Food and Radiation Q&A

Mini

消費者庁
Consumer Affairs Agency, Government of Japan

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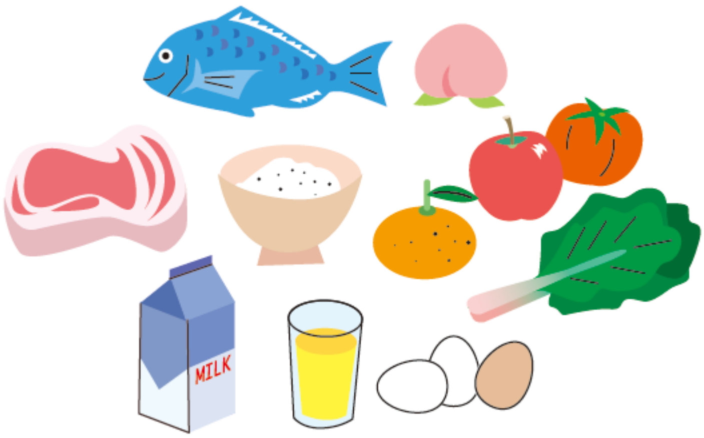
Preface

More than ten years since the accident at Tokyo Electric Power Company (TEPCO)'s Fukushima Daiichi Nuclear Power Plant, areas struck by the tragedy are steadily moving forward on a path toward reconstruction and regeneration.
The level of radioactive materials has dropped since that time, and foods available on the market are now safe, thanks to the efforts of producers and all people concerned.
On the other hand, some people have concerns over the issue of "radioactivity."
We hope this brochure will help foster your understanding of food safety and the effects of radiation and resolve questions that you may have on the subject.



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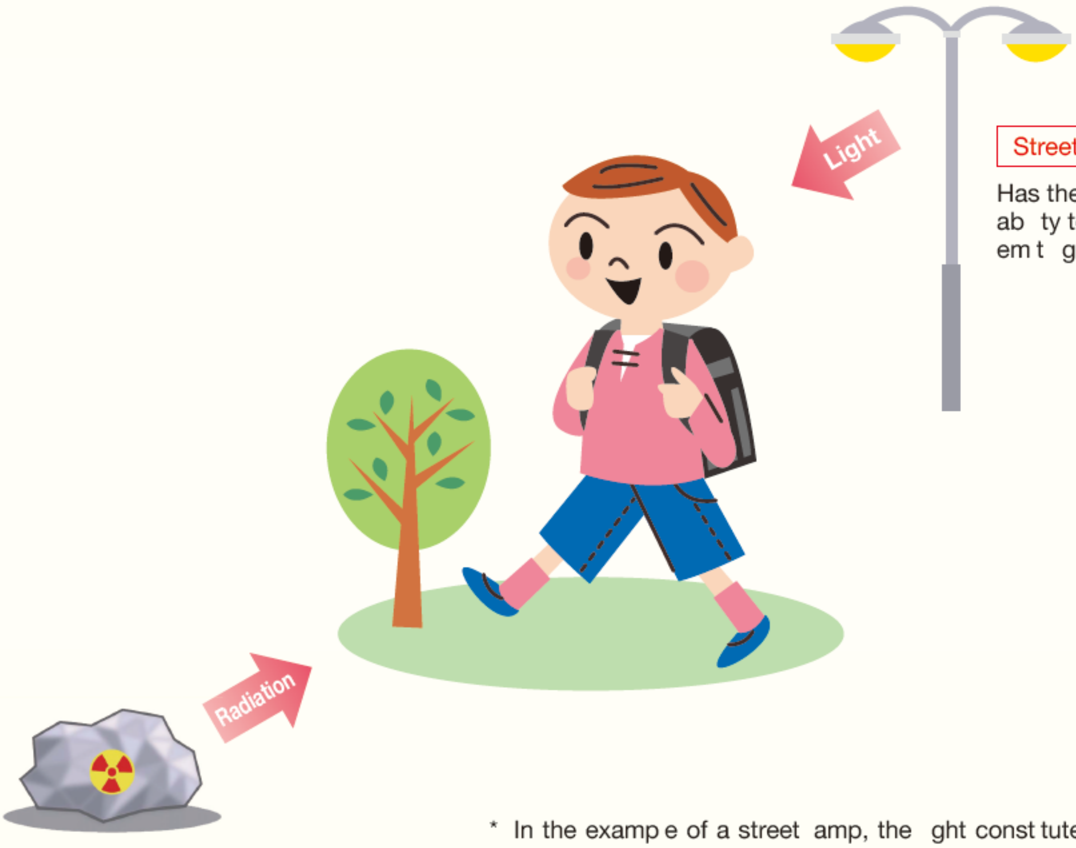
Q.1 What are the differences between “radiation,” “radioactivity” and “radioactive materials”?

