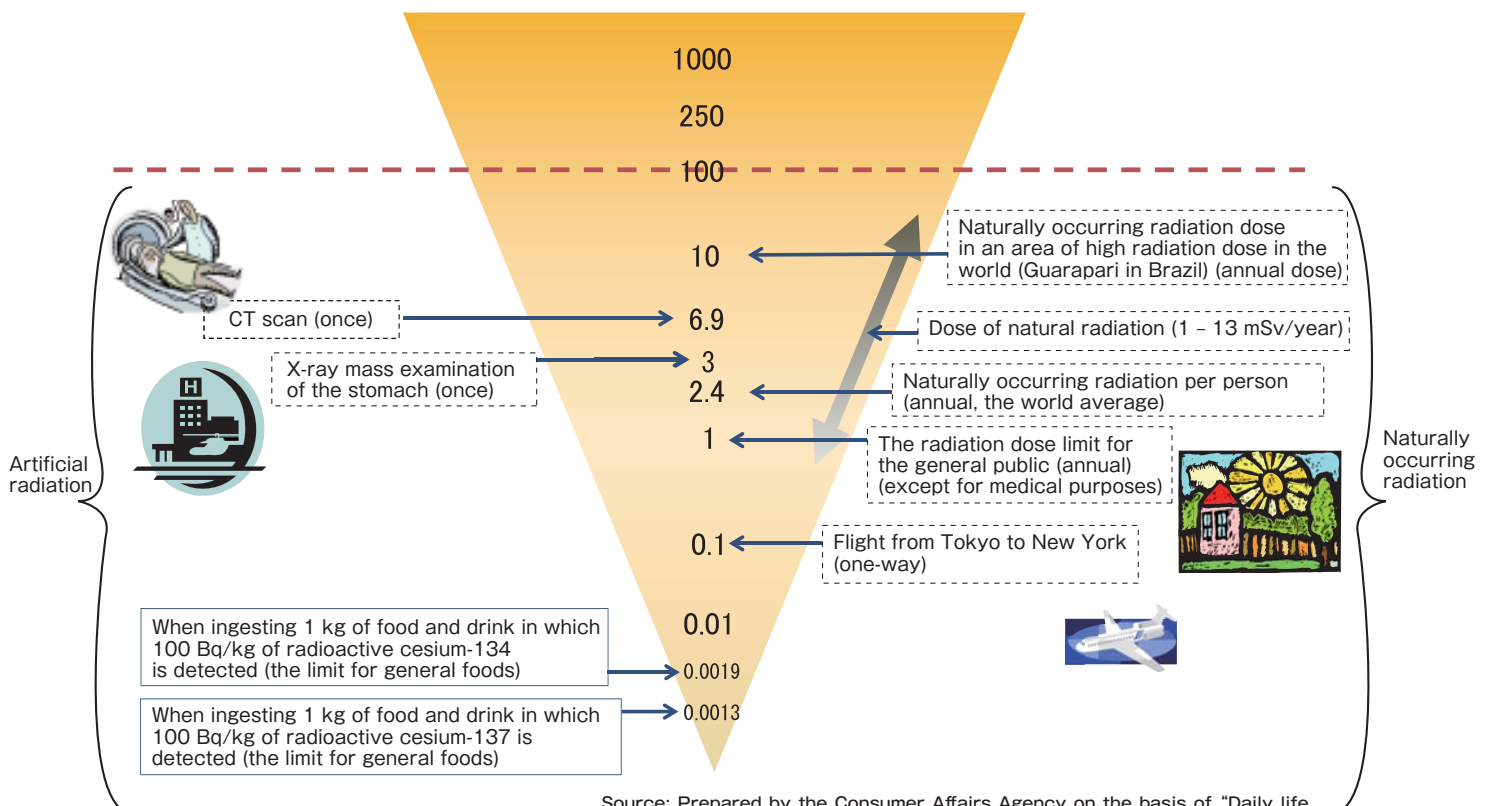
Note 3) For the group with daily intake of 420 g, the risk is proportional to that for a group with daily intake of 110 g (median value).

Source: "Report of the Working-Group on Risk Management of Low Dose Exposure"



Reference

Daily life and radiation (Unit: mSv [millisievert])



Source: Prepared by the Consumer Affairs Agency on the basis of "Daily life and radiation" from the Ministry of Education, Culture, Sports, Science and Technology, and the website of the National Institute of Radiological Sciences.

Q3 What is the difference between the units for measuring radioactivity: “becquerel” and “sievert”?

Answer

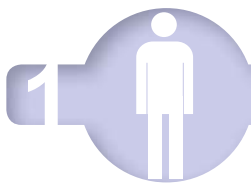
- 1 All matter is made up of atoms, each of which consists of a nucleus with electrons spinning around it.
- 2 Radiation is released when a certain nucleus changes (disintegrates) into another nucleus. One Bq (becquerel)^{*1} is the amount of radiation released by one nucleus in one second when it disintegrates. The greater the number of Bq, the greater the number of nuclei disintegrations.
- 3 However, the type and intensity of radiation released differ according to the type of radioactive material. Even for radioactivity of the same Bq, different radioactive materials affect the human body to different degrees.

Therefore, a common unit of measurement was devised to indicate effects of radiation on humans, and this is called “Sv (sievert),” which allows effects on the human body to be expressed in a unified manner. One identical Sv always indicates the same level of effect on the human body.

Bq (becquerel) is converted into Sv (sievert) by using a coefficient for each type of radioactive material^{*2} in the manner set forth on the following page.

^{*1} Prior to the use of the unit Bq (becquerel), a unit called Ci (curie) was used. One Ci (curie) can be converted into 3.7×10^{10} Bq (becquerel).

^{*2} This coefficient is called “effective dose coefficient” (unit: mSv/Bq) and is set for each type of radioactive material (nuclide), the age of the person affected, and the route of intake. In the case of oral intake by an adult, the International Commission on Radiological Protection (ICRP) has set the effective dose coefficients for cesium-134 and cesium-137 as 1.9×10^{-5} and 1.3×10^{-5} , respectively.



Basic knowledge of radiation and its impact on humans

(Example) In the case of 1 kg of food containing 10 Bq (becquerel) of cesium-134 and 20 Bq (becquerel) of cesium-137

$$\begin{aligned} & 10 \times 1.9 \times 10^{-5} \text{ (conversion of cesium-134)} + 20 \times 1.3 \times 10^{-5} \text{ (conversion of cesium-137)} \\ & = 0.00019 \text{ mSv (millisieverts)}^{*3} + 0.00026 \text{ mSv (millisieverts)}^{*3} \\ & = 0.00045 \text{ mSv (millisieverts)}^{*3} \end{aligned}$$

^{*3}: One mSv (millisievert) is 1/1,000 of 1 Sv (sievert). Also, 1 μ Sv (microsievert) is 1/1,000,000 (one-millionth) of 1 Sv (sievert).

Estimation of effects on the human body: conversion of becquerel into sievert

Becquerel (Bq): the unit representing the ability to emit radiation

Sievert (Sv): the unit representing the degree of effect when humans are exposed to radiation

Cesium-134	
Becquerel (Bq/kg)	Millisievert (mSv)
100	0.00190
90	0.00171
80	0.00152
70	0.00133
60	0.00114
50	0.00095
40	0.00076
30	0.00057
20	0.00038

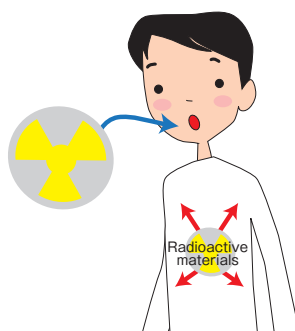
Cesium-137	
Becquerel (Bq/kg)	Millisievert (mSv)
100	0.00130
90	0.00117
80	0.00104
70	0.00091
60	0.00078
50	0.00065
40	0.00052
30	0.00039
20	0.00026

Q4 What is the difference between “external exposure” and “internal exposure”?

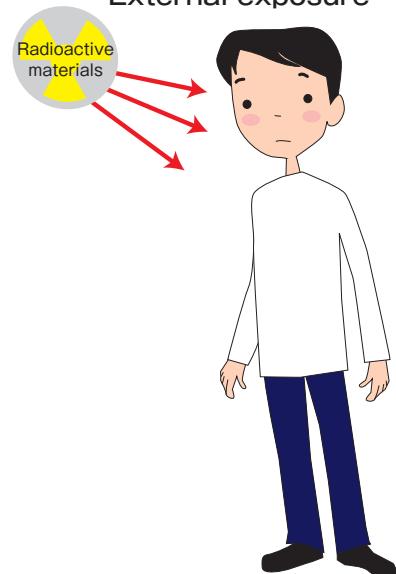
Answer

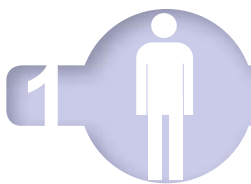
- 1 There are two modes of exposure to radiation: external and internal. “External exposure” is exposure to radiation released by radioactive materials outside the body.
- 2 On the other hand, “internal exposure” is exposure through the intake into the body of air, water, food, etc., that contain radioactive materials. There are four main routes of internal exposure: (1) through the mouth with food (oral intake); (2) with air (intake by inhalation); (3) through the skin (dermal absorption); and (4) through wounds (wound penetration).
- 3 “External exposure” diminishes when the body moves away from radioactive materials (for example, doubling the distance will reduce exposure to one-fourth). In the case of “internal exposure,” since the radioactive materials are in the body, exposure continues until these materials are discharged from the body (see Page 13).
- 4 As illustrated in the figure on the next page, we are exposed both externally and internally to natural radiation in our daily lives. Exposure to radiation released by radioactive materials leaked due to the nuclear power plant accident means that we are exposed to such radiation in addition to natural radiation.

Internal exposure



External exposure

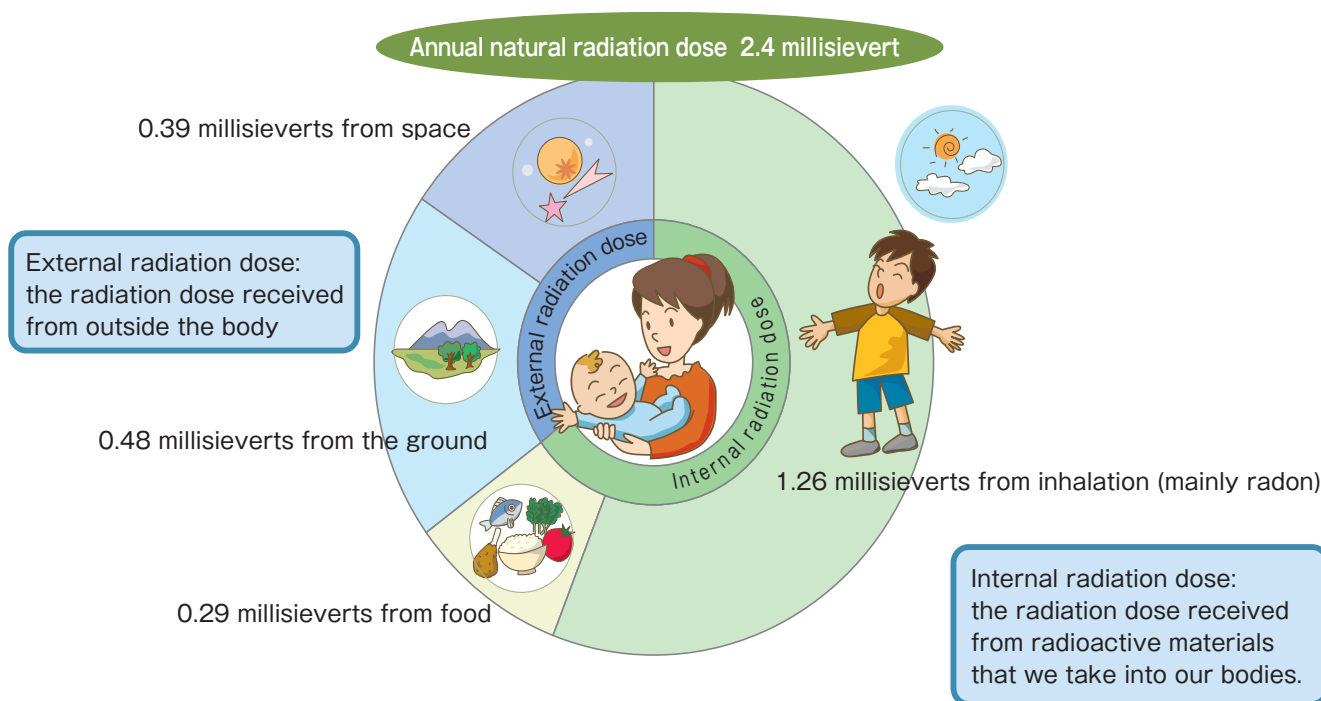




Basic knowledge of radiation and its impacts on humans

Reference

Natural radiation to which we are exposed in one year Annual radiation dose per person (world average)



Source: "Radiation and Life" from the Agency for Natural Resources and Energy

Exposure to natural radioactive materials

Food contains natural radioactive materials; potassium-40 is the most common material. Further, radioactive materials constantly exist within the human body.

Approximate amounts of potassium-40 in food

Raw wakame seaweed 200	Spinach 200	Cabbage 70
Dried shiitake mushroom 700	Fish 100	Meat 90~100
Rice 30	Bread 30	Potato chips 400
		Milk 50
		Beer 10

(Becquerel/kg)

Source of data: Informational materials etc. from the National Institute of Radiological Sciences

Natural radioactive materials in the body

For a Japanese male (weighing approx. 65 kg) (becquerel per person)

Potassium-40	Approx. 4,000
Carbon-14	Approx. 3,600
Other	Approx. 300
Total	Approx. 7,900

Source: Informational materials modified from the Food Safety Commission of Japan

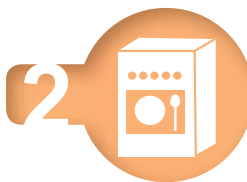
Q5 What is meant by the “half-life” of radioactive materials? What is the difference between “physical half-life” and “biological half-life”?

