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RADIOACTIVITY SURVEY DATA in Japan

Part 2
= Dietary Materials =

NUMBER 121
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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 5000cm^2 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 3000m^3 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℃. 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℃.

(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℃ 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℃ 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) Strontium-90 and Cesium-137 in Total Diet
(from Oct. 1996 to Mar. 1997)
-continued from No, 119 of this publication-
Table (1) Strontium-90 and Cesium-137 in Total Diet

Location	Ash	Ca	K	^{90}Sr		^{137}Cs	
	Ash(g/p·d)	Ca(mg/p·d)	K(mg/p·d)	(Bq/p·d)	(Bq/gCa)	(Bq/p·d)	(Bq/gK)
October, 1996							
Kochi, KOCHI	14.8	457	2070	0.052 ± 0.0099	0.11 ± 0.022	0.029 ± 0.0068	0.014 ± 0.0033
Saga-machi, KOCHI	19.3	637	2250	0.042 ± 0.0092	0.066 ± 0.014	0.028 ± 0.0060	0.012 ± 0.0026
Ooita, OOITA	13.6	567	1860	0.027 ± 0.0081	0.048 ± 0.014	0.025 ± 0.0060	0.013 ± 0.0032
Saiki, OOITA	18.5	637	2200	0.051 ± 0.0097	0.081 ± 0.015	0.026 ± 0.0060	0.012 ± 0.0027
November, 1996							
Iwaizumi-machi, IWATE	11.9	472	1490	0.037 ± 0.0092	0.079 ± 0.020	0.054 ± 0.0075	0.036 ± 0.0050
Ishinomaki, MIYAGI	14.9	693	2330	0.050 ± 0.0056	0.073 ± 0.0081	0.025 ± 0.0059	0.011 ± 0.0025
Onagawa-machi, MIYAGI	19.6	670	2210	0.059 ± 0.0064	0.089 ± 0.0095	0.037 ± 0.0068	0.017 ± 0.0031
Yamagata, YAMAGATA	13.7	398	1650	0.051 ± 0.0099	0.13 ± 0.025	0.039 ± 0.0067	0.024 ± 0.0041
Sagae, YAMAGATA	12.1	538	1700	0.033 ± 0.0085	0.062 ± 0.016	0.024 ± 0.0057	0.014 ± 0.0034
Fukushima, FUKUSHIMA	15.2	520	2030	0.054 ± 0.010	0.10 ± 0.019	0.026 ± 0.0058	0.013 ± 0.0028
Ookuma-machi, FUKUSHIMA	15.6	461	1830	0.073 ± 0.0065	0.16 ± 0.014	0.17 ± 0.012	0.094 ± 0.0068
Utsunomiya, TOCHIGI	15.8	754	2160	0.076 ± 0.012	0.10 ± 0.015	0.029 ± 0.0060	0.013 ± 0.0028
Mooka, TOCHIGI	15.4	573	2030	0.055 ± 0.011	0.097 ± 0.019	0.043 ± 0.0066	0.021 ± 0.0032
Urawa, SAITAMA	19.3	570	2770	0.076 ± 0.013	0.13 ± 0.022	0.059 ± 0.0075	0.021 ± 0.0027
Kumagaya, SAITAMA	15.5	434	1750	0.046 ± 0.0062	0.11 ± 0.014	0.031 ± 0.0067	0.018 ± 0.0038
Yokohama, KANAGAWA	16.1	511	2190	0.053 ± 0.011	0.10 ± 0.021	0.075 ± 0.0088	0.034 ± 0.0040
Hiratsuka, KANAGAWA	18.5	674	2390	0.061 ± 0.011	0.091 ± 0.016	0.078 ± 0.0099	0.033 ± 0.0041
Takaoka, TOYAMA	14.5	377	2070	0.047 ± 0.011	0.12 ± 0.030	0.021 ± 0.0054	0.0099 ± 0.0026
Takaoka, TOYAMA	15.5	482	2050	0.059 ± 0.011	0.12 ± 0.023	0.017 ± 0.0054	0.0084 ± 0.0027
Nagano, NAGANO	13.3	717	1670	0.049 ± 0.010	0.068 ± 0.014	0.020 ± 0.0053	0.012 ± 0.0032
Sanada-machi, NAGANO	16.7	601	2270	0.050 ± 0.010	0.084 ± 0.017	0.025 ± 0.0060	0.011 ± 0.0026
Shizuoka, SHIZUOKA	17.2	682	2460	0.061 ± 0.0098	0.090 ± 0.014	0.052 ± 0.011	0.021 ± 0.0047

Location	Ash	Ca	K	^{90}Sr		^{137}Cs	
	Ash(g/p·d)	Ca(mg/p·d)	K(mg/p·d)	(Bq/p·d)	(Bq/gCa)	(Bq/p·d)	(Bq/gK)
Hamaoka-machi, SHIZUOKA	14.3	528	2160	0.059 ± 0.0089	0.11 ± 0.017	0.0046 ± 0.0062	0.0021 ± 0.0029
Nagoya, AICHI	18.7	1020	2770	0.066 ± 0.011	0.065 ± 0.011	0.024 ± 0.0059	0.0085 ± 0.0021
Shinshiro, AICHI	14.9	795	1740	0.043 ± 0.0086	0.054 ± 0.011	0.024 ± 0.0057	0.014 ± 0.0033
Tsu, MIE	19.8	531	2280	0.050 ± 0.0092	0.094 ± 0.017	0.038 ± 0.0064	0.017 ± 0.0028
Kashihara, NARA	12.4	551	1780	0.057 ± 0.0065	0.10 ± 0.012	0.025 ± 0.0056	0.014 ± 0.0032
Gojou, NARA	11.5	860	1480	0.046 ± 0.0057	0.054 ± 0.0067	0.028 ± 0.0059	0.019 ± 0.0040
Wakayama, WAKAYAMA	15.8	414	1960	0.052 ± 0.0058	0.13 ± 0.014	0.020 ± 0.0048	0.010 ± 0.0025
Shinguu, WAKAYAMA	11.7	595	1270	0.049 ± 0.0065	0.082 ± 0.011	0.023 ± 0.0052	0.018 ± 0.0041
Matsue, SHIMANE	21.5	905	2820	0.087 ± 0.011	0.096 ± 0.013	0.047 ± 0.0072	0.017 ± 0.0025
Kashima-machi, SHIMANE	17.2	631	1840	0.054 ± 0.0095	0.086 ± 0.015	0.027 ± 0.0055	0.015 ± 0.0030
Okayama, OKAYAMA	18.2	650	2280	0.080 ± 0.012	0.12 ± 0.019	0.031 ± 0.0064	0.014 ± 0.0028
Kamisaibara-mura, OKAYAMA	13.8	392	1730	0.12 ± 0.014	0.29 ± 0.036	0.052 ± 0.0073	0.030 ± 0.0042
Miyoshi, HIROSHIMA	11.6	514	1380	0.031 ± 0.0050	0.060 ± 0.0098	0.011 ± 0.0051	0.0077 ± 0.0037
Matsuyama, EHIME	15.5	552	2140	0.064 ± 0.011	0.12 ± 0.020	0.023 ± 0.0059	0.011 ± 0.0028
Ikata-machi, EHIME	11.9	643	1630	0.039 ± 0.0093	0.060 ± 0.014	0.030 ± 0.0063	0.018 ± 0.0039
Dazaifu, FUKUOKA	15.0	716	2280	0.060 ± 0.010	0.084 ± 0.014	0.025 ± 0.0064	0.011 ± 0.0028
Fukuoka, FUKUOKA	13.2	572	1490	0.032 ± 0.0086	0.056 ± 0.015	0.012 ± 0.0055	0.0078 ± 0.0037
Saga, SAGA	13.5	309	1680	0.027 ± 0.0078	0.087 ± 0.025	0.027 ± 0.0058	0.016 ± 0.0035
Karatsu, SAGA	16.5	516	1930	0.035 ± 0.0088	0.069 ± 0.017	0.028 ± 0.0061	0.015 ± 0.0031
Nagasaki, NAGASAKI	19.4	887	2480	0.084 ± 0.013	0.095 ± 0.014	0.039 ± 0.0073	0.016 ± 0.0029
Matsuura, NAGASAKI	10.9	324	1340	0.039 ± 0.0091	0.12 ± 0.028	0.0039 ± 0.0041	0.0029 ± 0.0030
Sendai, MIYAGI	13.4	719	1660	0.026 ± 0.0073	0.036 ± 0.010	0.027 ± 0.0090	0.016 ± 0.0054
Ookuchi, KAGOSHIMA	17.0	540	1900	0.040 ± 0.010	0.074 ± 0.019	0.041 ± 0.012	0.022 ± 0.0062
December, 1996							
Sapporo, HOKKAIDOU	17.9	844	2390	0.066 ± 0.011	0.079 ± 0.013	0.055 ± 0.0075	0.023 ± 0.0031

Location	Ash	Ca	K	^{90}Sr		^{137}Cs	
	Ash(g/p·d)	Ca(mg/p·d)	K(mg/p·d)	(Bq/p·d)	(Bq/gCa)	(Bq/p·d)	(Bq/gK)
Iwanai-machi, HOKKAIDOU	14.2	492	1890	0.048 ± 0.010	0.097 ± 0.021	0.027 ± 0.0059	0.014 ± 0.0032
Aomori, AOMORI	22.5	775	2370	0.084 ± 0.012	0.11 ± 0.015	0.099 ± 0.0095	0.042 ± 0.0040
Ajigasawa-machi, AOMORI	14.1	454	1670	0.040 ± 0.0098	0.088 ± 0.022	0.026 ± 0.0059	0.016 ± 0.0035
Morioka, IWATE	15.2	364	2130	0.046 ± 0.0085	0.13 ± 0.023	0.036 ± 0.0063	0.017 ± 0.0029
Akita, AKITA	14.7	410	1850	0.086 ± 0.012	0.21 ± 0.030	0.048 ± 0.0069	0.026 ± 0.0037
Akita, AKITA	16.6	611	2410	0.090 ± 0.012	0.15 ± 0.019	0.067 ± 0.0082	0.028 ± 0.0034
Mito, IBARAKI	20.9	606	2590	0.10 ± 0.013	0.17 ± 0.021	0.032 ± 0.0067	0.012 ± 0.0026
Tokai-mura, IBARAKI	17.8	650	2270	0.051 ± 0.0098	0.078 ± 0.015	0.029 ± 0.0059	0.013 ± 0.0026
Maebashi, GUNMA	14.0	614	2170	0.077 ± 0.0076	0.13 ± 0.012	0.048 ± 0.0074	0.022 ± 0.0034
Nakanojou-machi, GUNMA	16.2	554	2010	0.035 ± 0.0057	0.064 ± 0.010	0.077 ± 0.0088	0.038 ± 0.0044
Ichihara, CHIBA	17.7	411	1820	0.036 ± 0.010	0.088 ± 0.025	0.031 ± 0.0062	0.017 ± 0.0034
Chikura-machi, CHIBA	18.1	349	2320	0.078 ± 0.013	0.22 ± 0.037	0.018 ± 0.0055	0.0080 ± 0.0024
Shinjuku, TOKYO	14.0	480	1990	0.036 ± 0.0095	0.074 ± 0.020	0.032 ± 0.0064	0.016 ± 0.0032
Hachijou-machi, TOKYO	14.5	590	1460	0.065 ± 0.011	0.11 ± 0.018	0.038 ± 0.0066	0.026 ± 0.0045
Nishikawa-machi, NIIGATA	21.0	548	3000	0.094 ± 0.012	0.17 ± 0.022	0.028 ± 0.0061	0.0094 ± 0.0020
Kashiwazaki, NIIGATA	19.9	416	2170	0.083 ± 0.013	0.20 ± 0.032	0.040 ± 0.0067	0.019 ± 0.0031
Kanazawa, ISHIKAWA	24.0	528	2740	0.075 ± 0.0091	0.14 ± 0.017	0.061 ± 0.010	0.022 ± 0.0037
Yoshinodani-mura, ISHIKAWA	16.0	599	2140	0.046 ± 0.0060	0.076 ± 0.0099	0.042 ± 0.0064	0.019 ± 0.0030
Tsuruga, FUKUI	13.9	659	1780	0.054 ± 0.0065	0.082 ± 0.0099	0.033 ± 0.0065	0.019 ± 0.0037
Koufu, YAMANASHI	17.0	519	2340	0.059 ± 0.012	0.11 ± 0.023	0.037 ± 0.0065	0.016 ± 0.0028
Nirasaki, YAMANASHI	14.3	685	1540	0.045 ± 0.010	0.066 ± 0.015	0.038 ± 0.0067	0.025 ± 0.0043
Gifu, GIFU	20.9	771	2740	0.057 ± 0.017	0.074 ± 0.022	0.068 ± 0.013	0.025 ± 0.0047
Takayama, GIFU	13.7	349	2070	0.030 ± 0.013	0.087 ± 0.038	0.0099 ± 0.0069	0.0048 ± 0.0033
Owase, MIE	13.7	406	1570	0.041 ± 0.0089	0.10 ± 0.022	0.034 ± 0.0062	0.022 ± 0.0040
Ootsu, SHIGA	15.8	501	2160	0.055 ± 0.0067	0.11 ± 0.013	0.015 ± 0.0050	0.0070 ± 0.0023