A.1

“**Radiation**” is similar to high-intensity light rays that have the ability to penetrate matter that are emitted when unstable nuclei change into stable nuclei. The ability to emit radiation is called “**radioactivity**,” and materials that have such ability are called “**radioactive materials**.”

Radiation includes alpha (α) rays, beta (β) rays, gamma (γ) rays, X-rays and neutron beams. The intensity of energy and ability to penetrate matter differ according to the type of radiation.



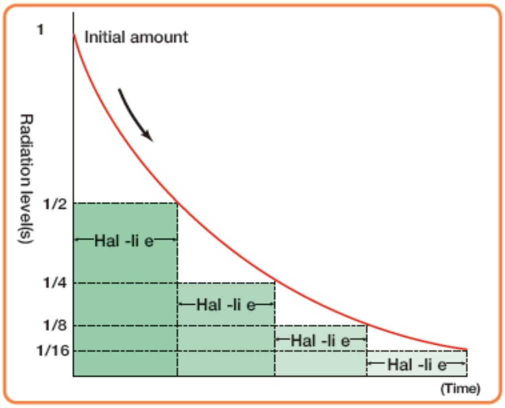
* In the examp e of a street amp, the ght const tutes rad at on, the street amp compr ses rad oact ve mater a and the ab ty to em t ght trans ates nto rad oact v ty. As your body wou d not g eam after t s exposed to ght, your body wou d not acqu re rad oact v ty even after t s subjected to rad at on. Rad at on s not nfect ous; t s not ep dem c among humans.

Q.2 Will radioactive materials remain indefinitely?

A.2

Because radioactive materials turn into stable substances that do not release radiation after they have released radiation, their radioactivity levels drop over time. The amount of time required for radioactive materials to be reduced by half is called "physical **half-life**."

The physical half-life of radioactive materials depends on the type of material and is unaffected by cooking or other applications of heat. Freezing of food with radioactive materials does not affect the physical half-life, either.



Half-life

od ne-131 : Aprox. 8 days

Ces um-134 : Aprox. 2 years

Ces um-137 : Aprox. 30 years

Q.3 What is the difference between the units for measuring radioactivity: "becquerel" and "sievert"?

A.3

"**Becquerel** (**Bq**)" is a unit that indicates the ability of radioactive materials to emit radiation contained in food, water or other substances. One "becquerel" is the amount of radiation released when one unstable nucleus of radioactive material changes into another nucleus in one second.

On the other hand, the effects of radiation differ according to the type of radiation and situation of exposure. The unit "**sievert** (**Sv**)" is a common unit used to indicate the effects of radiation on the human body. Radiation of identical sievert values will always have the same level of effect on the human body, even if conditions such as the situation of exposure and type of radiation differ.

A conversion coefficient called the effective dose coefficient is used to convert the unit becquerel, which shows the amount of radioactive materials contained in a food, into sievert, an indication of the impact of ingesting that food on the human body.

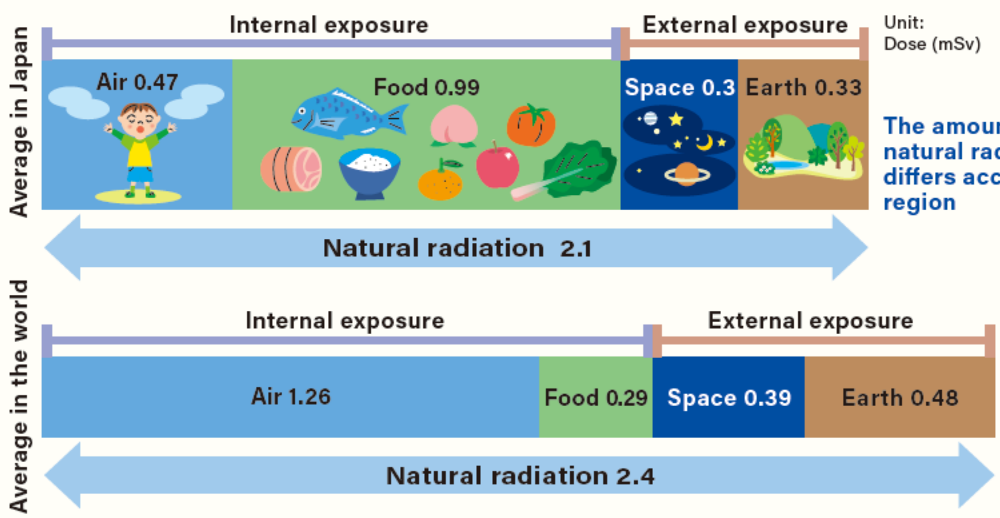
Q.4 Was our environment radiation-free prior to the accident?