Answer

- 1 Radioactive materials do not remain in the natural environment forever. They release radiation, transform into different nuclei, and ultimately become devoid of any radioactive content. The amount of time required for the number of nuclei of the original radioactive material to be reduced by half differs according to the type of material. For example, it is approximately 8 days for iodine-131, and 30 years for cesium-137. This is called the “physical half-life.”
- 2 On the other hand, radioactive materials taken into the body with food etc. enter the blood and are discharged from the body in such avenues as exhalation, perspiration, stool and urine. The amount of time required for radioactive materials in the body to be reduced by half through this process is called the “biological half-life.”
- 3 The biological half-life for iodine-131 is approximately 11 days in infants, 23 days in five-year-olds, and 80 days in adults. For cesium-137, it is approximately 9 days for one-year-olds, 38 days for children up to nine years of age, 70 days for adults up to 30 years of age, and 90 days for adults up to 50 years of age.
Therefore, when cesium-137, which has a long physical half-life of 30 years, is taken into the body, the amount remaining in the body is reduced by half in approximately 3 months (in the case of 50-year-olds).
- 4 The physical half-life of radioactive materials depends on the type of material and is unaffected by cooking or other applications of heat. Nor will freezing radiation-contaminated food reduce the physical half-life of the radioactive material.

Reference

- Cesium ————— There are known to be 11 main types of cesium that are radioactive materials. Cesium-134 and cesium-137 are artificial radioactive materials generated through nuclear fission and have physical half-lives of approximately 2 years and 30 years, respectively.
While remaining in the body, they do not have properties to accumulate in particular organs (affinity).
- Strontium ————— Among the types of strontium, strontium-89 and strontium-90 are known as radioisotopes generated through nuclear fission and have physical half-lives of approximately 51 days and 29 years, respectively.
Approximately 20% of orally ingested strontium is absorbed into the body through the gastrointestinal tract. Further, 99% of strontium in the body accumulates in the bone.
- Plutonium ————— Plutonium is one of the transuranic elements and is generated from uranium in a nuclear reactor.
There are several types of plutonium that are radioactive materials, and their physical half-lives range greatly from approximately 5 hours to 8.26×10^7 years, depending on the type. Further, not much of orally ingested plutonium is absorbed through the gastrointestinal tract (0.05%) or the skin. However, once plutonium is partially absorbed into the blood, it will accumulate and remain mainly in the liver and bone for a long time. Its biological half-life is approximately 20 years in the liver and 50 years in the bone.



Regulations regarding radioactive materials in food

Q1 How were the limits for radioactive materials in food set?

Answer

1 The Food Safety Commission of Japan considered that a result of the Assessment of the Effect of Food on Health suggested potential effects of radiation by food when the lifelong additional* accumulation of effective radiation dose is approximately 100 mSv (millisieverts) or more.

Further, as health effects from exposure of below 100 mSv (millisieverts) may not be clearly distinguished from those effects attributable to other factors, it had been concluded that it is difficult to associate such effect of food on health with internal exposure.

In light of this, the current limits for radioactive cesium were set on the basis of the view that radiation dose from food is not to exceed 1 mSv (millisievert) annually.

*The dose that excludes exposure that occurs in the normal course of life, such as natural radiation (in Japan, 1.5 mSv [millisieverts]/year) and medical exposure.

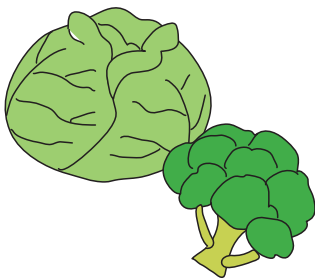
2 This standard was set by the Codex Alimentarius Commission (a joint organization of the World Health Organization [WHO] and the Food and Agriculture Organization of the United Nations [FAO]), which establishes international food standards on the basis of the view of the International Commission on Radiological Protection (ICRP). Within the range of these values, no other radiation safeguard is considered to be necessary.

* Foods were actually purchased in various regions and tested to estimate the radiation doses from radioactive cesium in those foods. See Page 46 for the results of the estimation.



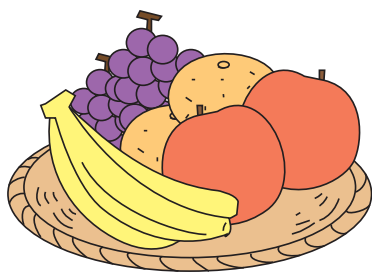
Q2 What are the regulations pertaining to radioactive materials in food and drinking water? How is processed food handled?

Answer



1 In response to the occurrence of the accident at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant, Incorporated in March 2011, the Ministry of Health, Labour and Welfare (MHLW) set provisional regulation values for radioactive cesium under the Food Sanitation Act on March 17 of the same year, for the urgent measure to secure the safety of food. These were based on the "index relating to the restriction of food intake" delivered by the Nuclear Safety Commission under assumption of nuclear power plant accidents.

2 Subsequently, after the Assessment of the Effect of Food on Health by the Food Safety Commission and deliberations and consultations among the MHLW, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Consumer Affairs Agency (CAA), the limit of radioactive materials under the Food Sanitation Act were set and have been in force since April 1, 2012, pursuant to the procedure set forth in the Food Safety Basic Act.

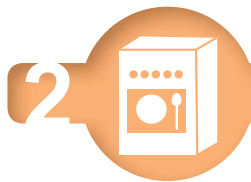


Provisional regulation values for radioactive cesium

Category	Provisional regulation value (Bq/kg)
Drinking water	200
Milk, dairy products	
Vegetables	500
Grains	
Meat, eggs, fish, etc.	

Limits for radioactive cesium

Category	Limit (Bq/kg)
Drinking water	10
Milk	50
General foods	100
Infant foods	50



Regulations regarding radioactive materials in food

Answer

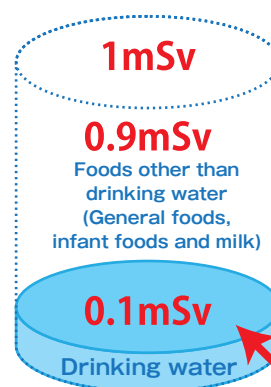
3 The limits were set in accordance with the concept that the annual total of the maximum permissible dose of radioactive cesium in foods does not exceed 1 mSv (millisievert) (see Page 14 for more details).

4 Drinking water is what all people ingest everyday and cannot be replaced, which leads to a large intake of water. As the WHO has indicated a guidance level of 10 Bq (becquerel) for radioactive materials in drinking water, our value for drinking water is the same as that value.

In light of this limit for drinking water and the standard intake rate for drinking water estimated by the WHO (2 liters/day), the additional radiation dose from drinking water is calculated to be approximately 0.1 mSv (millisievert) per year.

For this reason, the annual additional radiation dose from foods other than drinking water is required not to exceed approximately 0.9 mSv (millisieverts) in order to prevent the annual total additional radiation dose from foods from exceeding 1 mSv (millisievert).

Total of additional radiation dose from foods (1 millisievert annually) [Operational intervention level 1mSv/year]



If drinking water with the upper limit of radiation is ingested for a year...

(Upper limit for drinking water)

10 Bq (becquerel)/kg

X

(Standard intake rate for drinking water)

2 liters/day (2 kg/day)

X

(If ingested for a year) 365 days

X

(Effective dose coefficient [see Page 9])

=

Approx. 0.1 mSv (millisievert) per year

5

Foods other than drinking water are divided into “general foods,” “infant foods” and “milk.”

The rationale behind including processed foods in the category of “general foods” is:

(1) to minimize the influence of differences in individuals’ eating habits (for example, liking rice, bread, meat or vegetables, etc.);

[It is possible to make the influence of individual differences in eating habits (deviation of the foods to be consumed) minimal.]

(2) Regulation intelligible for people; and

(3) Consistency with international views, such as these of Codex Alimentarius Commission



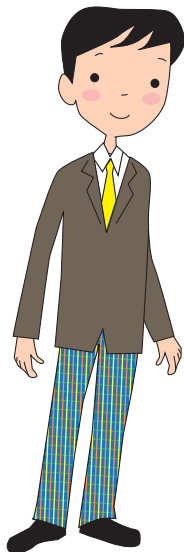
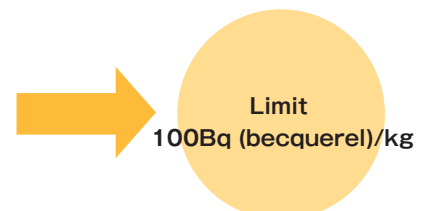
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On the basis of food intakes according to age groups and the effects of radioactive materials on health, the table below shows the calculation of limits according to age groups and sex (the values under which the annual additional radiation dose does not exceed approximately 0.9 mSv [millisieverts] even if 50%* of foods contain that level of radioactive materials and are ingested continuously). The “limit of 100 Bq (becquerel)/kg” for general foods was determined by choosing the most rigorous limits among the calculated values. Accordingly, these are standards that take into account people of all ages.

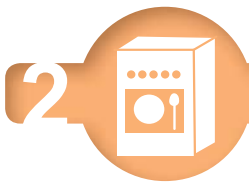
*In light of the food self-sufficiency rate of Japan, this is based on the assumption that 50% of foods distributed are contaminated.

Calculate limits, taking into consideration the intake and conversion coefficient according to age category

Age category	Intake	Limits(Bq/kg)
Under 1	Average for both sexes	460
1-6	Male	310
	Female	320
7-12	Male	190
	Female	210
13-18	Male	120
	Female	150
19 and older	Male	130
	Female	160
Pregnant	Female	160



*The reason that the younger the age, the greater the limit is that in the current situation where the nuclide in food is mainly radioactive cesium, differences in food intake contribute to the calculation of limits more than differences in radiation dose coefficients according to age groups.



Regulations regarding radioactive materials in food

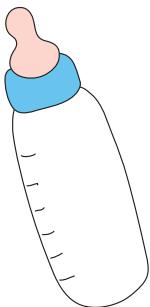
7 Furthermore, the Assessment of the Effect of Food on Health by the Food Safety Commission pointed out that “a susceptibility to radiation may be higher in childhood than in adulthood,” with regard to “infant foods” consumed by infants under a year old and “milk,” whose intake by children is extremely high. For this reason, the limits for these categories are individually set to a reasonably possible extent, in order to clearly indicate such values to consumers. For the two categories of distributed products, the values are 50 Bq (becquerel)/kg, which are half the limit for general foods, and are mostly domestically produced.

8 Although various premises have been considered to set safe limits as outlined above, it is not realistic that foods containing radioactive materials with the maximum limits are continuously eaten. Accordingly, the additional radiation dose from food is substantially a low value (see Page 46 for more details).

9 The limit of 100 Bq (becquerel)/kg for general foods applies to raw materials in a natural state. The same limit applies to rehydrated foods, such as dried mushrooms, that are rehydrated before eating.

For foods that are intended to be consumed in a dried state, such as dried laver, dried sardine, dried cuttlefish, raisins, etc., the limit of 100 Bq (becquerel)/kg for general foods applies to their ingredients in a natural state and to their finished forms after being produced or processed (in a dry state).

For general tea, the limit of 10 Bq (becquerel)/kg for drinking water applies to tea in a ready-to-drink state (however, the limit of 100 Bq (becquerel)/kg for general foods applies to fermented tea leaves such as those for black tea and oolong tea). For powdered tea for which tea leaves are ground up, such as green powdered tea, the limit for general foods applies to such tea leaves in a powder state.



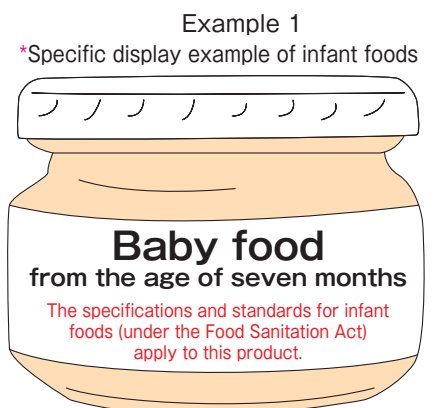
Q3 How can I distinguish “infant foods”?

Answer

1 Regarding the limits for radioactive materials in food under the Food Sanitation Act, a lower limit applies to infant foods (foods sold for intake by infants under one year old), compared with the limit for general foods (infant foods: 50 Bq [becquerel]/kg; general foods: 100 Bq [becquerel]/kg).

2 However, regarding some of the applicable infant foods, there are expected to be cases where consumers find it difficult to determine from the packaging of such foods whether the specifications and standards for infant foods apply to the foods. Therefore, on the basis of the specification and standards of the MHLW, the CAA has formulated display standards for infant foods so as to enable consumers to find out which limit applies to infant foods before they choose and purchase infant foods.

3 Specifically,
(1) On those products to which the specifications and standards for infant foods apply, there is a display with a statement to that effect (-> it is permitted to use phrases such as “Specifications for Infant Foods applied” and “The specifications and standards for infant foods [under the Food Sanitation Act] apply to this food product”). (See Example 1.)



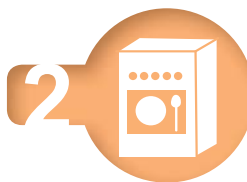
(2) For food products that can be easily identified as those to which the specifications and standards for infant foods apply, it is permitted to omit the display of “Specifications for Infant Foods applied” (-> food products to which this omission provision applies are only those so-called “powdered milk”). (See Example 2.)
(3) For products to which the specifications and standards for infant foods do not apply, it is not allowed to put any display stating that, or misleading consumers into believing that, the products are those to which the specifications for infant foods apply.



4 The display standards for infant foods have been in force since August 1, 2012.

However, as an interim measure, infant foods subject to the specifications and standards for infant foods are permitted to be sold with displays in the style prior to the display standards if such foods are produced, processed or imported on or before December 31, 2013.

The prohibition of misleading displays has been in force since January 1, 2013.



Regulations regarding radioactive materials in food

Q4 Is monitoring of agricultural products being conducted properly?

Answer

- 1 The testing of radioactive materials in food is conducted by the prefectural governments on the basis of the "Inspection planning for the local governments" issued by the MHLW in line with the Revision of the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies" (revised on March 19, 2013) drawn up by the Government's Nuclear Emergency Response Headquarters (the director-general: the Prime Minister).
- 2 The MHLW aggregates and publishes the results of testing of radioactive materials in food conducted by the prefectural governments.