Location	Ash	Ca	K	^{90}Sr		^{137}Cs	
	Ash(g/p·d)	Ca(mg/p·d)	K(mg/p·d)	(Bq/p·d)	(Bq/gCa)	(Bq/p·d)	(Bq/gK)
Imazu-machi, SHIGA	15.2	531	2260	0.083 ± 0.0081	0.16 ± 0.015	0.030 ± 0.0064	0.013 ± 0.0028
Kyoto, KYOTO	17.2	620	2660	0.060 ± 0.0064	0.097 ± 0.010	0.040 ± 0.0067	0.015 ± 0.0025
Maizuru, KYOTO	19.5	819	2280	0.048 ± 0.0058	0.059 ± 0.0071	0.041 ± 0.0066	0.018 ± 0.0029
Osaka, OSAKA	20.3	727	3110	0.049 ± 0.010	0.067 ± 0.014	0.040 ± 0.0068	0.013 ± 0.0022
Sakai, OSAKA	13.1	481	1860	0.036 ± 0.0053	0.075 ± 0.011	0.028 ± 0.0060	0.015 ± 0.0032
Kakogawa, HYOUGO	14.1	741	1890	0.037 ± 0.0053	0.050 ± 0.0072	0.014 ± 0.0047	0.0074 ± 0.0025
Hamasaka-machi, HYOUGO	14.0	773	1790	0.053 ± 0.0062	0.068 ± 0.0081	0.034 ± 0.0064	0.019 ± 0.0036
Hiroshima, HIROSHIMA	14.5	1020	1550	0.039 ± 0.0052	0.038 ± 0.0051	0.015 ± 0.0049	0.0095 ± 0.0032
Yamaguchi, YAMAGUCHI	16.4	533	2130	0.039 ± 0.0087	0.072 ± 0.016	0.042 ± 0.0071	0.020 ± 0.0033
Ajisu-machi, YAMAGUCHI	19.8	438	2440	0.046 ± 0.0095	0.11 ± 0.022	0.054 ± 0.0073	0.022 ± 0.0030
Tokushima, TOKUSHIMA	14.7	388	1930	0.051 ± 0.010	0.13 ± 0.026	0.025 ± 0.0058	0.013 ± 0.0030
Takamatsu, KAGAWA	15.5	576	1880	0.037 ± 0.0087	0.064 ± 0.015	0.024 ± 0.0054	0.013 ± 0.0029
Tuda-machi, KAGAWA	13.6	364	1860	0.043 ± 0.010	0.12 ± 0.028	0.027 ± 0.0056	0.015 ± 0.0030
Kumamoto, KUMAMOTO	13.0	458	1900	0.033 ± 0.0063	0.072 ± 0.014	0.032 ± 0.0066	0.017 ± 0.0035
Tomiai-machi, KUMAMOTO	15.9	596	2250	0.031 ± 0.0060	0.052 ± 0.010	0.025 ± 0.0062	0.011 ± 0.0028
Miyazaki, MIYAZAKI	16.9	422	2140	0.085 ± 0.012	0.20 ± 0.029	0.057 ± 0.0077	0.027 ± 0.0036
Takahara-machi, MIYAZAKI	13.4	446	1740	0.040 ± 0.0084	0.089 ± 0.019	0.061 ± 0.0080	0.035 ± 0.0046
January, 1997							
Fukui, FUKUI	15.8	708	2420	0.055 ± 0.0067	0.078 ± 0.0094	0.033 ± 0.0060	0.014 ± 0.0025
Naha, Okinawa	13.6	445	2140	0.052 ± 0.0070	0.12 ± 0.016	0.099 ± 0.010	0.046 ± 0.0047
Kochinda-machi, Okinawa	15.5	578	1940	0.048 ± 0.0062	0.083 ± 0.011	0.028 ± 0.0060	0.015 ± 0.0031
Febraly, 1997							
Kamiita-machi, TOKUSHIMA	16.8	602	1940	0.047 ± 0.011	0.078 ± 0.018	0.030 ± 0.0062	0.015 ± 0.0032

(2)-1 Strontium-90 and Cesium-137 in Rice (producing districts)
(from Oct. 1996 to Mar. 1997)
-continued from No. 119 of this publication-

Table (2)-1 Strontium-90 and Cesium-137 in Rice

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
October, 1996							
Mito, IBARAKI	0.559	0.041	0.665	0.023 ± 0.0073	0.57 ± 0.18	0.012 ± 0.0056	0.018 ± 0.0084
Chiba, CHIBA	0.558	0.035	0.731	0.0030 ± 0.0047	0.09 ± 0.14	0.013 ± 0.0060	0.017 ± 0.0082
Maki-machi, NIIGATA	0.487	0.030	0.648	0.0065 ± 0.0070	0.22 ± 0.23	0.013 ± 0.0062	0.020 ± 0.0096
Kosugi-machi, TOYAMA	0.556	0.025	0.634	0.011 ± 0.0034	0.44 ± 0.14	0.0067 ± 0.0038	0.011 ± 0.0060
Toyosina-machi, NAGANO	0.508	0.037	0.686	0.0084 ± 0.0056	0.22 ± 0.15	0.0050 ± 0.0061	0.0072 ± 0.0089
Gifu, GIFU	0.459	0.043	0.679	0.0029 ± 0.0045	0.07 ± 0.11	0.0000 ± 0.0050	0.0000 ± 0.0073
Kashihara, NARA	0.669	0.020	0.850	0.0076 ± 0.0034	0.37 ± 0.17	0.0073 ± 0.0037	0.0086 ± 0.0044
Yamaguchi, YAMAGUCHI	0.651	0.029	1.13	0.0030 ± 0.0047	0.10 ± 0.16	0.046 ± 0.0079	0.041 ± 0.0070
Ishii-machi, TOKUSHIMA	0.503	0.022	0.775	0.0020 ± 0.0027	0.09 ± 0.12	0.0034 ± 0.0031	0.0044 ± 0.0041
Miki-machi, KAGAWA	0.478	0.022	0.641	0.0018 ± 0.0025	0.08 ± 0.11	0.0000 ± 0.0031	0.0000 ± 0.0049
Koushi-machi, KUMAMOTO	0.499	0.020	0.808	0.0007 ± 0.0065	0.04 ± 0.32	0.0041 ± 0.0062	0.0050 ± 0.0077
November, 1996							
Ishikari-machi, HOKKAIDOU	0.585	0.031	0.924	0.0000 ± 0.0056	0.00 ± 0.18	0.0047 ± 0.0056	0.0051 ± 0.0061
Takizawa-mura, IWATE	0.700	0.022	1.20	0.0000 ± 0.0024	0.00 ± 0.11	0.084 ± 0.0095	0.070 ± 0.0079
Ishinomaki, MIYAGI	0.607	0.032	0.813	0.0069 ± 0.0028	0.22 ± 0.088	0.0043 ± 0.0033	0.0053 ± 0.0041
Fukushima, FUKUSHIMA	0.738	0.033	1.14	0.0072 ± 0.0067	0.22 ± 0.20	0.0000 ± 0.0050	0.0000 ± 0.0044
Shiga-machi, SHIGA	0.550	0.033	0.776	0.0038 ± 0.0026	0.12 ± 0.077	0.027 ± 0.0056	0.035 ± 0.0072
Kasai, HYOUGO	0.417	0.033	0.738	0.0097 ± 0.0064	0.29 ± 0.20	0.0003 ± 0.0032	0.0005 ± 0.0044
Saga, SAGA	0.549	0.025	0.780	0.0030 ± 0.0028	0.12 ± 0.11	0.0000 ± 0.0040	0.0000 ± 0.0052
Usa, OOITA	0.610	0.014	0.836	0.012 ± 0.0062	0.82 ± 0.43	0.0000 ± 0.0031	0.0000 ± 0.0037
December, 1996							
Maebashi, GUNMA	0.452	0.023	0.827	0.0028 ± 0.0039	0.12 ± 0.17	0.0063 ± 0.0037	0.0076 ± 0.0045
Takane-machi, YAMANASHI	0.556	0.019	0.762	0.0021 ± 0.0028	0.11 ± 0.15	0.0000 ± 0.0033	0.0000 ± 0.0044
Chikushino, FUKUOKA	0.625	0.024	0.769	0.0016 ± 0.0036	0.07 ± 0.15	0.0000 ± 0.0029	0.0000 ± 0.0037

(2)-2 Strontium-90 and Cesium-137 in Rice (consuming districts)
(from Oct. 1996 to Mar. 1997)
-continued from No, 117 of this publication-
Table (2)-2 Strontium-90 and Cesium-137 in Rice

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
October, 1996							
Mito, IBARAKI	0.571	0.032	0.754	0.011 ± 0.0061	0.35 ± 0.19	0.0086 ± 0.0053	0.011 ± 0.0071
Shinjuku, TOKYO	0.615	0.030	0.738	0.012 ± 0.0056	0.39 ± 0.18	0.012 ± 0.0044	0.016 ± 0.0060
Niigata, NIIGATA	0.440	0.033	0.607	0.0020 ± 0.0059	0.06 ± 0.18	0.019 ± 0.0059	0.031 ± 0.0097
Kanazawa, ISHIKAWA	0.668	0.043	0.842	0.015 ± 0.0062	0.35 ± 0.14	0.012 ± 0.0063	0.014 ± 0.0075
Fukui, FUKUI	0.542	0.036	0.694	0.0074 ± 0.0053	0.21 ± 0.15	0.025 ± 0.0065	0.036 ± 0.0093
Hiroshima, HIROSHIMA	0.585	0.027	0.825	0.0016 ± 0.0028	0.06 ± 0.10	0.0036 ± 0.0038	0.0044 ± 0.0046
Matsuyama, EHIME	0.445	0.022	0.792	0.0003 ± 0.0025	0.01 ± 0.11	0.0000 ± 0.0023	0.0000 ± 0.0029
November, 1996							
Sapporo, HOKKAIDOU	0.561	0.035	0.858	0.0058 ± 0.0064	0.17 ± 0.18	0.011 ± 0.0063	0.013 ± 0.0074
Akita, AKITA	0.480	0.024	0.720	0.0091 ± 0.0035	0.38 ± 0.15	0.048 ± 0.0069	0.067 ± 0.0096
Yamagata, YAMAGATA	0.599	0.029	0.767	0.0063 ± 0.0032	0.22 ± 0.11	0.018 ± 0.0057	0.023 ± 0.0075
Yokohama, KANAGAWA	0.530	0.036	0.731	0.0000 ± 0.0051	0.00 ± 0.14	0.0065 ± 0.0051	0.0089 ± 0.0070
Shizuoka, SHIZUOKA	0.400	0.020	0.640	0.0031 ± 0.0046	0.16 ± 0.24	0.0000 ± 0.0029	0.0000 ± 0.0046
Kyoto, KYOTO	0.459	0.022	0.693	0.0086 ± 0.0048	0.40 ± 0.22	0.024 ± 0.0050	0.035 ± 0.0072
Osaka, OSAKA	0.602	0.032	0.813	0.0020 ± 0.0063	0.06 ± 0.20	0.0083 ± 0.0057	0.010 ± 0.0070
Kobe, HYOUGO	0.464	0.028	0.858	0.0007 ± 0.0061	0.03 ± 0.22	0.0090 ± 0.0041	0.011 ± 0.0048
Shinguu, WAKAYAMA	0.452	0.028	0.759	0.0021 ± 0.0060	0.07 ± 0.21	0.033 ± 0.0058	0.044 ± 0.0077
Kagoshima, KAGOSHIMA	0.502	0.029	0.753	0.0077 ± 0.0028	0.27 ± 0.097	0.14 ± 0.010	0.19 ± 0.013
December, 1996							
Urawa, SAITAMA	0.534	0.029	0.822	0.0000 ± 0.0024	0.000 ± 0.082	0.0036 ± 0.0036	0.0043 ± 0.0044
Nagoya, AICHI	0.449	0.035	0.831	0.0063 ± 0.0066	0.18 ± 0.19	0.0090 ± 0.0043	0.011 ± 0.0052
Tottori, TOTTORI	0.561	0.021	0.701	0.014 ± 0.0037	0.64 ± 0.17	0.11 ± 0.010	0.16 ± 0.014
Matsue, SHIMANE	0.511	0.026	0.945	0.018 ± 0.0060	0.70 ± 0.23	0.048 ± 0.0067	0.050 ± 0.0071
Seto-machi, OKAYAMA	0.460	0.021	0.653	0.0089 ± 0.0034	0.42 ± 0.16	0.019 ± 0.0044	0.029 ± 0.0068
Kasuga, FUKUOKA	0.534	0.025	0.742	0.0016 ± 0.0036	0.06 ± 0.15	0.014 ± 0.0043	0.018 ± 0.0058
Yonagusuku-machi, Okinawa	0.509	0.022	0.957	0.0086 ± 0.0043	0.40 ± 0.20	0.015 ± 0.0041	0.016 ± 0.0042

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
January, 1997							
Hirosaki, AOMORI	0.500	0.024	0.955	0.0089 ± 0.0061	0.37 ± 0.26	0.012 ± 0.0049	0.013 ± 0.0051
Kochi, KOCHI	0.475	0.025	0.846	0.0023 ± 0.0055	0.09 ± 0.22	0.0087 ± 0.0043	0.010 ± 0.0050
Nagasaki, NAGASAKI	0.464	0.021	0.710	0.0049 ± 0.0030	0.23 ± 0.14	0.018 ± 0.0053	0.025 ± 0.0074

(3)-1 Strontium-90 and Cesium-137 in Milk (producing districts for domestic program)
(from Oct. 1996 to Mar. 1997)
-continued from No. 119 of this publication-