A.4

Radioactive materials found in our soil and air have been emitting radiation ever since the earth came into being. Our foods also contain natural radioactive materials. Space is filled with a large amount of radiation, with some reaching the earth. The type of radiation that has always existed in nature, as above, is called natural radiation. We are constantly exposed to these forms of radiation.

The impact of artificial radiation and naturally occurring radiation on the human body is the same if their sievert values are identical.

■Natural radiation to which we are exposed in one year -- Annual radiation dose per person



Source: UNSCEAR (United Nations Scientific Committee on the Effects of Atomic Radiation) 2008 report, Nuclear Safety Research Association, "Living Environment Radiation (Calculation of National Doses), 3rd Edition" (2020)

* E ements that const tute the body of p ants and an ma s conta n a certa n proport on of natura y occurr ng rad oact ve mater a s (such as potass um-40). Our body, wh ch ntake rad oact ve mater a s through breath ng or consum ng p ants and an ma s, a so conta ns rad oact ve mater a s (approx mate y 7,000 becquere s n the case of a Japanese person we gh ng 60kg).

■Naturally occurring radioactive materials found in our body

In the case of a Japanese person (weight: 60 kg)

Potassium 40	Approx. 4,000 (Bq/person)
Carbon-14	Approx. 2,500 (Bq/person)

Only major substances are listed.

Source: "Research on Radia ion Da a in Living Environmen s" (1983), Nuclear Sa e y Research Associa ion. Par ially modi ied by he Consumer A airs Agency.

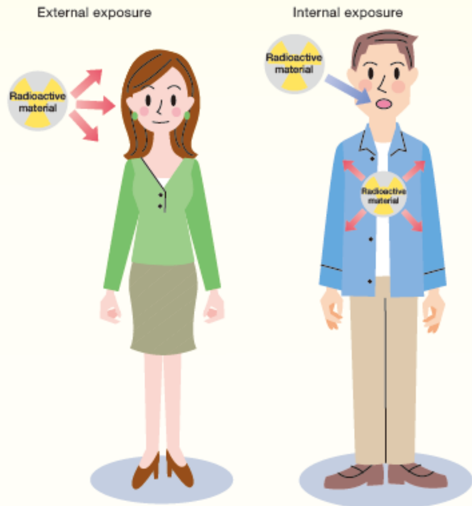
Q.5 What is the difference between "external exposure" and "internal exposure"?

A.5

External exposure refers to exposure to radiation emitted by radioactive materials outside the body. By contrast, internal exposure is exposure to radiation from radioactive materials inside our baby, which we intake primarily through breathing, drinking and eating.

External exposure and internal exposure have the same degree of effect on the human body, if their values shown by sievert are identical.

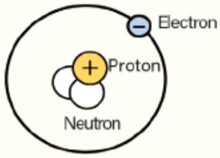
We are subjected to natural radiation through both "external exposure" and "internal exposure" in our daily lives.



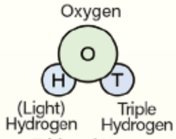
Q.6 Where does tritium occur?

A.6

Tritium (triple hydrogen) is a type of hydrogen. It is mainly in the form of "tritium-containing water" combined with oxygen, and has been universally present (about 0.1 to 1 Bq/L) in rivers and oceans since before the birth of humans on earth. Since tritium is contained in a small amount of water in drinks and food, we always have a few tens of becquerels (Bq) of tritium in our bodies. The radiation emitted by tritium is weak, and the effect on the human body per becquerel (Bq) of radioactive material due to internal exposure (effective dose coefficient (see Q3)) of tritium is about 1/150 to 1/350 that of potassium-40 (see Q4), which is also a naturally occurring radioactive material always present in the body. In addition, even if tritium contained in water is ingested by organisms, it is excreted relatively quickly and does not accumulate.