Reference

"Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies" (19 March 2013)

- II. Inspection planning for the local governments
1. Omitted

2. The local governments subject to inspections

Prefectures instructed to implement inspections on respective food items are specified in the attached table, based on the inspection results, etc. obtained on and after April, 2012. Additional inspections may be instructed based on the detected levels of radionuclides. The prefectures shown in the attached table also conduct inspections on other items not designated as inspected items, as necessary, in a planned manner.

3. Items subject to inspections

Inspections are implemented on items whose information on producer and processor is identified based on values detected in the past etc. (those closely examined by germanium detectors) as follows. The items listed in (1), (2) and (4) below are based on the inspection results obtained between April 1, 2012, and February 28, 2013. Applicable items after March 1, 2013, are also subject to the inspections.

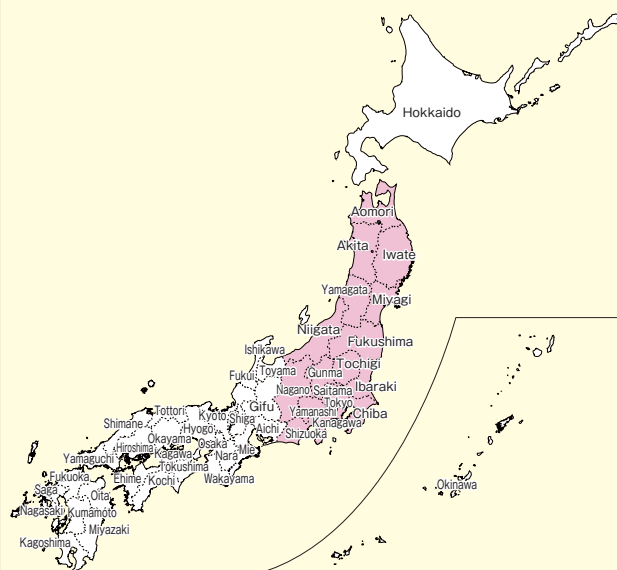
- (1) Food items in which radioactive cesium above the maximum limits has been detected

- i. Vegetables (Those cultivated outdoors are selected as a priority. When both naturally grown and cultivated items have been shipped [e.g., bamboo shoots], they are included under "mushrooms, wild plants, etc." [in iii. below].)
Lotus root; Threeleaf arrowhead; and Angelica keiskei (Ashitaba)

- ii. Fruits (Those cultivated outdoors are selected as a priority.)
Satsuma mandarin; Citrus fruit (Yuzu); Japanese apricot; Blueberry; and Chestnut

- iii. Mushrooms, wild plants, etc. (Cultivated items are included; those cultivated outdoors are selected as a priority.)

Log-grown Shiitake (outdoor and hothouse cultivation); Log-grown Pholiota nameko (outdoor cultivation); Log-grown Brick cap (outdoor cultivation); Log-grown Oyster mushroom (outdoor cultivation); Log-grown Late fall oyster (outdoor cultivation); Log-grown Bunaharitake (outdoor cultivation); wild mushrooms; Chocolate vine; *Elatostema umbellatum* var. *majus* (Uwabamisou); Ostrich fern; Walnut; *Eleutherococcus sciadophylloides* (Koshiabura); Japanese pepper; Japanese parsley; Japanese royal fern; Bamboo shoots; *Aralia elata* (shoots); Japanese horseradish (flowers); Giant butterbur; Japanese butterbur



scape; Japanese ginger (Myoga); *Parasenecio delphiniifolius* (Momijigasa); Chestnut; and *Pteridium aquilinum*

iv. Meat

Beef; Pork; and Horse meat

v. Wild bird and animal meat

Meat, e.g., Boar meat; Spot-billed duck meat; Green pheasant meat; Asian black bear meat; Sika deer meat; Hare meat; Mallard (wild) meat; and Copper pheasant meat

vi. Cereals and pulses

Rice; Soybean; Buckwheat; and Azuki bean

vii. Tea

(2) Food items in which one half of the maximum limits for radioactive cesium has been detected (Items listed under (1) above are excluded.)

i. Vegetables (Those cultivated outdoors are selected as a priority. When both naturally grown and cultivated items have been shipped [e.g., bamboo shoots], they are included under "mushrooms, wild edible plants, etc." [in iii. below].)

Pumpkin; Japanese yam (Jinenjyo); and Perilla (seeds): shiso and egoma

ii. Fruits (Those cultivated outdoors are selected as a priority.)

Other citrus, e.g., Citrus fruit (Amanatsu); Japanese persimmon; Kiwifruit; and Ginkgo nut

iii. Mushrooms, wild edible plants, etc. (Cultivated items are included; those cultivated outdoors are selected as a priority.)

Log-grown *Grifola frondosa* (outdoor cultivation); Bed-grown Shiitake (hothouse cultivation); Bed-grown *Pholiota nameko* (hothouse cultivation); Bed-grown *Grifola frondosa* (hothouse cultivation); Bed-grown *Pleurotus eryngii* (hothouse cultivation); Iwatake; Victory onion; Flowering Quince; Bamboo shoots (nemagaritake); Silver vine; Japanese horseradish (leaves); and Japanese horseradish

iv. Honey

(3) Food items for which continuous monitoring inspections are needed as they are greatly influenced by the management of feeding.

i. Milk (shall be subject to inspections in Iwate prefecture, Miyagi prefecture, Fukushima prefecture, Ibaraki prefecture, Tochigi prefecture, and Gunma prefecture)

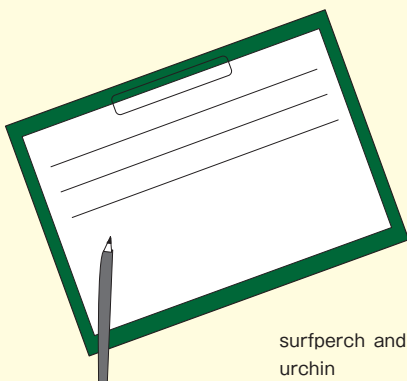
ii. Beef (shall be subject to inspections in Iwate prefecture, Miyagi prefecture, Fukushima prefecture, Ibaraki prefecture, Tochigi prefecture, Gunma prefecture, and Chiba prefecture)

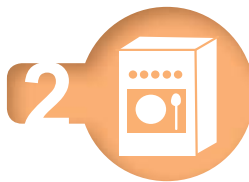
(4) Fishery products (Food items in which one half or more of the maximum limits for radioactive cesium have been detected.) (The following items are categorized in groups. For more detailed categorization of the items for the purpose of inspection, refer to the attached "Categorization of Types of Fishery Products." [Attachment omitted])

i. Marine fishery products (shall be subject to inspections in Fukushima prefecture, Miyagi prefecture, Ibaraki prefecture, Iwate prefecture, Chiba prefecture, Aomori prefecture [only Pacific cod], and Hokkaido [only Pacific cod])

Scad; Halfbeak; Olive flounder; Righteye flounder (2 categories); Fat greenling; Rockfish, Jacopever and Scorpion fish (2 categories); Shark and Stingray; Pacific cod; Alaska pollock; Brown hakeling; Monkfish; Gurnard, Nibe croaker, Queenfish, Poacher and Japanese prickleback; Seabream (except Japanese black porgy) and John dory; Japanese black porgy, Japanese

surfperch and Striped mullet; Japanese seabass; Puffer; Conger eel; Bartail flathead; Japanese sandlance; Sea urchin





Regulations regarding radioactive materials in food

ii. Inland water fishes (shall be subject to inspections in the local governments where one half or more of the maximum limits for radioactive cesium is detected)

Japanese smelt; Whitespotted char, Cherry salmon and Trout; Carp, Crucian carp, Japanese dace, Topmouth gudgeon and Oriental weather loach; Japanese eel; Ayu sweetfish; Bass; Catfish; Invertebrate animals

(5) Food items that shall be considered when formulating inspection plans

i. Major items that take into account the amount of public consumption

(Reference) The items ranked high in public consumption level in the National Health and Nutrition Survey (based on the survey of 2010)

Rice; Tea for drinking; Milk; Lightly colored vegetables (including Japanese radish, Cabbage, Chinese cabbage, Onion and Cucumber); Deeply colored vegetables (including Carrot, Spinach and Tomato); Egg; Pork; Potatoes (including Potato, Sweet potato and Taro); Citrus; Fruits (e.g., Apples, Grapes and Pears); Fishery products; Mushrooms; Chicken meat; Beef; and Algae

ii. Main agricultural and fishery products of which the status of production is taken into account

(6) Food items for which restriction of distribution was canceled on April 1, 2012, or later in the local governments concerned (limited to those items listed from (1) to (4))

(7) Foods distributed in the market (whose information on producers and processors is identified)

(8) Processed foods served as dried goods for human consumption, including dried mushrooms, dried seaweed, dried seafood, dried vegetables, and dried fruits (excluding those foods to which the maximum limits for radioactive cesium [100 Bq/kg] apply in a reconstituted form by water)

(9) Food items in which 1/2 or more of the maximum limits for radioactive cesium are considered to have been detected due to a flaw in production management (e.g., improper storage and use of covering material)

(10) Food items separately instructed by the government in accordance with the status of detection of radioactive cesium, etc.

(Reference 1) For oil materials, such as rice bran and rapeseed, inspections are conducted after they are processed as fats and oils, and managed.

(Reference 2) For processed foods in (8), raw materials or finished products are inspected and managed, as necessary.

4. The designation of municipalities subject to inspections

(Omitted)

5. Frequency of inspections

Inspections are planned in accordance with the actual situations of the production and distribution of items and carried out on a regular basis (in principle, about once a week, by designating a day of the week). For items whose gathering period is limited, such as wild mushrooms and edible plants, they are inspected during the harvesting stage. In regard to the inspections in II 3 (3), milk is inspected once every 2 weeks, and beef is inspected about once every 3 months per farm household.

Fishery products are inspected about once per week, in principle. For items which have fishery seasons, inspections are implemented prior to the start of the fishery seasons, and after the fishery seasons begin, the inspections continue to be carried out approximately once per week. As for marine fishery products in Hokkaido, Aomori prefecture, Iwate prefecture, and Chiba prefecture (in II 3 (4) i), and inland water fishes in Saitama prefecture, Kanagawa prefecture, and Niigata prefecture (in II 3 (4) ii), the frequency of inspections is determined by taking into consideration their past inspection results.

However, when radionuclides exceeding or close to the maximum limits are detected, the frequency of inspections is raised. The government may separately instruct local governments on the frequency of inspections as needed.

The local governments and items subject to inspections

Prefecture Items	Aomori	Iwate	Akita	Miyagi	Yamagata	Fukushima	Ibaraki	Tochigi	Gunma	Chiba	Saitama	Tokyo	Kanagawa	Niigata	Yamanashi	Nagano	Shizuoka
Vegetables in II 3 (1) i		◎				○		◎				◎					
Vegetables in II 3 (2) i				○		○											
Fruits in II 3 (1) ii				◎		◎		◎		◎							
Fruits in II 3 (2) ii						○		○		○							
Mushrooms, wild edible plants in II 3 (1) iii	◎	◎	□	◎	□	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎
Mushrooms, wild edible plants in II 3 (2) iii	□	○	□	○	□	○	□	○	○	□	○	□	□	□	□	□	□
Meat in II 3 (1) iv		○		◎		◎	○	◎	◎	○							
Wild bird and animal meat in II 3 (1) v	□	◎	□	◎	◎	◎	◎	◎	◎	◎	◎	□	□	◎	○	◎	□
Cereals and pulses in II 3 (1) vi		◎		◎		◎	□	○	□	○							
Tea in II 3 (1) vii		◎		○			◎	◎	◎	◎	○	○					
Honey in II 3 (2) iv						○											
Milk in II 3 (3) i		□		□		□	□	□	□								
Beef in II 3 (3) ii		□		□		□	□	□	□	□							
Marine fishery products in II 3 (4) i	◎	◎		◎		◎	◎			◎							
Inland water fishes in II 3 (4) ii		◎		◎		◎	◎	◎	◎	◎	◎		◎	◎			
Major items that take into account the amount of public consumption, described in II 3 (5) i	Conduct inspections systematically in each local government																
Main agricultural and fishery products of which the status of production is taken into account, described in II 3 (5) ii																	
Food items for which restriction of distribution was canceled, described in II 3 (6)																	
Foods distributed in the market, described in II 3 (7)																	
Processed foods served as dried goods for human consumption, described in II 3 (8)																	
Food items for which one half or more of the maximum limits for radioactive cesium are considered to have been detected due to a flaw in production management, described in II 3 (9)																	

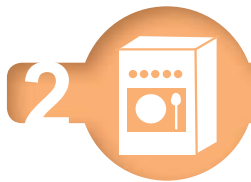
(Note 1) Categorized based on the results of inspections conducted between April 1, 2012, and February 28, 2013.

- Radioactive cesium above the maximum limits (for fishery products, one half or more of the limits) has been detected (indicated by ◎)
- Radioactive cesium above one half of the maximum limits has been detected (excluding those from which radioactive cesium above the maximum limits has been detected) (indicated by ○)
- Items subject to inspections as specified in II 3 (3) in the Annex and Attachments, and those whose inspections require consideration for their migratory behavior and difficulty of management (indicated by □)

(Note 2) Regarding the local governments indicated as ◎ or ○ in the Attached Table, if inspection levels are specified for the relevant items in the Attachments, inspections are conducted according to the latter.

(Note 3) Regarding the local governments indicated as □ in the Attached Table, if inspection levels are not specified for the relevant items in the Attachments, inspections are implemented in accordance with the inspection levels set out for those prefectures indicated as ○.

(Note 4) For marine fishery products (only concerning Pacific cod), Hokkaido is included in the local governments subject to inspections.



Q5 What is the system for food distribution and consumption restrictions?

