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RADIOACTIVITY SURVEY DATA in Japan

Part 2
= Dietary Materials =

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National Institute of Radiological Sciences
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Contents

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Environmental and Dietary Materials*

(Japan Chemical Analysis Center)

1. Collection and pretreatment of samples

(1) Rain and dry fallout

Rain and dry fallout was collected monthly on a sampling tray, approximately 5000cm² in area, which was filled with water to a depth of 1 cm at the beginning of every month.

Strontium and cesium carrier solutions were added after the sample was filtered. The tray was washed with 5ℓ of distilled water and the washing was combined to the filtrate.

The sample was passed through a cation exchange column (500mℓ of Dowex 50W X8, 50~100 mesh, Na form) at a rate flow of 80mℓ/min.

(2) Airborne dust

Airborne dust was collected by an electrostatic precipitator or a filter air sampler for every three-months at a rate of more than 3000m³ per month.

The sampling was done 1 to 1.5 meters above the ground.

(3) Service water and freshwater

Service water, 100ℓ each, was collected at the intake of the water-treatment plant and at the tap after water was left running for five minutes. Strontium and cesium carriers were added to the filtered water sample. The subsequent process was the same as that described in the section (1). Freshwater was treated in the same way as the service water.

(4) Soil

Soil was collected from the location in the spacious and flat area without past surface disturbance caused by dust storms, inflow and out flow due to precipitation, etc.. Any places located under trees in a forest, in a stony area or inside of river banks were avoided. Soil was taken from two layers of different depths, 0-5cm and 5-20cm. The soil lumps were crushed by hands and dried in a drying oven regulated 105°C. The soil was then passed through a 2mm sieve to remove plant roots and pebbles.

(5) Sea water

Sea water was collected at the fixed stations where the effect of terrestrial fresh water from rivers was expected to be negligibly small. A special consideration was also given to weather conditions.

The sampling was carried out when there was no rainfall for the last few days. To prevent contamination, water samples were collected at the bow of a sampling boat just before she stood still by scooping surface water using a polyethylene bucket.

Immediately after the collection, the samples were acidified to a pH lower than 3 by adding concentrated hydrochloric acid in a ratio of 1mℓ to 1ℓ of sea water, and then stored in 20ℓ polyethylene containers. The sampling equipments as well as containers were thoroughly rinsed with dilute hydrochloric acid and then with distilled water before use. Two hundred milliliters of sea water was also collected at the same stations for the determination of chlorinity.

(6) Sea sediments

Sediment was collected in the same area as that for the sea water sample, taking the following criteria into account:

a. The depth of water exceeds 1m at low tide.
b. No significant sedimental movement is observed in the vicinity of concern.
c. Mud, silt and fine sand are preferable.

A conventional sediment sampling device was used for collecting the top few centimeters of surface sediment. Approximately 4kg of the sample in wet weight was spread on a stainless steel dish after removed of the pebbles, shells and other foreign materials, and dried in a drying oven regulated at 105°C.

(7) Total diet

A full one day ordinary diet including three meals, water, tea and other in-between snacks for five persons was collected as a sample of "total diet".

The sample in a large stainless steel pan was carbonized carefully by direct application of gas flame, and was transferred to a porcelain dish and then ashed at 450°C in an electric muffle furnace.

(8) Rice

Polished rice was collected in producing districts at the harvest and in consuming areas when new crops were first put on sale. The sample was carbonized and ashed in a porcelain dish.

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* Samples were sent to the Center from 46 contracted prefectures.

(9) Milk

Raw milk was collected in producing districts and commercial milk was purchased in consuming districts. Milk in a stainless steel pan or a porcelain dish was evaporated to dryness followed by carbonization and ashing.

(10) Vegetables

Spinach and Japanese radish were selected as the representatives for left vegetables and for nonstarch roots, respectively. After removing soil, the edible part of vegetable sample was dried and carbonized in a stainless steel pan or a porcelain dish.

(11) Tea

Five hundred grams of manufactured green tea was collected, carbonized and ashed in a stainless steel pan or a porcelain dish.

(12) Fish, shellfish and seaweeds

a. Sea fish and freshwater fish

Fish was rinsed with water and blotted with a filter paper. Only the edible part was used in case of larger sized fish, and the whole part was used in case of smaller ones. Each sample was weighed and placed in a stainless steel pan or a porcelain dish. After carbonized, the sample was ashed in an electric muffle furnace.

b. Shellfish

Approximately 4kg of shellfish including the shells was collected or purchased. After removing the shells, it was treated in the same way as that for the sea fish.

c. Seaweeds

Edible seaweeds were collected and rinsed with water to remove sand and other adhering matters on the surface. These were removed of excess water, weighed dried and ashed.

Table 1 shows details of sample collection.

Table 1 Details of sample collection

Sample	Frequency of sampling	Quantity of sample
=Environmental materials=		
(1) Rain and dry fallout		
1. For domestic program	monthly	
2. For WHO program	monthly	
(2) Airborne dust	quarterly	>3000 m^3/month
(3) Service water and freshwater		
1. Service water (source water)	semiyearly	100 ℓ
2. Service water (tap water)	semiyearly	100 ℓ
3. Freshwater	yearly (fishing season)	100 ℓ
(4) Soil		
1. 0～ 5 cm	yearly	4 kg
2. 5～ 20cm	yearly	4 kg
(5) Sea water	yearly	40 ℓ
(6) Sea sediments	yearly	4 kg
=Dietary materials=		
(7) Total diet	semiyearly	daily amount for 5 persons
(8) Rice		
1. Producing districts	yearly (harvesting season)	5 kg (polished rice)
2. Consuming districts	yearly (harvesting season)	5 kg (polished rice)
(9) Milk		
1. Producing districts for WHO program	quarterly (February, May, August and November)	3 ℓ
2. Producing districts for domestic program	semiyearly (February and August)	3 ℓ

Sample	Frequency of sampling	Quantity of sample
3. Consuming districts	semiyearly (February and August)	3 ℓ
4. Powdered milk	semiyearly (April and October)	2～ 3 kg
(10) Vegetables		
1. Producing districts	yearly (harvesting season)	4 kg
2. Consuming districts	yearly (harvesting season)	4 kg
(11) Tea	yearly (the first harvesting season)	500g (manufactured tea)
(12) Fish, shellfish and seaweeds		
1. Sea fish	yearly (fishing season)	4 kg
2. Freshwater fish	yearly (fishing season)	4 kg
3. Shellfish	yearly (fishing season)	4 kg
4. Seaweeds	yearly (fishing season)	2～ 3 kg

2. Preparation of samples for analysis

(1) Rain, service water and freshwater

Strontium and cesium were eluted with hydrochloric acid from the cation exchange column. The residue of rain sample on the filter paper was ashed in an electric muffle furnace and the ash was dissolved in hydrochloric acid. The insoluble part was filtered and washed. The filtrate and the washings were combined to the previous eluate and used for radiochemical analysis.

(2) Soil and Sea sediment

Dried soil was crushed to smaller ones than 0.25mm in size by a crusher. The sieved sample was ashed in an electric muffle furnace regulated at 450 ℃. The sample was then heated with hydrochloric acid, strontium and cesium carrier solutions and the mixture was heated. The insoluble constituent was filtered off and washed with water.

The dried sample was crushed to smaller ones than 0.25mm by a crushing machine. The further preparation of the sample was the same as that described in the section 2-(2).

(3) Rice

The ashed sample was pulverized with a porcelain mortar and passed through a 0.35mm sieve. The sieved sample to which both strontium and cesium carriers were added, was digested with nitric acid by heating. After the sample was heated again with nitric acid to dryness, strontium and cesium were extracted with hydrochloric acid and water. The insoluble constituent was filtered and washed. The filtrate and washings were combined for subsequent radiochemical analysis.

(4) Airborne dust, diet, milk, vegetables, fish and shellfish, seaweeds, tea and others

These ashed samples were treated with the same procedure as that described in the section 2-(4).

3. Separation of strontium-90 and cesium-137

(1) Strontium-90

Sample solutions, prepared as in the foregoing sections 2-(1) through 2-(4), were neutralized with sodium hydroxide. After sodium carbonate was added, the precipitate of strontium and calcium carbonates was separated. The supernatant solution was retained for cesium-137 determination.

The carbonates were dissolved in hydrochloric acid and strontium and calcium were precipitated as oxalates. The precipitate was dissolved in nitric acid and strontium was separated from calcium by successive fuming nitric acid separation. Iron scavenge was made after addition of ferric iron carrier followed by barium chromate separation after addition of barium carrier to remove radium, its daughters and lead. Strontium was recovered as carbonate, and the precipitate was dried and weighed to determine strontium recovery. The strontium carbonate was dissolved in hydrochloric acid and iron carrier was added. The solution was allowed to stand for two weeks for strontium-90 and yttrium-90 to attain equilibrium. Yttrium-90 was coprecipitated with ferric hydroxide and the precipitate was filtered off, washed and counted.

(2) Cesium-137

The supernatant separated from the strontium fraction was acidified with hydrochloric acid. While stirring, cesium was adsorbed on the ammonium molybdophosphate added.

After filtered off and washed with hydrochloric acid the precipitate was dissolved in 2.5N sodium hydroxide solution. The solution was adjusted to pH 8.2 with hydrochloric acid and allowed to cool.

Resultant molybdenum hydroxide which separated

out in the solution, was filtered off and washed with water. EDTA was added to the filtrate and washings. Cesium and rubidium were adsorbed on a cation exchange column and cesium was separated from rubidium by eluting with hydrochloric acid.

The eluate was evaporated to dryness and was dissolved. The solution was filtered.
Chloroplatinic acid was added to precipitate cesium. The precipitate was filtered onto a tared paper using a demountable filter and washed with water and then ethanol. After drying, the chemical yield of cesium was determined by weighing the precipitate. Cesium-137 radioactivity was measured for this precipitate.

4. Determination of stable strontium, calcium and potassium

A weighed amount of soil or sea sediment was heated in a electric muffle furnace at 450°C and then treated with hydrochloric acid for extraction.
A weighed aliquot of ashed samples of total diet, vegetables, milk, fish, shellfish or seaweeds was digested with hydrofluoric acid and nitric acid.
The extract was made up to an appropriate volume with dilute hydrochloric acid. The sample solution was analyzed for calcium by titration with standard potassium permanganate solution after separating calcium as oxalate. Atomic absorption spectroscopy was applied when appropriate. Stable strontium and potassium were determined by atomic absorption and flame emission spectrometry, respectively.