Triple Hydrogen (Tritium)



Tritiated Water

Tritium is naturally generated by the collision of radiation (protons and neutrons) called "cosmic rays" that constantly fall on the earth from outer space with nitrogen and oxygen in the atmosphere. It is also produced artificially through nuclear tests and the operation of nuclear facilities. Tritium is released into the oceans and atmosphere from nuclear facilities in various countries under the control of the regulations of each country.

Q.1 What effects does radiation have on the human body?

A.1 We are constantly exposed to a small amount of radiation, but we have always lived our life as usual without becoming particularly concerned about its effects on our health. The effects of radiation depend not on its “presence” but the “amount” of exposure.

When our body is exposed to radiation, its energy may damage some DNA (genes) in our cells. However, because our body has a mechanism to repair the DNA damage, many of the cells are restored as most unrepaired cells are replaced by healthy cells through the process of metabolism.

On the other hand, exposure to a large amount of radiation at once results in an increase in the number of dead cells if the DNA repair cannot keep up with the process, which causes health hazards such as nausea, hair loss, cataracts and skin disorders. The body will recover from temporary symptoms when the number of normal cells increases, but if the body is further exposed to a large amount of radiation and suffers from significant damage to cells in tissues and organs, its impact may be sustained.

Even when the body is exposed to radiation in amounts that would not cause immediate symptoms, the body may sometimes fail to properly repair the DNA damage. If cells with DNA that are not fully repaired are not eliminated and remain in the body and proliferate, it may lead to health hazards including cancer.

Q.2 Can a small amount of radiation affect our health?

A.2 Current scientific evidence suggests that the impact of exposure to radiation of less than 100 millisievert (mSv) is too small to detect any significance.

Cancer-causing factors other than radiation can be found in various areas of our life including stress and smoking. For this reason, the rate of increase in carcinogenic risks posed by a small amount of radiation is said to be so insignificant as to be masked by the carcinogenic effects posed by other factors.

■ Example of health effects (risks of developing cancer as a result of radiation and lifestyle habits)

Radiation dose (millisievert)	Lifestyle factors	Relative cancer risks*
1,000-2,000	Smokers Consump ion o a large amount o alcohol (daily intake of more than 540ml of Japanese Sake)	1.8 1.6 1.6
500-1,000	 Consump ion o a large amount o alcohol (daily intake of more than 360ml of Japanese Sake)	1.4 1.4
200-500	Too lean (BMI＜19) Obese (BMI≧30) Sedentary li estyle Too much salty oods	1.29 1.22 1.19 1.15-1.19 1.11-1.15
100-200	 Too little vege ables Passive smoking (non-smoking emale)	1.08 1.06 1.02-1.03
Less than 100		Undetectable

* Figures on he carcinogenic risks o radia ion are based on da a analysis o ins an aneous exposure ollowing he dropping o a omic bombs on Hiroshima and Nagasaki (solid cancer only) and are no derived rom observa ion o he long- erm e ec s o exposure.

Source: Na ional Cancer Cen er Japan

Q.3 Will the radioactive materials intaked in baby remain long?

A.3 Radioactive materials that are taken in the body through breathing, eating and drinking are remitted from the body by the processes of metabolism and excretion. The time required for radioactive materials in the body to decrease to half their original value through this elimination process is called the “biological half-life.” The physical half-life (see A2 on p2) and biological half-life proceed simultaneously. The time required for actual radioactive materials in the body to decrease to half their original value is called “effective half-life.”

* For nstance, n the case of ces um-137, whose phys ca ha f- fe s 30 years, the amount of ces um-137 n the body decreases to ha f ts or g na va ue n about three months (n the case of a 50-year-o d person).

	Subjects	Physical half life	Biological half life	Effective half life
Cesium 137	Up to age 1	Approx. 30 years	9 days	Approx. 9 days
	Up to age 9		38 days	Approx. 38 days
	Up to age 30		70 days	Approx. 70 days
	Up to age 50		90 days	Approx. 90 days
odine 131	nfants	Approx. 8 days	11 days	Approx. 5 days
	Age: 5 years		23 days	Approx. 6 days
	Adults		80 days	Approx. 7 days

Q.4 Will the effects of radiation be inherited?

A.4 The hereditary effects of radiation exposure in humans have not been reported in past case studies and surveys. Also, hereditary effects in children showed no significant difference among those exposed to radiation as compared with those who are not.

(3)Food safety

Q.1 What is the recent condition of radioactive materials contained in food?