Answer

- 1 A “distribution suspension” is implemented when foods with radiation levels exceeding the limits under the Food Sanitation Act are found to have been distributed widely and regionally, in order to prevent internal exposure to radiation through the consumption of food containing radioactive materials. Based on the Act on Special Measures Concerning Nuclear Emergency Preparedness, the director-general of the Nuclear Emergency Response Headquarters (the Prime Minister) will issue an order to the governors of applicable prefectures. Based on this order, the governors will ask the relevant business operators to refrain from shipping such products.
- 2 If, for example, a significantly high concentration level of radioactive materials is detected, the director-general of the Nuclear Emergency Response Headquarters (the Prime Minister) will issue an instruction of “consumption restriction” to direct the governors of the prefectures concerned to ask the citizens possessing the affected farm products not to consume such products, in addition to restricting the distribution thereof. Accordingly, the producers must refrain from consuming their own farm products, and the local people must refrain from consuming products they grow in their home gardens.
- 3 Japan Agricultural Cooperatives and the prefectural governments may, on their own initiative, restrict shipment of agricultural products with radiation levels above the limits before the national government issues the order of distribution restriction. Such information can be found on the websites of the prefectural governments.

Reference

The requirements for establishing items and areas to which restriction of distribution and/or consumption of foods concerned applies by the government

1. Items

When it is considered that the areas producing the items exceeding the maximum limits have been spread out, relevant areas and items become subject to restriction.

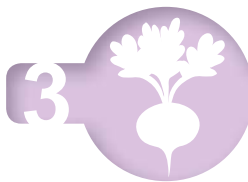
2. Areas

Prefectural areas are designated, as a rule, considering that the obligation of labeling origins regulated under the Japan Agricultural Standards is by the unit of prefecture. However, prefectures can be divided into a multiple number of areas if they can be administered by prefectures and municipalities.

3. Consideration for the establishment of restrictions

- (1) The establishment of restrictions is considered per item, based on inspection results.
- (2) For consideration of the establishment of restrictions, inspection results are consolidated and their applicability to the requirements is judged in a comprehensive way. Instructions for additional inspections are given as necessary.
- (3) When the territorial spread of items exceeding the maximum limits is uncertain, the surrounding areas are inspected to determine the need for restriction of distribution and the areas where distribution is to be restricted.
- (4) When a significantly high level of concentration is detected in items, restriction of consumption is immediately established, regardless of the number of samples collected for the items concerned.

From the “Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies (revised on March 19, 2013)” by the Nuclear Emergency Response Headquarters



Q1 How is the concentration level of radioactive cesium in vegetables, fruits, tea and mushrooms measured?

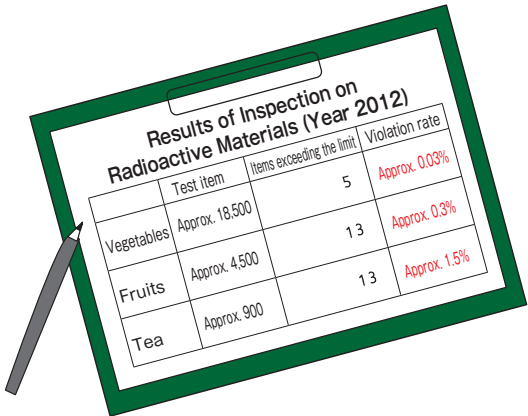
Answer

1 Regarding vegetables, approximately 18,500 samples were inspected in the 2012 fiscal year. Among these samples, 5 samples exceeded the maximum limit: Spinach, Angelica keiskei (Ashitaba), Lotus root, Threeleaf arrowhead and Japanese mustard spinach (Komatsuna) (Rate of exceeding the maximum limit : 0.03%). Local governments restricted distribution of these five kinds of vegetables. Only after local governments confirm the safety by additional inspections are these restrictions cancelled.

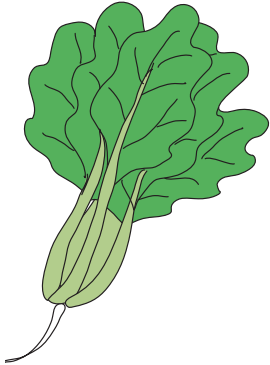
2 Regarding fruits, approximately 4,500 samples were inspected in 2012 fiscal year. Among these samples, 13 samples exceeded the maximum limit: 2 Japanese apricots, 2 Blueberries, 6 Chestnuts, 2 Citrus fruits (Yuzu) and 1 Satsuma mandarin (Rate of exceeding the maximum limit : 0.3%). Local governments or Japanese government restricted distribution of these five kinds of fruits. Only after local governments or Japanese government confirm the safety by additional inspections are these restrictions cancelled. . In the areas where exceeding samples were detected, the cause of exceeding has been researched and farmers try to decrease concentration of radioactive cesium in fruits by the research.

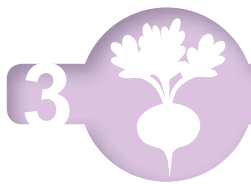
3 Regarding tea (for drinking), approximately 900 samples were inspected in the 2012 fiscal year. Among these samples, 13 samples exceeded the maximum limit (Rate of exceeding the maximum limit: 1.5%). All samples above the limit were found in areas where distribution of tea leaves had been restricted since the 2011 fiscal year.. Thus, the tea leaves produced in these areas are not distributed to the market. In the 2013 fiscal year, approximately 400 samples (first flush tea and second flush tea) were inspected, thus all samples are under the maximum limit (as of August 1).

All areas where distribution of tea leaves had been restricted were assured to be safe according to the results of inspections in the 2012 fiscal year).



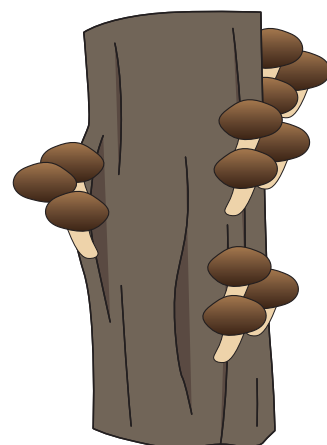
Test Item	Items exceeding the limit	Violation rate
Vegetables Approx. 18,500	5	Approx. 0.03%
Fruits Approx. 4,500	13	Approx. 0.3%
Tea Approx. 900	13	Approx. 1.5%





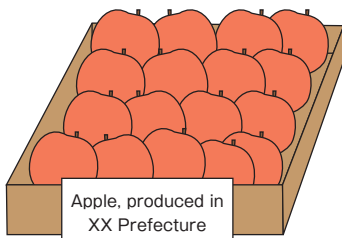
- 4 In relation to cultivated mushrooms, the distribution restriction of log-grown Shiitake mushrooms grown on Raw logs (open fields) etc. has been in force in some areas of the prefectures of Fukushima, Ibaraki, Tochigi, Chiba, Miyagi and Iwate since August 1, 2013.
- 5 For information on the current status of the distribution restriction, please check the websites of the national and local governments (see Page 49 for the websites of the national governmental organizations).
- 6 For results of inspections on wild mushrooms, please see Q1 of Section 7 (Page 38). For results of inspections on edible wild plants, please see Q2 of Section 7 (page 39).

(Note) Inspection results to be aggregated are those in the 17 prefectures subject to the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies" (determined by the Nuclear Emergency Response Headquarters on July 12, 2012).



Q2 Is product-origin labeling of fresh agricultural products being conducted adequately?

Answer



- 1 The Quality Labeling Standard for Fresh Foods under the Act on Standardization and Proper Quality Labeling of Agricultural and Forestry Products (the JAS Act) requires the place of origin of a domestically produced fresh agricultural product to be displayed with the name of the relevant prefecture, municipality, or one other generally known name of the place concerned.
- 2 Given if the area-specific distribution restriction is in operation in the same prefecture then, producers are expected to rigorously indicate the specific names of their municipalities and regions.
- 3 Any violation of this labeling obligation is subject to administrative measures, such as instructions and disclosure, or a criminal penalty, in accordance with the JAS Act. The CAA will tighten controls on false place-of-origin labeling in cooperation with the Ministry of Agriculture, Forestry, and Fisheries (MAFF), and the prefectural governments.

Reference

Quality Labeling Standard for Fresh Foods (Notice No. 514 of March 31, 2000, by the Ministry of Agriculture, Forestry and Fisheries) (Extracted)

(Labeling items of fresh foods)

Article 3.

Distributors and packers, etc., that conduct labeling (hereinafter referred to as the “distributors”) shall label the following items for fresh foods other than those for institutional use (hereinafter the same in articles 3 and 4) below. Where distributors produce, collect or catch fresh foods and directly sell them to general consumers or offer them for eating and drinking at facilities then, those fresh foods need not be labeled.

(Method of labeling of fresh foods)

Article 4.

Distributors shall comply with the following provisions for labeling of the matters provided by Article 3, paragraph 1, items 1 and 2 and net contents provided by Article 3, paragraph 2.

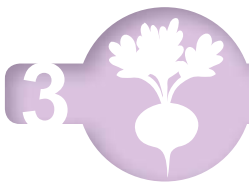
(1) Omitted

(2) Place of origin

The place of origin shall be labeled as provided below based on the facts. Where fresh foods of the same kind and of multiple origins are mixed, the place of origin of each of the mentioned fresh foods shall be labeled in descending order by weight, and where fresh foods of different kinds and of multiple origins are assorted, the place of origin of each fresh food shall be labeled in addition to the corresponding name.

a) Agricultural products

The prefecture name shall be labeled on domestic products, while the country of origin shall be labeled on imports. The use of the name of city, town, village or other generally known name of the place is permitted for domestic products, and the use of the generally known name of the place is permitted for imports. In these cases, labeling of the prefecture or country of origin may be omitted.



Q3 Can the radiation levels of vegetables be reduced by rinsing and/or boiling them? Are vegetables cultivated in home gardens safe to eat?

Answer

- 1 As previously stated, the distribution of foods with radiation levels above the limit under the Food Sanitation Law is to be restricted through distribution restriction. Therefore, there is basically no need to employ any special cooking method for vegetables placed on the market.
- 2 While radiation levels cannot be reduced by heating vegetables, the National Institute of Radiological Sciences states, "Rinsing, boiling (and discarding the water after boiling), and removing the skin and outer leaves of vegetables can potentially reduce their radiation contamination."
If you are particularly concerned about radioactive materials, please take such precautions.
- 3 It is believed that the concentrations of radioactive materials found in vegetables cultivated in home gardens are similar to those found in vegetables produced in and/or distributed from the surrounding areas.
Consequently, please check whether any distribution or consumption restriction is in operation in the area concerned before eating homegrown vegetables.





Q1 Is rice being inspected properly?

Answer

1 On the basis of the inspection results on rice produced in 2011, the following actions were taken for rice produced in 2012 in order to prevent rice with radioactive cesium exceeding the limit for food from being produced and distributed:

(1) Rice cultivation was restricted in such areas as cautionary areas, planned evacuation zones and those areas where rice with radioactive cesium exceeding 500 Bq (becquerel)/kg was produced;

(2) All rice was produced and prepared under the management program and all rice bags were inspected in those areas where rice with radioactive cesium exceeding 100 Bq (becquerel)/kg was produced; and

(3) Sampling inspections are conducted in other areas.

In Fukushima, all rice bags were inspected throughout the prefecture (except regions subject to cultivation restriction) as a special measure.

2 As for rice produced in 2012, approximately 10 million samples were inspected. As a result of reduction measures for absorption of radioactive cesium, only 84 samples exceeded the limit (approx. 0.0008% of total samples). Rice with radioactive cesium exceeding the limit was not distributed to the market.

(Note) Cautionary areas and planned evacuation zones have been reorganized as difficult-to-return zones, restricted habitation areas, and evacuation-order-lifting-prepared areas respectively (as of August 2013).

	Test item	Items exceeding the limit	Violation rate
Rice	Approx. 10,000,000	84	0.0008%



3

The same safety measures as taken in 2012 are also being implemented for rice produced in 2013; combination of cultivation restriction, reduction measures for absorption of radioactive material and postharvest inspections.

In Fukushima all rice bags produced in 2013 are being inspected throughout the prefecture.

(1) Cultivation restriction

Cultivation was restricted in areas such as difficult-to-return zones where no examination has been carried out whether rice with radioactive cesium exceeding the limit could not be produced.

(2) Preparation for resuming cultivation

Test planting was carried out in areas in which evacuation orders were ready to be lifted.

(3) Production and distribution management of all rice produced

In areas where rice with radioactive cesium exceeding the limit was produced and areas where rice production was resumed in 2013, potassium fertilizations were applied in every paddy field. All rice was produced and prepared under the management program.

(4) Production and distribution management for all farmers

In areas where rice with radioactive cesium exceeding 50 Bq (becquerel)/kg was produced in 2012, all farmers were requested to implement reduction measures for absorption of radioactive cesium. Inspection of rice produced by each rice farmer was also implemented.

(5) Sampling inspection

In areas other than those mentioned above, reduction measures for absorption of radioactive cesium were implemented as required, followed by sampling inspection.



Q1 What actions have been taken to ensure the safety of fishery products sold as food?

Answer

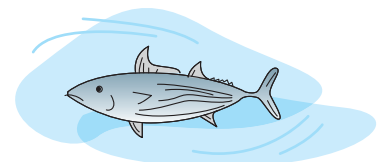
1 To supply safe fishery products to consumers, prefectural governments, in close cooperation with relevant ministries, prefectural governments and industries, have conducted monitoring of fishery products which have exceeded 50 Bq/kg in the past and major marine fish species in each prefecture on a weekly basis, in accordance with the relevant policies, including the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies " established by the Nuclear Emergency Response Headquarters(Director General: Prime Minister). If the monitoring value is smaller, but approximate to the standard, monitoring will be strengthened on the fishery products. Further, where values close to the limit are detected, inspections on relevant fishery products will be enhanced.

Moreover, as there are some fishes that move from one area to another according to the stages of their growth and the seasons, the Fisheries Agency constantly pays close attention to the results of inspections conducted by relevant prefectures. If a high radiation level is detected during a survey conducted in one prefecture, the neighboring prefectures will be informed of this immediately, and inspections on the relevant fish species and those species with similar ecology will be strengthened.

2 If radioactive cesium exceeding the standard is detected in a sample from fishery products captured in the sea, prefectural governments shall request distribution restriction on same fish species. To date, the reactions of fishers have been in full conformity with the requests. In case an expansion of contamination is observed (e.g. detection of fishery products exceeding the standard in more than one area in a prefecture), the Director General for the Nuclear Emergency Response Headquarters (Prime Minister) issues an instruction on distribution suspension order of the fishery products.