5. Counting

After the radiochemical separation the mounted precipitates were counted for activity using low background beta counters normally for 60 to 90min. Net sample counting rates were corrected for counter efficiency, recovery, self-absorption, and decay to obtain the content of strontium-90 and cesium-137per sample aliquot. From the results, concentrations of these nuclides in the original samples were calculated.

6. Results

(1) Strontuim-90 and Cesiumu-137 in Total Diet

(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (1) : Strontuim-90 and Cesiumu-137 in Total Diet

Location	Ash	Ca	K	90Sr		137Cs	
	(g/p/d)	(mg/p/d)	(mg/p/d)	(Bq/p/d)	(Bq/g Ca)	(Bq/p/d)	(Bq/g K)
Dec, 1998							
Sapporo, HOKKAIDOU	11.3	399	1720	0.033 ± 0.0074	0.057 ± 0.018	0.024 ± 0.0054	0.014 ± 0.0031
Iwanai-machi, HOKKAIDOU	15.3	597	2190	0.058 ± 0.01	0.098 ± 0.017	0.042 ± 0.0068	0.019 ± 0.0031
Aomori, AOMORI	20.2	876	2310	0.055 ± 0.0099	0.062 ± 0.011	0.051 ± 0.0077	0.022 ± 0.0034
Ajigasawa-machi, AOMORI	12.9	424	1560	0.065 ± 0.01	0.15 ± 0.024	0.019 ± 0.0052	0.012 ± 0.0033
Morioka, IWATE	14	376	1940	0.04 ± 0.0093	0.11 ± 0.025	0.043 ± 0.007	0.022 ± 0.0036
Akita, AKITA	13.8	441	1900	0.045 ± 0.0087	0.1 ± 0.02	0.048 ± 0.0071	0.025 ± 0.0037
Yokote, AKITA	14.1	399	1580	0.049 ± 0.01	0.12 ± 0.026	0.058 ± 0.0089	0.037 ± 0.0056
Kashiwazaki, NIIGATA	17.8	490	2400	0.083 ± 0.012	0.17 ± 0.024	0.048 ± 0.0071	0.02 ± 0.003
Nishikawa-machi, NIIGAT	23.2	728	3150	0.085 ± 0.012	0.12 ± 0.017	0.053 ± 0.0076	0.017 ± 0.0024
Mito, IBARAKI	15.8	371	1910	0.047 ± 0.0099	0.13 ± 0.027	0.032 ± 0.0064	0.017 ± 0.0034
Tokai-mura, IBARAKI	18.9	489	2730	0.052 ± 0.0099	0.11 ± 0.02	0.041 ± 0.0072	0.015 ± 0.0026
minamikawachi-machi, TO	16.6	551	2100	0.08 ± 0.011	0.14 ± 0.02	0.02 ± 0.0055	0.0095 ± 0.0026
Maebashi, GUNMA	16.3	734	2120	0.044 ± 0.009	0.06 ± 0.012	0.063 ± 0.0082	0.03 ± 0.0039
Nakanojou-machi, GUNMA	17.7	499	2690	0.067 ± 0.011	0.13 ± 0.022	0.035 ± 0.0066	0.013 ± 0.0024
Shinjuku, TOKYO	14.6	558	1740	0.041 ± 0.0093	0.074 ± 0.017	0.02 ± 0.0052	0.012 ± 0.003
Hachijou-machi, TOKYO	15.5	458	2100	0.052 ± 0.01	0.11 ± 0.023	0.04 ± 0.0067	0.019 ± 0.0032
Yokohama, KANAGAWA	16.8	456	1860	0.021 ± 0.0089	0.046 ± 0.02	0.054 ± 0.0074	0.029 ± 0.004
Koufu, YAMANASHI	13.2	480	1730	0.06 ± 0.024	0.12 ± 0.05	0.03 ± 0.0058	0.017 ± 0.0034
fuziyosida-shi, YAMANAS	14.5	435	1900	0.035 ± 0.0078	0.08 ± 0.018	0.046 ± 0.0067	0.024 ± 0.0035
Kanazawa, ISHIKAWA	16.4	465	1760	0.033 ± 0.0082	0.072 ± 0.018	0.046 ± 0.007	0.026 ± 0.004
Yoshinodani-mura, ISHIK	14.9	536	1830	0.054 ± 0.01	0.1 ± 0.019	0.051 ± 0.0072	0.028 ± 0.0039

Location	Ash	Ca	K	90Sr		137Cs	
	(g/p/d)	(mg/p/d)	(mg/p/d)	(Bq/p/d)	(Bq/g Ca)	(Bq/p/d)	(Bq/g K)
Tsuruga, FUKUI	16.5	966	1680	0.044 ± 0.0096	0.046 ± 0.0099	0.074 ± 0.0094	0.044 ± 0.0056
Gifu, GIFU	13.2	447	2120	0.058 ± 0.011	0.13 ± 0.024	0.017 ± 0.0049	0.0078 ± 0.0023
Takayama, GIFU	14.2	505	1740	0.027 ± 0.009	0.054 ± 0.018	0.015 ± 0.0047	0.0088 ± 0.0027
Imazu-machi, SHIGA	15.5	655	2220	0.064 ± 0.011	0.098 ± 0.017	0.039 ± 0.008	0.018 ± 0.0036
Ootsu, SHIGA	16.4	602	1980	0.041 ± 0.0097	0.073 ± 0.017	0.05 ± 0.0084	0.025 ± 0.0043
Owase, MIE	12.2	514	1310	0.041 ± 0.01	0.08 ± 0.02	0.029 ± 0.0062	0.022 ± 0.0047
Kyoto, KYOTO	14.7	629	1670	0.035 ± 0.005	0.066 ± 0.0094	0.014 ± 0.0049	0.0086 ± 0.003
Maizuru, KYOTO	1.9	789	2030	0.052 ± 0.0091	0.066 ± 0.011	0.015 ± 0.0052	0.0073 ± 0.0026
Osaka, OSAKA	16.4	586	2340	0.074 ± 0.012	0.13 ± 0.02	0.039 ± 0.0067	0.017 ± 0.0028
Sakai, OSAKA	13.5	393	1730	0.042 ± 0.0099	0.11 ± 0.025	0.03 ± 0.006	0.018 ± 0.0035
Kakogawa, HYOUGO	12.2	536	1430	0.061 ± 0.011	0.11 ± 0.21	0.013 ± 0.0052	0.0088 ± 0.0036
Hamasaka-machi, HYOUGO	13	611	1480	0.047 ± 0.006	0.077 ± 0.0098	0.0065 ± 0.0048	0.0044 ± 0.0032
Matsue, SHIMANE	24.5	1910	2470	0.08 ± 0.011	0.042 ± 0.006	0.047 ± 0.0071	0.019 ± 0.0029
Kamiita-machi, TOKUSHIM	15.2	561	2230	0.048 ± 0.0056	0.085 ± 0.01	0.031 ± 0.0073	0.014 ± 0.0033
Tokushima, TOKUSHIMA	18.1	502	2620	0.055 ± 0.0062	0.11 ± 0.0012	0.026 ± 0.0071	0.0099 ± 0.0027
Takamatsu, KAGAWA	15.7	348	1770	0.026 ± 0.0076	0.076 ± 0.022	0.0087 ± 0.0042	0.0049 ± 0.0024
Marugame, KAGAWA	14.3	499	1700	0.037 ± 0.0083	0.074 ± 0.017	0.014 ± 0.0048	0.0081 ± 0.0028
Hiroshima, HIROSHIMA	16.1	830	1800	0.053 ± 0.0093	0.064 ± 0.011	0.04 ± 0.0067	0.022 ± 0.0037
Miyoshi, HIROSHIMA	16.6	568	1870	0.041 ± 0.01	0.073 ± 0.018	0.032 ± 0.0068	0.017 ± 0.0036
Yamaguchi, YAMAGUCHI	13.1	380	1730	0.026 ± 0.009	0.068 ± 0.024	0.0027 ± 0.0073	0.016 ± 0.0042
Mine, YAMAGUCHI '	14.7	611	1780	0.065 ± 0.012	0.11 ± 0.019	0.034 ± 0.0079	0.019 ± 0.0045
Saga, SAGA	14.9	476	2060	0.049 ± 0.0085	0.1 ± 0.018	0.028 ± 0.0057	0.014 ± 0.0028
Karatsu, SAGA	14.1	513	1730	0.04 ± 0.0054	0.078 ± 0.01	0.044 ± 0.0066	0.026 ± 0.0038
Kumamoto, KUMAMOTO	14.5	409	2210	0.045 ± 0.0087	0.11 ± 0.021	0.06 ± 0.0077	0.027 ± 0.0035
Tomiai-machi, KUMAMOTO	17.6	551	2110	0.05 ± 0.0093	0.091 ± 0.017	0.023 ± 0.0058	0.011 ± 0.0028
Miyazaki, MIYAZAKI	15.5	504	2140	0.036 ± 0.0092	0.072 ± 0.018	0.027 ± 0.0059	0.013 ± 0.0028
Takachiho-machi, MIYAZA	15.7	569	2040	0.064 ± 0.01	0.11 ± 0.018	0.04 ± 0.0067	0.02 ± 0.0033