A.1 The amount of radioactive materials contained in agricultural and animal products whose cultivation and breeding conditions are managed by producers has decreased yearly and values exceeding the limits are found in very few products at present. By contrast, the levels in some wild products exceed the limit in some regions.

None of the agricultural products including vegetables and tea (see p9) were found to have exceeded the limit in inspection results after FY2013. Figures for all animal products were also below the limit. Also, none of the items in the rice and legume was found to have exceeded the limit for those produced after 2015.

Stringent inspections are being conducted on wild mushrooms, wild plants, wild bird/animal meat, etc., since their values may exceed the limit in some regions and items due to difficulties concerning the management of producers.

Data up through FY2011 [1]

tem	Data co ect on po nts	Number exceeding limit [2]	Exceed ng m t rat o
R ce	26,464	592	2.2%
Vegetab es	12,671	385	3.0%
Fru t	2,732	210	7.7%
Beans	689	16	2.3%
Tea	2,233	192	8.6%
Raw m k	1,919	8	0.4%
Beef	75,755	1,040	1.4%
Pork chicken eggs	1,053	6	0.6%
Mushrooms, wild edible plants	3,856	779	20.2%
Seafood	8,576	1,476	17.2%
W d b rd/ an ma meat	631	394	62.4%

Data for FY2020 [1]

tem	Data co ect on po nts	Number exceeding limit [2]	Exceed ng m t rat o
R ce	314,332	0	0%
Vegetab es	3,962	0	0%
Fru t	891	0	0%
Beans	91	0	0%
Tea	16	0	0%
Raw m k	273	0	0%
Beef	19,766	0	0%
Pork chicken eggs	338	0	0%
Mushrooms, wild edible plants	5,977	84	1.4%
Seafood	10,984	2	0.02%
W d b rd/ an ma meat	3,441	41	1.2%

*1 "Resul s o local governmen inspec ions covered by he "Inspec ion Plan and Approach o Se ing and Li ing o I ems and Areas o Res ric ed Shipmen " (Nuclear Emergency Response Headquar ers). Cereals (rice, beans, e c.) are moni ored by he Minis ry o Agricul ure, Fores ry and Fisheries. Cereals (rice, beans, e c.) are assessed by produc ion year.
(As o March 31, 2021.)

*2 Number o i ems ha exceeded he limi s es ablished in April 2012 (provisional regula ion limi s were applied in FY2011; he curren limi s were used in aggrega ion or comparison purposes)

Q.2 What actions have been taken on radioactive materials in food?

A.2 Restrictions on distribution are enforced based on systematic monitoring inspections and their results to prevent foods that exceed the limit from entering the market.

To ensure food safety, health effects (risks) of radioactive materials in food are assessed (see p10), limits are established (see p9) and inspection plans are formulated by the respective prefectural governments based on the guideline set by the Nuclear Emergency Response Headquarters. Food items are put through monitoring inspections prior to shipping according to the guideline. If any food items were found to exceed the limits in inspections, they are recalled and discarded.Inspection plans are established by analyzing past inspection results and other data so that proper inspections can be conducted on food items and regions in which the level of radioactive materials is likely to exceed the limit.

The inspection results are published on the website, etc., of the Ministry of Health, Labour and Welfare and local public organizations.

When radioactive materials levels in food items that exceed the limit are detected widely in region following monitoring inspections, "**distribution restrictions**" are designated in specific regions and items. Also, instructions on "**consumption restrictions**," in addition to "distribution restrictions," are issued when significantly high level of radioactive materials are detected, which require people to refrain from consuming home-grown agricultural products.

Distribution and consumption restrictions are lifted in response to applications by the prefectural government when the safety of the food in question is confirmed and the conditions set out in the government's guideline are fulfilled.

Q.3 What are the standards for radioactive materials in food?

A.3 The limits are established so that the radiation levels would be lower than the level considered safe internationally (additional radiation dose derived from food is less than 1 millisievert/year) for both sexes and all age groups.

The limits are classified according to four categories of drinking water, milk, infant foods and general foods.

The limit for drinking water was established at “10 Bq/kg” based on the guidance level indicated by the World Health Organization (WHO).

The limits for general foods were established after considering the differences in the amount of food consumed according to sex and age groups and the impact of radioactive materials on health. The calculation of limits for radioactive materials in food is based on the annual additional radiation dose that would not exceed approximately 0.9 mSv (assuming approximately 0.1 mSv of radiation dose comes from drinking water) even if 50% of the foods contained the limit level of radioactive materials and if such foods are ingested continuously. The value of “100 Bq/kg” was consequently determined based on the most conservative limit (meaning lower limits) established for males aged 13-18. Accordingly, this is considered the safe limit for people of both sexes and all age groups.

