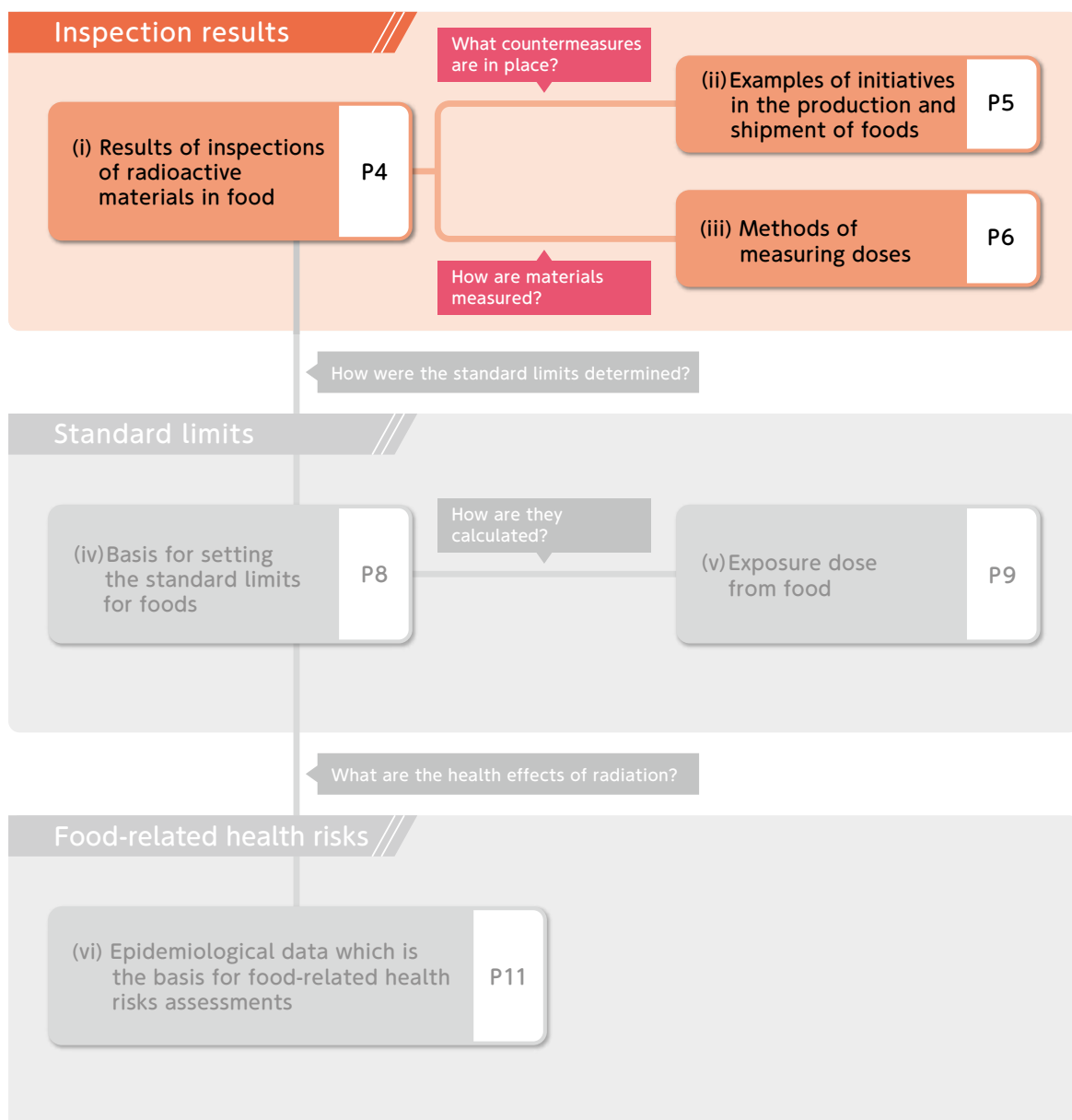




Theme: Inspection results

For foods that are often eaten in daily life, inspection results are available which show the progression of radioactive material content from after the accident to the present, divided into different categories. This section will also introduce the instruments used for measuring the concentration of radioactive materials.