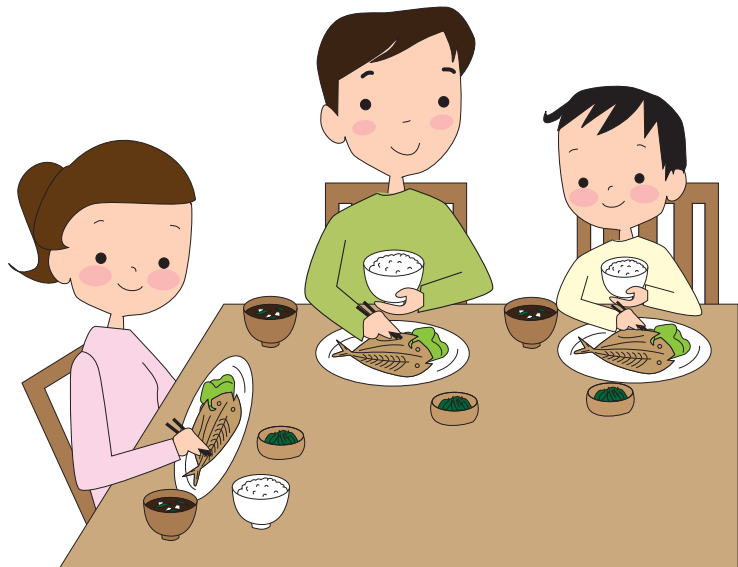
3 As for the offshore of Fukushima prefecture, since the nuclear power plant accident, all coastal and trawl fishing have been suspended. The fishery products caught in the area after the accident were captured as samples for radioactivity monitoring, and have not been distributed at markets. (excluding those products caught under trial-fishing operations targeting 14 species*).

However, Skipjack and pacific saury fisheries, on the other hand, are operated in the Pacific Ocean including offshore of Fukushima prefecture, and the fish may be brought into ports in the Fukushima prefecture. These species migrate through mainly the area far from the Fukushima Dai-ichi nuclear power plant, where effects of radioactive materials are considered to be small. In fact, that is confirmed by the monitoring of these species.



*All inshore fishery and trawl fishing have been voluntarily suspended in the coastal area of Fukushima prefecture since March 2011. Since the result of inspections on radioactive materials in fishery products showed that the radiation levels of Giant Pacific octopus, Chestnut octopus and Japanese whelk (Shiratomakibai, a type of whelk) were steadily below the limit, the three species were boiled and sold on a trial-sale basis between June and August 2012. The following species have been added as subjects for trial fishing and sold fresh or after being processed: 7 species of Japanese flying squid, Spear squid, Horsehair crab, Whelk (Chijimiezobora), Whelk (Double sculptured neptune), Beringius polynematicus and Broadbanded thornyhead from September; 3 species of Snow crab, Greeneyes (Mehikari) and Rikuzen flounder (Nikumochi) from December; Kounago (juvenile Japanese sand lance) from March 2013; and Hilgendorf saucord and Willowy flounder from May 2013. Accordingly, trial-fishing operations and shipment have been conducted in relation to a total of 16 species.

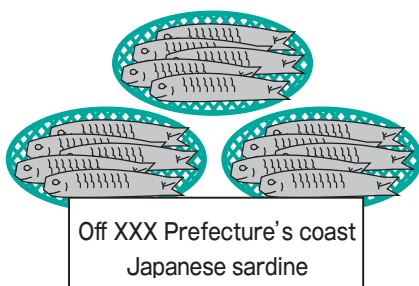
4 Measures, including distribution suspension order, have been introduced in the rivers and lakes where radioactive cesium has been detected exceeding the standard. Such information is publicized on the websites of the national and prefectural governments.



Q2 Is product-origin labeling of fresh fishery products being conducted adequately?

Answer

- 1 The “name of the sea area from which the product originates” must be displayed on the packages of domestic fresh fishery products in accordance with the Quality Labeling Standard for Fresh Foods under the JAS Act (e.g., off Ibaraki Prefecture’s coast, off Sanriku’s coast, off Choshi’s coast, etc.).
- 2 However, when it is difficult to list the name of the sea area, such as when fishing activities are conducted in a sea area straddling prefectures, it is acceptable to list the “name of the port of landing or the name of the prefecture to which the port belongs” in lieu of the name of the sea area.
- 3 Any violation of this labeling obligation is subject to administrative measures, such as instructions and disclosure, or a criminal penalty in accordance with the JAS Act, as is the case for fresh agricultural products. The CAA will tighten controls on false place-of-origin labeling in cooperation with the MAFF and the prefectural governments.
- 4 In response to the growing interests of consumers in labeling of fishery products in production areas, the Fisheries Agency issued the notice on 5th October 2011 to industries and prefectural governments about promotion of production area labeling which puts more focus on clarification of the name of the production area with finer scale classification.
- 5 Finer scale classifications for migratory species are as follows:
 - 「Offshore of Hokkaido and Aomori.」
 - 「Offshore of Northern Sanriku」
 - 「Offshore of Southern Sanriku」
 - 「Offshore of Fukushima」
 - 「Offshore of Hitachi and Kashima」
 - 「Offshore of Boso Peninsula」
 - 「Northern Pacific off Japan.」





Milk, meat and egg safety

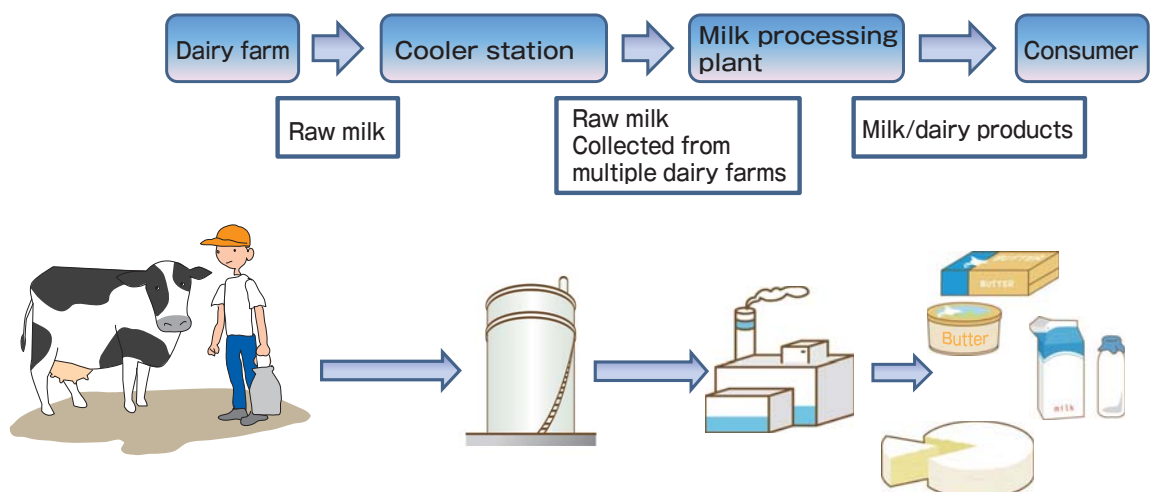
Q1 What are the results of inspections on raw milk?

Answer

- 1 To ensure the safety of milk, it is transported and processed while being managed at a low temperature.
- 2 The raw milk just milked from healthy milk cows by dairy farmers is cooled to 10 degrees centigrade or below at the dairy farmer's tank; then, it is stored for 2 days.
A tank truck collects several dairy farmers' raw milk and then the raw milk is collectively stored at a facility known as a Cooler Station; then, it is shipped for dairy factories. Subsequently, the raw milk is generally transported to a dairy factory.
As explained above, raw milk produced at dairy farms is stored in cooler stations and then shipped to milk processing plants. This means that consumers do not drink raw milk directly shipped from dairy farms.
Accordingly, in order to ensure the safety of milk and dairy products for consumers, inspections on radioactive materials are conducted in units at cooler stations, not according to dairy farms, as the units are also used as processing units at milk processing plants.
- 3 Regarding raw milk, approximately 2,400 items were inspected in 2012. None of the items exceeded the limit.

(Note) Inspection results to be aggregated are those from the 17 prefectures subject to the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies" (determined by the Nuclear Emergency Response Headquarters on July 12, 2012).

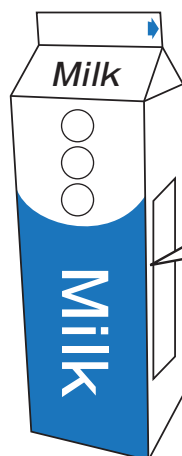
The production flow of milk/dairy products from raw milk



Q2 Where is the place of origin of milk shown on the package label?

Answer

- 1 For milk and dairy products, it is required under the Food Sanitation Act to include not the place of origin but “the location of the dairy plant” or “the location of the production site” on the package label.
- 2 Consequently, there are cases in which the place of origin is not shown on the package labels of milk or dairy products. Further, the place of origin can also vary according to the seasons and for other reasons. If you would like to obtain information on milk and dairy products, please contact the producer’s customer support center etc.
- 3 If a level of radioactive materials exceeding the limit under the Food Sanitation Act is detected on a regional scale, the director-general of the Nuclear Emergency Response Headquarter (the Prime Minister) directs the relevant governor to restrict distribution of the product. In this case, Japan Agricultural Cooperatives or the dairy producer is required to confirm the name of the raw milk shipper and the place of origin of the raw milk at the stage in which the raw milk is shipped to a cooler station or to a dairy plant. Therefore, raw milk produced in a distribution-restricted area is not used as raw material in the production of milk and dairy products.



Type of Product	Milk	Fair Description
Product Name	XXX Milk	
Non-fat milk solids	8.3% or more	
Milk fat	3.5% or more	
Ingredients	Raw milk 100%	
Sterilization	130oC, 2 Sec.	
Quantity	1,000 ml	
Use-By Date	Stated on the top	
How to Store	Please store below 10oC	
After Opening	After opening, please consume all of the product early regardless of Use-by Date	
Location of Production Site	XXX-cho, XXX-ku, Tokyo	
Producer	XXX Milk Co., Ltd. XXX Plant	



Milk, meat and egg safety

Q3 What are the results of inspections on meat and eggs?

Answer

- 1 Radioactive cesium level contained in beef is significantly influenced by the feed for cattle. In 7 prefectures (Iwate, Miyagi, Fukushima, Ibaraki, Tochigi, Gunma and Chiba), therefore following the guideline, cesium inspection for beef is conducted on a regular basis, at least once every 3 months, on all farms. In addition, in 4 prefectures (Fukushima, Miyagi, Iwate, and Tochigi) that partly restricts shipment of beef, for more strict inspection, cesium inspection may be required of every single cattle from farms because of their past results or inappropriate feeding management in the past. Cattle from the other farms are inspected at least once every 3 months before sale.
- 2 Although the application date of the limit for radioactive materials in beef was October 1, 2012, a request to voluntarily refrain from distributing/selling beef was made prior to the application date in case that beef after slaughter had been found to have levels exceeding the limit of 100 Bq (becquerel)/kg.
In 2012, approximately 150,000 items were inspected. Among these items, 6 items exceeded 100 Bq (becquerel)/kg (including during the period of interim measures).
- 3 For pork, chicken, eggs and other animal products, approximately 1,700 items were inspected in 2012. Among these items, 2 items exceeded (pork and horse meat) the limit. Voluntary restraint on the distribution of these types of meat was requested, and they were removed from the food chain.

(Note) Inspection results to be aggregated are those on the 17 prefectures subject to the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies" (determined by the Nuclear Emergency Response Headquarters on July 12, 2012).

	Test item	Items exceeding the limit	Violation rate
Beef	Approx. 150,000	6	Approx. 0.004%
Pork, chicken, eggs and other animal products	Approx. 1,700	2	Approx. 0.12%

Q4 How are feeds managed?

Answer

- 1 Livestock are given grain and by-products of grain as feeds. Further, cattle are also fed grass forage products such as grass (fresh and dried), silage (fermented grass) and rice straw.
- 2 Animal products, such as milk, meat and eggs, mainly originate from such feeds as above. In order to produce and supply safe animal products, it is necessary to control the radioactive cesium in feeds to prevent the levels of radioactive materials in animal products from exceeding the limit under the Food Sanitation Act.

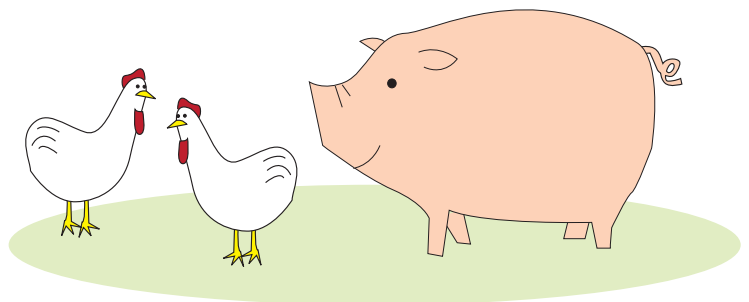
For this reason, indications of radioactive cesium in feeds (provisional tolerable levels) have been set as follows for each type of livestock, on the basis of scientific data on the transfer of radioactive cesium from feeds to animal products. Farmers are encouraged not to give feeds beyond the stated levels.

Reference Provisional tolerance level for radioactive cesium in feeds

Cattle	100 Bq (becquerel)/kg
Pigs	80 Bq (becquerel)/kg
Chickens	160 Bq (becquerel)/kg
Cultured fish	40 Bq (becquerel)/kg

(On the basis of product weight*. Only for forage products, on the basis of 80 % water content.)

*Product weight is the weight of a product at the stage of feeding, such as compound feed.





Q1 What inspection is being conducted on wild mushrooms?