Furthermore, the value for infant foods consumed by infants under a year old and milk, whose intake by children is extremely high, is “50 Bq/kg,” which is one half (meaning twice as rigorous as) the limit for general foods out of consideration for children.

■Limits are calculated by considering the intake and effects of radioactive materials on health according to age category.

Age category		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

■Limits for radioactive cesiumcesium

Food group	Limit (Bq/kg)
Drinking water	10
Milk	50
nfant foods	50
General foods	100

* The limi s are designed o reduce he radia ion doses rom ood and drinking wa er o below he specified level. The limi values are lower in Japan han in o her coun ries, as represen ed by he view o Codex Alimen arius Commission (1,000 Bq/kg), in considera ion o he amoun o ood inges ed in a year and he e ec s o radioac ive ma erials o her han cesium as well as he nuclear acciden ha occurred in he coun ry.

In determining the limits, the Food Safety Commission of Japan assessed the risk of additional exposure to radiation from food, based on current domestic and international scientific literature, as follows:

(1) The effect of radiation on health can be observed when the lifelong additional accumulation of effective radiation dose is approximately 100 mSv or larger, which excludes exposure that occurs in the normal course of life, such as natural radiation (2.1 mSv/year in Japan) and medical exposure.

(2) It has been concluded that the health effects of exposure to radiation of less than 100 mSv are difficult to identify because they may not be clearly distinguishable from effects attributable to factors other than radiation.

Radiation levels of approximately 100 mSv do not constitute the boundary between safe and hazardous ranges but a rough indication presented to enable appropriate risk management of food.

Consequently, the Ministry of Health, Labour and Welfare set the upper limit of additional radiation dose from foods at 1 mSv/year for reasons outlined below:

(1) The Codex Alimentarius Commission (a joint organization of the WHO and the Food and Agriculture Organization of the United Nations [FAO]), which establishes international specifications and standards on food, has adopted 1 mSv/year as an intervention exemption level in its guideline.

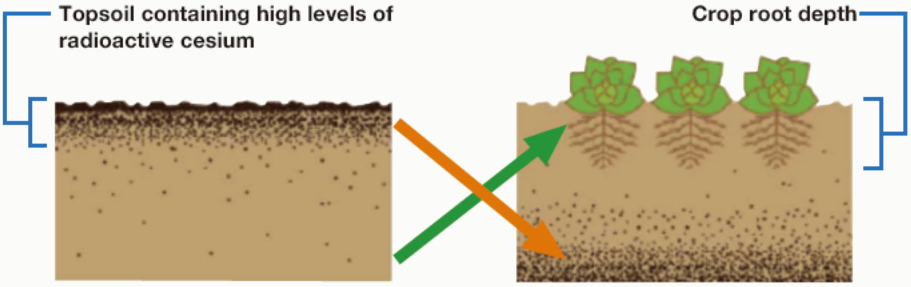
* In addi ion, 1 millisiever /year is he value a which he In erna ional Commission on Radiological Pro ec ion (ICRP) says significan dose reduc ions canno be achieved hrough ur her radia ion pro ec ion measures.

(2) The levels detected in many food items have dropped with the passage of time after the accident according to the results of monitoring inspections.

Q.4 What actions have been taken at agricultural and livestock farms?

A.4 In some regions where countermeasures are deemed necessary from past inspection results, steps to produce foods that do not exceed the limit, including reducing the absorption of radioactive materials, are taken.

Much of the radioactive cesium that has fallen on farmland is absorbed by soil and remains on the soil surface. Consequently, measures such as stripping the top soil and mixing soil on the surface with soil in deeper layers (see illustration) are carried out to prevent farm crops from absorbing radioactive materials.



Illus ra ion: he Minis ry o Agricul ure, Fores ry and Fisheries

Potassium-based fertilizers are applied in the production of rice and other crops because the shortage of potassium in soil nutrients may lead to higher level of radioactive cesium in crops.

As for fruit trees, various steps were taken in the immediate aftermath of the nuclear accident to reduce the amount of radioactive materials that adhered to the leaves and other tree surfaces including the removal of the coarse bark on the surface of the trunk and washing of the trunk with high-pressure water.