Jan, 1999

Location	Ash	Ca	K	90Sr		137Cs	
	(g/p/d)	(mg/p/d)	(mg/p/d)	(Bq/p/d)	(Bq/g Ca)	(Bq/p/d)	(Bq/g K)
Naha,Okinawa	15.8	555	2320	0.04 ± 0.0086	0.072 ± 0.016	0.039 ± 0.0067	0.017 ± 0.0029
nisihara-machi,Okinawa	14.1	767	1960	0.05 ± 0.0096	0.066 ± 0.013	0.022 ± 0.0058	0.011 ± 0.003
Nov,1998							
Ishinomaki,MIYAGI	17.2	735	2200	0.041 ± 0.0097	0.055 ± 0.013	0.05 ± 0.007	0.023 ± 0.0032
Onagawa-machi,MIYAGI	16.9	586	1780	0.03 ± 0.0084	0.051 ± 0.014	0.048 ± 0.0068	0.027 ± 0.0038
Fukushima,FUKUSHIMA	13.5	477	1660	0.045 ± 0.01	0.095 ± 0.021	0.025 ± 0.0077	0.015 ± 0.0046
Ookuma-machi,FUKUSHIMA	13.7	517	1900	0.063 ± 0.011	0.11 ± 0.02	0.12 ± 0.012	0.061 ± 0.0063
Utsunomiya,TOCHIGI	15.8	572	2460	0.072 ± 0.011	0.13 ± 0.019	0.035 ± 0.0062	0.014 ± 0.0025
Chiba,CHIBA	22.7	667	2840	0.058 ± 0.01	0.088 ± 0.016	0.073 ± 0.0088	0.026 ± 0.0031
Chikura-machi,CHIBA	19.4	535	2470	0.077 ± 0.011	0.14 ± 0.021	0.02 ± 0.0059	0.0081 ± 0.0024
Kumagaya,SAITAMA	14	499	1590	0.047 ± 0.01	0.095 ± 0.02	0.01 ± 0.0051	0.0063 ± 0.0032
Urawa,SAITAMA	17.8	688	2020	0.051 ± 0.01	0.074 ± 0.014	0.033 ± 0.0065	0.016 ± 0.0032
Nagano,NAGANO	21.5	841	2770	0.057 ± 0.0098	0.068 ± 0.012	0.023 ± 0.0057	0.0084 ± 0.0021
Sanada-machi,NAGANO	17.6	568	2230	0.038 ± 0.0085	0.067 ± 0.015	0.042 ± 0.0068	0.019 ± 0.003
Hiratsuka,KANAGAWA	16.1	649	2520	0.05 ± 0.0098	0.077 ± 0.015	0.049 ± 0.0072	0.019 ± 0.0029
Toyama,TOYAMA	13.5	575	2030	0.055 ± 0.0096	0.096 ± 0.017	0.026 ± 0.0056	0.013 ± 0.0028
Toyama,TOYAMA	16.9	542	1010	0.055 ± 0.0094	0.1 ± 0.017	0.046 ± 0.0073	0.021 ± 0.0033
Shizuoka,SHIZUOKA	15.4	704	2110	0.038 ± 0.0083	0.054 ± 0.012	0.024 ± 0.0059	0.011 ± 0.0028
Hamaoka-machi,SHIZUOKA	12	410	1530	0.037 ± 0.0088	0.089 ± 0.021	0.026 ± 0.006	0.017 ± 0.004
Fukui,FUKUI	14.8	584	1920	0.032 ± 0.01	0.055 ± 0.017	0.017 ± 0.0064	0.0088 ± 0.0033
Nagoya,AICHI	13.2	818	1890	0.035 ± 0.0086	0.0043 ± 0.011	0.03 ± 0.0083	0.016 ± 0.044
Shinshiro,AICHI	15.3	415	1910	0.032 ± 0.0084	0.077 ± 0.02	0.017 ± 0.0074	0.0091 ± 0.0039
Tsu,MIE	12	337	1820	0.046 ± 0.011	0.14 ± 0.031	0.041 ± 0.0066	0.022 ± 0.0036
Gojou,NARA	14.8	1720	1720	0.07 ± 0.0068	0.04 ± 0.0039	0.02 ± 0.0055	0.011 ± 0.0032
Kashihara,NARA	12.3	684	1570	0.037 ± 0.0056	0.054 ± 0.0081	0.038 ± 0.0066	0.024 ± 0.0042
Wakayama,WAKAYAMA	12.2	363	1440	0.025 ± 0.0071	0.069 ± 0.02	0.014 ± 0.0045	0.0095 ± 0.0031
Shinguu,WAKAYAMA	14.5	572	1230	0.048 ± 0.009	0.085 ± 0.016	0.028 ± 0.006	0.023 ± 0.0049
Kamisaibara-mura,OKAYA	14.3	389	1790	0.054 ± 0.011	0.14 ± 0.029	0.038 ± 0.007	0.021 ± 0.0039

Location	Ash	Ca	K	90Sr		137Cs	
	(g/p/d)	(mg/p/d)	(mg/p/d)	(Bq/p/d)	(Bq/g Ca)	(Bq/p/d)	(Bq/g K)
Kashima-machi, SHIMANE	16.1	845	2130	0.059 ± 0.01	0.07 ± 0.012	0.039 ± 0.0062	0.018 ± 0.0029
Matsuyama, EHIME	12.2	413	1980	0.048 ± 0.0093	0.12 ± 0.023	0.042 ± 0.0081	0.021 ± 0.0041
Ikata-machi, EHIME	9.2	321	1210	0.013 ± 0.015	0.04 ± 0.046	0.016 ± 0.0046	0.013 ± 0.0038
Fukuoka, FUKUOKA	13.8	427	1400	0.025 ± 0.0092	0.058 ± 0.021	0.019 ± 0.0053	0.013 ± 0.0038
Dazaifu, FUKUOKA	16.1	600	1680	0.029 ± 0.0094	0.048 ± 0.016	0.045 ± 0.009	0.027 ± 0.0053
Nagasaki, NAGASAKI	17.2	761	1890	0.03 ± 0.009	0.039 ± 0.012	0.03 ± 0.0061	0.016 ± 0.0032
Matsuura, NAGASAKI	13.4	365	1400	0.043 ± 0.01	0.12 ± 0.028	0.033 ± 0.0061	0.024 ± 0.0044
Ookuchi, KAGOSHIMA	12.7	359	1740	0.062 ± 0.011	0.17 ± 0.031	0.027 ± 0.0057	0.016 ± 0.0033
Sendai, KAGOSHIMA	11.4	336	1630	0.036 ± 0.0089	0.11 ± 0.027	0.044 ± 0.0066	0.027 ± 0.0041
Oct, 1998							
Yamagata, YAMAGATA	17.9	609	1980	0.057 ± 0.01	0.094 ± 0.017	0.045 ± 0.0089	0.023 ± 0.0045
Sagae, YAMAGATA	18.5	542	2320	0.053 ± 0.01	0.097 ± 0.018	0.067 ± 0.0095	0.029 ± 0.0041
Kochi, KOCHI	14.5	530	1980	0.055 ± 0.012	0.1 ± 0.023	0.043 ± 0.008	0.022 ± 0.004
Saga-machi, KOCHI	14.6	478	1650	0.059 ± 0.013	0.12 ± 0.028	0.013 ± 0.0062	0.0079 ± 0.0037
Ooita, OOITA	13.6	460	2040	0.028 ± 0.0097	0.061 ± 0.021	0.026 ± 0.0066	0.013 ± 0.0032
Saiki, OOITA	11.8	368	1620	0.049 ± 0.011	0.13 ± 0.03	0.019 ± 0.0061	0.012 ± 0.00338

(2)-1 Strontuim-90 and Cesiumu-137 in Rice(producting districts)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (2)-1 : Strontuim-90 and Cesiumu-137 in Rice(producting districts)

Location	Component			90Sr		137Cs	
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Dec,1998							
Utsunomiya,TOCHIGI	0.632	0.027	0.866	0 ± 0.0057	0 ± 0.21	0.012 ± 0.0052	0.014 ± 0.0061
Takane-machi,YAMANASHI	0.728	0.036	1.32	0.011 ± 0.0056	0.31 ± 0.15	0.0055 ± 0.0053	0.0042 ± 0.004
Kasai,HYOUGO	0.565	0.033	0.78	0.017 ± 0.0059	0.53 ± 0.18	0 ± 0.0032	0 ± 0.0041
Chikushino,FUKUOKA	0.489	0.04	0.355	0.002 ± 0.0057	0.05 ± 0.14	0.049 ± 0.0071	0.14 ± 0.02
Jan,1999							
Ishii-machi,TOKUSHIMA	0.504	0.035	0.978	0 ± 0.0048	0 ± 0.14	0.0009 ± 0.0042	0.0009 ± 0.0042
Nov,1998							
Ishikari-machi,HOKKAID	0.594	0.03	0.766	0.015 ± 0.0067	0.52 ± 0.23	0.0058 ± 0.0046	0.0075 ± 0.006
Takizawa-mura,IWATE	0.711	0.028	0.839	0.0039 ± 0.0059	0.14 ± 0.221	0.044 ± 0.0073	0.052 ± 0.0088
Ishinomaki,MIYAGI	0.738	0.043	0.79	0 ± 0.0054	0 ± 0.13	0.0048 ± 0.0039	0.0061 ± 0.0049
Fukushima,FUKUSHIMA	0.662	0.033	0.722	0.006 ± 0.0058	0.18 ± 0.17	0.019 ± 0.0055	0.026 ± 0.0076
Maebashi,GUNMA	0.563	0.039	0.687	0.0081 ± 0.005	0.21 ± 0.13	0.0039 ± 0.0039	0.0056 ± 0.0057
Toyosina-machi,NAGANO	0.45	0.033	0.837	0.0006 ± 0.0039	0.02 ± 0.12	0 ± 0.0032	0 ± 0.0038
Kosugi-machi,TOYAMA	0.42	0.042	0.865	0.01 ± 0.0062	0.24 ± 0.15	0 ± 0.0041	0 ± 0.0048
Kashihara,NARA	0.694	0.032	0.826	0.0059 ± 0.0049	0.19 ± 0.16	0 ± 0.0036	0 ± 0.0043
Usa,OOITA	0.584	0.031	0.765	0.0066 ± 0.0053	0.21 ± 0.17	0 ± 0.0037	0 ± 0.0048
Saga,SAGA	0.694	0.049	0.937	0.0093 ± 0.0054	0.19 ± 0.11	0 ± 0.004	0 ± 0.0042
Oct,1998							
Maki-machi,NIIGATA	0.651	0.03	0.846	0.0098 ± 0.0061	0.33 ± 0.2	0.0016 ± 0.0049	0.0019 ± 0.0058
Mito,IBARAKI	0.581	0.039	0.581	0.012 ± 0.0062	0.3 ± 0.16	0.047 ± 0.0071	0.08 ± 0.012
Kanazawa,ISHIKAWA	0.622	0.035	0.802	0.0014 ± 0.0059	0.04 ± 0.17	0.0034 ± 0.0054	0.0042 ± 0.0068
Miki-machi,KAGAWA	0.687	0.031	0.625	0.0018 ± 0.0052	0.06 ± 0.17	0.0029 ± 0.0042	0.0046 ± 0.0068

Location	Component			90Sr				137Cs			
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)		(Bq/gCa)		(Bq/kgwet)		(Bq/gK)	
Yamaguchi, YAMAGUCHI	0.576	0.031	0.778	0.016	± 0.0065	0.51	± 0.21	0.0099	± 0.0047	0.013	± 0.0061
Koushi-machi, KUMAMOTO	0.406	0.022	0.564	0.0007	± 0.0062	0.03	± 0.28	0	± 0.004	0	± 0.0071

(2)-2 Strontuim-90 and Cesiumu-137 in Rice(consuming districts)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (2)-2 : Strontuim-90 and Cesiumu-137 in Rice(consuming districts)