Table (3)-1 Strontium-90 and Cesium-137 in Milk

Location	Component			^{90}Sr		^{137}Cs	
	Ash(g/ℓ)	Ca(g/ℓ)	K(g/ℓ)	(Bq/ℓ)	(Bq/gCa)	(Bq/ℓ)	(Bq/gK)
October, 1996							
Yamato-machi, SAGA	7.40	1.11	1.67	0.030 ± 0.0053	0.027 ± 0.0048	0.018 ± 0.0050	0.011 ± 0.0030
Febraly, 1997							
Aomori, AOMORI	7.49	1.02	1.65	0.047 ± 0.0096	0.046 ± 0.0095	0.026 ± 0.0061	0.016 ± 0.0037
Takizawa-mura, IWATE	7.16	1.12	1.54	0.026 ± 0.0050	0.024 ± 0.0045	0.037 ± 0.0071	0.024 ± 0.0046
Mito, IBARAKI	7.41	1.14	1.66	0.021 ± 0.0042	0.019 ± 0.0037	0.0089 ± 0.0040	0.0054 ± 0.0024
Nishinasuno-machi, TOCHIGI	7.69	1.06	1.92	0.047 ± 0.011	0.045 ± 0.0099	0.0090 ± 0.0051	0.0047 ± 0.0026
Fujimi-mura, GUNMA	7.33	1.02	1.81	0.030 ± 0.0088	0.029 ± 0.0087	0.039 ± 0.0068	0.022 ± 0.0038
Yachimata, CHIBA	7.68	1.13	1.63	0.034 ± 0.0055	0.030 ± 0.0049	0.032 ± 0.0065	0.020 ± 0.0040
Tonami, TOYAMA	7.43	1.10	1.64	0.045 ± 0.0094	0.041 ± 0.0086	0.056 ± 0.0087	0.034 ± 0.0053
Oshimizu-machi, ISHIKAWA	7.80	1.22	1.68	0.043 ± 0.0093	0.035 ± 0.0077	0.0030 ± 0.0045	0.0018 ± 0.0027
Kasamatsu-machi, GIFU	7.42	1.14	1.55	0.039 ± 0.0053	0.034 ± 0.0046	0.0094 ± 0.0041	0.0061 ± 0.0026
Hino-machi, SHIGA	7.41	1.15	1.65	0.026 ± 0.0069	0.022 ± 0.0060	0.0081 ± 0.0037	0.0049 ± 0.0022
Oouchiyama-mura, MIE	7.17	1.08	1.49	0.018 ± 0.0043	0.017 ± 0.0040	0.0047 ± 0.0042	0.0031 ± 0.0028
Mihara-machi, HYOUGO	6.45	0.968	1.48	0.012 ± 0.0057	0.012 ± 0.0059	0.0008 ± 0.0035	0.0005 ± 0.0024
Oouda-machi, NARA	7.26	1.06	1.41	0.029 ± 0.0081	0.027 ± 0.0077	0.0004 ± 0.0039	0.0003 ± 0.0028
Kamiita-machi, TOKUSHIMA	7.16	1.13	1.53	0.021 ± 0.0045	0.019 ± 0.0039	0.0047 ± 0.0039	0.0031 ± 0.0026
Takase-machi, KAGAWA	7.68	1.18	1.85	0.032 ± 0.0050	0.027 ± 0.0042	0.0000 ± 0.0039	0.0000 ± 0.0021
Matsuyama, EHIME	7.34	1.12	1.61	0.037 ± 0.0087	0.033 ± 0.0078	0.013 ± 0.0048	0.0079 ± 0.0030
Koushi-machi, KUMAMOTO	7.47	1.10	1.62	0.027 ± 0.0079	0.025 ± 0.0071	0.0066 ± 0.0043	0.0040 ± 0.0027
Kujuu-machi, OOITA	7.38	1.15	1.71	0.013 ± 0.0060	0.011 ± 0.0052	0.076 ± 0.0081	0.044 ± 0.0047
Takahara-machi, MIYAZAKI	7.30	1.06	1.75	0.030 ± 0.0048	0.028 ± 0.0045	0.026 ± 0.0056	0.015 ± 0.0032
March, 1997							
Takane-machi, YAMANASHI	6.37	0.987	1.39	0.024 ± 0.0063	0.024 ± 0.0064	0.0080 ± 0.0044	0.0057 ± 0.0032

(3)-2 Strontium-90 and Cesium-137 in Milk (producing districts for WHO program)
(from Oct. 1996 to Mar. 1997)
-continued from No. 119 of this publication-

Table (3)-2 Strontium-90 and Cesium-137 in Milk

Location	Component			^{90}Sr		^{137}Cs	
	Ash(g/ℓ)	Ca(g/ℓ)	K(g/ℓ)	(Bq/ℓ)	(Bq/gCa)	(Bq/ℓ)	(Bq/gK)
November, 1996							
Hokudainoujou, HOKKAIDOU	7.39	1.25	1.58	0.045 ± 0.0067	0.036 ± 0.0053	0.034 ± 0.0064	0.022 ± 0.0041
Hachijou-machi, TOKYO	7.11	0.985	1.44	0.043 ± 0.0079	0.043 ± 0.0080	0.024 ± 0.0071	0.017 ± 0.0049
Iwamuro-mura, NIIGATA	7.46	1.13	1.50	0.022 ± 0.0048	0.020 ± 0.0042	0.0037 ± 0.0037	0.0024 ± 0.0025
Katsuyama, FUKUI	7.48	1.15	1.61	0.024 ± 0.0064	0.021 ± 0.0056	0.017 ± 0.0053	0.010 ± 0.0033
Shijounawate, OSAKA	7.43	1.14	1.47	0.046 ± 0.0090	0.040 ± 0.0079	0.0075 ± 0.0046	0.0051 ± 0.0031
Matsue, SHIMANE	7.13	1.09	1.44	0.023 ± 0.0045	0.021 ± 0.0042	0.014 ± 0.0051	0.0099 ± 0.0036
Takamiya-machi, HIROSHIMA	7.11	1.07	1.47	0.029 ± 0.0053	0.027 ± 0.0049	0.0072 ± 0.0049	0.0049 ± 0.0033
Kochi, KOCHI	7.59	1.16	1.60	0.044 ± 0.0089	0.038 ± 0.0077	0.0000 ± 0.0040	0.0000 ± 0.0025
Yasu-machi, FUKUOKA	7.30	1.13	1.51	0.041 ± 0.0078	0.036 ± 0.0069	0.0004 ± 0.0034	0.0002 ± 0.0023
Kajiki-machi, KAGOSHIMA	7.56	1.15	1.60	0.014 ± 0.0055	0.012 ± 0.0048	0.010 ± 0.0050	0.0063 ± 0.0031
January, 1997							
Shijounawate, OSAKA	7.40	1.12	1.52	0.045 ± 0.0084	0.040 ± 0.0075	0.013 ± 0.0057	0.0088 ± 0.0037
Febraly, 1997							
Hokudainoujou, HOKKAIDOU	7.41	1.20	1.74	0.021 ± 0.0078	0.018 ± 0.0065	0.031 ± 0.0065	0.018 ± 0.0037
Hachijou-machi, TOKYO	6.64	0.992	1.30	0.051 ± 0.0056	0.052 ± 0.0057	0.033 ± 0.0059	0.025 ± 0.0046
Iwamuro-mura, NIIGATA	7.49	1.17	1.61	0.028 ± 0.0078	0.024 ± 0.0067	0.0012 ± 0.0040	0.0008 ± 0.0025
Katsuyama, FUKUI	7.18	1.10	1.62	0.0039 ± 0.0060	0.0036 ± 0.0054	0.0072 ± 0.0053	0.0044 ± 0.0033
Matsue, SHIMANE	7.42	0.972	1.38	0.035 ± 0.0053	0.036 ± 0.0055	0.0000 ± 0.0037	0.0000 ± 0.0027
Takamiya-machi, HIROSHIMA	7.56	1.13	1.70	0.037 ± 0.0082	0.033 ± 0.0073	0.0071 ± 0.0044	0.0042 ± 0.0026
Kochi, KOCHI	7.53	1.21	1.59	0.045 ± 0.0059	0.037 ± 0.0049	0.0029 ± 0.0042	0.0019 ± 0.0027
Yasu-machi, FUKUOKA	7.28	1.11	1.64	0.026 ± 0.0082	0.024 ± 0.0074	0.0090 ± 0.0046	0.0055 ± 0.0028
Kajiki-machi, KAGOSHIMA	7.49	1.14	1.63	0.019 ± 0.0074	0.016 ± 0.0065	0.013 ± 0.0053	0.0082 ± 0.0032

(3)-3 Strontium-90 and Cesium-137 in Milk (consuming districts)
(from Oct. 1996 to Mar. 1997)
-continued from No. 119 of this publication-

Table (3)-3 Strontium-90 and Cesium-137 in Milk

Location	Component			^{90}Sr		^{137}Cs	
	Ash(g/ℓ)	Ca(g/ℓ)	K(g/ℓ)	(Bq/ℓ)	(Bq/gCa)	(Bq/ℓ)	(Bq/gK)
October, 1996							
Kyoto, KYOTO	7.35	1.09	1.65	0.026 ± 0.0072	0.024 ± 0.0066	0.014 ± 0.0049	0.0084 ± 0.0030
November, 1996							
Shinguu, WAKAYAMA	7.00	1.08	1.53	0.022 ± 0.0062	0.020 ± 0.0058	0.0056 ± 0.0056	0.0036 ± 0.0037
December, 1996							
Akita, AKITA	6.31	0.943	1.34	0.033 ± 0.0046	0.035 ± 0.0049	0.0094 ± 0.0041	0.0070 ± 0.0031
Yonagusuku-machi, Okinawa	7.21	1.11	1.64	0.022 ± 0.0082	0.020 ± 0.0074	0.0040 ± 0.0044	0.0024 ± 0.0027
January, 1997							
Osaka, OSAKA	7.28	1.12	1.53	0.034 ± 0.0073	0.030 ± 0.0065	0.10 ± 0.010	0.066 ± 0.0067
Febraly, 1997							
Sapporo, HOKKAIDOU	7.15	1.14	1.64	0.037 ± 0.0087	0.033 ± 0.0076	0.039 ± 0.0069	0.024 ± 0.0042
Yamagata, YAMAGATA	6.90	1.06	1.52	0.027 ± 0.0047	0.025 ± 0.0044	0.0081 ± 0.0051	0.0053 ± 0.0034
Fukushima, FUKUSHIMA	7.54	1.15	1.66	0.025 ± 0.0069	0.022 ± 0.0060	0.0087 ± 0.0046	0.0052 ± 0.0027
Urawa, SAITAMA	7.27	1.09	1.59	0.023 ± 0.0049	0.021 ± 0.0044	0.0093 ± 0.0044	0.0058 ± 0.0028
Shinjuku, TOKYO	6.88	1.06	1.50	0.047 ± 0.0090	0.044 ± 0.0085	0.095 ± 0.0093	0.063 ± 0.0062
Yokohama, KANAGAWA	7.43	1.13	1.72	0.031 ± 0.0073	0.027 ± 0.0065	0.013 ± 0.0044	0.0077 ± 0.0026
Niigata, NIIGATA	7.51	1.10	1.61	0.034 ± 0.0086	0.031 ± 0.0078	0.031 ± 0.0067	0.019 ± 0.0041
Fukui, FUKUI	7.39	1.11	1.66	0.015 ± 0.0072	0.013 ± 0.0065	0.027 ± 0.0062	0.016 ± 0.0037
Shizuoka, SHIZUOKA	7.27	1.11	1.49	0.030 ± 0.0050	0.027 ± 0.0045	0.0096 ± 0.0046	0.0064 ± 0.0031
Nagoya, AICHI	7.39	1.11	1.69	0.042 ± 0.0094	0.038 ± 0.0085	0.024 ± 0.0055	0.014 ± 0.0033
Yonago, TOTTORI	7.39	1.22	1.52	0.031 ± 0.0091	0.026 ± 0.0074	0.0074 ± 0.0046	0.0049 ± 0.0030
Matsue, SHIMANE	7.36	1.06	1.44	0.014 ± 0.0069	0.013 ± 0.0065	0.0039 ± 0.0040	0.0027 ± 0.0028
Okayama, OKAYAMA	7.32	1.07	1.53	0.019 ± 0.0044	0.017 ± 0.0041	0.0049 ± 0.0036	0.0032 ± 0.0024
Hiroshima, HIROSHIMA	7.38	1.10	1.68	0.030 ± 0.0076	0.028 ± 0.0069	0.0036 ± 0.0043	0.0021 ± 0.0026
Yamaguchi, YAMAGUCHI	7.00	1.08	1.56	0.022 ± 0.0066	0.020 ± 0.0061	0.010 ± 0.0040	0.0066 ± 0.0026
Matsuyama, EHIME	7.08	1.08	1.59	0.022 ± 0.0070	0.021 ± 0.0065	0.0077 ± 0.0038	0.0048 ± 0.0024
Kochi, KOCHI	7.56	1.17	1.71	0.025 ± 0.0081	0.022 ± 0.0069	0.017 ± 0.0055	0.010 ± 0.0032

Location	Component			^{90}Sr		^{137}Cs	
	Ash(g/ ℓ)	Ca(g/ ℓ)	K(g/ ℓ)	(Bq/ ℓ)	(Bq/gCa)	(Bq/ ℓ)	(Bq/gK)
Chikushino, FUKUOKA	7.10	1.06	1.64	0.024 ± 0.0080	0.022 ± 0.0075	0.015 ± 0.0052	0.0093 ± 0.0032
Nagasaki, NAGASAKI	6.80	1.05	1.54	0.037 ± 0.0083	0.035 ± 0.0079	0.0072 ± 0.0045	0.0047 ± 0.0029
Kagoshima, KAGOSHIMA	7.42	1.13	1.63	0.042 ± 0.0094	0.037 ± 0.0084	0.023 ± 0.0060	0.014 ± 0.0036

(3)-4 Strontium-90 and Cesium-137 in Milk (powdered milk)
(from Oct. 1996 to Mar. 1997)
-continued from No. 119 of this publication-

Table (3)-4 Strontium-90 and Cesium-137 in Milk

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kg)	(Bq/gCa)	(Bq/kg)	(Bq/gK)
January, 1997							
Sample C,	8.03	12.5	18.8	0.54 ± 0.037	0.043 ± 0.0030	2.7 ± 0.06	0.14 ± 0.003
Febraly, 1997							
Sample A,	7.96	12.3	18.5	0.29 ± 0.027	0.024 ± 0.0022	0.26 ± 0.020	0.014 ± 0.0011
Sample B,	2.62	3.46	6.92	0.034 ± 0.0082	0.0099 ± 0.0024	0.075 ± 0.0079	0.011 ± 0.0011
Sample D,	2.42	3.90	5.64	0.029 ± 0.0073	0.0075 ± 0.0019	0.040 ± 0.0060	0.0071 ± 0.0011
Sample E,	2.54	4.24	5.49	0.094 ± 0.0070	0.022 ± 0.0017	0.10 ± 0.009	0.018 ± 0.0016
Sample F,	2.70	3.70	5.43	0.045 ± 0.0054	0.012 ± 0.0015	0.14 ± 0.011	0.026 ± 0.0020

(4)-1 Strontium-90 and cesium-137 in Vegetables (producing districts)
(from Oct. 1996 to Mar. 1997)