Answer

- 1** Local governments conduct inspections on wild mushrooms, and the MHLW organizes and publishes the inspection results.
- 2** As radioactive cesium levels exceeding the provisional regulation level were detected in wild mushrooms in some areas in 2011, the Forestry Agency asked people who were going to gather wild mushrooms to pay special attention to the results of inspections on wild mushrooms and information on forests in advance (updated in August 2013).
- 3** As of August 1, 2013, the order of distribution and/or consumption restriction(s) has been issued to some areas in the prefectures of Fukushima, Aomori, Iwate, Miyagi, Tochigi, Gunma, Saitama, Yamanashi, Nagano and Shizuoka. Further, the prefectural governments of Ibaraki and Niigata have requested voluntary restraint on distribution in relation to some of their respective areas.

Such information is available on the websites of the Forestry Agency and the prefectures. Please refrain from gathering wild mushrooms in the areas mentioned above.



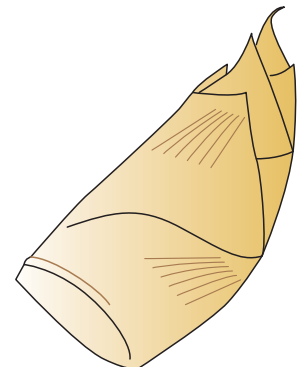
Q2 What inspection is being conducted on wild plants?

Answer

- 1 Local governments conduct inspections on radioactive materials in wild plants such as Bamboo shoots, *Aralia elata* (shoots), *Pteridium aquilinum*, Japanese butterbur scape and Ostrich fern, and the MHLW organizes and publishes the inspection results.
- 2 Radioactive cesium levels exceeding the provisional regulation level were detected in wild plants in some areas in 2011. As spring is the season for wild plants, and the spring of 2012 was approaching, the Forestry Agency asked people who were going to gather wild plants to pay special attention to the results of inspections on wild plants and information on forests in advance (updated in April 2013). Further, the MAFF has raised some points to consider in relation to the sale of wild plants at farm stands etc.
- 3 As of August 1, 2013, the order of distribution restriction on some wild plants has been issued to some areas in the prefectures of Fukushima, Ibaraki, Tochigi, Chiba, Miyagi and Iwate.

Further, the prefectural governments of Fukushima, Iwate, Miyagi, Ibaraki, Gunma, Chiba, Tochigi, Yamagata, Akita and Nagano have requested voluntary restraint on distribution in relation to some of their respective areas.

Such information is available on the websites of the Forestry Agency and the prefectures. Please refrain from gathering wild plants in the areas mentioned above.





Q3 What inspection is being conducted on wild birds and animals such as boars?

Answer

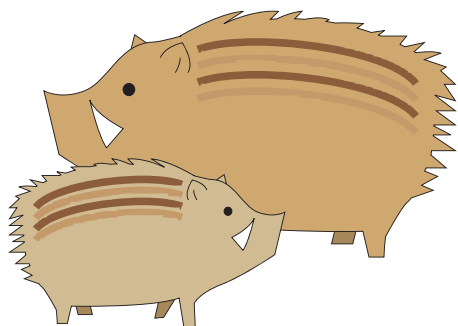
- 1 Local governments conduct inspections on radioactive materials in the meat of wild birds and animals such as Boar meat, Sika deer meat and Asian black bear meat. The MHLW organizes and publishes the inspection results.
- 2 Radioactive cesium levels exceeding the provisional regulation level were detected in the meat of some wild animals such as boar meat prepared in Fukushima, Miyagi, Tochigi and Ibaraki prefectures in 2011. Inspections on radioactive materials in the meat of wild birds and animals were conducted mainly in 17 prefectures during 2012, and these resulted in the detection of radioactive cesium levels exceeding the limit level in Boar meat, Sika deer meat and Asian black bear meat and Copper pheasant meat.
- 3 As of August 1, 2013, orders of distribution and/or consumption restriction(s) have been issued to the areas below. Moreover, there can be voluntary restraints on the distribution of other items in other areas upon determination by the relevant prefecture. Such information is available on the websites of prefectures.

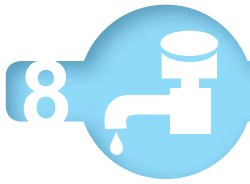
[Distribution restriction]

- Fukushima Prefecture: Boar, Spot-billed duck, Green pheasant, Hare and Copper pheasant
- Some areas in Fukushima Prefecture: Asian black bear
- Tochigi Prefecture: Boar (excluding Boar meat managed in accordance with the distribution and inspection policies set by the prefecture)
- Ibaraki Prefecture: Boar (excluding Boar meat managed in accordance with the distribution and inspection policies set by the prefecture)
- Miyagi Prefecture: Boar and Asian black bear
- Iwate Prefecture: Sika deer, Asian black bear and Copper pheasant
- Yamagata Prefecture: Asian black bear
- Gunma Prefecture: Boar, Sika deer, Asian black bear and Copper pheasant
- Niigata Prefecture: Asian black bear (excluding Sado-shi and Awashimaura-mura)
- Chiba Prefecture: Boar (excluding Boar meat managed in accordance with the distribution and inspection policies set by the prefecture)

[Consumption restriction]

- Some areas in Fukushima Prefecture: Boar

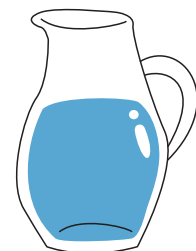


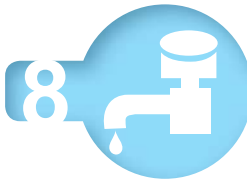


Q1 What “management objectives” are in place for radioactive materials in tap water?

Answer

- 1 On the basis of the establishment of the limit of radioactive materials in drinking water such as bottled water in accordance with the Food Sanitation Act, and the target level for management of radioactive materials in tap water, the management target level at water supply facilities has been set at 10 Bq (becquerel)/kg for radioactive cesium, which is the same value as the limit for drinking water.
- 2 In the case where a radioactive cesium level in tap water is found to exceed the management target value, investigations into causes for the exceeding level and re-assessments are to take place, and the function to remove turbidity is to be checked. Further, users of the water system are to be informed of the occurrence of the exceeding level.
- 3 The WHO suggests that exceeding the management target value does not necessarily mean that tap water is undrinkable but that it is a trigger to investigate causes for it. However, where the level is predicted to exceed the management target value for a long time, measures such as transfer of source water from the affected source to other sources and consumption restriction will be implemented for the sake of the safety and security of tap water.





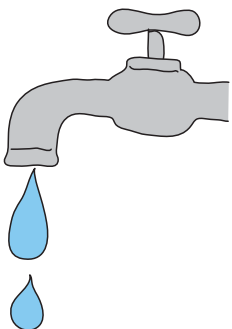
Q2 Is inspection on tap water being conducted properly?

Answer

- 1 Prefectural governments conduct inspections on radioactive materials in tap water.
- 2 After the accident at the Fukushima Daiichi Nuclear Power Station, inspections were carried out on radioactive cesium and radioactive iodine. Regarding radioactive iodine, its half-life is short, and it has not been detected in foods since July 15, 2011. On this basis, monitoring has focused on radioactive cesium as a target since April 2012. Where surface water* and groundwater affected by such surface water are used, an inspection is aimed to be implemented once a week or more. Further, where groundwater unaffected by surface water is used, an inspection is aimed to be conducted once a month or more.

In the case where no radioactive cesium has been detected through water quality inspections with sufficient detection sensitivity, from tap water or source water for water supply for 3 consecutive months, the number of subsequent inspections can be reduced to once in 3 months.

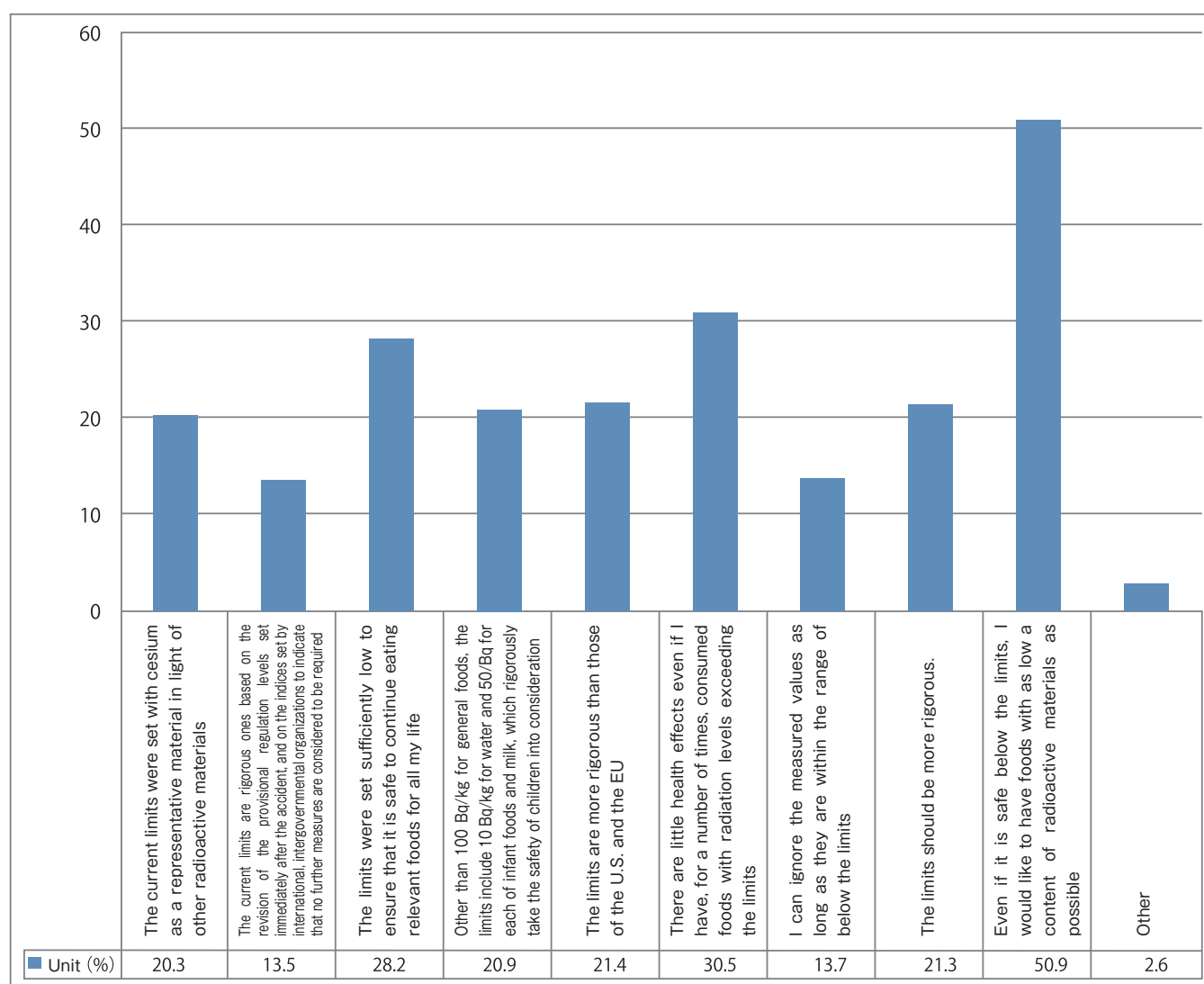
*Surface water is aboveground water such as that in rivers and lakes.
- 3 The Ministry of Health, Labour and Welfare implements monitoring focused on water supply utilities in Fukushima prefecture and its neighboring regions (Miyagi prefecture, Yamagata prefecture, Niigata prefecture, Ibaraki prefecture, Tochigi prefecture, Gunma prefecture, Saitama prefecture, Tokyo Metropolitan Government, Kanagawa prefecture, and Chiba prefecture), in reference to the inspection results on radioactive materials in tap water and in the atmosphere, and the distance from the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant.
- 4 The results of the monitoring above show that radioactive cesium levels exceeding 10 Bq (becquerel)/kg have not been detected from tap water (purified water) since June 2011 and from water sources since May 2011.
- 5 If a result of monitoring suggests a potentially prolonged level exceeding the management target level, consumption restriction will be imposed (see Page 41).



In February 2013, the Consumer Affairs Agency conducted an awareness survey on consumers in the disaster-stricken regions and the metropolitan area by utilizing the Internet, receiving responses from more than 5,000 people. We would like to show some of the survey results published on March 11, 2013.

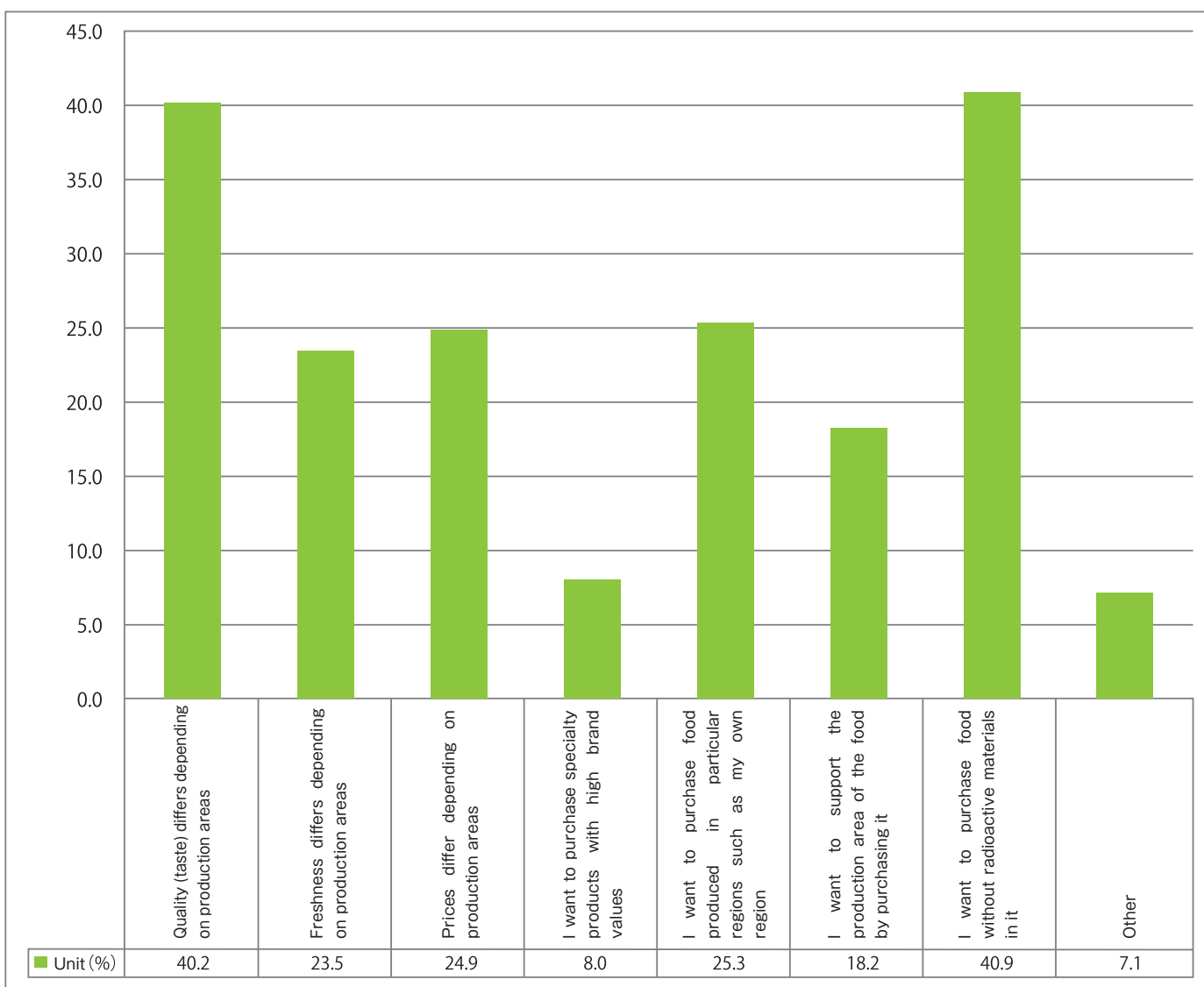
Although foods with levels of radioactive materials below the respective limit levels are safe, 50.9% of the responses claimed, "Even if it is safe below the limits, I would like to have food with as low a content of radioactive materials as possible." Further, 30.5% responded, "I know (think) there are little health effects even if I have, for a number of times, consumed foods with radiation levels exceeding the limits," and 28.2% responded, "The limits were set sufficiently low."