Location	Component			90Sr		137Cs	
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Dec,1998							
Nagoya,AICHI	0.54	0.024	0.848	0.0043 ± 0.0056	0.18 ± 0.24	0 ± 0.0038	0 ± 0.0045
Tottori,TOTTORI	0.462	0.04	1	0.0017 ± 0.0046	0.04 ± 0.12	0.069 ± 0.0082	0.069 ± 0.0082
Kobe,HYOUGO	0.631	0.031	0.663	0.01 ± 0.0051	0.33 ± 0.17	0.0075 ± 0.0041	0.011 ± 0.0061
Seto-machi,OKAYAMA	0.44	0.026	0.691	0.0051 ± 0.0055	0.19 ± 0.21	0.0037 ± 0.0039	0.0053 ± 0.0056
Jan,1999							
Hirosaki,AOMORI	0.395	0.038	0.901	0.014 ± 0.0058	0.37 ± 0.15	0.28 ± 0.006	0.031 ± 0.0066
Kochi,KOCHI	0.616	0.032	0.721	0.0012 ± 0.0048	0.04 ± 0.15	0.0095 ± 0.0042	0.013 ± 0.0058
Nagasaki,NAGASAKI	0.443	0.036	0.882	0.02 ± 0.0071	0.56 ± 0.2	0.0051 ± 0.0047	0.0058 ± 0.0054
Nov,1998							
Sapporo,HOKKAIDOU	0.564	0.034	0.919	0.011 ± 0.0061	0.33 ± 0.18	0.0094 ± 0.0047	0.01 ± 0.0051
Akita,AKITA	0.501	0.027	0.611	0.012 ± 0.0068	0.45 ± 0.26	0.016 ± 0.0054	0.027 ± 0.0088
Yamagata,YAMAGATA	0.513	0.032	0.641	0.0041 ± 0.0057	0.13 ± 0.18	0.016 ± 0.0046	0.025 ± 0.0072
Yokohama,KANAGAWA	0.521	0.03	0.667	0.0014 ± 0.0059	0.04 ± 0.19	0.0086 ± 0.0054	0.013 ± 0.008
Shizuoka,SHIZUOKA	0.401	0.034	0.762	0.016 ± 0.0062	0.46 ± 0.18	0.0048 ± 0.0044	0.0063 ± 0.0058
Kyoto,KYOTO	0.401	0.034	0.818	0.0033 ± 0.0047	0.1 ± 0.14	0.002 ± 0.0041	0.0025 ± 0.005
Osaka,OSAKA	0.603	0.028	0.736	0.0058 ± 0.0049	0.21 ± 0.17	0 ± 0.0036	0 ± 0.0049
Kagoshima,KAGOSHIMA	0.501	0.034	0.696	0.0006 ± 0.0048	0.02 ± 0.14	0.025 ± 0.006	0.036 ± 0.0087
Yonagusuku-machi,Okina	0.415	0.025	0.834	0 ± 0.0044	0 ± 0.18	0.008 ± 0.0039	0.0096 ± 0.0047
Oct,1998							
Niigata,NIIGATA	0.528	0.031	0.639	0.018 ± 0.0077	0.59 ± 0.25	0.0018 ± 0.0052	0.0028 ± 0.0082
Urawa,SAITAMA	0.555	0.029	0.694	0.0029 ± 0.0052	0.1 ± 0.18	0 ± 0.0032	0 ± 0.0047
Shinjuku,TOKYO	0.555	0.04	0.816	0.0096 ± 0.005	0.24 ± 0.13	0.017 ± 0.005	0.02 ± 0.0062

Location	Component			90Sr		137Cs	
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Fukui,FUKUI	0.411	0.036	0.748	0.0088 ± 0.0063	0.24 ± 0.17	0.026 ± 0.0059	0.035 ± 0.0079
Hiroshima,HIROSHIMA	0.459	0.029	0.845	0 ± 0.0042	0 ± 0.15	0.0065 ± 0.0042	0.0077 ± 0.005
Matsuyama,EHIME	0.477	0.028	0.725	0 ± 0.0055	0 ± 0.19	0.0074 ± 0.0039	0.01 ± 0.0054

(3)-1 Strontuim-90 and Cesiumu-137 in Milk(producting districts for domestic program)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (3)-1 : Strontuim-90 and Cesiumu-137 in Milk(producting districts for domestic program)

Location	Component			90Sr		137Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/g Ca)	(Bq/kgwet)	(Bq/g K)
Dec,1998							
Matsue,SHIMANE	0.73	1.15	1.53	0.018 ± 0.0062	0.015 ± 0.0054	0.009 ± 0.0044	0.0059 ± 0.0029
Feb,1999							
Katsuyama,FUKUI	0.75	1.15	1.52	0.0074 ± 0.0058	0.0064 ± 0.0051	0.016 ± 0.0052	0.011 ± 0.0034
Fujimi-mura,GUNMA	0.71	1.15	1.6	0.02 ± 0.0061	0.017 ± 0.0053	0.008 ± 0.0043	0.005 ± 0.0027
Koushi-machi,KUMAMOTO	0.73	1.16	1.54	0.035 ± 0.0088	0.03 ± 0.0076	0.014 ± 0.0065	0.009 ± 0.0042
Takizawa-mura,IWATE	0.71	1.04	1.62	0.03 ± 0.0076	0.028 ± 0.0073	0.036 ± 0.008	0.022 ± 0.0049
Mito,IBARAKI	0.75	1.14	1.54	0.032 ± 0.0077	0.028 ± 0.0068	0.017 ± 0.0048	0.011 ± 0.0031
Tiyoda-machi,HIROSAMA	0.63	0.98	1.3	0.016 ± 0.0063	0.016 ± 0.0064	0.036 ± 0.0057	0.027 ± 0.0044
Takahara-machi,MIYAZAK	0.73	1.05	1.58	0.014 ± 0.0061	0.013 ± 0.0058	0.043 ± 0.008	0.027 ± 0.005
Kasamatsu-machi,GIFU	0.7	1.14	1.39	0.036 ± 0.0047	0.031 ± 0.0041	0.0057 ± 0.0042	0.0041 ± 0.003
Kajiki-machi,KAGOSHIMA	0.75	1.15	1.59	0.023 ± 0.0078	0.02 ± 0.0067	0.016 ± 0.0062	0.01 ± 0.0039
Nishinasuno-machi,TOCH	0.74	1.05	1.69	0.028 ± 0.0096	0.027 ± 0.0091	0.037 ± 0.0085	0.022 ± 0.005
Oshimizu-machi,ISHIKAW	0.77	1.2	1.62	0.033 ± 0.0079	0.027 ± 0.0066	0 ± 0.0056	0 ± 0.0034
Tonami,TOYAMA	0.72	1.05	1.5	0.028 ± 0.0082	0.026 ± 0.0078	0.026 ± 0.0059	0.017 ± 0.0039
Yachimata,CHIBA	0.77	1.15	1.62	0.021 ± 0.008	0.018 ± 0.0069	0.015 ± 0.0062	0.0094 ± 0.0038
Hachijou-machi,TOKYO	0.58	0.88	1.08	0.044 ± 0.0089	0.049 ± 0.01	0.0024 ± 0.0036	0.0022 ± 0.0034
Kujuu-machi,OOITA	0.74	1.09	1.57	0.02 ± 0.0076	0.018 ± 0.0069	0.15 ± 0.011	0.092 ± 0.0069
Aomori,AOMORI	0.74	1.16	1.52	0.013 ± 0.0079	0.011 ± 0.0068	0.014 ± 0.0073	0.009 ± 0.0048
Kochi,KOCHI	0.74	1.13	1.56	0.03 ± 0.0076	0.026 ± 0.0068	0.0004 ± 0.0042	0.0003 ± 0.0027
Takase-machi,KAGAWA	0.72	1.12	1.54	0.014 ± 0.0059	0.013 ± 0.0053	0.0098 ± 0.0039	0.0064 ± 0.0026
Kamiita-machi,TOKUSHIM	0.72	1.13	1.5	0.024 ± 0.0069	0.021 ± 0.0061	0.0032 ± 0.0037	0.0021 ± 0.0025

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Matsue,SHIMANE	0.76	1.16	1.5	0.023	± 0.0071	0.02	± 0.0061	0.0051	± 0.0042	0.0034	± 0.0028
Mihara-machi,HYOUGO	0.73	1.17	1.52	0.016	± 0.0058	0.014	± 0.0049	0.013	± 0.0046	0.0086	± 0.003
Yasu-machi,FUKUOKA	0.73	1.11	1.54	0.036	± 0.0081	0.032	± 0.0073	0.0054	± 0.0038	0.0035	± 0.0025
Oouda-machi,NARA	0.75	1.07	1.53	0.025	± 0.0071	0.024	± 0.0066	0.013	± 0.0044	0.0083	± 0.0029
Oouchiyama-mura,MIE	0.73	1.09	1.52	0.032	± 0.0079	0.029	± 0.0072	0.0024	± 0.0038	0.0016	± 0.0025
Hino-machi,SHIGA	0.72	1.11	1.57	0.018	± 0.0072	0.016	± 0.0064	0	± 0.0042	0	± 0.0027
Iwamuro-mura,NIIGATA	0.75	1.15	1.55	0.021	± 0.0075	0.019	± 0.0065	0.0075	± 0.006	0.0049	± 0.0039
kawauchi-machi,EHIME	0.73	1.13	1.54	0.015	± 0.0071	0.014	± 0.0063	0.0069	± 0.0041	0.0045	± 0.0027
Jan,1999											
Shijounawate,OSAKA	0.73	1.14	1.44	0.063	± 0.011	0.055	± 0.0095	0.01	± 0.0061	0.0071	± 0.0042
Mar,1999											
Takane-machi,YAMANASHI	0.67	1.03	1.35	0.031	± 0.0079	0.03	± 0.0077	0.0062	± 0.0059	0.0046	± 0.0044
Nov,1998											
Sapporo,HOKKAIDOU	0.75	1.3	1.56	0.044	± 0.0091	0.034	± 0.007	0.024	± 0.0076	0.015	± 0.0049
Tiyoda-machi,HIROSAMA	0.71	1.1	1.49	0.029	± 0.0082	0.026	± 0.0074	0.012	± 0.0067	0.008	± 0.0045
Hachijou-machi,TOKYO	0.75	1.1	1.48	0.07	± 0.01	0.064	± 0.0094	0.0077	± 0.0045	0.0052	± 0.003
Katsuyama,FUKUI	0.75	1.14	1.6	0.014	± 0.0064	0.012	± 0.0057	0.0067	± 0.0066	0.0042	± 0.0041
Yasu-machi,FUKUOKA	0.73	1.13	1.51	0.029	± 0.0051	0.026	± 0.0045	0.016	± 0.0074	0.01	± 0.0049
Kochi,KOCHI	0.75	1.14	1.6	0.024	± 0.0085	0.021	± 0.0075	0.0065	± 0.0058	0.0041	± 0.0036
Kajiki-machi,KAGOSHIMA	0.74	1.15	1.58	0.017	± 0.0079	0.015	± 0.0069	0.011	± 0.0073	0.0072	± 0.0046
Iwamuro-mura,NIIGATA	0.76	1.21	1.53	0.0089	± 0.0065	0.0074	± 0.0054	0.0058	± 0.0049	0.0038	± 0.0032
Shijounawate,OSAKA	0.73	1.15	1.44	0.044	± 0.0062	0.039	± 0.0054	0.013	± 0.007	0.0092	± 0.0049
Oct,1998											
Yamato-machi,SAGA	0.74	1.12	1.52	0.023	± 0.0066	0.02	± 0.0059	0.0055	± 0.0043	0.0036	± 0.0028