-continued from No. 119 of this publication-

Table (4)-1 :Strontium-90 and cesium-137 in Vegetables

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Cabbage)							
October, 1996							
Mutsu, AOMORI	0.593	0.355	2.32	0.26 ± 0.012	0.72 ± 0.033	0.019 ± 0.0067	0.0082 ± 0.0029
November, 1996							
Sannohe-machi, AOMORI	0.611	0.417	2.34	0.092 ± 0.0073	0.22 ± 0.017	0.0050 ± 0.0059	0.0021 ± 0.0025
January, 1997							
Kumatori-machi, OSAKA	0.621	0.280	2.55	0.0091 ± 0.0069	0.032 ± 0.025	0.0036 ± 0.0034	0.0014 ± 0.0013
(Chinese cabbege)							
October, 1996							
Tamayama-mura, IWATE	0.564	0.449	2.18	0.13 ± 0.014	0.28 ± 0.031	0.014 ± 0.0062	0.0063 ± 0.0028
December, 1996							
Utsunomiya, TOCHIGI	0.657	0.551	2.56	0.32 ± 0.022	0.59 ± 0.040	0.0086 ± 0.0067	0.0033 ± 0.0026
Febraly, 1997							
Shinguu, WAKAYAMA	0.739	0.395	2.91	0.058 ± 0.010	0.15 ± 0.026	0.0004 ± 0.0048	0.0001 ± 0.0017
(Japanese radish)							
October, 1996							
Tamayama-mura, IWATE	0.584	0.291	2.38	0.074 ± 0.011	0.25 ± 0.036	0.014 ± 0.0057	0.0058 ± 0.0024
Takamatsu, KAGAWA	0.426	0.378	1.19	0.40 ± 0.026	1.1 ± 0.07	0.021 ± 0.0071	0.018 ± 0.0059
November, 1996							
Sannohe-machi, AOMORI	0.471	0.158	1.85	0.16 ± 0.010	1.0 ± 0.06	0.045 ± 0.0068	0.024 ± 0.0037
Fukushima, FUKUSHIMA	0.513	0.317	1.90	0.063 ± 0.0097	0.20 ± 0.030	0.0008 ± 0.0053	0.0004 ± 0.0028
Mito, IBARAKI	0.523	0.318	2.17	0.071 ± 0.010	0.22 ± 0.032	0.0011 ± 0.0052	0.0005 ± 0.0024
Maebashi, GUNMA	0.565	0.194	2.45	0.078 ± 0.011	0.40 ± 0.055	0.015 ± 0.0056	0.0063 ± 0.0023
Chiba, CHIBA	0.564	0.255	2.30	0.16 ± 0.015	0.61 ± 0.060	0.0016 ± 0.0039	0.0007 ± 0.0017
Kosugi-machi, TOYAMA	0.430	0.185	1.77	0.12 ± 0.012	0.63 ± 0.067	0.0022 ± 0.0038	0.0012 ± 0.0022
Fukui, FUKUI	0.438	0.156	1.85	0.0030 ± 0.0053	0.019 ± 0.034	0.0085 ± 0.0051	0.0046 ± 0.0027

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Saku, NAGANO	0.462	0.164	2.01	0.028 ± 0.0082	0.17 ± 0.050	0.0034 ± 0.0056	0.0017 ± 0.0028
Gifu, GIFU	0.538	0.233	2.19	0.068 ± 0.011	0.29 ± 0.049	0.0053 ± 0.0039	0.0024 ± 0.0018
Hamamatsu, SHIZUOKA	0.556	0.168	2.22	0.065 ± 0.011	0.38 ± 0.068	0.0008 ± 0.0035	0.0003 ± 0.0016
Gotenba, SHIZUOKA	0.451	0.188	1.64	0.099 ± 0.013	0.53 ± 0.069	0.16 ± 0.011	0.095 ± 0.0069
Adogawa-machi, SHIGA	0.421	0.197	1.52	0.15 ± 0.016	0.76 ± 0.081	0.014 ± 0.0068	0.0090 ± 0.0045
Meiwa-machi, MIE	0.618	0.256	2.86	0.10 ± 0.008	0.39 ± 0.030	0.011 ± 0.0043	0.0039 ± 0.0015
Kasai, HYOUGO	0.584	0.194	2.64	0.044 ± 0.0095	0.23 ± 0.049	0.0052 ± 0.0052	0.0020 ± 0.0020
Shime-machi, FUKUOKA	0.531	0.217	2.25	0.034 ± 0.0088	0.16 ± 0.040	0.0060 ± 0.0039	0.0027 ± 0.0017
Saga, SAGA	0.766	0.176	3.48	0.0027 ± 0.0047	0.015 ± 0.027	0.0041 ± 0.0035	0.0012 ± 0.0010
Usa, OOITA	0.610	0.168	2.69	0.037 ± 0.0085	0.22 ± 0.050	0.0000 ± 0.0026	0.00000 ± 0.00098
Takanabe-machi, MIYAZAKI	0.612	0.218	2.66	0.13 ± 0.015	0.58 ± 0.069	0.0080 ± 0.0051	0.0030 ± 0.0019
Kaimon-machi, KAGOSHIMA	0.720	0.231	2.69	0.054 ± 0.011	0.23 ± 0.046	0.0048 ± 0.0040	0.0018 ± 0.0015
December, 1996							
Utsunomiya, TOCHIGI	0.561	0.231	2.53	0.16 ± 0.015	0.67 ± 0.067	0.0000 ± 0.0063	0.0000 ± 0.0025
Takane-machi, YAMANASHI	0.655	0.326	2.54	0.26 ± 0.021	0.81 ± 0.064	0.0064 ± 0.0043	0.0025 ± 0.0017
Kashihara, NARA	0.572	0.245	2.31	0.031 ± 0.0095	0.13 ± 0.039	0.0020 ± 0.0036	0.0009 ± 0.0016
Kokufu-machi, TOTTORI	0.491	0.257	2.10	0.39 ± 0.023	1.5 ± 0.09	0.0000 ± 0.0037	0.0000 ± 0.0018
Hiroshima, HIROSHIMA	0.419	0.215	1.74	0.028 ± 0.0048	0.13 ± 0.022	0.0022 ± 0.0034	0.0013 ± 0.0019
Kubokawa-machi, KOCHI	0.565	0.136	2.48	0.14 ± 0.015	1.0 ± 0.11	0.0078 ± 0.0037	0.0032 ± 0.0015
January, 1997							
Yuya-machi, YAMAGUCHI	0.684	0.210	2.66	0.20 ± 0.018	0.94 ± 0.084	0.0048 ± 0.0054	0.0018 ± 0.0020
Febraly, 1997							
Shinguu, WAKAYAMA	0.494	0.360	1.60	0.22 ± 0.018	0.61 ± 0.050	0.014 ± 0.0071	0.0084 ± 0.0044
March, 1997							
Ishii-machi, TOKUSHIMA	0.750	0.233	2.24	0.039 ± 0.0091	0.17 ± 0.039	0.0004 ± 0.0029	0.0002 ± 0.0013
(Spinach)							

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
October, 1996							
Kusu-machi, MIE	1.43	0.716	6.02	0.037 ± 0.0055	0.052 ± 0.0077	0.013 ± 0.0048	0.0021 ± 0.00079
Takamatsu, KAGAWA	1.67	0.713	6.18	0.16 ± 0.016	0.23 ± 0.023	0.021 ± 0.0073	0.0034 ± 0.0012
Matsumoto-machi, KAGOSHIMA	1.57	0.583	5.42	0.032 ± 0.0093	0.055 ± 0.016	0.084 ± 0.0093	0.016 ± 0.0017
November, 1996							
Fukushima, FUKUSHIMA	1.45	0.564	6.08	0.062 ± 0.010	0.11 ± 0.018	0.0092 ± 0.0060	0.0015 ± 0.00099
Mito, IBARAKI	1.51	0.588	6.76	0.097 ± 0.012	0.16 ± 0.021	0.036 ± 0.0083	0.0054 ± 0.0012
Maebashi, GUNMA	1.84	0.405	8.12	0.035 ± 0.0083	0.086 ± 0.020	0.024 ± 0.0069	0.0029 ± 0.00086
Chiba, CHIBA	1.73	0.576	7.56	0.018 ± 0.0070	0.031 ± 0.012	0.012 ± 0.0050	0.0016 ± 0.00066
Toyama, TOYAMA	1.36	0.552	5.84	0.030 ± 0.0075	0.054 ± 0.014	0.0000 ± 0.0043	0.00000 ± 0.00074
Fukui, FUKUI	1.62	0.478	7.10	0.031 ± 0.0088	0.065 ± 0.018	0.029 ± 0.0078	0.0041 ± 0.0011
Saku, NAGANO	1.75	0.443	7.42	0.020 ± 0.0073	0.044 ± 0.017	0.0082 ± 0.0059	0.0011 ± 0.00080
Gifu, GIFU	1.67	0.534	6.93	0.030 ± 0.0090	0.056 ± 0.017	0.0039 ± 0.0043	0.00056 ± 0.00062
Gotenba, SHIZUOKA	1.61	1.51	5.16	0.33 ± 0.022	0.22 ± 0.015	0.61 ± 0.023	0.12 ± 0.004
Rittou-machi, SHIGA	1.18	0.459	4.89	0.046 ± 0.0056	0.10 ± 0.012	0.0000 ± 0.0057	0.0000 ± 0.0012
Kasai, HYOUGO	1.66	0.595	7.25	0.10 ± 0.013	0.17 ± 0.022	0.0085 ± 0.0059	0.0012 ± 0.00081
Kurayoshi, TOTTORI	1.43	0.764	4.77	0.17 ± 0.016	0.22 ± 0.020	0.034 ± 0.0066	0.0072 ± 0.0014
Matsuyama, EHIME	1.61	0.448	7.07	0.018 ± 0.0068	0.040 ± 0.015	0.0031 ± 0.0043	0.00043 ± 0.00061
Shime-machi, FUKUOKA	1.52	0.762	6.28	0.028 ± 0.0082	0.036 ± 0.011	0.016 ± 0.0048	0.0026 ± 0.00077
Saga, SAGA	1.55	0.532	6.88	0.019 ± 0.0074	0.036 ± 0.014	0.0004 ± 0.0038	0.00006 ± 0.00055
Usa, OOITA	1.47	0.292	6.14	0.024 ± 0.0082	0.081 ± 0.028	0.0062 ± 0.0045	0.0010 ± 0.00073
Takanabe-machi, MIYAZAKI	1.56	0.485	5.66	0.10 ± 0.014	0.22 ± 0.029	0.047 ± 0.0075	0.0083 ± 0.0013
December, 1996							
Takane-machi, YAMANASHI	3.14	2.49	8.89	1.7 ± 0.05	0.67 ± 0.021	0.045 ± 0.0071	0.0051 ± 0.00080
Kashihara, NARA	1.48	0.527	6.22	0.042 ± 0.0089	0.079 ± 0.017	0.0000 ± 0.0037	0.00000 ± 0.00059
Hiroshima, HIROSHIMA	1.78	0.451	7.01	0.014 ± 0.0061	0.030 ± 0.013	0.0013 ± 0.0058	0.00019 ± 0.00082

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Kubokawa-machi, KOCHI January, 1997	1.78	0.572	7.19	0.22 ± 0.019	0.39 ± 0.033	0.020 ± 0.0052	0.0028 ± 0.00072
Yuya-machi, YAMAGUCHI March, 1997	1.68	0.713	6.21	0.16 ± 0.016	0.22 ± 0.022	0.019 ± 0.0069	0.0031 ± 0.0011
Ishii-machi, TOKUSHIMA	2.04	0.416	7.00	0.096 ± 0.014	0.23 ± 0.033	0.0000 ± 0.0032	0.00000 ± 0.00046

(4)-2 Strontium-90 and cesium-137 in Vegetables (consuming districts)
(from Oct. 1996 to Mar. 1997)

-continued from No. 119 of this publication-

Table (4)-2 :Strontium-90 and cesium-137 in Vegetables

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Cabbage)							
November, 1996							
Akita, AKITA	0.593	0.414	2.28	0.042 ± 0.0085	0.10 ± 0.021	0.0000 ± 0.0051	0.0000 ± 0.0022
(Japanese radish)							
October, 1996							
Yamagata, YAMAGATA	0.468	0.275	1.86	0.034 ± 0.0078	0.12 ± 0.028	0.0064 ± 0.0059	0.0035 ± 0.0032
Kanazawa, ISHIKAWA	0.532	0.146	2.25	0.024 ± 0.0073	0.17 ± 0.050	0.028 ± 0.0054	0.012 ± 0.0024
Kyoto, KYOTO	0.617	0.169	2.63	0.31 ± 0.021	1.8 ± 0.12	0.0087 ± 0.0054	0.0033 ± 0.0021
November, 1996							
Akita, AKITA	0.445	0.206	1.96	0.13 ± 0.014	0.65 ± 0.070	0.0000 ± 0.0056	0.0000 ± 0.0028
Shinjuku, TOKYO	0.588	0.176	2.48	0.14 ± 0.009	0.77 ± 0.051	0.0065 ± 0.0036	0.0026 ± 0.0015
Niigata, NIIGATA	0.356	0.198	1.27	0.022 ± 0.0079	0.11 ± 0.040	0.0033 ± 0.0039	0.0026 ± 0.0031
Osaka, OSAKA	0.616	0.270	2.67	0.067 ± 0.0065	0.25 ± 0.024	0.0081 ± 0.0054	0.0030 ± 0.0020
Okayama, OKAYAMA	0.431	0.370	1.80	0.49 ± 0.025	1.3 ± 0.07	0.070 ± 0.0079	0.039 ± 0.0044
December, 1996							
Yonagusuku-machi, Okinawa	0.814	0.195	3.26	0.045 ± 0.0090	0.23 ± 0.046	0.0034 ± 0.0055	0.0010 ± 0.0017
January, 1997							
Yokohama, KANAGAWA	0.411	0.205	1.37	0.018 ± 0.0074	0.087 ± 0.036	0.0000 ± 0.0060	0.0000 ± 0.0044
Nagasaki, NAGASAKI	0.352	0.202	1.39	0.041 ± 0.0093	0.20 ± 0.046	0.0000 ± 0.0042	0.0000 ± 0.0030
(Spinach)							
October, 1996							
Yamagata, YAMAGATA	1.91	1.24	7.15	0.062 ± 0.0097	0.050 ± 0.0078	0.026 ± 0.0075	0.0037 ± 0.0010
Kanazawa, ISHIKAWA	1.80	0.484	7.00	0.075 ± 0.012	0.16 ± 0.024	0.022 ± 0.0056	0.0031 ± 0.00079
November, 1996							
Shinjuku, TOKYO	1.63	0.509	6.33	0.0085 ± 0.0037	0.017 ± 0.0074	0.0025 ± 0.0036	0.00040 ± 0.00057
Kyoto, KYOTO	1.24	0.391	5.14	0.034 ± 0.0090	0.088 ± 0.023	0.013 ± 0.0065	0.0025 ± 0.0013