(i) Results of inspections of radioactive materials in food

As a result of the TEPCO's Fukushima Daiichi Nuclear Power Station accident, concern about the radiation exposure from food spread. However, radioactive decay and various other initiatives are preventing the distribution of foods which exceed the standard limits.

● Inspection results by food type

In order to ensure the safety of food, inspections are conducted to prevent distribution of foods with concentrated radioactivity above a certain threshold. In addition, various initiatives are in place for preventing radioactive contamination of foods. As a result of these efforts, inspection results exceeding the standard limits are no longer being seen, and foods with radioactivity above these levels are not in distribution.

Inspection results are released by the Ministry of Health, Labour and Welfare and by local government organizations.



- Measures for Radioactive Materials in Food, Ministry of Health, Labour and Welfare
https://www.mhlw.go.jp/shinsai_jouhou/shokuhin.html
- Database of radioactive substances in food
<http://www.radioactivity-db.info/>

For more detailed survey results, see page 52 of Vol. 2, FY2022 edition.

For detailed information about the surveys, see pages 73, 76, 81, 84, 86 of Vol. 2, FY2022 edition.

● Survey of Distributed Foods (Market Basket Survey)

Amounts of radioactive materials contained in average meals have been surveyed since FY2011, using a market basket approach. According to the results of surveys, the annual radiation dose from radioactive cesium in food received by an individual is about 0.1% of the annual permissible dose of 1 mSv per year, which is the basis for the current standard limits.

Information including inspection results, shipping restrictions, and intake restrictions for specific food products is published on the websites of national and local government organizations.

URL for the applicable page on the Ministry of Health, Labour and Welfare website:

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

For detailed information on annual radiation doses, see page 65 of Vol. 1, FY2022 edition.

For detailed information about the inspections, see page 62 of Vol. 2, FY2022 edition.



(ii) Examples of initiatives in the production and shipment of foods

As a result of various measures, concentrations of radiation in excess of standard limits are currently almost never found in inspections.

Measures for Reducing Transfer of Radioactive Materials to Crops

This section introduces some of the measures used to reduce the transfer of radioactive materials to crops.

Decontamination of Farmland

Stripping of topsoil (Topsoil removal)

Scrape away the topsoil to remove radioactive materials which remain in shallow depth



Prepared based on the "Responses at Farmland" by the Ministry of Agriculture, Forestry and Fisheries (MAFF) **MAFF**

Inversion tillage

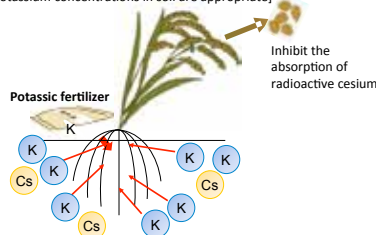
Replace topsoil with subsoil, thereby reducing radioactivity concentrations in the soil layer where plants take root



Measures to Inhibit Radioactive Cesium Absorption through Potassic Fertilization

- In paddy fields where detected radioactive cesium concentrations in brown rice are higher, potassium concentrations in soil tend to be lower.
- Potassium in soil has similar chemical characteristics as cesium and proper use of potassic fertilizer can inhibit growing crops from absorbing cesium.

