V Supply of Safe Non-wood Forest Products Such as Mushrooms

Mushrooms and wild vegetables grown or gathered within Fukushima Prefecture for the purpose of shipment and sale are inspected to confirm their safety. The produced mushrooms etc. can be shipped if it can be confirmed that they were grown under appropriate management and are adequately below the standard limit for radioactive cesium in general foodstuffs.

Shipment Restriction and Its Release of Non-Wood Forest Products Such as Mushrooms

For mushrooms and wild vegetables etc. to be shipped and sold, they must be below the standard limit for radioactive cesium concentration in general foodstuffs (100Bq/kg).

As of August 6, 2018, there are shipment restrictions on 23 types of non-wood forest products, including log-cultivated shiitake mushrooms, wild mushrooms, bamboo shoots, shuttlecock fern, Chengiopanax sciadophylloides, butterbur shoot, Aralia sprout, ostrich fern, and bracken, from 189 municipalities in 13 prefectures nationwide. On the other hand, there are moves towards lifting the restrictions, and as of August 6, 2018, shipments of log-cultivated shiitake mushrooms had resumed from 65 municipalities in six prefectures.

The Forestry Agency is supporting the stable supply of mushroom logs, as a step towards producers of mushrooms etc. being able to continue or resume production. In November 2015, it announced “Inspection and other specific operations towards the lifting of restrictions on shipments of wild mushrooms etc.”, which detailed inspection methods and shipment management in order to facilitate the lifting of shipment restrictions on wild mushrooms and wild vegetables. Since then, there has been gradual progress in lifting shipment restrictions.

※The results of monitoring inspections for radioactive cesium concentration etc. are open to public in newspapers, and on the Fukushima Prefecture website. Caution is required, because varieties for which shipment is restricted cannot be used as raw materials for processed foods either.

[Photo] Radiation Measurement Inspection

Reference: Website of Forest, Forestry, and Vegetation Association of Fukushima Prefecture “Mushroom Promotion (Mushroom Promotion Center)” ; Fukushima Prefecture website “Monitoring of Mushrooms and Wild Vegetables and Varieties with Shipment Restrictions for Each Municipalities”

Actions towards Shipment of Safe Mushrooms

In October 2013, the Forestry Agency has formulated "Guidelines on the Management of Cultivation of Log Shiitake Mushrooms, to Reduce Radioactive Substances", which stipulated cultivation management methods to keep log mushrooms below the standard limit for general foodstuffs (100Bq/kg).

[Required Procedures]

Actions to keep mushroom logs and bed logs below the current index value (50Bq/kg), and inspections of grown mushrooms to confirm safety.

- Checking and management of radioactive cesium concentration when mushroom logs and bed logs are purchased
- Management of mushroom bed logs before emerging of fruit body (inspection for radioactive substances, etc.)
- Disposal or re-inspection of mushroom logs and bed logs which exceed the index value
- Inspection of sprouted mushrooms to confirm safety

[Important Processes]

Actions to reduce the impact of radioactive substances

- Washing mushroom logs and bed logs
- Measurement of air dose rates in mushroom bed log laying yards and other working areas
- Environmental improvement etc. in mushroom bed log laying yards and other working areas

The radioactive substance countermeasure check sheet in the "Fukushima Prefecture Safe Mushroom Cultivation Manual" organizes countermeasures according to the cultivation environment, enabling management of production processes. Shipment of mushrooms produced according to this process is permitted, provided it can be confirmed that they are below the standard limit for general foodstuffs (100Bq/kg).

[Photo 1] Washing Mushroom Bed Logs

[Photo 2]Covering the Ground with Sheets

[Photo 3] Placing Sheets So That the Logs Do Not Touch the Ground

Reference : Forestry Agency Press Release "Formulation of the 'Management Guidelines for the Reduction of Radioactive Substances'", October 16, 2013; Fukushima Prefecture "Safe Mushroom Cultivation Manual" ; Forestry Agency "Forests and Forestry White Paper 2017"

Monitoring Radioactive Substances in Mushrooms and Wild Vegetables

In Fukushima Prefecture, mushrooms and wild vegetables grown or gathered within Fukushima Prefecture for the purpose of shipment and sale are given monitoring inspections for radioactive substances to confirm their safety. Results are constantly updated on the Fukushima Prefecture "Fukushima new launch" website.

Before cultivated mushrooms can be shipped, each producer measures the radioactive cesium concentration in materials (bed logs, mushroom beds, etc.) before the mushrooms sprout, to confirm that they do not exceed the nationally-stipulated current index values. *(50Bq/kg for mushroom logs and bed logs, and 200Bq/kg for mushroom beds). After that, monitoring inspections are performed on mushrooms before they are shipped, to confirm that they do not exceed the standard limit (100Bq/kg) for general foodstuffs.

Monitoring inspections are performed on wild mushrooms and wild vegetables at an early stage before they are shipped.

Inspections were performed on 61 varieties of mushroom and wild vegetables in FY2017. Inspection results to date are as shown in the table. Items exceeding the standard limit are decreasing every year.