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Osaka, OSAKA	1.47	0.565	6.39	0.036 ± 0.0055	0.064 ± 0.0097	0.0013 ± 0.0056	0.00021 ± 0.00088
Okayama, OKAYAMA	2.13	0.620	7.86	0.15 ± 0.015	0.24 ± 0.025	0.049 ± 0.0074	0.0062 ± 0.00094
Matsuyama, EHIME	1.61	0.716	5.19	0.11 ± 0.014	0.16 ± 0.019	0.037 ± 0.0069	0.0072 ± 0.0013
December, 1996							
Yonagusuku-machi, Okinawa	1.71	0.617	6.52	0.010 ± 0.0060	0.017 ± 0.0097	0.0000 ± 0.0058	0.00000 ± 0.00089
January, 1997							
Yokohama, KANAGAWA	1.65	0.433	6.84	0.044 ± 0.0086	0.10 ± 0.020	0.0008 ± 0.0056	0.00012 ± 0.00082
Nagasaki, NAGASAKI	1.65	0.328	6.37	0.019 ± 0.0074	0.058 ± 0.023	0.0034 ± 0.0052	0.00053 ± 0.00081

(5) Strontium-90 and cesium-137 in Sea Fish
(from Oct. 1996 to Mar. 1997)

-continued from No, 119 of this publication-

Table (5) :Strontium-90 and cesium-137 in Sea Fish

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Branchiostegus sp)							
November, 1996							
Nagasaki, NAGASAKI	1.32	1.08	3.45	0.0000 ± 0.0049	0.0000 ± 0.0045	0.11 ± 0.011	0.033 ± 0.0031
(Limanda herzensteini)							
November, 1996							
Mutsu, AOMORI	1.26	0.559	3.60	0.0033 ± 0.0033	0.0059 ± 0.0059	0.10 ± 0.010	0.028 ± 0.0026
Niigata, NIIGATA	1.46	1.10	3.41	0.0081 ± 0.0035	0.0074 ± 0.0032	0.053 ± 0.0089	0.016 ± 0.0026
Echizen-machi, FUKUI	2.34	5.11	3.00	0.017 ± 0.0040	0.0034 ± 0.00079	0.11 ± 0.011	0.037 ± 0.0038
Aji-machi, KAGAWA	1.37	0.668	3.74	0.0084 ± 0.0065	0.013 ± 0.0097	0.055 ± 0.0078	0.015 ± 0.0021
March, 1997							
Ootake, HIROSHIMA	1.91	2.35	3.27	0.017 ± 0.0041	0.0072 ± 0.0018	0.050 ± 0.0086	0.015 ± 0.0026
(Mugil cephalus)							
November, 1996							
Ushimado-machi, OKAYAMA	1.31	0.378	3.97	0.0015 ± 0.0060	0.004 ± 0.016	0.15 ± 0.011	0.037 ± 0.0029
(Pterocaesio diagramma)							
December, 1996							
Yonagusuku-machi, Okinawa	3.29	8.22	3.21	0.010 ± 0.0061	0.0012 ± 0.00074	0.12 ± 0.011	0.036 ± 0.0033
(Sardinops melanostictus)							
November, 1996							
Nagano, NAGANO	2.84	5.83	2.39	0.014 ± 0.0060	0.0023 ± 0.0010	0.043 ± 0.0086	0.018 ± 0.0036
(Scomber australasicus)							
Febraly, 1997							
Chikura-machi, CHIBA	1.45	0.187	3.99	0.0029 ± 0.0034	0.015 ± 0.018	0.18 ± 0.013	0.046 ± 0.0032
(Scomber sp)							
November, 1996							
Kyoto, KYOTO	1.31	0.206	4.15	0.0032 ± 0.0032	0.016 ± 0.016	0.17 ± 0.012	0.041 ± 0.0029

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
Osaka, OSAKA January, 1997	0.993	0.120	2.53	0.0074 ± 0.0034	0.062 ± 0.029	0.11 ± 0.011	0.045 ± 0.0043
Oki-abjacent seas, TOTTRI (Sebastes inermis) March, 1997	1.36	0.367	3.37	0.011 ± 0.0036	0.029 ± 0.0097	0.12 ± 0.011	0.037 ± 0.0032
Yamaguchi, YAMAGUCHI (Seriola quinqueradiata) October, 1996	5.10	14.6	3.07	0.024 ± 0.0044	0.0017 ± 0.00030	0.14 ± 0.012	0.046 ± 0.0040
Togi-machi, ISHIKAWA (Spratelloides gracilis) December, 1996	1.34	0.599	3.66	0.0029 ± 0.0060	0.005 ± 0.010	0.18 ± 0.012	0.049 ± 0.0033
Akune, KAGOSHIMA (Trachurus sp) October, 1996	3.26	5.59	3.63	0.0061 ± 0.0054	0.0011 ± 0.00096	0.15 ± 0.013	0.041 ± 0.0034
Miyake-Island, TOKYO November, 1996	1.17	1.23	2.67	0.0038 ± 0.0044	0.0031 ± 0.0036	0.093 ± 0.010	0.035 ± 0.0038
Odawara, KANAGAWA	1.56	0.627	4.70	0.0056 ± 0.0062	0.0090 ± 0.0099	0.17 ± 0.013	0.037 ± 0.0028
Shizuoka, SHIZUOKA Febraly, 1997	1.40	0.274	4.37	0.0007 ± 0.0050	0.003 ± 0.018	0.22 ± 0.014	0.050 ± 0.0033
Shinguu, WAKAYAMA	3.25	5.31	5.01	0.0044 ± 0.0033	0.00083 ± 0.00063	0.24 ± 0.015	0.048 ± 0.0029

Sea Fish

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

(6) Strontium-90 and cesium-137 in Freshwater Fish
(from Oct. 1996 to Mar. 1997)

-continued from No. 119 of this publication-

Table (6) :Strontium-90 and cesium-137 in Freshwater Fish

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Carassius auratus)							
October, 1996							
Niigata, NIIGATA	1.16	0.447	3.39	0.034 ± 0.0086	0.075 ± 0.019	0.17 ± 0.012	0.051 ± 0.0036
December, 1996							
Mikata-machi, FUKUI	1.63	1.93	3.32	0.13 ± 0.014	0.068 ± 0.0072	0.18 ± 0.014	0.055 ± 0.0041
Uji, KYOTO	4.14	12.0	2.55	0.65 ± 0.021	0.055 ± 0.0017	0.014 ± 0.0057	0.0057 ± 0.0022
(Cyprinus carpio)							
October, 1996							
Shobara, HIROSHIMA	1.26	0.883	3.51	0.077 ± 0.0072	0.087 ± 0.0082	0.061 ± 0.0089	0.017 ± 0.0025
(Hypomesus nipponensis)							
December, 1996							
Suwa, NAGANO	2.35	6.05	2.25	0.086 ± 0.013	0.014 ± 0.0021	0.098 ± 0.011	0.044 ± 0.0047
(Salmo gairdneri)							
November, 1996							
Kumagaya, SAITAMA	1.24	0.119	4.04	0.0042 ± 0.0031	0.035 ± 0.026	0.17 ± 0.013	0.043 ± 0.0033

Freshwater Fish

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

(7) Strontium-90 and cesium-137 in Shellfish
(from Oct. 1996 to Mar. 1997)

-continued from No. 119 of this publication-

Table (7) :Strontium-90 and cesium-137 in Shellfish

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Crassostrea gigas)							
March, 1997							
Hatsukaichi, HIROSHIMA	1.63	0.733	2.69	0.0078 ± 0.0043	0.011 ± 0.0059	0.035 ± 0.0090	0.013 ± 0.0034
(Patinopecten yessoensis)							
November, 1996							
Mutsu, AOMORI	1.89	0.217	2.67	0.0066 ± 0.0036	0.031 ± 0.017	0.019 ± 0.0052	0.0071 ± 0.0020
Febraly, 1997							
Yamada-machi, IWATE	2.01	0.225	3.09	0.010 ± 0.0065	0.046 ± 0.029	0.039 ± 0.0066	0.013 ± 0.0021

Shellfish

Japanese name	English name	Scientific name
Magaki	Giant Pacific oyster	Crassostrea gigas
Hotategai	Yesso scallop	Patinopecten yessoensis

(8) Strontium-90 and cesium-137 in Seaweeds
(from Oct. 1996 to Mar. 1997)

-continued from No. 119 of this publication-

Table (8) :Strontium-90 and cesium-137 in Seaweeds

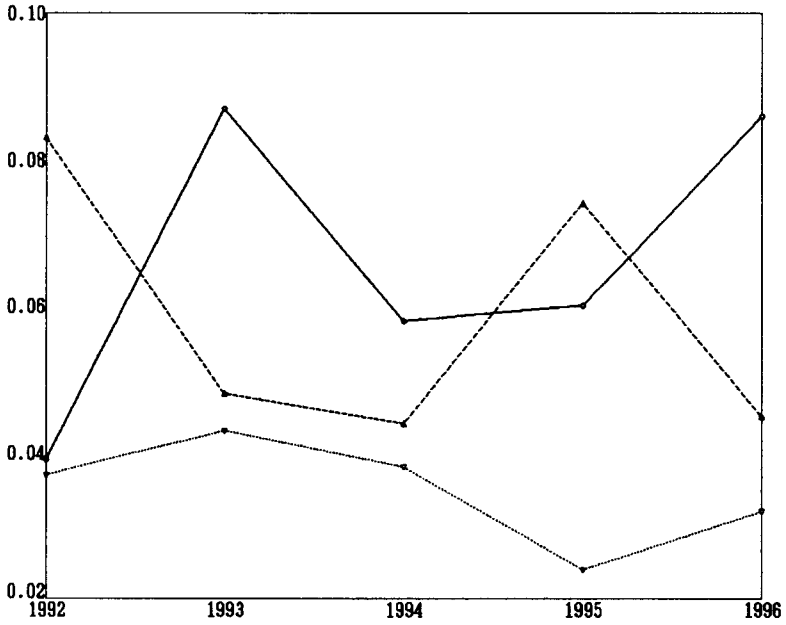
Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(g/kg)	K(g/kg)	(Bq/kgwet)	(Bq/gCa)	(Bq/kgwet)	(Bq/gK)
(Undaria pinnatifida)							
Febraly, 1997							
Minamichita-machi, AICHI	2.43	0.686	7.60	0.042 ± 0.0054	0.061 ± 0.0078	0.034 ± 0.0074	0.0045 ± 0.00097
Shimabara, NAGASAKI	3.40	0.528	9.40	0.019 ± 0.0043	0.036 ± 0.0082	0.016 ± 0.0063	0.0017 ± 0.00067
March, 1997							
Hiroshima, HIROSHIMA	2.88	0.624	7.30	0.027 ± 0.0048	0.043 ± 0.0078	0.023 ± 0.0069	0.0032 ± 0.00094

Seaweeds

Japanese name	English name	Scientific name
Wakame	Wakame seaweed	Undaria pinnatifida

＊ ＊ Total Diet ＊ ＊

<Strontium-90>



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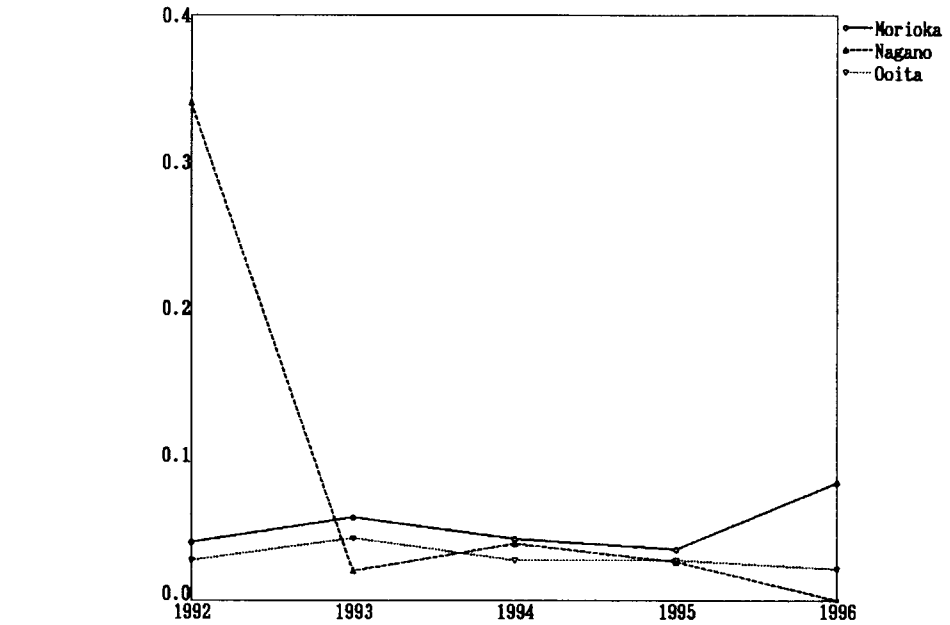

Fig. 1

* * Rice (producing districts) * *

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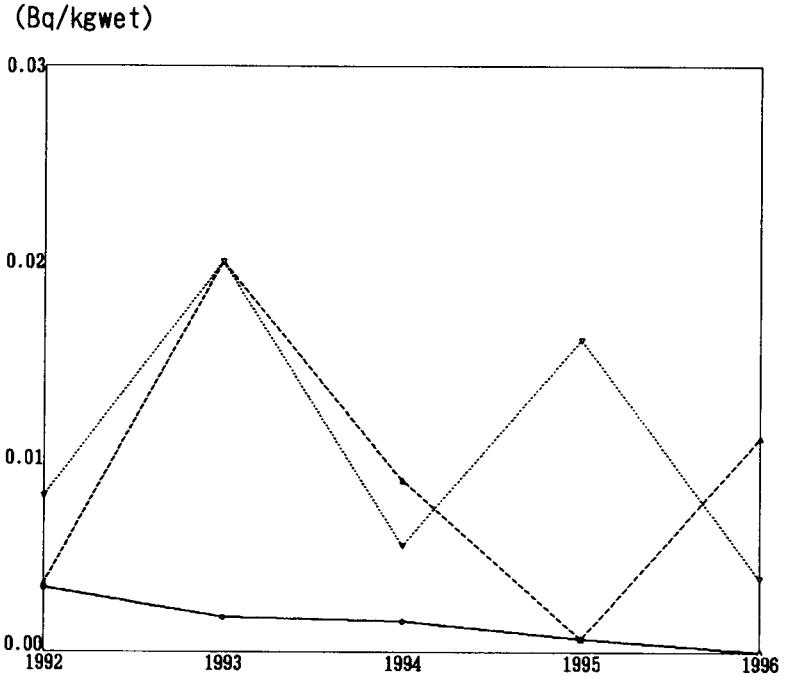