Also, provisional tolerable levels for radioactive cesium are set and managed for fertilizers, soil conditioners, culture media and other materials used in the production of agricultural products as well as grass forage, rice straw and other feeds given to animals in livestock farming.

In mushroom cultivation, guidance values for radioactive cesium are set for logs and beds for planting the spores.

Q.5 Are fishery products monitored properly?

A.5 Monitoring inspections, which consider the nature and habitat of marine fish and freshwater fish, are being conducted.

Monitoring inspections are being conducted by the prefectural governments subject to inspection with an eye on the fact that there are various types of fish including those that migrate according to their growth stage and season and those that live near the surface layers or near the seabed. Any fish or shellfish found to exceed the radioactive cesium limit (100 Bq/kg), is subject to voluntary restraints or shipping restrictions.

In the case of marine fish, the percentage of fish exceeding the current limit was confirmed to be about 21% in the March-June period of 2011, but there no fish have since exceeded the limit. Since then, the number of fish exceeding the limit has tended to decrease over time. The percentage of freshwater fish exceeding the current limit has also been decreasing. The percentage of freshwater fish exceeding the current limit was confirmed to be approximately 37% during the period from April to June of 2011. Here too, the number of fish exceeding the limit has been decreasing over time. According to FY2020 inspections, only one sample of each marine and freshwater species exceeded the limit, and the percentage was 0.02%.

Q.6 What is the present condition of wild mushrooms, wild plants, and wild bird/animal meat?

A.6 In FY2020, values exceeding the limit were detected in some wild mushrooms, wild plants and wild bird/animal meat, which are products in which measures to reduce the level of radioactive materials are difficult to employ. Continued caution is therefore required in this field.

In regions where there is a possibility that products with radiation levels exceeding the limit (100 Bq/kg) may be detected, voluntary restraint on distribution, distribution restrictions and consumption restrictions are enforced based on inspection results to prevent wild mushrooms, wild plants, and wild bird/animal meat whose radiation levels exceed the limit from entering the market. Information on restrictions are announced on the website of the Forestry Agency and prefectural governments.

Even in regions where distribution restrictions are issued, there are cases in which the distribution of some products are allowed including wild mushrooms, wild plants and wild bird/animal meat that are managed according to the shipping and inspection policy of the prefecture in question and are considered safe.

Q.7 How is tap water monitored?

A.7 According to the results of monitoring inspections, radioactive cesium levels exceeding 10 Bq/kg have not been detected in tap water (purified water) since June 2011.

Q.8 What is the impact of radioactive cesium on the dietary life of average households?

A.8 Survey of actual foods on the market and meals consumed at home revealed that the annual radiation doses from the radioactive cesium in the foods were far smaller than 1% of 1 millisievert/year, the upper annual dose limit used as evidence in establishing the limit.

To investigate the level of radioactive cesium contained in actual foods, the Ministry of Health, Labour and Welfare has conducted measurements using the “Market Basket method” and “duplication portion method” since 2012 and published the results on its website.

Under the “Market Basket method,” foods are purchased through market and the concentration of radioactive cesium contained in such foods are measured in their original form, and after simple processing and cooking to estimate the annual radiation dose people are subjected to in their average dietary life. Under the “duplication portion method,” meals cooked at actual homes are collected and their radioactive cesium levels are measured to estimate the annual radiation dose.

As a result, using either method, the amount of radiation received per year from radioactive cesium in food was well under 0.1% of 1 % of the mSv/year (0.0010mSv/year), the standard set for additional annual exposure.

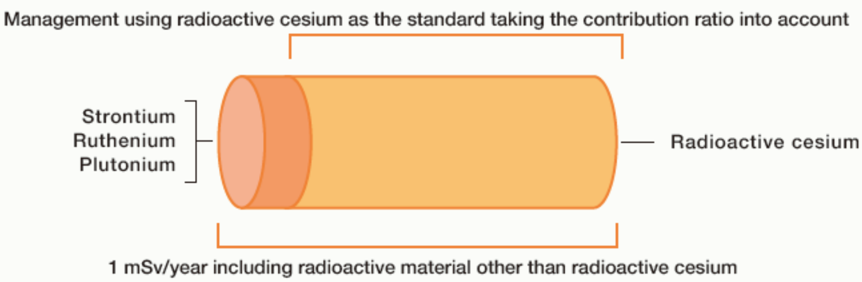
Based on the results of these surveys and inspections of radioactive materials in food, which indicate that radioactive materials are no longer detected in many of the food items, it can be said that the amount of radioactive cesium ingested in daily dietary life is too small to have an adverse impact on human health.