※Index values defined by the government for bed logs and mushroom beds, so that emerged mushrooms do not exceed food standards. 50Bq/kg for mushroom logs and bed logs, 200Bq/kg for mushroom beds.

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Number of inspections	1,083	1,180	1,457	1,564	1,562	1,832	2,111
Over standard limit	127	90	80	25	7	2	1

(Note) If inspection results show that the standard has been exceeded, shipment restrictions apply and the items concerned are never shipped.

[Table] Monitoring Inspection Results for Mushrooms and Wild Vegetables

Reference : Fukushima Prefecture "Monitoring inspection Results So Far (aggregated by year)" ; Fukushima Prefecture website "Monitoring of Mushrooms and Wild Vegetables and Varieties with Shipment Restrictions for each Municipalities" as of May 2, 2018

Measures to Regenerate Mushroom Log Plantations

Since the reactor accident, mushroom log plantations exceeding the index value for mushroom logs have been found even in regions with relatively low impact from radioactive substances, so production of mushroom logs is stopped even in those areas.

In FY2014, Fukushima Prefecture began its "Hardwood Forest Regeneration Project" to regenerate the hardwood forests that provide the next generation of mushroom log plantations for the stable future supply of mushroom logs. Specifically, the following efforts are made to provide stable supplies of mushroom logs from existing mushroom log plantations.

- Checking for exceeded index values before project implementation (mushroom log measurement)
- Follow-up survey of radioactive cesium concentration in sprout branches after harvesting (three years)
- Measurement of air dose rate levels (before and after cutting)
- Measurement of radioactive cesium concentration litter layer and soil

The timber cut by this project is never used for mushroom bed logs or for firewood for cooking, but it provides the necessary care for areas that have been cut, to encourage growth as a mushroom log plantation for bed logs.

The project implemented areas are expanding every year, from 10.51ha in FY2014 (one forestry cooperative in three municipalities) to 28.76ha (two forestry cooperatives in five municipalities) in FY2017.

[Photo 1] Landscape after Harvesting (Minami Aizu Town)

Reference : Fukushima Prefecture "Summary of Hardwood Forest Regeneration Project in Fukushima Prefecture"

[Photo 2] A Follow-up Survey of Radioactive Cesium Concentration of Sprout Branches Are Conducted after Harvesting (Minami Aizu Town)

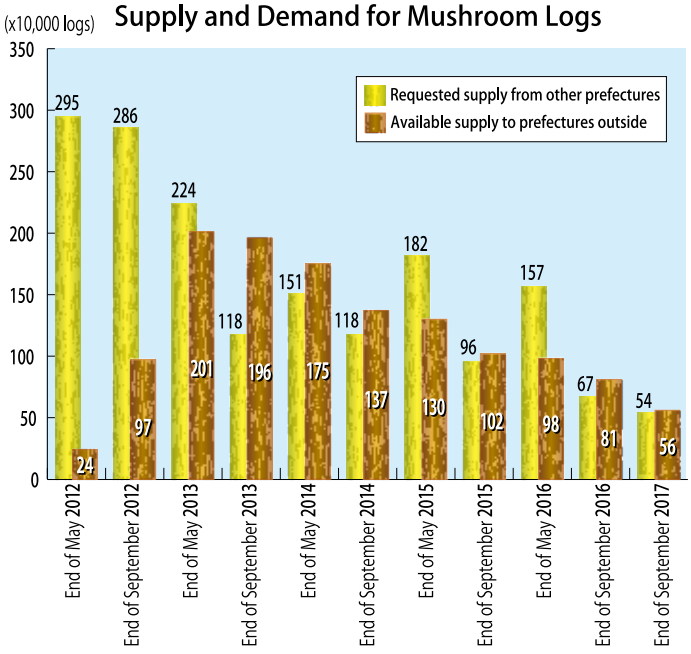
Stable Supply of Mushroom Logs

Many mushroom logs from before the Great East Japan Earthquake were supplied from Fukushima Prefecture, so the nuclear accident had an impact on stable procurement of mushroom logs in many prefectures.

Since 2011, the Forestry Agency has been tracking the state of supply and demand for mushroom logs nationwide, and helping to match users and suppliers so that mushroom producers can continue the production.

As a results, since September 2013, the amounts of mushroom logs that forest owners are able to supply has surpassed those of mushroom logs required by mushroom producers etc., and the matching of mushroom logs appears to be making good progress. However, at the end of September 2017, the demand for konara oak accounted for about 90% of the 540,000 logs of desired amount, while around 90% of the 560,000 logs of potential supply was mainly consisted of sawtooth oak, so there was a mismatch in terms of tree types.

The Forestry Agency will continue to find potential supply volume, mainly of konara oak, for which the demand volume is large, and work on mushroom logs matching.



[Figure] Supply and Demand for Mushroom Logs

Reference : Forestry Agency (2012) "Promotion of Action for Stable Supply of Mushroom Logs" (2012), Forestry Agency "Forests and Forestry White Paper 2017"