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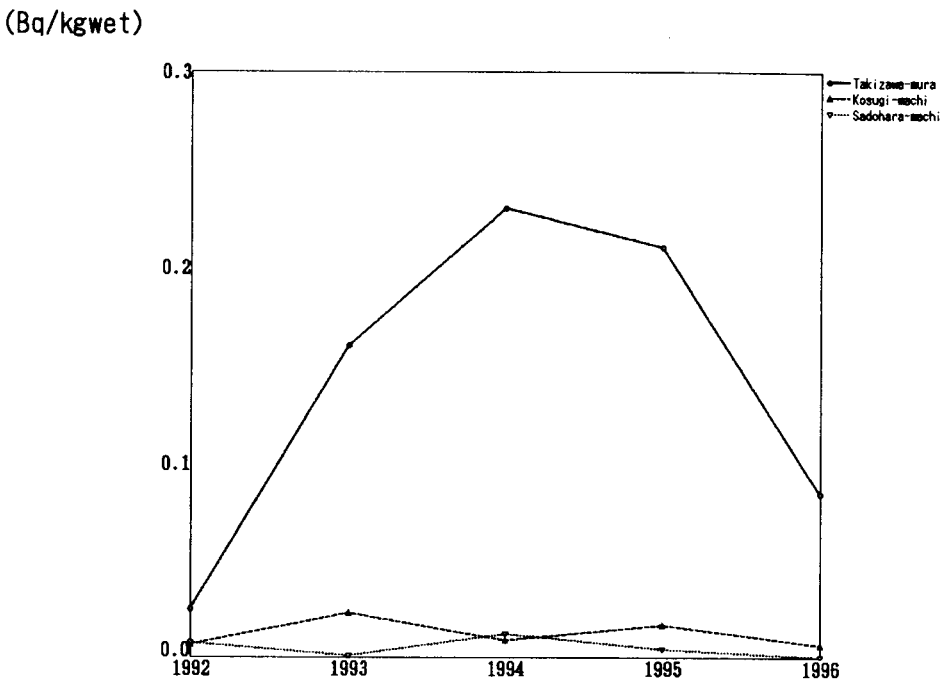
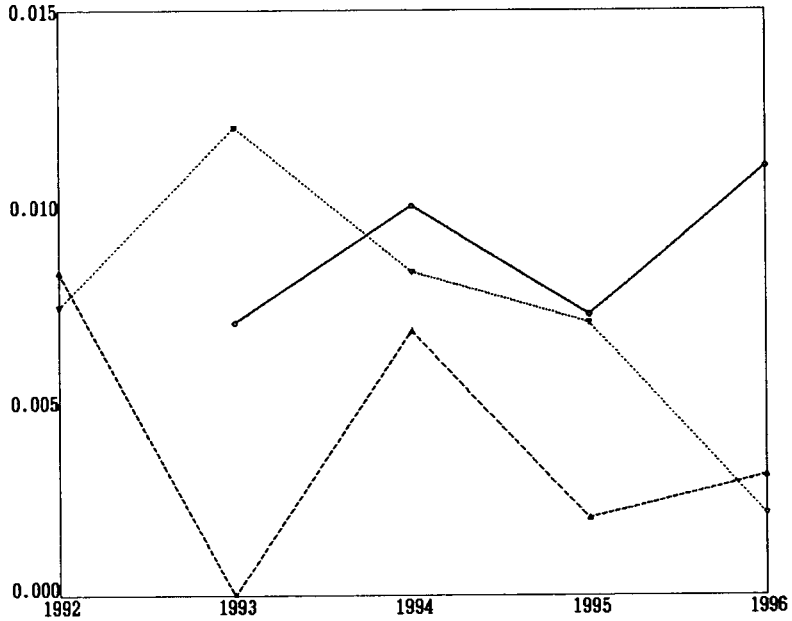


Fig. 2-1

* * Rice (consuming districts) * *

<Strontium-90>

(Bq/kgwet)



<Cesium-137>

(Bq/kgwet)

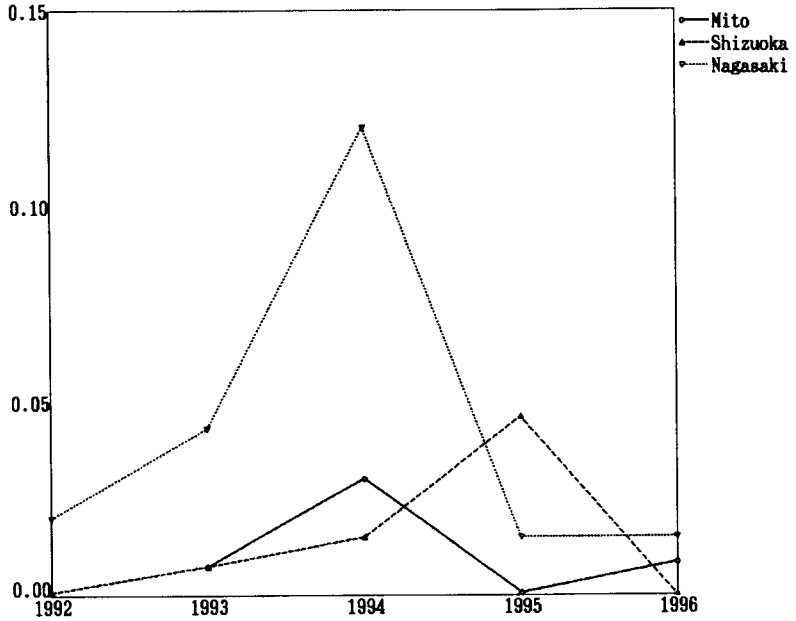


Fig. 2-2

＊＊ Milk (producing districts for domestic program)

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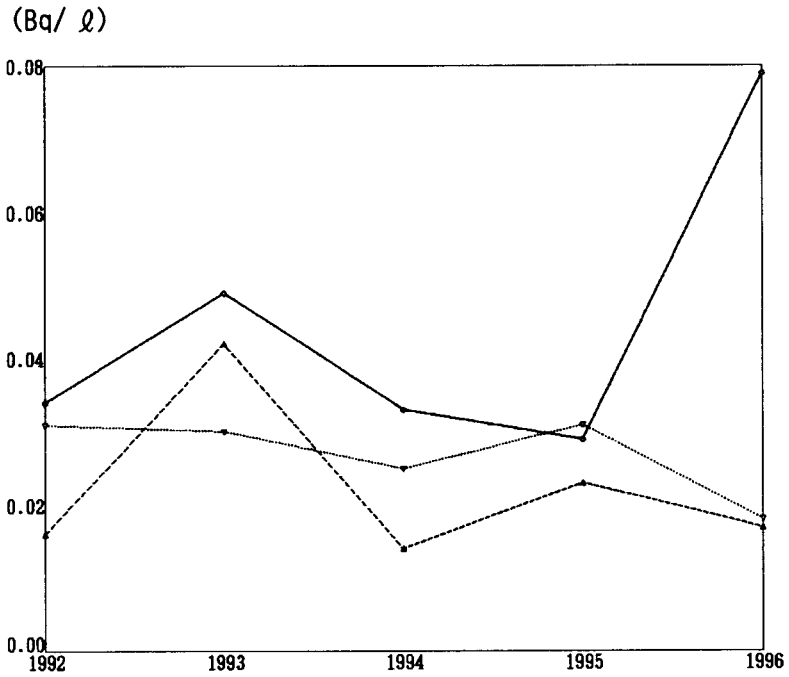

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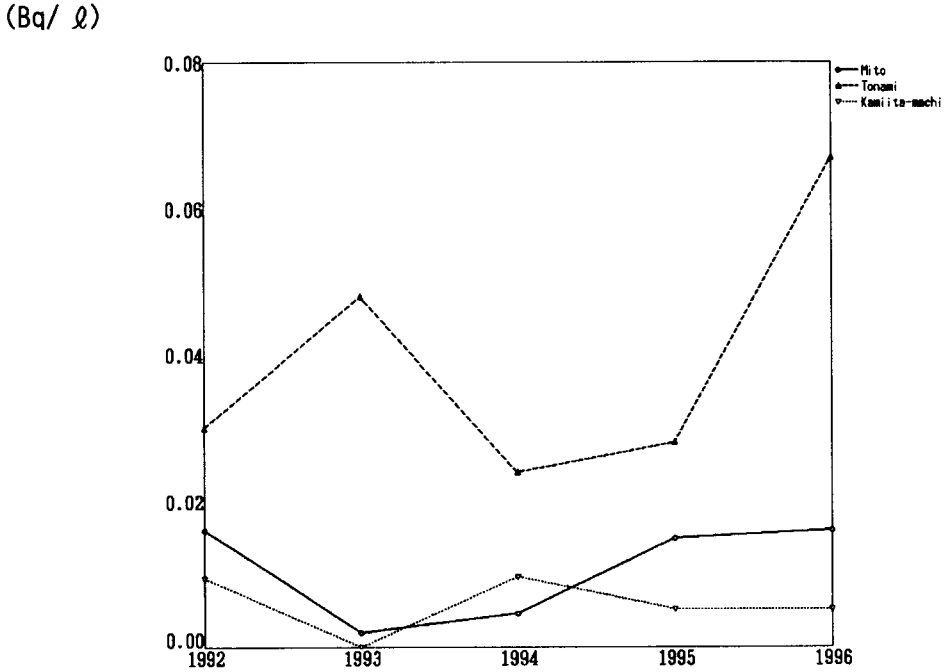
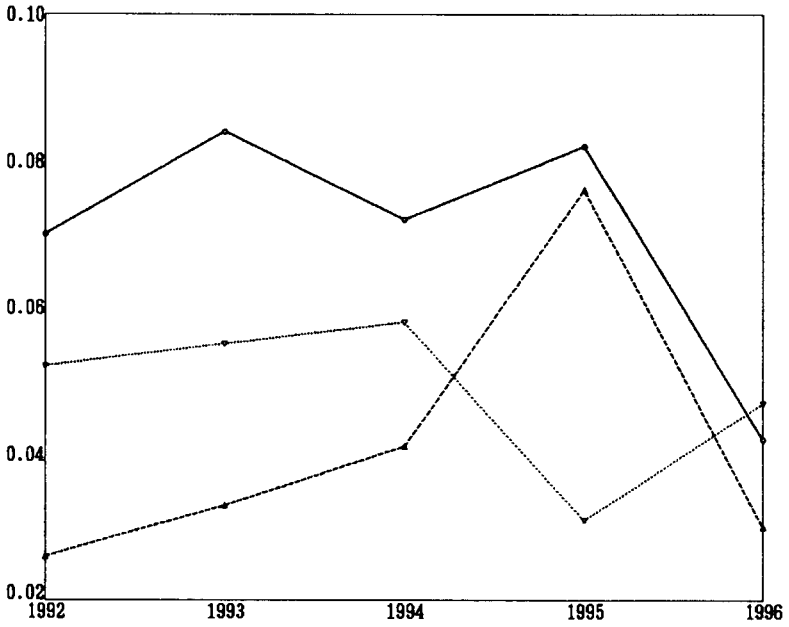


Fig. 3-1

* * Milk (producing districts for WHO program) * *

<Strontium-90>



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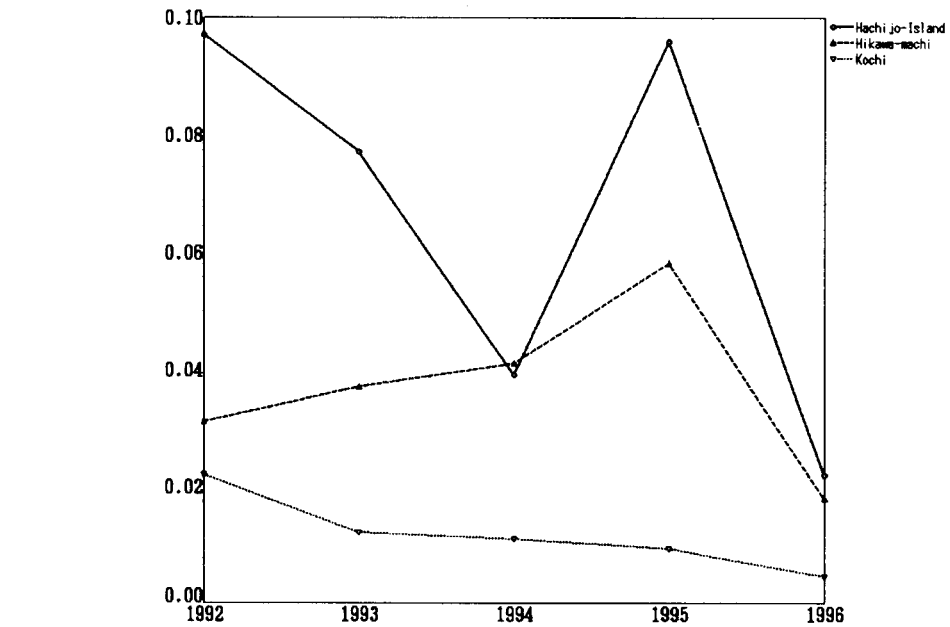

Fig. 3-2

＊ ＊ Milk (consuming districts) ＊ ＊

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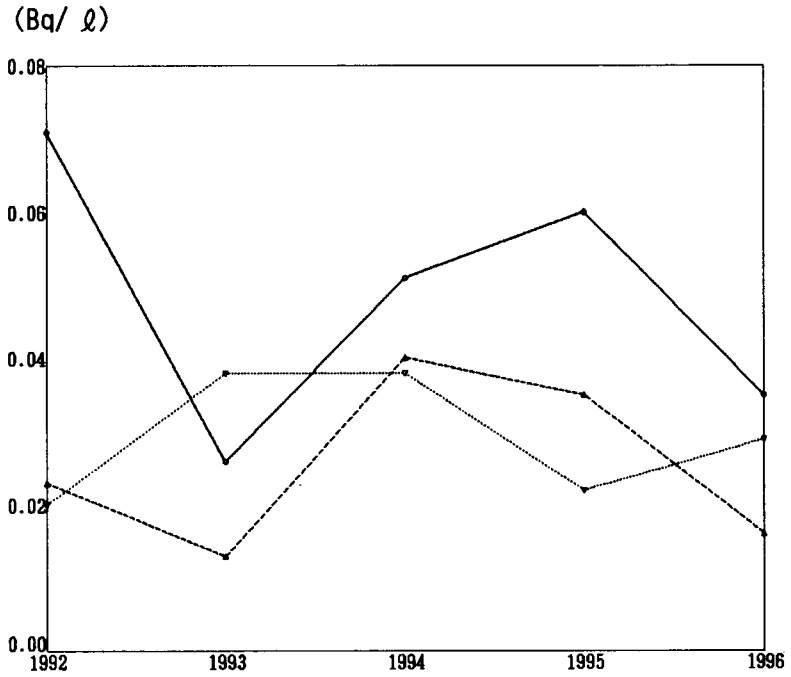