[When potassium concentrations in soil are appropriate]

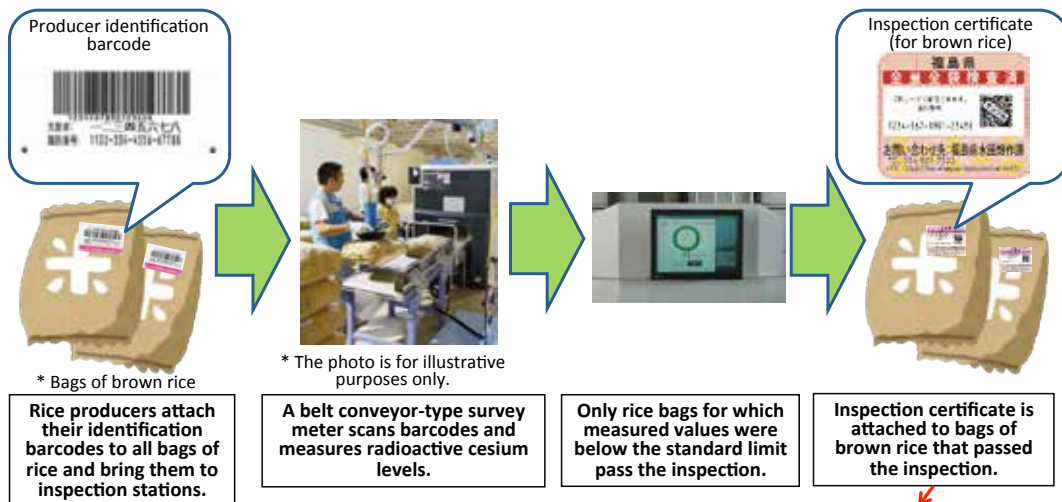


Prepared based on the "Inspection Results Concerning Radioactive Materials in Foods" by the Ministry of Agriculture, Forestry and Fisheries (MAFF) **MAFF**

For more detailed information about these initiatives, see pages 68 and 69 of Vol. 2, FY2022 edition.

Radioactivity Inspections of Rice in Fukushima Prefecture

Fukushima Prefecture has inspected all bags of rice harvested in the prefecture since 2012, separately from inspections performed under inspection guidelines. As no bags were found to exceed the standard limits for the five years from 2015, for rice produced from 2020 onward the prefecture has transitioned from inspection of all bags to monitoring (sampling) inspections, with the exception of some areas including former Areas under Evacuation Orders.



Radioactivity Inspection results can be checked using QR (quick response) codes. "Fukushima Association for Securing Safety of Agricultural Products (<https://fukumegu.org/ok/kome/>) (in Japanese)"

* Prepared based on the website of the Fukushima Prefectural Government

Prepared based on the "Responses at Farmland" by the Ministry of Agriculture, Forestry and Fisheries (MAFF) **MAFF**

For more details about these initiatives, see page 75 of Vol. 2, FY2022 edition.



(iii) Methods of measuring doses

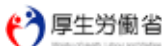
In order to prevent distribution of foods with radioactivity concentrations exceeding the standard limit, inspections of radioactive materials in foods are implemented. This section will explain how these inspections are conducted.

● Inspection procedures

The food inspections are carried out using the following procedures.



Non-destructive inspection methods enable measurement without shredding.


Prepared based on the Ministry of Health, Labour and Welfare's website, "Measures for Radioactive Materials in Foods" 

For more details about the inspection procedures, see page 66 of Vol. 2, FY2022 edition.

● Type of inspections

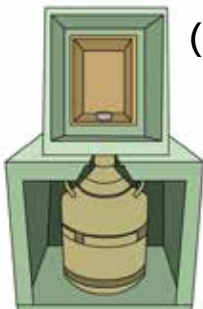
Inspections are conducted with consideration for efficiency and safety using the combination of (i) an efficient screening test and (ii) a rigorous inspection.

For more details about the individual inspections, see page 66 of Vol. 2, FY2022 edition.



(i) NaI (TI) Food Monitor

Since handling is simple and detection efficiency is relatively high, this method is suitable for efficient radioactivity measurement of materials such as foods.



(ii) Ge Semiconductor Detector

Used for radioactivity measurement of foods and soil. Provides superb gamma ray resolution and is effective for measuring low-level concentrations of radiation.

For more details about the measuring instruments, see page 44 of Vol. 1, FY2022 edition.