Q.9 What measures are taken on radionuclides other than radioactive cesium?

A.9 The limits for radioactive materials in foods are determined by using radioactive cesium, which is easy to measure, as the indicator after incorporating into calculation the effects of radionuclides whose physical half-life is longer than one year (cesium, strontium, plutonium and ruthenium) among the radionuclides that were released after the accident at TEPCO's Fukushima Daiichi Nuclear Power Plant.

While radioactive cesium levels can be measured in a short time because it emits gamma (γ) rays, the measurement of nuclides other than radioactive cesium such as strontium takes more time. For this reason, the handling of these nuclides is difficult and poses a challenge in daily food inspections that need to be conducted promptly.

Thus, the limits for radioactive cesium were set after calculating the proportion of radioactive cesium to the total by examining the effects of other radionuclides so that the total effects would not exceed 1 mSv. Thus, measurements of cesium by itself would totally limit the annual radioactive effect by 1 mSv or less including the effects of other nuclides.



Since 2012, the Ministry of Health, Labour and Welfare has conducted measurements for radionuclides other than radioactive cesium in a survey answered on page 14.

As a result, the survey showed that radioactive strontium levels that were detected were zero or low values that fall within the ranges before the accident.

Also, plutonium was not detected in any of the samples.

Q. Where should I go to learn more about matters related to radiation?

A. Please refer to a more detailed brochure titled “Food and Radiation Q & A (Japanese, English)” for information on food and radioactivity.

https://form.caa.go.jp/input.php?select=1006

Those who wish to have a copy of the brochure are requested to contact the Consumer Affairs Agency.

P ease a so refer to webs tes of the re ated governmenta agenc es for nformat on, r sk commun cat on, etc., on rad oact ve mater a s.(Ava ab e Japanese on y).

Consumer Affairs Agency **“Information on the Great East Japan Earthquake”**

https://www.caa.go.jp/disaster/earthquake/

“Information on Food and Radioactive Materials Risk Communication, etc.”

https://www.caa.go.jp/d saster/earthquake/understand ng food and rad at on/r commu/#r s-top

Food Safety Commission of Japan **“Radioactive contamination of food in Japan”**

https://www.fsc.go.jp/sonota/radio hyoka.html

“Exchange of opinions, and other communication” https://www.fsc.go.jp/koukan/

Ministry of Health, Labour and Welfare **“Information on the Great East Japan Earthquake”**

https://www.mhlw.go.jp/shinsai jouhou/index.html

“Food Safety Risk Communication”

https://www.mh w.go.jp/stf/se sakun tsu te/bunya/kenkou ryou/shokuh n/r skcom/ ken/ ndex.htm

Ministry of Agriculture, Forestry and Fisheries **“Information on the Great East Japan Earthquake”**

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

“Roundtable discussions with consumers”

http://www.maff.go.jp/j/syouan/johokan/risk comm/index.html

For non-food-related information, refer to the relevant ministry sites below.

For information on health effects of radiation and the situation surrounding the Fukushima Daiichi Nuclear Power Plant accident:

Ministry of the Environment **“Creation of unified basic information on health effects of radiation”**

http://www.env.go.jp/chemi/rhm/basic data.html

Reconstruction Agency **“Basic Information on Radiation Risk”**

http://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-1/20140603102608.html

“Consult the Tablet Doctor about Fukushima Now”

https://www.fukko-pr.reconstruction.go.jp/2018/fukushimanoima/

Information on decontamination

Ministry of the Environment **“Environmental Remediation”** http://josen.env.go.jp/

“Environmental Regeneration Plaza” http://josen.env.go.jp/plaza/

All he URL s on his page are or Japanese si es.

(Contact)

Consumer Affairs Agency, Government of Japan
https://www.caa.go.jp/en/
Central Government Building No. 4, 3-1-1 Kasumigaseki,
Chiyoda-ku, Tokyo 100-8958
03-3507-8800 (Main switchboard)

(Webs tes of re evant government m n str es and agenc es)

Food Safety Commission of Japan	https://www.fsc.go.jp/english/index.html
Ministry of Health, Labour and Welfare	https://www.mhlw.go.jp/english/
Ministry of Agriculture, Forestry and Fisheries	https://www.maff.go.jp/e/index.html
Ministry of the Environment	https://www.env.go.jp/en/index.html

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