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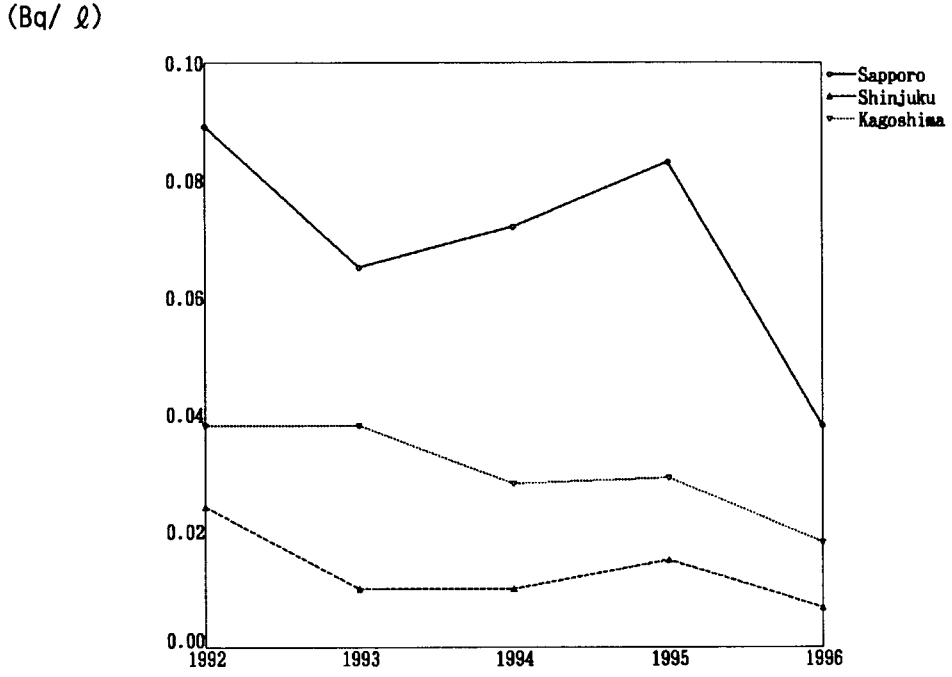
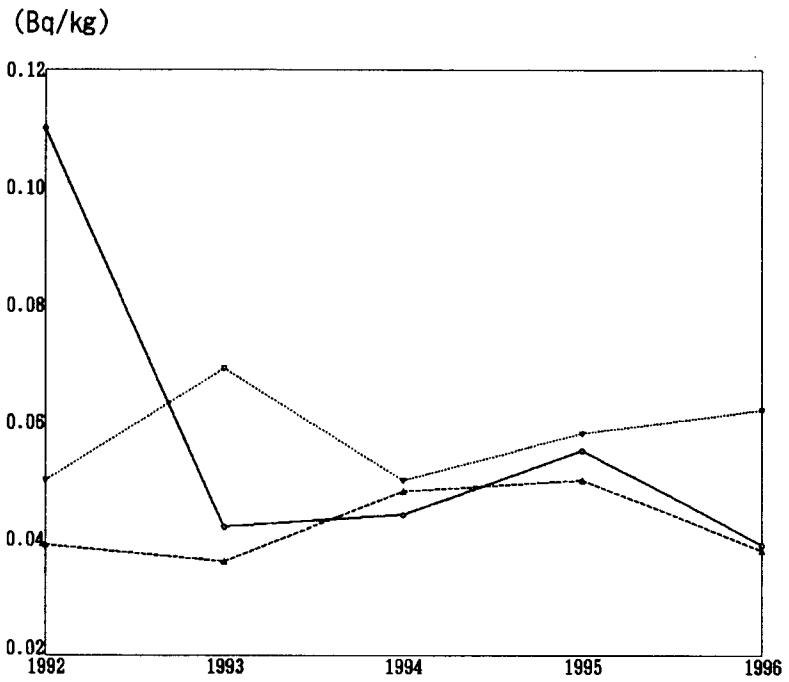


Fig. 3-3

* * Powdered Milk * *

<Strontium-90>



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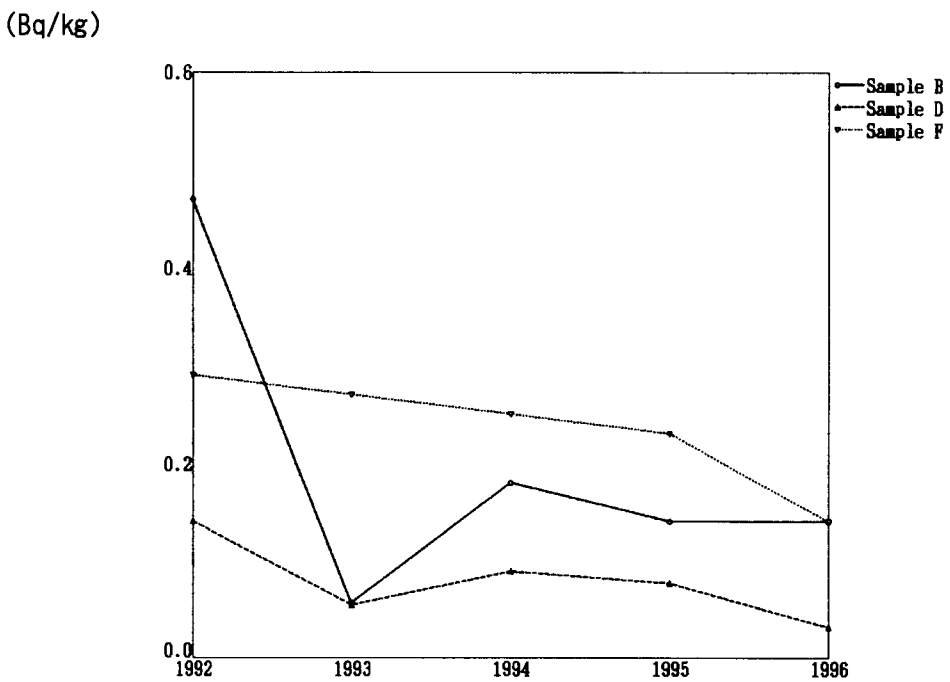

Fig. 3-4

＊ ＊ Vegetables (producing districts) ＊ ＊

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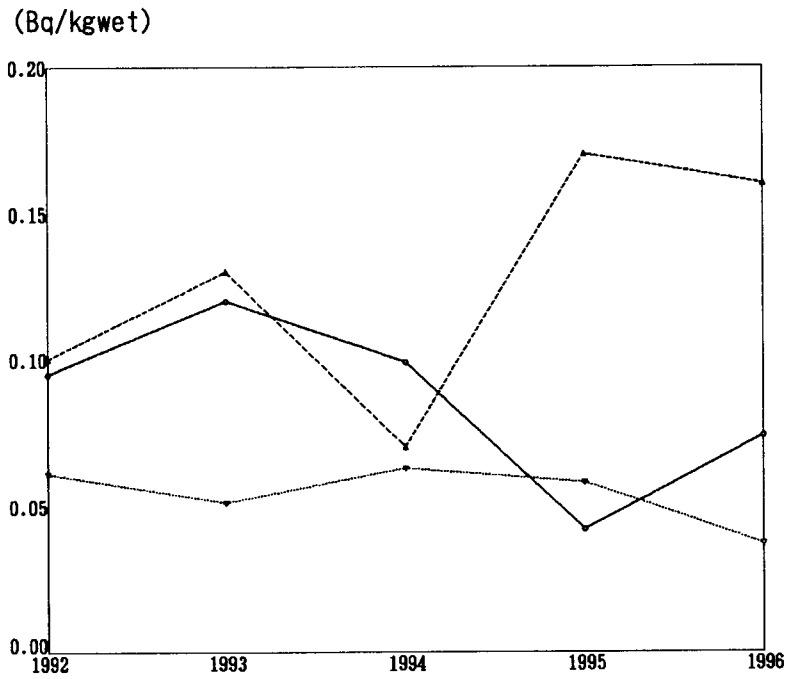

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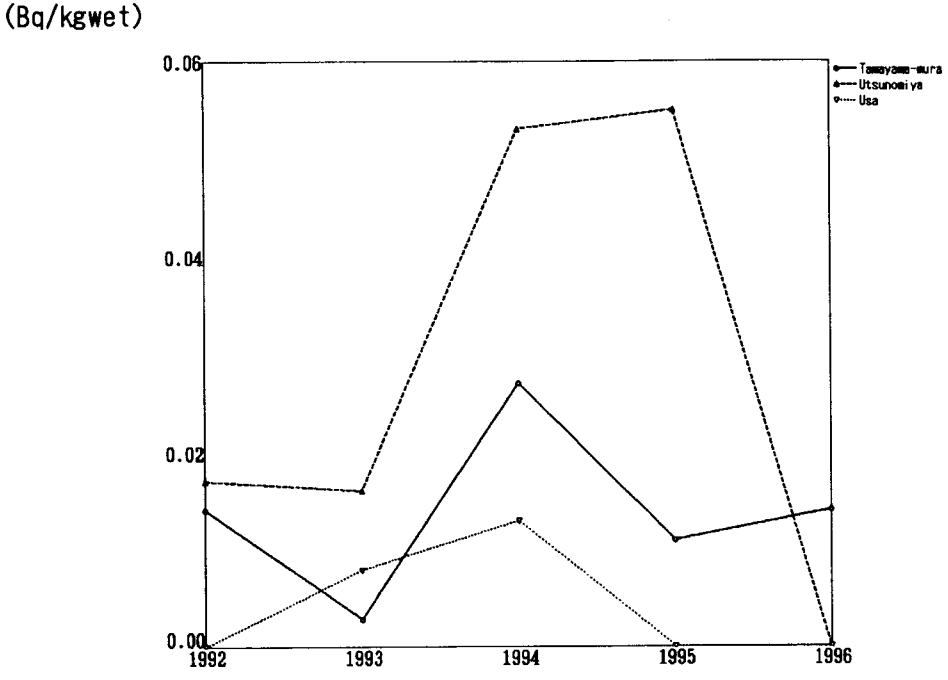
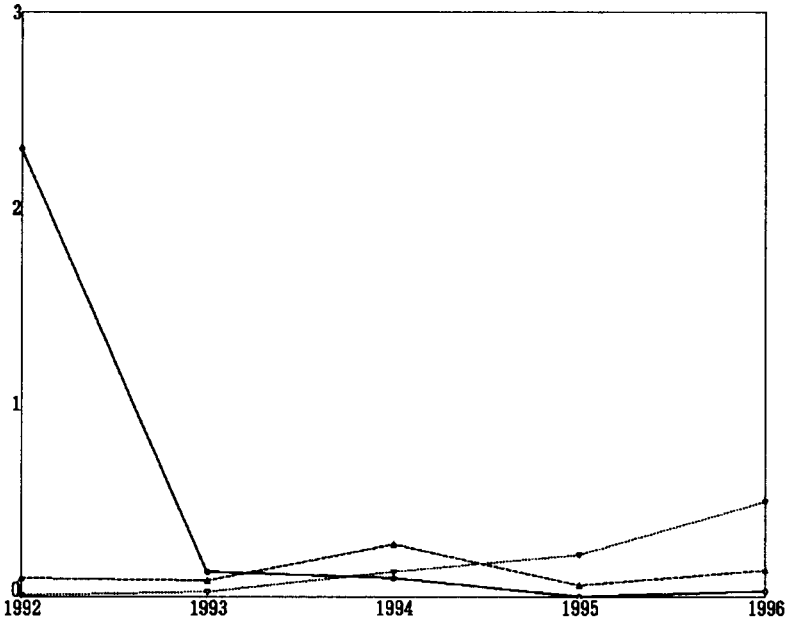


Fig.4-1

＊ ＊ Vegetables (consuming districts) ＊ ＊

<Strontium-90>

(Bq/kgwet)



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(Bq/kgwet)

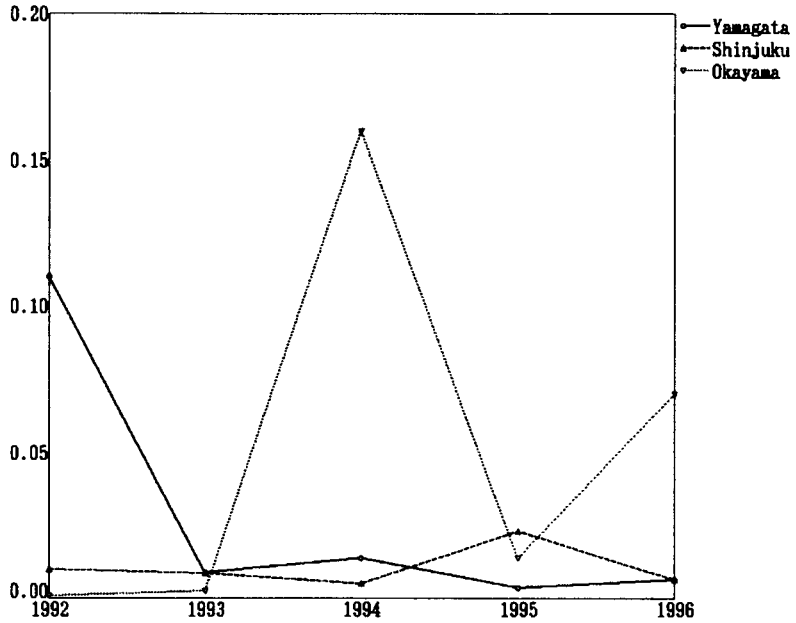
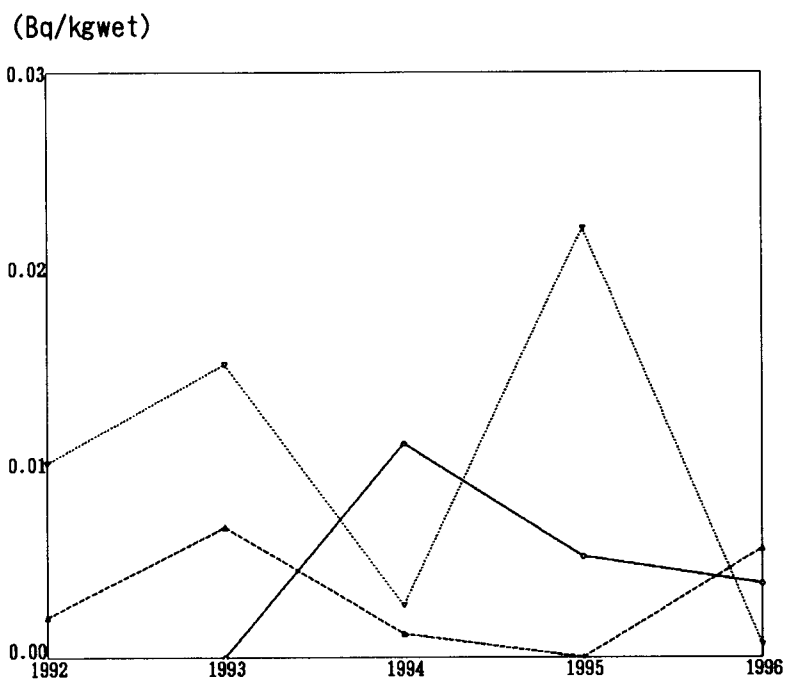