(3)-2 Strontuim-90 and Cesiumu-137 in Milk(producting districts for WHO program)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (3)-2 : Strontuim-90 and Cesiumu-137 in Milk(producting districts for WHO program)

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Dec,1998											
Matsue,SHIMANE	0.73	1.15	1.53	0.018	± 0.0062	0.015	± 0.0054	0.009	± 0.0044	0.0059	± 0.0029
Feb,1999											
Kajiki-machi,KAGOSHIMA	0.75	1.15	1.59	0.023	± 0.0078	0.02	± 0.0067	0.016	± 0.0062	0.01	± 0.0039
Kochi,KOCHI	0.74	1.13	1.56	0.03	± 0.0076	0.026	± 0.0068	0.0004	± 0.0042	0.0003	± 0.0027
Matsue,SHIMANE	0.76	1.16	1.5	0.023	± 0.0071	0.02	± 0.0061	0.0051	± 0.0042	0.0034	± 0.0028
Iwamuro-mura,NIIGATA	0.75	1.15	1.55	0.021	± 0.0075	0.019	± 0.0065	0.0075	± 0.006	0.0049	± 0.0039
Hachijou-machi,TOKYO	0.58	0.88	1.08	0.044	± 0.0089	0.049	± 0.01	0.0024	± 0.0036	0.0022	± 0.0034
Tiyoda-machi,HIROSAMA	0.63	0.98	1.3	0.016	± 0.0063	0.016	± 0.0064	0.036	± 0.0057	0.027	± 0.0044
Yasu-machi,FUKUOKA	0.73	1.11	1.54	0.036	± 0.0081	0.032	± 0.0073	0.0054	± 0.0038	0.0035	± 0.0025
Katsuyama,FUKUI	0.75	1.15	1.52	0.0074	± 0.0058	0.0064	± 0.0051	0.016	± 0.0052	0.011	± 0.0034
Jan,1999											
Shijounawate,OSAKA	0.73	1.14	1.44	0.063	± 0.011	0.055	± 0.0095	0.01	± 0.0061	0.0071	± 0.0042
Nov,1998											
Tiyoda-machi,HIROSAMA	0.71	1.1	1.49	0.029	± 0.0082	0.026	± 0.0074	0.012	± 0.0067	0.008	± 0.0045
Sapporo,HOKKAIDOU	0.75	1.3	1.56	0.044	± 0.0091	0.034	± 0.007	0.024	± 0.0076	0.015	± 0.0049
Hachijou-machi,TOKYO	0.75	1.1	1.48	0.07	± 0.01	0.064	± 0.0094	0.0077	± 0.0045	0.0052	± 0.003
Katsuyama,FUKUI	0.75	1.14	1.6	0.014	± 0.0064	0.012	± 0.0057	0.0067	± 0.0066	0.0042	± 0.0041
Kajiki-machi,KAGOSHIMA	0.74	1.15	1.58	0.017	± 0.0079	0.015	± 0.0069	0.011	± 0.0073	0.0072	± 0.0046
Kochi,KOCHI	0.75	1.14	1.6	0.024	± 0.0085	0.021	± 0.0075	0.0065	± 0.0058	0.0041	± 0.0036
Iwamuro-mura,NIIGATA	0.76	1.21	1.53	0.0089	± 0.0065	0.0074	± 0.0054	0.0058	± 0.0049	0.0038	± 0.0032
Shijounawate,OSAKA	0.73	1.15	1.44	0.044	± 0.0062	0.039	± 0.0054	0.013	± 0.007	0.0092	± 0.0049

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Yasu-machi,FUKUOKA	0.73	1.13	1.51	0.029	± 0.0051	0.026	± 0.0045	0.016	± 0.0074	0.01	± 0.0049

(3)-3 Strontuim-90 and Cesiumu-137 in Milk(consuming districts)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (3)-3 : Strontuim-90 and Cesiumu-137 in Milk(consuming districts)

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Dec,1998											
Akita,AKITA	0.72	1.13	1.52	0.043	± 0.0099	0.038	± 0.0087	0.037	± 0.0084	0.024	± 0.0055
Matsue,SHIMANE	0.73	1.15	1.53	0.018	± 0.0062	0.015	± 0.0054	0.009	± 0.0044	0.0059	± 0.0029
Feb,1999											
Urawa,SAITAMA	0.73	1.11	1.52	0.022	± 0.0069	0.02	± 0.0062	0.0004	± 0.0042	0.0003	± 0.0028
Chikushino,FUKUOKA	0.72	1.1	1.49	0.033	± 0.0076	0.03	± 0.0069	0.021	± 0.0054	0.014	± 0.0037
Tiyoda-machi,HIROSAMA	0.63	0.98	1.3	0.016	± 0.0063	0.016	± 0.0064	0.036	± 0.0057	0.027	± 0.0044
Yamaguchi,YAMAGUCHI	0.7	1.11	1.5	0.022	± 0.008	0.02	± 0.0071	0.014	± 0.0064	0.0096	± 0.0043
Nagoya,AICHI	0.73	1.11	1.54	0.018	± 0.0071	0.016	± 0.0063	0.032	± 0.0075	0.021	± 0.0049
Kasamatsu-machi,GIFU	0.7	1.14	1.39	0.036	± 0.0047	0.031	± 0.0041	0.0057	± 0.0042	0.0041	± 0.003
Katsuyama,FUKUI	0.75	1.15	1.52	0.0074	± 0.0058	0.0064	± 0.0051	0.016	± 0.0052	0.011	± 0.0034
Fukui,FUKUI	0.72	1.12	1.52	0.015	± 0.0073	0.013	± 0.0065	0.0018	± 0.0065	0.0012	± 0.0043
Shizuoka,SHIZUOKA	0.71	1.09	1.47	0.021	± 0.007	0.019	± 0.0064	0.015	± 0.0052	0.01	± 0.0036
Oshimizu-machi,ISHIKAW	0.77	1.2	1.62	0.033	± 0.0079	0.027	± 0.0066	0	± 0.0056	0	± 0.0034
Tonami,TOYAMA	0.72	1.05	1.5	0.028	± 0.0082	0.026	± 0.0078	0.026	± 0.0059	0.017	± 0.0039
Yokohama,KANAGAWA	0.73	1.11	1.52	0.0099	± 0.0069	0.009	± 0.0062	0.0077	± 0.0046	0.0051	± 0.003
Hachijou-machi,TOKYO	0.58	0.88	1.08	0.044	± 0.0089	0.049	± 0.01	0.0024	± 0.0036	0.0022	± 0.0034
Koushi-machi,KUMAMOTO	0.73	1.16	1.54	0.035	± 0.0088	0.03	± 0.0076	0.014	± 0.0065	0.009	± 0.0042
Fujimi-mura,GUNMA	0.71	1.15	1.6	0.02	± 0.0061	0.017	± 0.0053	0.008	± 0.0043	0.005	± 0.0027
Yasu-machi,FUKUOKA	0.73	1.11	1.54	0.036	± 0.0081	0.032	± 0.0073	0.0054	± 0.0038	0.0035	± 0.0025
Yachimata,CHIBA	0.77	1.15	1.62	0.021	± 0.008	0.018	± 0.0069	0.015	± 0.0062	0.0094	± 0.0038
Nishinasuno-machi,TOCH	0.74	1.05	1.69	0.028	± 0.0096	0.027	± 0.0091	0.037	± 0.0085	0.022	± 0.005