Q Please tell us what you know and think regarding the limits of radioactive materials in foods (Multiple answers allowed) (N = 5176)



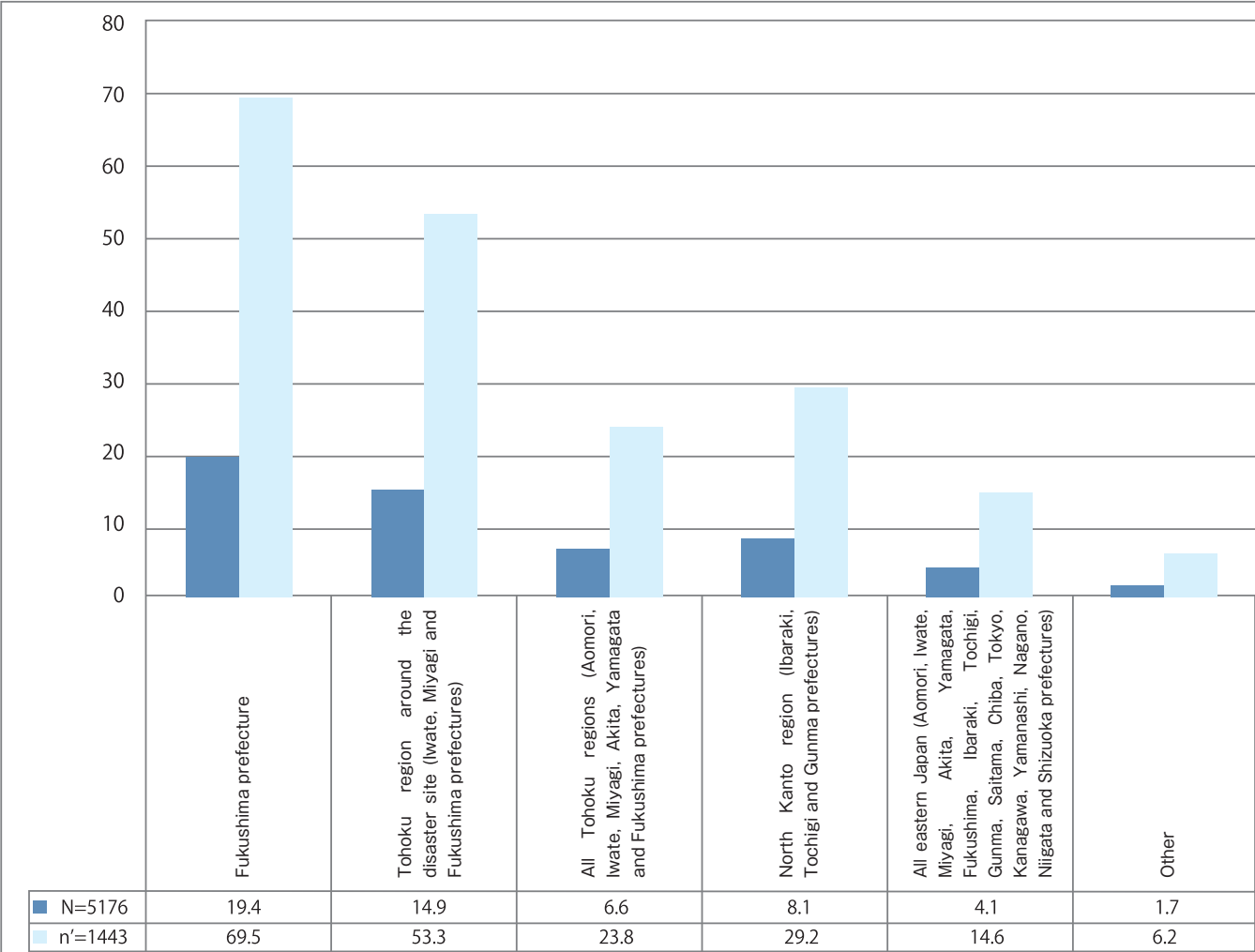
Among approximately 3,500 people who had answered “I am concerned” or “I am concerned, if anything” about food production areas when they purchased food, 40.9% stated that the reason for their concern was, “I want to purchase food without radioactive materials in it,” and 40.2% stated, “Quality (taste) differs depending on production areas.”

Q For what reasons are you concerned about where your food is produced?
(Multiple answers allowed) (N = 3531)



When the participants were asked to choose the production area(s) from which they hesitated to purchase food, 19% of the total of approximately 5,000 participants stated that they hesitated to purchase products made in Fukushima prefecture, and 15% hesitated to purchase products from 3 disaster-affected prefectures (Fukushima, Miyagi and Iwate prefectures).

Q Select those production areas from which you hesitate to purchase food.
(Multiple answers allowed) (N = 5176, n' = 1443)

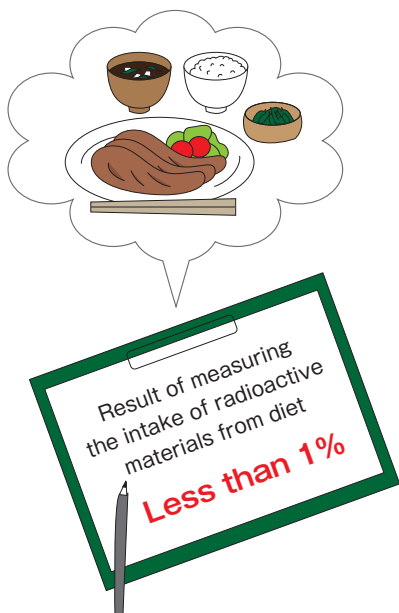


For detailed results, please visit the website of the Consumer Affairs Agency.



Q1 How much radioactive cesium do we ingest from food in our everyday lives?

Answer



1 In addition to measures taken in production areas to reduce radioactive materials, the safety of our dietary lives is maintained through monitoring inspections to prevent foods with radiation levels exceeding the limits from being placed on the market.

At the same time, it is important to investigate actual effects of radioactive cesium in our everyday foods on our bodies for the purposes of verifying the effectiveness of countermeasures taken as well as continuing to reassure consumers about food.

2 During the period between February and March 2012, the MHLW purchased distributed foods across Japan, precisely measured the amount of radioactive cesium in such foods as they were or after cooking or processing them, and estimated the additional radiation dose in an average dietary life based on the average intake obtained from a survey on the health and nutrition of the population (the Market Basket [MB] method, see Page 48). Additionally, during the period between March and May of the same year, the Ministry gathered actual meals cooked in typical homes, measured the radioactive cesium in the meals, and estimated the radiation doses from the radioactive cesium in the meals (the duplicate portion method, see Page 48).

3 According to the results of the survey above, both the methods showed that the annual radiation doses from the radioactive cesium in the foods were below 1% of 1 mSv (millisievert)/year (0.01 mSv [millisievert]/year), which was the radiation dose used as a basis for establishing the limits under the Food Sanitation Act.

These results indicated low doses equivalent to several tenths of the radiation dose from radioactive potassium, which is a natural radioactive material in food (approximately 0.2 mSv [millisievert]/year).

4 Furthermore, a survey using the MB method was conducted on foods purchased between September and November 2011 immediately after the accident at Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company. The results for Fukushima prefecture (Nakadori), which was one of the subjects in both surveys, showed that the radiation dose hugely decreased from the dose immediately after the accident (0.0193 mSv [millisievert]/year) to (Nakadori: 0.0066 mSv [millisievert]/year).

5

These survey results indicate that managing actions taken on radioactive materials in food by farmers, people involved in food distribution and processing, and local governments have worked, and that the amount of radioactive cesium that consumers ingest in their everyday diets is low compared with the limits set with attention to safety under the Food Sanitation Act, and compared with the intake of natural radioactive materials regardless of the nuclear accident.

We will continue such managing actions from the perspective of ensuring safety and security for consumers.

[Dietary Intake of radionuclides]

<Table 1 Annual Radiation Dose from Radionuclides in Foods (Committed effective dose based on MB samples)>

Region	Radioactive Cesium (mSv/year)	Radioactive Potassium (mSv/year)
Hokkaido	0.0009	0.157
Iwate	0.0094	0.202
Fukushima (Hamadori)	0.0063	0.186
Fukushima (Nakadori)	0.0066	0.189
Fukushima (Aizu)	0.0039	0.179
Tochigi	0.0090	0.180
Ibaraki	0.0044	0.194
Saitama	0.0039	0.175
Kanagawa	0.0033	0.156
Niigata	0.0023	0.167
Osaka	0.0016	0.160
Kochi	0.0012	0.177

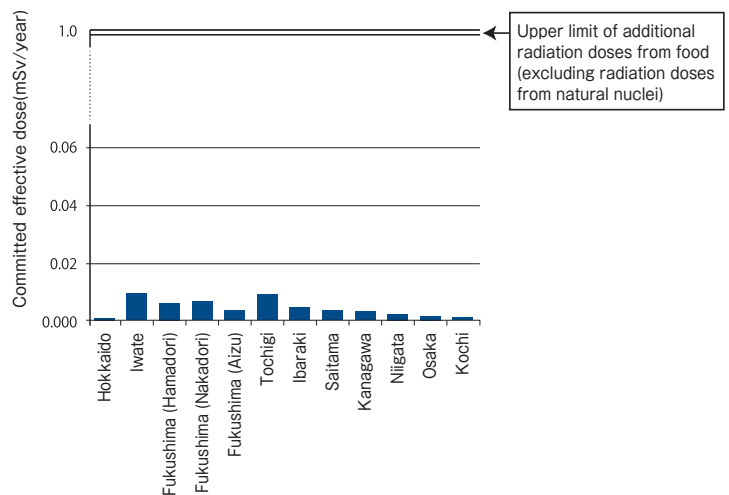
*For conversion from Bq to Sv, the committed effective dose coefficients for adults in ICRP Publication 72 were used

<Table 2 Annual Committed Effective Doses of Radioactive Cesium and Radioactive Potassium Estimated From the Samples for the Duplicate Portion Method>

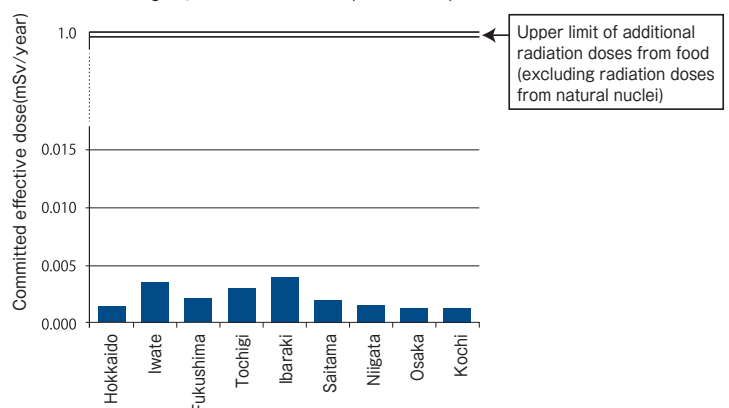
	Radioactive cesium (mSv/year)		Average value of radioactive potassium (mSv/year)
	Average value	90th percentile	
Hokkaido	0.0013	0.0018	0.208
Iwate	0.0035	0.0075	0.201
Fukushima	0.0022	0.0035	0.187
Tochigi	0.0030	0.0078	0.204
Ibaraki	0.0039	0.0091	0.214
Saitama	0.0018	0.0043	0.174
Niigata	0.0015	0.0022	0.170
Osaka	0.0012	0.0016	0.166
Kochi	0.0012	0.0016	0.196

*For conversion from Bq to Sv, the committed effective dose coefficients (Sv/Bq) in ICRP Publication 72 were used according to age groups

<Figure 1 Annual Committed Effective Doses of Radioactive Cesium From MB Samples>



<Figure 2 Average Values of the Annual Committed Effective Doses of Radioactive Cesium According to the Regions, Estimated From the Samples for the Duplicate Portion Method>



Survey of Dietary Intake of Radionuclides
(Annual Radiation Dose from Radionuclides in Foods)



Market Basket (MB) Method
(Survey using foods on the market)

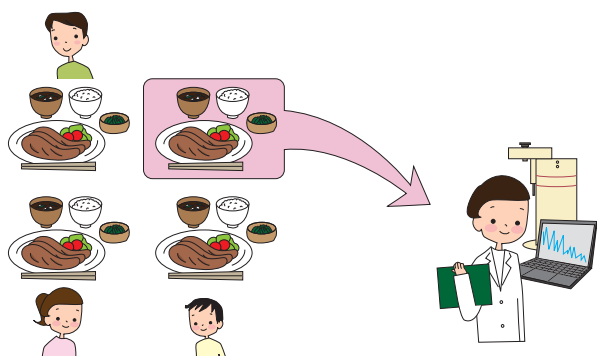
*1 Market Basket sampling (MB sample)

This is one of the sampling methods used to estimate the daily intake of various hazardous materials.