Fig. 4-2

＊ ＊ Sea Fish ＊ ＊

<Strontium-90>



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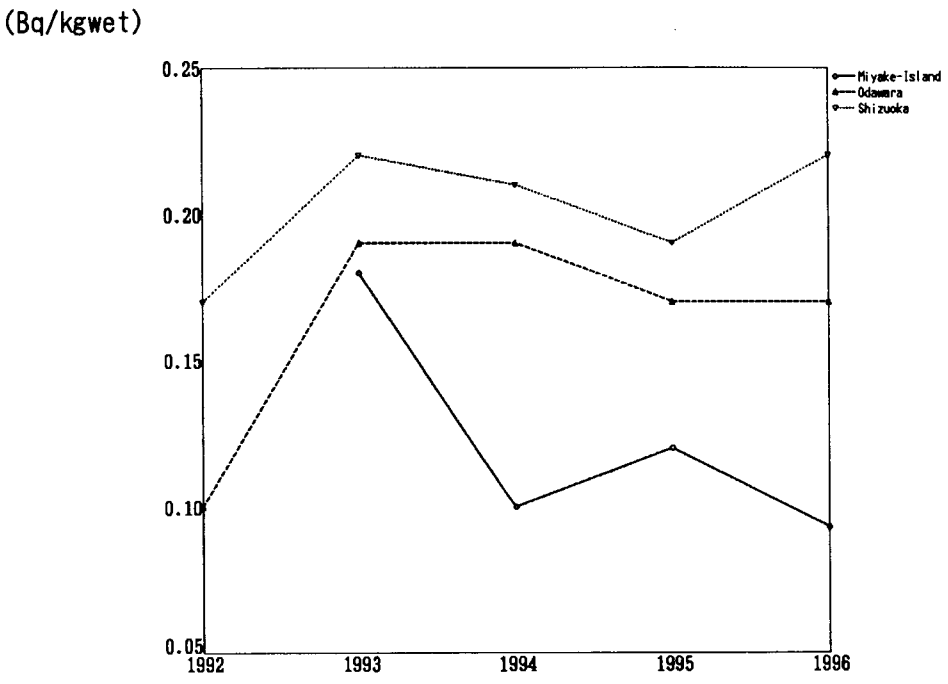
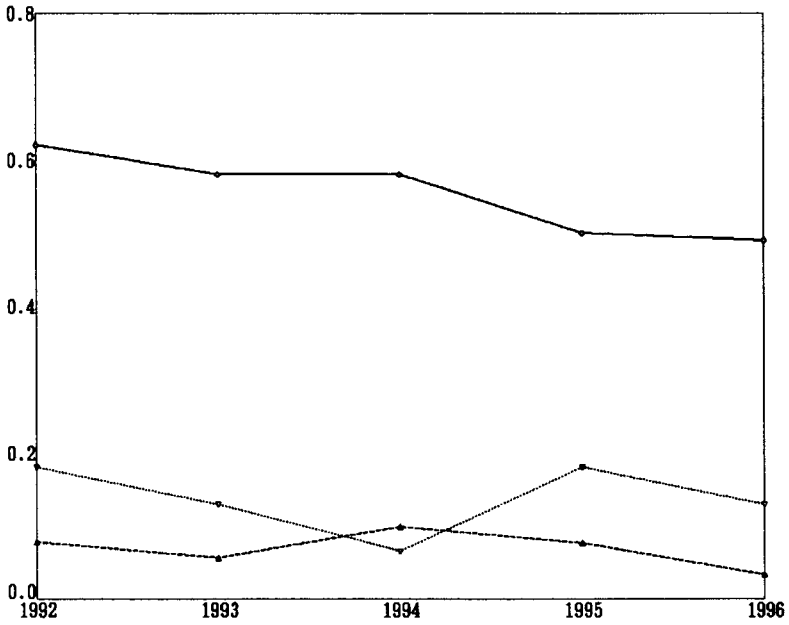


Fig. 5

* * Freshwater Fish * *

<Strontium-90>

(Bq/kgwet)



<Cesium-137>

(Bq/kgwet)

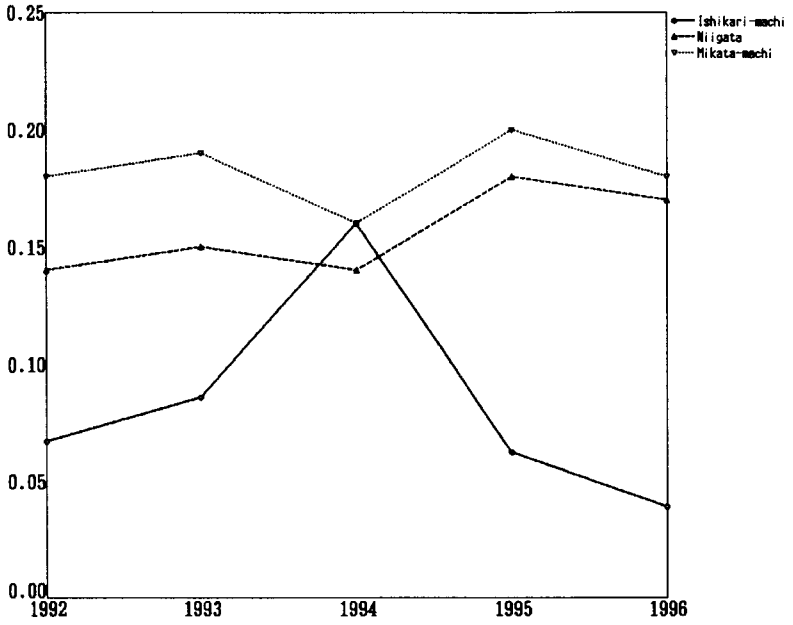
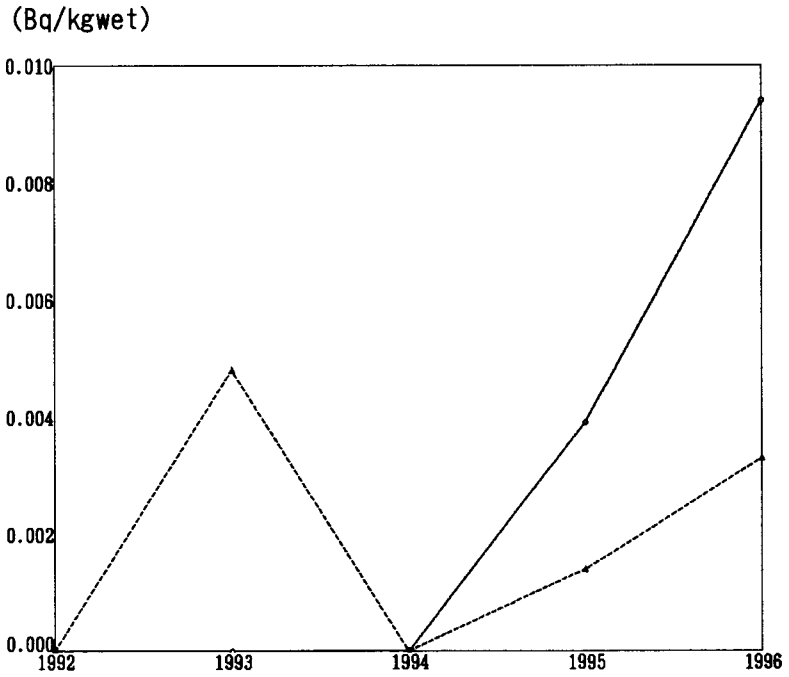


Fig. 6

＊ ＊ Shellfish ＊ ＊

<Strontium-90>



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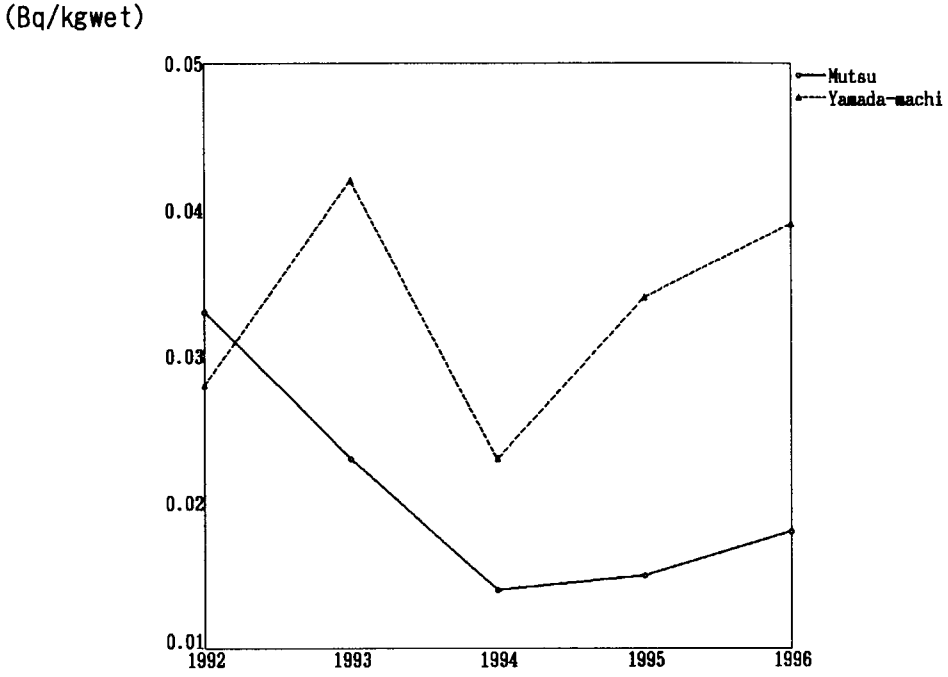
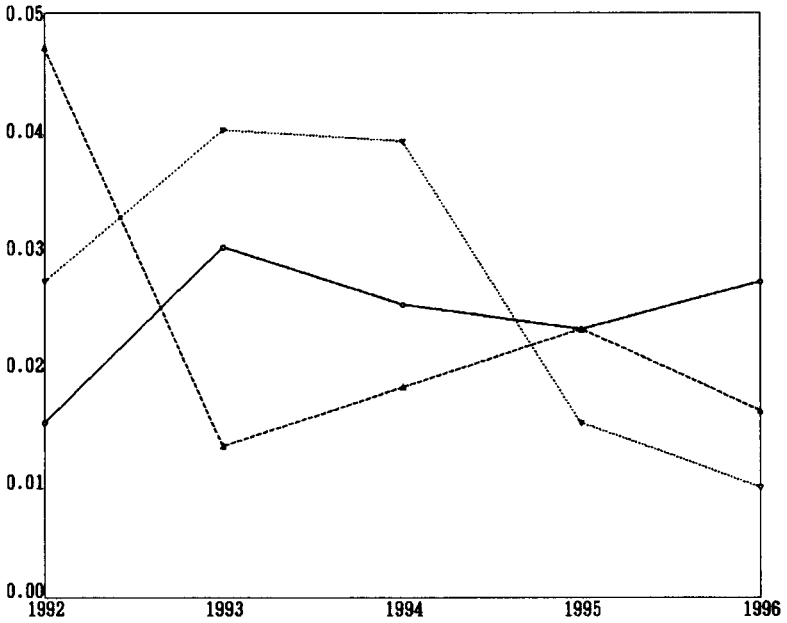


Fig. 7

* * Seaweeds * *

<Strontium-90>



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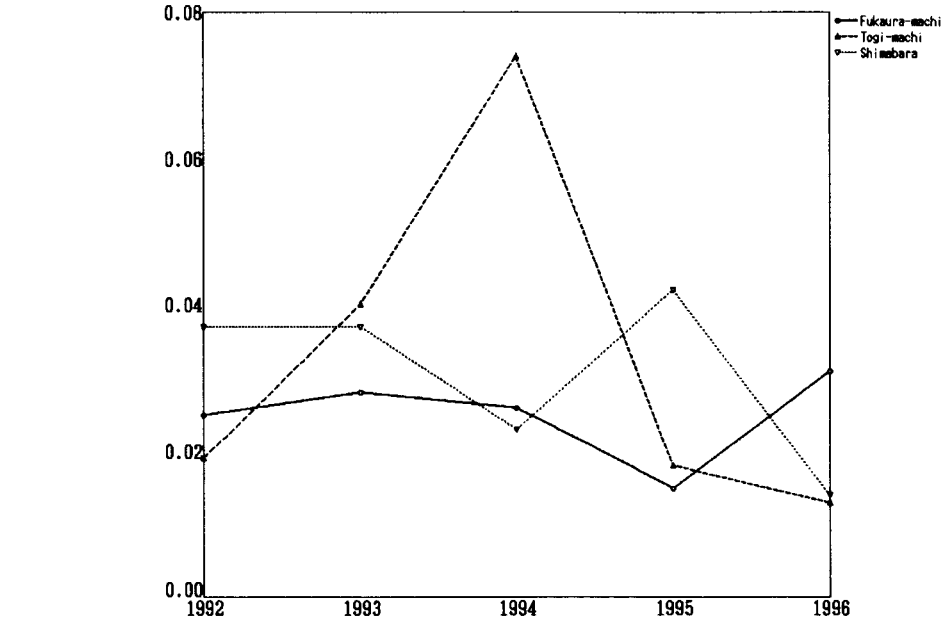

Fig. 8

* * 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