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Mito, IBARAKI	0.75	1.14	1.54	0.032	± 0.0077	0.028	± 0.0068	0.017	± 0.0048	0.011	± 0.0031
Niigata, NIIGATA	0.74	1.15	1.56	0.021	± 0.0076	0.018	± 0.0067	0.019	± 0.0065	0.012	± 0.0042
Fukushima, FUKUSHIMA	0.74	1.15	1.54	0.024	± 0.0079	0.021	± 0.0069	0.01	± 0.0044	0.0068	± 0.0029
Yamagata, YAMAGATA	0.68	1.05	1.43	0.028	± 0.0074	0.026	± 0.0071	0	± 0.0034	0	± 0.0024
Takizawa-mura, IWATE	0.71	1.04	1.62	0.03	± 0.0076	0.028	± 0.0073	0.036	± 0.008	0.022	± 0.0049
Sapporo, HOKKAIDOU	0.72	1.16	1.5	0.04	± 0.0088	0.035	± 0.0076	0.025	± 0.0054	0.017	± 0.0036
kawauchi-machi, EHIME	0.7	1.11	1.49	0.02	± 0.0064	0.018	± 0.0058	0.0081	± 0.004	0.0054	± 0.0027
kawauchi-machi, EHIME	0.73	1.13	1.54	0.015	± 0.0071	0.014	± 0.0063	0.0069	± 0.0041	0.0045	± 0.0027
Shinjuku, TOKYO	0.69	1.08	1.49	0.026	± 0.0075	0.024	± 0.0069	0.044	± 0.007	0.03	± 0.0047
Iwamuro-mura, NIIGATA	0.75	1.15	1.55	0.021	± 0.0075	0.019	± 0.0065	0.0075	± 0.006	0.0049	± 0.0039
Yonago, TOTTORI	0.7	1.08	1.46	0.011	± 0.006	0.01	± 0.0056	0.024	± 0.0052	0.016	± 0.0036
Mihara-machi, HYOUGO	0.73	1.17	1.52	0.016	± 0.0058	0.014	± 0.0049	0.013	± 0.0046	0.0086	± 0.003
Kujuu-machi, OOITA	0.74	1.09	1.57	0.02	± 0.0076	0.018	± 0.0069	0.15	± 0.011	0.092	± 0.0069
Shinguu, WAKAYAMA	0.66	1.01	1.42	0.02	± 0.0066	0.02	± 0.0065	0	± 0.0032	0	± 0.0022
Takahara-machi, MIYAZAK	0.73	1.05	1.58	0.014	± 0.0061	0.013	± 0.0058	0.043	± 0.008	0.027	± 0.005
Oouda-machi, NARA	0.75	1.07	1.53	0.025	± 0.0071	0.024	± 0.0066	0.013	± 0.0044	0.0083	± 0.0029
Okayama, OKAYAMA	0.7	1.09	1.52	0.031	± 0.0084	0.029	± 0.0077	0.0044	± 0.0054	0.0029	± 0.0036
Matsue, SHIMANE	0.76	1.16	1.5	0.023	± 0.0071	0.02	± 0.0061	0.0051	± 0.0042	0.0034	± 0.0028
Aomori, AOMORI	0.74	1.16	1.52	0.013	± 0.0079	0.011	± 0.0068	0.014	± 0.0073	0.009	± 0.0048
Hino-machi, SHIGA	0.72	1.11	1.57	0.018	± 0.0072	0.016	± 0.0064	0	± 0.0042	0	± 0.0027
Matsue, SHIMANE	0.73	1.1	1.43	0.026	± 0.0079	0.023	± 0.0072	0.0049	± 0.0049	0.0034	± 0.0034
Kamiita-machi, TOKUSHIM	0.72	1.13	1.5	0.024	± 0.0069	0.021	± 0.0061	0.0032	± 0.0037	0.0021	± 0.0025
Yonagusuku-machi, Okina	0.73	1.15	1.52	0.013	± 0.0061	0.012	± 0.0053	0.0057	± 0.004	0.0038	± 0.0027
Takase-machi, KAGAWA	0.72	1.12	1.54	0.014	± 0.0059	0.013	± 0.0053	0.0098	± 0.0039	0.0064	± 0.0026
Kajiki-machi, KAGOSHIMA	0.75	1.15	1.59	0.023	± 0.0078	0.02	± 0.0067	0.016	± 0.0062	0.01	± 0.0039
Kagoshima, KAGOSHIMA	0.74	1.17	1.56	0.028	± 0.009	0.024	± 0.0077	0.017	± 0.077	0.011	± 0.0049
Nagasaki, NAGASAKI	0.68	1.06	1.45	0.014	± 0.00567	0.013	± 0.0054	0.0027	± 0.004	0.0019	± 0.0028
Hiroshima, HIROSHIMA	0.82	1.23	1.66	0.02	± 0.0078	0.016	± 0.0064	0.022	± 0.0054	0.013	± 0.0033

Location	Component			90Sr				137Cs			
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)		(Bq/g Ca)		(Bq/kgwet)		(Bq/g K)	
Kochi,KOCHI	0.75	1.15	1.56	0.023	± 0.0065	0.02	± 0.0057	0.011	± 0.0042	0.0069	± 0.0027
Kochi,KOCHI	0.74	1.13	1.56	0.03	± 0.0076	0.026	± 0.0068	0.0004	± 0.0042	0.0003	± 0.0027
Oouchiyama-mura,MIE Jan,1999	0.73	1.09	1.52	0.032	± 0.0079	0.029	± 0.0072	0.0024	± 0.0038	0.0016	± 0.0025
Osaka,OSAKA	0.71	1.09	1.52	0.044	± 0.0095	0.04	± 0.0088	0.046	± 0.0087	0.03	± 0.0057
Shijounawate,OSAKA Mar,1999	0.73	1.14	1.44	0.063	± 0.011	0.055	± 0.0095	0.01	± 0.0061	0.0071	± 0.0042
Nagano,NAGANO	0.68	1.05	1.51	0.021	± 0.0068	0.02	± 0.0065	0.0043	± 0.006	0.0029	± 0.0039
Takane-machi,YAMANASHI Nov,1998	0.67	1.03	1.35	0.031	± 0.0079	0.03	± 0.0077	0.0062	± 0.0059	0.0046	± 0.0044
Shijounawate,OSAKA	0.73	1.15	1.44	0.044	± 0.0062	0.039	± 0.0054	0.013	± 0.007	0.0092	± 0.0049
Katsuyama,FUKUI	0.75	1.14	1.6	0.014	± 0.0064	0.012	± 0.0057	0.0067	± 0.0066	0.0042	± 0.0041
Iwamuro-mura,NIIGATA	0.76	1.21	1.53	0.0089	± 0.0065	0.0074	± 0.0054	0.0058	± 0.0049	0.0038	± 0.0032
Kajiki-machi,KAGOSHIMA	0.74	1.15	1.58	0.017	± 0.0079	0.015	± 0.0069	0.011	± 0.0073	0.0072	± 0.0046
Sapporo,HOKKAIDOU	0.75	1.3	1.56	0.044	± 0.0091	0.034	± 0.007	0.024	± 0.0076	0.015	± 0.0049
Kochi,KOCHI	0.75	1.14	1.6	0.024	± 0.0085	0.021	± 0.0075	0.0065	± 0.0058	0.0041	± 0.0036
Yasu-machi,FUKUOKA	0.73	1.13	1.51	0.029	± 0.0051	0.026	± 0.0045	0.016	± 0.0074	0.01	± 0.0049
Tiyoda-machi,HIROSAMA	0.71	1.1	1.49	0.029	± 0.0082	0.026	± 0.0074	0.012	± 0.0067	0.008	± 0.0045
Hachijou-machi,TOKYO Oct,1998	0.75	1.1	1.48	0.07	± 0.01	0.064	± 0.0094	0.0077	± 0.0045	0.0052	± 0.003
Kyoto,KYOTO	0.73	1.11	1.56	0.0085	± 0.0058	0.0077	± 0.0052	0.016	± 0.0045	0.01	± 0.0029
Yamato-machi,SAGA	0.74	1.12	1.52	0.023	± 0.0066	0.02	± 0.0059	0.0055	± 0.0043	0.0036	± 0.0028

(3)-4 Strontuim-90 and Cesiumu-137 in Milk(powdered milk)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (3)-4 : Strontuim-90 and Cesiumu-137 in Milk(powdered milk)

Location	Component			90Sr		137Cs	
	(%)	(g/kg)	(g/kg)	(Bq/kg)	(Bq/g Ca)	(Bq/Kg)	(Bq/g K)
Jan,1999							
Sample A,サンプルA	7.91	13.3	17.2	0.32 ± 0.027	0.024 ± 0.002	0.4 ± 0.025	0.023 ± 0.0014
Sample B,サンプルB	2.51	3.66	6.35	0.035 ± 0.0091	0.0094 ± 0.0025	0.11 ± 0.012	0.017 ± 0.0018
Sample C,サンプルC	7.95	13	17.2	0.63 ± 0.036	0.048 ± 0.0028	2.4 ± 0.06	0.14 ± 0.003
Sample D,サンプルD	2.34	3.81	5.36	0.017 ± 0.0076	0.0044 ± 0.002	0.033 ± 0.0079	0.0061 ± 0.0015
Sample E,サンプルE	2.49	4.28	5.6	0.092 ± 0.012	0.0211 ± 0.0028	0.11 ± 0.012	0.019 ± 0.0021
Sample F,サンプルF	2.37	3.58	5.55	0.037 ± 0.0091	0.01 ± 0.0025	0.16 ± 0.013	0.029 ± 0.0024

(4)-1 Strontuim-90 and Cesiumu-137 in Vegetables(produccing districts)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (4)-1 : Strontuim-90 and Cesiumu-137 in Vegetables(produccing districts)

Location	Component			90Sr		137Cs	
	Ash(%)	(g/kg)	(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/kgK)
Dec,1998							
Mito,IBARAKI	2	0.822	9.32	0.13 ± 0.013	0.15 ± 0.016	0.019 ± 0.0055	0.0021 ± 0.00059
Utsunomiya,TOCHIGI	1	0.544	1.87	0.29 ± 0.019	0.54 ± 0.035	0.01 ± 0.0047	0.0055 ± 0.0025
Utsunomiya,TOCHIGI	0	0.286	1.38	0.11 ± 0.012	0.37 ± 0.042	0.016 ± 0.0055	0.012 ± 0.004
Takane-machi,YAMANASHI	2	1.21	6.61	0.54 ± 0.027	0.45 ± 0.023	0.0085 ± 0.0041	0.0013 ± 0.00062
Takane-machi,YAMANASHI	1	0.245	1.77	0.12 ± 0.015	0.49 ± 0.06	0.0048 ± 0.0037	0.0027 ± 0.0021
Toyama,TOYAMA	2	0.711	7.72	0.019 ± 0.0076	0.0027 ± 0.011	0.0065 ± 0.0043	0.00084 ± 0.00056
Kusu-machi,MIE	2	0.637	7.48	0.015 ± 0.004	0.024 ± 0.0063	0.026 ± 0.0074	0.0034 ± 0.00098
Kashihara,NARA	1	0.206	2.48	0.021 ± 0.0089	0.1 ± 0.043	0 ± 0.0028	0 ± 0.0011
Kashihara,NARA	1	0.296	5.02	0.023 ± 0.0086	0.077 ± 0.029	0.005 ± 0.0041	0.00099 ± 0.00081
Kokufu-machi,TOTTORI	0	0.183	1.69	0.28 ± 0.019	1.5 ± 0.11	0 ± 0.004	0 ± 0.0024
Kasai,HYOUGO	2	0.804	6.94	0.082 ± 0.011	0.1 ± 0.014	0.013 ± 0.0044	0.0018 ± 0.0063
Kasai,HYOUGO	0	0.16	2.06	0.11 ± 0.013	0.71 ± 0.082	0 ± 0.0029	0 ± 0.0014
Hiroshima,HIROSHIMA	0	0.164	1.84	0.0062 ± 0.006	0.038 ± 0.036	0.0007 ± 0.0032	0.0004 ± 0.0017
Kubokawa-machi,KOCHI	1	0.256	2.11	0.099 ± 0.013	0.39 ± 0.51	0.006 ± 0.0037	0.0028 ± 0.0018
Kubokawa-machi,KOCHI	2	0.481	7.04	0.061 ± 0.01	0.13 ± 0.022	0.032 ± 0.0063	0.0045 ± 0.0009
Usa,OOITA	2	0.509	7.66	0.088 ± 0.012	0.17 ± 0.024	0.0048 ± 0.0033	0.00063 ± 0.00043
Usa,OOITA	1	0.18	2.67	0.054 ± 0.0092	0.3 ± 0.051	0.023 ± 0.003	0.0009 ± 0.0011
Takanabe-machi,MIYAZAK	0	0.218	1.65	0.19 ± 0.017	0.86 ± 0.078	0.0086 ± 0.0044	0.0052 ± 0.0027
Kaimon-machi,KAGOSHIMA	1	0.254	2.24	0.13 ± 0.013	0.5 ± 0.051	0.024 ± 0.0055	0.011 ± 0.0025
Feb,1999							
Nachikatsuura-machi,WA	1	0.206	2.18	0.079 ± 0.012	0.38 ± 0.06	0 ± 0.0035	0 ± 0.0016
Nachikatsuura-machi,WA	1	0.249	2.03	0.012 ± 0.0063	0.047 ± 0.025	0.009 ± 0.0041	0.0044 ± 0.002

