



首相官邸

Measures against Beef which Exceeds the Provisional Regulation Values of Radioactive Cesium by the Government to Ensure Safety of Beef

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Government of Japan

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1. Executive Summary

The causes of the case are:

- Rice straw left in paddy fields after the harvest was contaminated by radioactive nuclides from the TEPCO's Fukushima Daiichi Nuclear Power Plant;
- The rice straw was fed to beef cattle; and
- Radioactive cesium which exceeds the provisional regulation values provided by the Food Sanitation Act was detected in beef.

2. Chronological Order of Guidance

1. Considering the fact that a huge amount of radioactive nuclides were spilled out due to hydrogen explosions immediately after the nuclear power plant accident, the Government notified:
 - a. on March 19th: the neighboring prefectures of the precautions on feed, water and feedlot which referred that those feed harvested and kept indoors before the nuclear accident should be used;

2. Chronological Order of Guidance

- b. on April 14th: the guideline values of radionuclides in coarse feed so that meat and milk meet the provisional regulation values provided by the Food Sanitation Act; and
- c. on April 22nd: a guideline on the production and utilization of feed which take into account the guideline values of radionuclides in coarse feed.

Note:

Rice straw is more likely to be affected by radioactive nuclides falling down than growing feed crop which extends longitudinally, because it is laid down on the ground and the surface area is larger.

3. Measures Taken by the Government

(1) Shipment Restriction on Beef Cattle in Fukushima Prefecture

The Government instructed the Governor of Fukushima Prefecture to refrain from shipping all beef cattle in Fukushima Prefecture to slaughter houses on July 19th

- Responding to the cases in which beef with radioactive cesium that exceeded the provisional regulation values provided by the Food Sanitation Act were reported in three municipalities.
- It turned out that the beef cattle in question were fed with rice straw that was left in rice paddies after the nuclear accident.

(2) Surveillance of Distribution and Public Announcement of Individual Identification Numbers

- The Ministry of Health, Labour and Welfare has requested the relevant local governments to conduct surveys into distribution channels and to secure specimens for testing of beef from cattle that could potentially have been fed with rice straw containing radioactive nuclides.
- In addition to the individual identification numbers being publicly announced, efforts are being made to improve a system for testing.
- In the event that the results of testings conducted by local governments show that radioactive nuclides have been detected that exceed the provisional regulation values, measures will be taken to immediately collect affected beef, among other measures.

(3) Requirements for Withdrawing Shipment Restrictions

Applications for the partial withdrawal of shipment restriction from Fukushima Prefecture will be approved, if the appropriate feeding control and rational system to ensure safety of beef by testing are established after the instruction of shipment restriction.

- (1) In the Planned Evacuation Zones, the Emergency Evacuation Preparation Zones and other specifically designated areas, all cattle will be subject to testing. Only beef which contains radioactive cesium of which level is below the provisional regulation values will be approved for shipment
- (2) In the areas in Fukushima other than (1), all livestock farms will be subject to testing, in which at least one head of cattle will be tested each farm at the first shipment. Only farmers which passed the testing with the levels well below the provisional regulation values will be allow to ship their cattle. The farmers will be subject to regular testing after the approval.

(4) Situations in Neighboring Prefectures

In prefectures neighboring Fukushima,

- Farmers are thoroughly instructed to take appropriate feeding system, including not to use rice straw which may be contaminated; and
- Testing of beef is strengthened, as necessary.

(5) Thorough Guidance on Feeding

The Government has been providing:

- the neighboring prefectures with thorough instruction on the precautions on feed, water and feedlot; and

- livestock farmers with instruction to keep concentrated feed in an appropriate manner.

4. Safety of Beef Cattle

(1) Food that Exceeds Provisional Regulation values

Major regulation values / standards

Provisional regulation values

- Definition: These figures are based on the values announced by the International Commission on Radiological Protection (ICRP) in 1984 as the levels that should be ensured as a means of protecting the public from radiation. The Nuclear Safety Commission indicated, for example, the index for radioactive iodine which was derived for all food products divided into five categories (1. water, 2. milk and milk products, 3. vegetables, 4. grains, and 5. meat, egg, fish and other) and Ministry of Health, Labour and Welfare established the provisional regulation values.
- Provisional regulation values: 500Bq/kg (radioactive cesium)
* The regulation values for radioactive cesium in other countries are as follows: 1,000Bq/kg (Singapore, Hong Kong), 1,200Bq/kg (USA), 370Bq/kg (ROK, Taiwan)

ICRP standards

- Definition: The ICRP set upper limits on radiation volumes that are thought to be necessary levels to protect the public from exposure to radiation.
- Value: The upper limits is **50mSv/year**, and the limits that is considered to not warrant countermeasures is set at **5mSv/year** (The limit for individual internal organs is set at 50mSv/year)

* Reference: "Q&As concerning food and radiation" (Consumer Affairs Agency; only available in Japanese)

Effect of eating 1kg of beef, in which 500Bq of radioactive cesium has been detected (Ref)

The effect on the human body of eating 1kg of beef in which 500Bq (provisional regulation value under the Food Sanitation Act) of radioactive cesium (assuming that cesium 134 and 137 are equally mixed) has been detected, is as follows:

$$0.008 \text{ mSv} = 250 \times 1.3 \times 10^{-5} + 250 \times 1.9 \times 10^{-5}$$

* Ref: Food Safety Commission website

(Reference)

- Excluding the impact of the recent nuclear power station incident, the effect of 0.008mSv on the human body is approximately 1/50th of the annual effective dose (approx. 0.4 mSv average in Japan) from naturally occurring radioactive material (radioactive potassium, etc.) through food intake excluding the impact of the recent nuclear power station incident. (It is also approximately 1/13th of effect of radiation on the human body due to a one-way flight from Tokyo to New York (approx. 0.1mSv).
- (The effect on the human body of eating 1kg of beef in which 4,350Bq (in excess of provisional regulation value under the Food Sanitation Act) of radioactive cesium has been detected (assuming that cesium 134 and 137 are equally mixed), is as follows:

$$2,175 \times 1.3 \times 10^{-5} + 2,175 \times 1.9 \times 10^{-5} = 0.07 \text{ mSv}$$

Even if food is consumed on a temporary basis that exceeds the provisional regulation values, there will be no effect on human health

(2) Other factors and biological half-life

Examples of factors affecting the quantity of radioactive nuclides found in beef cattle

- Cattle feed (concentrations of radioactive nuclides, quantity provided, period when feed was provided)
- Water
- Location where animals are kept (inside/outside), etc.

Biological half-life

Even for beef cattle that have ingested radioactive nuclides, if their diet is subsequently changed to uncontaminated feed, the radioactive nuclides are gradually expelled from their bodies and concentrations also decrease (Biological half-time of radioactive cesium in beef cattle is approx. 60 days)

5. Meat other than Beef Cattle

Safety of pork and poultry

- Pigs and poultry have different digestive systems from beef cattle and are unable to digest rice straw and grass.
- They are generally fed with cereal crops and cereal by-products and are not fed with rice straw.
(<http://www.maff.go.jp/j/syouan/pdf/12.pdf>, only available in Japanese)
- So far, testings of pork and poultry specimens have not detected any cases in which radioactive cesium exceeds the provisional regulation values provided by the Food Sanitation Act.
(<http://www.maff.go.jp/j/syouan/pdf/13-21.pdf> , only available in Japanese)