In the Market Basket method, a model sample is created to represent the average diet of Japanese people. The MHLW implements a survey on the health and nutrition of the population every year to clarify the people's health status and nutritional intake for the purpose of promoting health. In this survey, more than 3,000 households are asked to enter on a survey slip the weights of all the food products they consume during a day. The aggregation of these data provides an average daily intake for each food product. Although mixing food products together according to their daily intake rates gives an average daily meal, it is difficult to prepare and analyze a single sample made of all food products. For this reason, the food products are categorized into 14 groups, and thus these 14 samples compose one set of the Market Basket sample. Apart from the groups of rice and drinking water, the other groups consist of more than 10 food items each, meaning that the whole Market Basket sample consists of more than 200 types of food. Further, through analyzing the data from the survey on the health and nutrition of the population according to region and age group, and subsequently calculating the average value of the food intake of a specific group, it is possible to prepare a Market Basket sample for the group.

After determining which food items are to be used from each food group and the weight of each item, the relevant food items are purchased from retailers etc. and cooked in a simple manner according to the relevant normal diet style. Cooking involves boiling with water and grilling with a frying pan. As the group of oil and fat and the group of seasoning agents exist as food groups, frying and seasoning are not conducted in the cooking. Cooked food items are sampled according to the respective intakes, mixed together and homogenized.

In the Market Basket method, as average meal samples are created, only average chemical intakes are obtained but not the distribution of intakes. On the other hand, as a daily intake for each food group can be obtained, it is possible to identify those food groups that serve as main sources of the target chemical substance.



Duplicate Portion Method
(Survey using meals in households)

*2 The duplicate portion method

This is one of the sampling methods used to estimate the daily intake of various hazardous materials.

In the duplicate portion method, one day's foods of individuals in general households are actually collected, mixed and homogenized to prepare a sample of a day's food. As it uses actual food, the sample reflects the regions and ages of the individuals as well as their eating habits. As food items of multiple, different properties are mixed, it is more difficult to measure than the MB sample, which is divided into groups according to food types. Further, the sample contains a large volume of drinking water and individuals' favorite beverages etc., rendering the concentration of the target substance low.

If a sufficient number of duplicate portion samples are available, it is possible to estimate statistics such as the average intake, standard deviation, and percentiles. Where detailed data on diet can be obtained, it may be possible to identify intake sources through analyses but it is generally difficult to do so.

1. Relevant Ministries and Agencies

The website of the Prime Minister of Japan and His Cabinet

Press Conference by the Chief Cabinet Secretary

<http://www.kantei.go.jp/jp/tyoukanpress/>

The Government's Nuclear Emergency Response Headquarters

The Revision of the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods concerned Applies (Revised on March 19, 2013)"

<http://www.mhlw.go.jp/stf/houdou/2r9852000002xsm1.html>

National Printing Bureau, an independent administrative agency

Official Gazette (No. 5760 of March 15, 2012)

Cabinet Secretariat

"Report of the Working-Group on Risk Management of Low Dose Exposure"

<http://www.cas.go.jp/jp/genpatsujiko/info/twg/111222a.pdf>

Website of the Nuclear Regulation Authority

(TEL: 03-3581-3352 [Main switchboard])

"Guide for methods of evaluating compliance with the dose objectives around a site of light-water-cooled nuclear power reactor"

(Decision of the Japan Atomic Energy Commission, September 28, 1976; Partially revised on March 29, 2001)

<http://www.nsr.go.jp/archive/nsc/shinsashishin/pdf/1/si016.pdf>

Website of the Food Safety Commission of Japan

(TEL: 03-6234-1166 [Main switchboard])

Radioactive contamination of food in Japan

http://www.fsc.go.jp/sonota/emerg/radio_hyoka.html

"Food Safety Glossary"

<http://www.fsc.go.jp/yougoshu/yougoshu.html>

Website of the Ministry of Health, Labour and Welfare

(TEL: 03-5253-1111 [Main switchboard])

"Information on the Great East Japan Earthquake (food/water)"

http://www.mhlw.go.jp/shinsai_jouhou/shokuhin.html

http://www.mhlw.go.jp/shinsai_jouhou/suidou.html

The new limits of radioactive materials in food

http://www.mhlw.go.jp/shinsai_jouhou/dl/leaflet_120329.pdf

http://www.mhlw.go.jp/shinsai_jouhou/dl/leaflet_120329_d.pdf (Digest Version)

Overview of the new limit for radioactive materials in food

http://www.mhlw.go.jp/shinsai_jouhou/dl/20130417-1.pdf

"The Ministerial Ordinance Partially Revising the Ministerial Ordinance on Milk and Milk Products Concerning Compositional Standards, etc.; the Notification on Designating the Radioactive Substances Designated by the Minister of Health, Labour and Welfare under the Provisions of Item (I) (1) of the Attached Table 2 of the Ministerial Ordinance on Milk and Milk Products Concerning Compositional Standards, etc.; and the Notification on Partial Revision of Specification and Standards for Food, Food Additives, etc."

(Notice No. 0315 Article 1 of the Department of Food Safety, March 15, 2012; Director-General, Department of Food Safety, Pharmaceutical and Food Safety Bureau, Ministry of Health, Labour and Welfare)

http://www.mhlw.go.jp/shinsai_jouhou/dl/tuuchi_120316.pdf

Website of the Ministry of Health, Labour and Welfare

(TEL: 03-5253-1111 [Main switchboard])

"Q&A on the Establishment of the Limits of Radioactive Materials in Food" (Notice of the Chief of the Standards and Evaluation Division and Chief of the Inspection and Safety Division, Department of Food Safety, Pharmaceutical and Food Safety Bureau, Ministry of Health, Labour and Welfare, July 5, 2012)

http://www.mhlw.go.jp/shinsai_jouhou/dl/120412_2.pdf

Informational material from the joint meeting of the Food Sanitation Committee, Pharmaceutical Affairs and Food Sanitation Council, and the Radioactive Materials Management Department, Food Sanitation Committee, Pharmaceutical Affairs and Food Sanitation Council on February 24, 2012

<http://www.mhlw.go.jp/stf/shingi/2r98520000023pe7.html>

"Inspection on Radioactive Materials in Agricultural, Livestock and Fishery Products"

(Notice No. 0319 Article 2 of the Department of Food Safety, March 19, 2013; Director-General, Department of Food Safety, Pharmaceutical and Food Safety Bureau, Ministry of Health, Labour and Welfare)

<http://www.mhlw.go.jp/stf/houdou/2r9852000002xqoq-att/2r9852000002xqxc.pdf>

Inspection plans of the local governments

<http://www.mhlw.go.jp/stf/houdou/2r9852000002xqoq.html>

"Inspection on Radioactive Materials in Wild Mushrooms"

<http://www.mhlw.go.jp/stf/houdou/2r9852000002j3b0-att/2r9852000002j3co.pdf>

"Establishment of the Management Target Level of Radioactive Materials in Tap Water"

(Notice No. 0305 Article 1 of the Water Supply Division, Health Service Bureau, March 5, 2012; the Chief of the Water Supply Division, Health Service Bureau, Ministry of Health, Labour and Welfare)

<http://www.mhlw.go.jp/stf/houdou/2r98520000018ndf-att/2r98520000024jgv.pdf>

Attachment "Revision of the Indices Regarding Radioactive Materials in Tap Water"

<http://www.mhlw.go.jp/stf/houdou/2r98520000018ndf-att/2r98520000024of2.pdf>

Website of the Ministry of Agriculture, Forestry and Fisheries

(TEL: 03-3502-8111 [Main switchboard])

Information on the Great East Japan Earthquake

<http://www.maff.go.jp/j/kanbo/joho/saigai/index.html>

Results of inspections on radioactivity levels in agricultural products

<http://www.maff.go.jp/j/kanbo/joho/saigai/index.html>

"Frequently Asked Questions and Answers" (in relation to production)

http://www.maff.go.jp/j/kanbo/joho/saigai/s_seisan.html

Questions on fishery products and answers (survey on radioactive materials)

http://www.jfa.maff.go.jp/j/kakou/Q_A/index.html

"Establishment of Provisional Tolerable Levels for Radioactive Cesium in Fertilizer, Soil Conditioner, Culture Soil and Feed"

<http://www.maff.go.jp/j/syouan/soumu/saigai/supply.html>

"Policies on Rice Cultivation Etc. in 2013" (January 29, 2013)

http://www.maff.go.jp/j/press/seisan/kokumotu/130129_1.html

"Instructions on Cultivation Restriction Regarding Rice to Be Produced in 2013" (March 19, 2013)

<http://www.maff.go.jp/j/press/seisan/kokumotu/130319.html>

"Instructions on Cultivation Restriction and Preliminary Distribution Restriction Regarding Rice to be Produced in 2012" (April 5, 2012)

<http://www.maff.go.jp/j/press/seisan/kokumotu/120405.html>

"Partial Lifting of Preliminary Distribution Restriction Regarding Rice Produced in 2012" (July 26, 2012)

<http://www.maff.go.jp/j/seisan/kokumotu/shukka.html>

"Methods for Displaying the Names of Sea Areas of Production off the Pacific Coast of Eastern Japan" (October 5, 2011)

<http://www.jfa.maff.go.jp/j/press/kakou/pdf/111005-02.pdf>

"Points to Consider in Gathering Wild Mushrooms"

<http://www.rinya.maff.go.jp/j/tokuyou/kinoko/tyuui.html>

"Points to Consider in Gathering Wild Mushrooms"

<http://www.rinya.maff.go.jp/j/tokuyou/kinoko/sansai.html>

"Points to Consider in Relation to the Sale of Wild Plants at Farm Stands Etc."

http://www.maff.go.jp/j/shokusan/gizyutu/tisan_tisyo/index2.html

Website of the Consumer Affairs Agency

TEL: 03-3507-8800 (Main switchboard)

"About the Great East Japan Earthquake"

Enhancement of the understanding of consumers regarding food and radiation

Information on the safety of food

<http://www.caa.go.jp/jisin/index.html>

"Quality Labeling Standard for Fresh Foods"

http://www.caa.go.jp/jas/hyoji/pdf/kijun_01.pdf

Risk communication etc. regarding food and radioactive materials

http://www.caa.go.jp/jisin/r_index.html

2. Relevant Organizations, Academic Societies, etc.

Website of the Radiation Science Center, KEK

"Radiation in Our Lives"

<http://rcwww.kek.jp/kurasi/index.html>

Website of the National Institute of Radiological Sciences, an independent administrative agency

Information on the accident at Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company, Incorporated

<http://www.nirs.go.jp/information/info2.php>

Website of the Research Organization for Information Science and Technology (RIST), a general incorporated foundation

"Encyclopedia of Atomic Power, ATOMICA"

<http://www.rist.or.jp/atomica/>

Hokuriku Electric Power Company

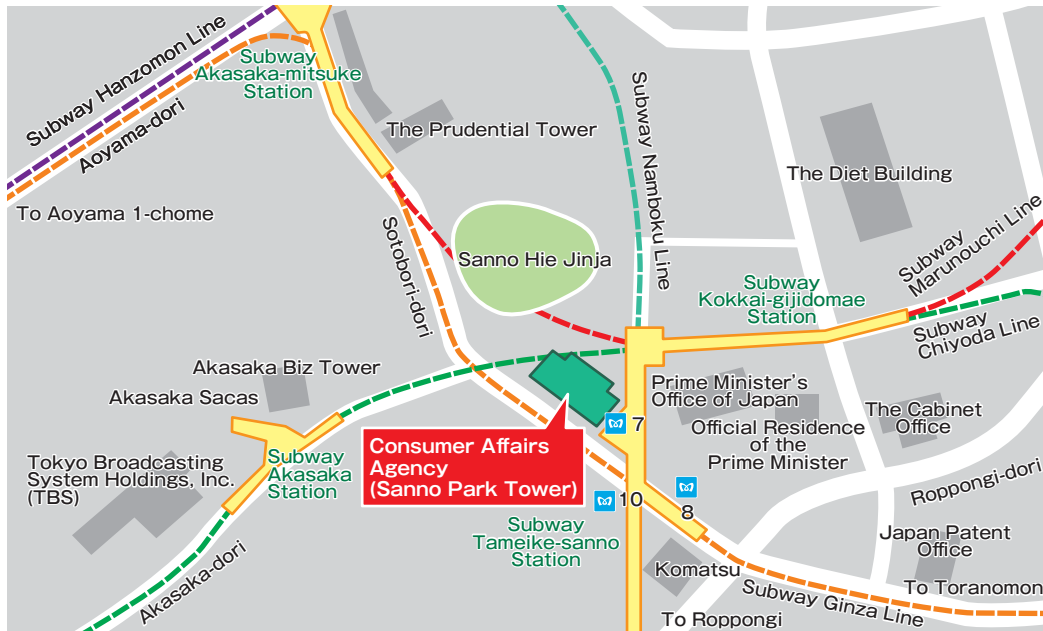
Answer to the request, "Please explain in a way I can understand!" About Radiation

<http://www.rikuden.co.jp/tousyataiou/housyasen.html>

Website of the Kansai Electric Power Co., Inc.

"Is plutonium from a plutonium-thermal project a hazardous material?"

<http://www.kepc.co.jp/plu/25.html>



Sanno Park Tower, 2-11-1 Nagata, Chiyoda, Tokyo, 100-6178
 TEL 03 (3507) 8800 (Main switchboard)
 URL <http://www.caa.go.jp>

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