Location	Component			90Sr		137Cs	
	Ash(%)	(g/kg)	(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/kgK)
Jan, 1999							
Kumatori-machi, OSAKA	1	0.397	2.77	0.046 ± 0.0079	0.11 ± 0.02	0.0036 ± 0.0039	0.0013 ± 0.0014
Ishii-machi, TOKUSHIMA	1	0.277	2.11	0.0043 ± 0.0052	0.015 ± 0.019	0 ± 0.0034	0 ± 0.0016
Ishii-machi, TOKUSHIMA	2	0.81	8.06	0.032 ± 0.0079	0.04 ± 0.0098	0.0093 ± 0.005	0.00112 ± 0.00062
Yuya-machi, YAMAGUCHI	2	0.724	7	0.13 ± 0.013	0.18 ± 0.019	0.0069 ± 0.0046	0.00099 ± 0.00066
Yuya-machi, YAMAGUCHI	62	0.226	2.05	0.092 ± 0.012	0.41 ± 0.051	0.0098 ± 0.005	0.0048 ± 0.0024
Nov, 1998							
Sannohe-machi, AOMORI	0	0.326	1.84	0.054 ± 0.011	0.16 ± 0.0033	0.0078 ± 0.0039	0.0042 ± 0.0021
Sannohe-machi, AOMORI	1	0.224	2.28	0.083 ± 0.013	0.37 ± 0.057	0.012 ± 0.0053	0.0092 ± 0.0023
Fukushima, FUKUSHIMA	0	0.253	1.42	0.014 ± 0.0071	0.055 ± 0.028	0.0021 ± 0.0061	0.0015 ± 0.0043
Mito, IBARAKI	1	0.211	2.38	0.059 ± 0.0092	0.28 ± 0.044	0.0087 ± 0.005	0.0046 ± 0.0021
Chiba, CHIBA	1	0.346	2.29	0.21 ± 0.018	0.62 ± 0.052	0.0046 ± 0.0039	0.002 ± 0.0017
Chiba, CHIBA	2	0.581	8.05	0.011 ± 0.0075	0.018 ± 0.013	0 ± 0.0034	0 ± 0.00042
Maebashi, GUNMA	1	0.151	2.55	0.06 ± 0.011	0.39 ± 0.074	0.0055 ± 0.0033	0.0022 ± 0.0013
Maebashi, GUNMA	2	0.47	9.05	0.025 ± 0.0092	0.052 ± 0.02	0.01 ± 0.0045	0.0011 ± 0.0005
Saku, NAGANO	2	0.931	4.71	0.12 ± 0.016	0.12 ± 0.017	0.0008 ± 0.0037	0.00017 ± 0.00078
Saku, NAGANO	0	0.29	1.44	0.012 ± 0.0068	0.042 ± 0.023	0 ± 0.0033	0 ± 0.0023
Kosugi-machi, TOYAMA	1	0.183	1.84	0.034 ± 0.0093	0.19 ± 0.051	0.0048 ± 0.0044	0.0026 ± 0.0024
Gotenba, SHIZUOKA	2	0.773	9.52	0.038 ± 0.0087	0.49 ± 0.011	0.028 ± 0.0055	0.003 ± 0.00058
Gotenba, SHIZUOKA	1	0.166	2.27	0.065 ± 0.01	0.39 ± 0.063	0.033 ± 0.00556	0.014 ± 0.0025
Hamamatsu, SHIZUOKA	1	0.151	2.33	0.051 ± 0.01	0.34 ± 0.067	0.0022 ± 0.0029	0.0009 ± 0.0013
Fukui, FUKUI	0	0.163	1.64	0.0049 ± 0.006	0.03 ± 0.037	0.0092 ± 0.0066	0.0056 ± 0.004
Fukui, FUKUI	2	0.656	8.3	0.06 ± 0.0083	0.092 ± 0.013	0.0017 ± 0.0042	0.00021 ± 0.00051
Gifu, GIFU	2	0.725	7.08	0.038 ± 0.0112	0.052 ± 0.015	0.023 ± 0.0068	0.0033 ± 0.00096
Gifu, GIFU	0	0.241	1.61	0.033 ± 0.0095	0.14 ± 0.039	0.0036 ± 0.0054	0.0023 ± 0.0033
Rittou-machi, SHIGA	2	0.407	7.49	0.012 ± 0.007	0.03 ± 0.017	0 ± 0.0056	0 ± 0.00074
Meiwa-machi, MIE	1	0.302	2.02	0.12 ± 0.008	0.38 ± 0.028	0.018 ± 0.0062	0.009 ± 0.0031
Kurayoshi, TOTTORI	2	0.626	6.5	0.079 ± 0.011	0.13 ± 0.018	0.053 ± 0.0078	0.0081 ± 0.0012

Location	Component			90Sr		137Cs	
	Ash(%)	(g/kg)	(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/kgK)
Takamatsu,KAGAWA	1	0.166	3.16	0.01 ± 0.007	0.061 ± 0.042	0 ± 0.0024	0 ± 0.00076
Takamatsu,KAGAWA	1	0.881	4.06	0.046 ± 0.01	0.052 ± 0.012	0.008 ± 0.0041	0.002 ± 0.001
Matsuyama,EHIME	2	0.315	7.21	0.082 ± 0.012	0.26 ± 0.0337	0 ± 0.0038	0 ± 0.00052
Shime-machi,FUKUOKA	2	0.918	6.81	0.056 ± 0.011	0.061 ± 0.012	0.021 ± 0.0069	0.0031 ± 0.001
Shime-machi,FUKUOKA	0	0.155	2	0.01 ± 0.009	0.65 ± 0.058	0.0092 ± 0.0059	0.0046 ± 0.003
Saga,SAGA	0	0.113	1.57	0.0024 ± 0.0064	0.021 ± 0.057	0.0004 ± 0.0035	0.0002 ± 0.0023
Saga,SAGA	2	0.911	5.49	0.11 ± 0.013	0.13 ± 0.015	0.15 ± 0.012	0.028 ± 0.0021
Oct,1998							
Mutsu,AOMORI	0	10.376	1.6	0.36 ± 0.024	0.95 ± 0.064	0.02 ± 0.0054	0.012 ± 0.0034
Tamayama-mura,IWATE	1	0.271	2.4	0.059 ± 0.0081	0.22 ± 0.03	0 ± 0.0037	0 ± 0.0015
Tamayama-mura,IWATE	1	0.513	2.13	0.099 ± 0.0091	0.19 ± 0.018	0.01 ± 0.005	0.0048 ± 0.0023
Adogawa-machi,SHIGA	1	0.244	1.94	0.15 ± 0.017	0.66 ± 0.077	0.04 ± 0.0083	0.021 ± 0.0043

(4)-2 Strontuim-90 and Cesiumu-137 in Vegetables(consuming districts)
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (4)-2 : Strontuim-90 and Cesiumu-137 in Vegetables(consuming districts)

Location	Component			90Sr		137Cs	
	Ash(%)	(g/kg)	(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/kgK)
Dec,1998							
Okayama,OKAYAMA	0	0.235	1.82	0.049 ± 0.0083	0.21 ± 0.035	0.0024 ± 0.0031	0.0013 ± 0.0017
Okayama,OKAYAMA	2	0.515	8.28	0.012 ± 0.0077	0.024 ± 0.015	0.0085 ± 0.0045	0.001 ± 0.00054
Jan,1999							
Niigata,NIIGATA	0	0.183	1.51	0.032 ± 0.0086	0.17 ± 0.0047	0.0045 ± 0.0029	0.003 ± 0.0019
Yokohama,KANAGAWA	2	0.675	6.71	0.049 ± 0.0083	0.073 ± 0.012	0.016 ± 0.0055	0.0024 ± 0.00082
Yokohama,KANAGAWA	0	0.224	1.66	0.011 ± 0.0046	0.048 ± 0.02	0.0033 ± 0.0038	0.002 ± 0.0023
Nagasaki,NAGASAKI	2	0.983	4.9	0.043 ± 0.0099	0.044 ± 0.01	0.079 ± 0.0083	0.016 ± 0.0017
Nagasaki,NAGASAKI	0	0.114	1.35	0.014 ± 0.0071	0.12 ± 0.062	0 ± 0.0028	0 ± 0.0021
Nov,1998							
Akita,AKITA	0	0.265	2.05	0.048 ± 0.011	0.18 ± 0.04	0.019 ± 0.0072	0.0094 ± 0.0035
Akita,AKITA	1	0.69	1.4	0.31 ± 0.023	0.45 ± 0.034	0.43 ± 0.02	0.31 ± 0.015
Shinjuku,TOKYO	2	1.21	9.47	0.039 ± 0.01	0.032 ± 0.0086	0.013 ± 0.0046	0.0013 ± 0.00049
Shinjuku,TOKYO	0	0.193	1.36	0.1 ± 0.014	0.052 ± 0.071	0.014 ± 0.0045	0.01 ± 0.0033
Osaka,OSAKA	0	0.249	1.37	0.1 ± 0.014	0.41 ± 0.058	0.01 ± 0.0062	0.0076 ± 0.0045
Osaka,OSAKA	2	0.805	7.68	0.054 ± 0.011	0.067 ± 0.013	0.018 ± 0.007	0.0023 ± 0.00091
Matsuyama,EHIME	2	0.738	8.12	0.13 ± 0.013	0.17 ± 0.017	0.019 ± 0.0053	0.0023 ± 0.00066
Yonagusuku-machi,Okina	1	0.248	2.37	0.025 ± 0.0069	0.1 ± 0.028	0.0025 ± 0.0029	0.0011 ± 0.0012
Yonagusuku-machi,Okina	1	0.482	5.24	0.2 ± 0.017	0.41 ± 0.036	0.002 ± 0.0034	0.00038 ± 0.00065
Oct,1998							
Yamagata,YAMAGATA	0	0.38	1.33	0.029 ± 0.0089	0.077 ± 0.023	0.017 ± 0.0075	0.013 ± 0.0056
Yamagata,YAMAGATA	2	0.592	6.86	0.15 ± 0.017	0.026 ± 0.029	0.023 ± 0.007	0.0033 ± 0.001
Kanazawa,ISHIKAWA	1	0.239	2.06	0.024 ± 0.008	0.01 ± 0.034	0.052 ± 0.0089	0.025 ± 0.0043

Location	Component			90Sr				137Cs			
	Ash(%)	(g/kg)	(g/kg)	(Bq/kgwet)		(Bq/gCa)		(Bq/kgwet)		(Bq/kgK)	
Kanazawa, ISHIKAWA	2	0.576	6.71	0.077	± 0.012	0.13	± 0.021	0	± 0.0069	0	± 0.001
Kyoto, KYOTO	2	0.268	7.05	0.076	± 0.012	0.29	± 0.043	0.0026	± 0.0038	0.00038	± 0.00054
Kyoto, KYOTO	0	0.187	1.28	0.13	± 0.014	0.7	± 0.073	0.058	± 0.0071	0.045	± 0.0055

(5) Strontuim-90 and Cesiumu-137 in Sea Fish
(form Oct.1998 to Mar.1999)

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Table (5) : Strontuim-90 and Cesiumu-137 in Sea Fish

Location	Component			90Sr				137Cs			
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)		(Bq/gCa)		(Bq/kgwet)		(Bq/gK)	
(Branchiostegus sp)											
Nov,1998											
Nagasaki,NAGASAKI	1.2	0.258	3.82	0.013	± 0.015	0.05	± 0.059	0.21	± 0.024	0.054	± 0.0064
(Hexagrammos otakii)											
Oct,1998											
Souma,FUKUSHIMA	1.33	1.01	3.42	0.0013	± 0.0052	0.0013	± 0.0051	0.14	± 0.012	0.041	± 0.0035
(Limanda herzensteini)											
Nov,1998											
Mutsu,AOMORI	1.4	0.645	3.98	0.0075	± 0.0063	0.012	± 0.0098	0.099	± 0.0099	0.025	± 0.0025
Niigata,NIIGATA	1.56	0.917	3.82	0.0033	± 0.0054	0.0036	± 0.0059	0.076	± 0.0084	0.02	± 0.0022
Mikuni-machi,FUKUI	1.64	2.39	3.17	0.0007	± 0.0052	0.0003	± 0.0022	0.12	± 0.011	0.037	± 0.0036
Aji-machi,KAGAWA	3.26	7.62	3.73	0.0019	± 0.0058	0.0002	± 0.00076	0.07	± 0.01	0.019	± 0.0027
Feb,1999											
Ootake,HIROSHIMA	1.25	0.331	3.61	0.007	± 0.0067	0.021	± 0.02	0.086	± 0.01	0.024	± 0.0028
(Mugil cephalus)											
Dec,1998											
Ushimado-machi,OKAYAMA	1.25	0.335	4.2	0.0059	± 0.0063	0.018	± 0.019	0.087	± 0.011	0.021	± 0.0025
(Pterocaesio diagramma)											
Nov,1998											

Location	Component			90Sr				137Cs			
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)		(Bq/gCa)		(Bq/kgwet)		(Bq/gK)	
Yonagusuku-machi, Okina	2.88	7.74	3.23	0.0006	± 0.0056	0.0000	± 0.00072	0.072	± 0.011	0.023	± 0.0033
(Sardinops melanostictus)											
Jan, 1999											
Nagano, NAGANO	2.14	1.55	2.93	0	± 0.0055	0	± 0.0036	0.063	± 0.0098	0.022	± 0.0033
(Scomber australasicus)											
Feb, 1999											
Chikura-machi, CHIBA	1.25	0.149	2.58	0.0007	± 0.0055	0.005	± 0.037	0.083	± 0.0085	0.032	± 0.0033
(Scomber sp)											
Nov, 1998											
Kyoto, KYOTO	1.1	0.144	3.21	0.0067	± 0.0049	0.046	± 0.034	0.1	± 0.011	0.032	± 0.0035
Osaka, OSAKA	0.9	0.101	2.6	0.0048	± 0.0058	0.048	± 0.057	0.1	± 0.01	0.038	± 0.0039
(Sebastes inermis)											
Mar, 1999											
Yamaguchi-bay, YAMAGUCH	4.48	12.3	3.24	0.028	± 0.0087	0.0023	± 0.0007	0.13	± 0.012	0.041	± 0.0038
(Spratelloides gracilis)											
Nov, 1998											
Akune, KAGOSHIMA	2.88	5.88	4.09	0	± 0.0057	0	± 0.00096	0.13	± 0.012	0.031	± 0.003
(Trachurus sp)											
Nov, 1998											
Shizuoka, SHIZUOKA	3.31	8.18	3.04	0.011	± 0.0085	0.0011	± 0.001	0.15	± 0.012	0.049	± 0.0041
Feb, 1999											
Shinguu, WAKAYAMA	1.49	2.31	2.41	0.0036	± 0.0059	0.0016	± 0.0026	0.075	± 0.0097	0.031	± 0.004

Sea Fish

Japanese name	English name	Scientific name
Ainame	Fat greenling	Hexagrammos otakii
Aji	Horse mackerel	Trachurus sp
Amadai	Tilefish	Branchiostegus sp
Bora	Gray mullet	Mugil cephalus
Gomasaba	Spotted chub mackerel	Scomber australasicus
Kibinago	Blue sprat	Spratelloides gracilis
Magarei	Brown sole	Limanda herzensteini
Maiwashi	Japanese pilchard	Sardinops melanostictus
Mebaru	Black rockfish	Sebastes inermis
Saba	Mackerel	Scomber sp
Takasago	Golden banded fusilier	Pterocaesio diagramma

(6) Strontuim-90 and Cesiumu-137 in Freshwater Fish
(form Oct.1998 to Mar.1999)

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Table (6) : Strontuim-90 and Cesiumu-137 in Freshwater Fish

Location	Component			90Sr		137Cs	
	(%)	(g／kg生)	(g／kg生)	(Bq／kg生)	(Bq／gCa)	(Bq／kg生)	()
(Carassius auratus)							
Dec,1998							
Mikata-machi,FUKUI	1.45	2.13	3.03	0.16 ± 0.016	0.075 ± 0.0073	0.15 ± 0.013	0 ± 0
Uji,KYOTO	4.25	12	2.99	0.49 ± 0.029	0.041 ± 0.0025	0.028 ± 0.0079	0 ± 0
Nov,1998							
Niigata,NIIGATA	1.04	0.4	3.06	0.039 ± 0.0093	0.099 ± 0.023	0.13 ± 0.011	0 ± 0
(Cyprinus carpio)							
Oct,1998							
Shobara,HIROSHIMA	0.96	0.356	3.1	0.044 ± 0.0094	0.12 ± 0.026	0.088 ± 0.01	0 ± 0
(Hypomesus nipponensis							
Dec,1998							
Suwa,NAGANO	3.18	8.46	1.78	0.11 ± 0.013	0.013 ± 0.0016	0.096 ± 0.011	0 ± 0
(Salmo gairdneri)							
Oct,1998							
Kumagaya,SAITAMA	1.23	0.125	4.22	0 ± 0.0059	0 ± 0.047	0.15 ± 0.013	0 ± 0

Freshwater Fish

Japanese name	English name	Scientific name
Funa	Crucian carp	Carassius auratus
Koi	Carp	Cyprinus carpio
Nijimasu	Rainbow trout	Salmo gairdneri
Wakasagi	Japanese smelt	Hypomesus nipponensis

(7) Strontuim-90 and Cesiumu-137 in Shellfish
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (7) : Strontuim-90 and Cesiumu-137 in Shellfish

Location	Component			90Sr				137Cs			
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)		(Bq/gCa)		(Bq/kgwet)		(Bq/gK)	
(Patinopecten yessoensis)											
Nov, 1998											
Mutsu-bay, AOMORI	2.34	0.322	2.49	0.018	± 0.0078	0.055	± 0.024	0.03	± 0.0059	0.012	± 0.0024
Feb, 1999											
Yamada-machi, IWATE	1.89	0.229	3	0	± 0.0057	0	± 0.025	0.022	± 0.0073	0.0073	± 0.0024

Shellfish

Japanese name	English name	Scientific name
Hotategai	Yesso scallop	Patinopecten yessoensis

(8) Strontuim-90 and Cesiumu-137 in Seaweeds
(form Oct.1998 to Mar.1999)

-continued from No. 127 for this publication-

Table (8) : Strontuim-90 and Cesiumu-137 in Seaweeds

Location	Component			90Sr		137Cs	
	(%)	(g/kgwet)	(g/kgwet)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Undaria pinnatifida)							
Feb, 1999							
Minamichita-machi, AICH	1.95	0.629	6.66	0.045 ± 0.0094	0.072 ± 0.015	0.0047 ± 0.0061	0.0007 ± 0.00092
Toba, MIE	2.72	0.614	8.88	0.02 ± 0.0066	0.032 ± 0.011	0.02 ± 0.0066	0.0023 ± 0.00074
Hiroshima, HIROSHIMA	1.4	0.443	4.03	0.028 ± 0.0082	0.063 ± 0.018	0 ± 0.0066	0 ± 0.0016
Shimabara, NAGASAKI	2.86	0.635	8.87	0.017 ± 0.007	0.027 ± 0.011	0.024 ± 0.0073	0.0027 ± 0.00082

Seaweeds

Japanese name	English name	Scientific name
Wakame	Wakame seaweed	Undaria pinnatifida

* * Sampling Locations in Japan * *

1: Sapporo
2: Aomori
3: Morioka
4: Akita
5: Sendai
6: Yamagata
7: Fukushima
8: Niigata
9: Mito
10: Utsunomiya
11: Chiba
12: Urawa
13: Shinjuku
14: Maebashi
15: Nagano
16: Yokohama
17: Toyama
18: Kouhu
19: Kanazawa
20: Shizuoka
21: Gifu
22: Fukui
23: Nagoya
24: Tsu
25: Ootsu
26: Kyoto
27: Nara
28: Osaka
29: Tottori
30: Kobe
31: Wakayama
32: Okayama
33: Matsue
34: Tokushima
35: Takamatsu
36: Hiroshima
37: Kochi
38: Matsuyama
39: Yamaguchi
40: Ooita
41: Fukuoka
42: Saga
43: Kumamoto
44: Miyazaki
45: Nagasaki
46: Kagoshima
47: Naha