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RADIOACTIVITY SURVEY DATA in Japan

NUMBER 46
Sep. 1978

National Institute of Radiological Sciences
Chiba, Japan

Radioactivity Survey Data in Japan

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Contents

Science and Technology Agency

National Institute of Radiological Sciences

Part 1 : DIETALY DATA

(1) Strontium-90 and Cesium-137 in Tea

(Japan Chemical Analysis Center)

Japan Chemical Analysis Center has analyzed for strontium-90 and cesium-137 contents in processed-tea by the commission of Science and Technology Agency of Japanese Government.

Tea samples were collected by the prefectural Public Health Institutes and Laboratories of Shizuoka, Kyoto, and Kagoshima once a year. These samples were ashed at a temperature under 500°C.

The ashed sampels were sent to Japan Chemical Analysis Center and analyzed for strontium-90 and cesium-137 contents using the method recommended by Science and Technology Agency.

Results obtained during the period from April 1975 to March 1977 are shown in Table 1.

The sampling locations are shown in Figure 1.

Table 1. ^{90}Sr and ^{137}Cs in Tea (Green tea)

– April, 1975 to March, 1976 –

(Japan Chemical Analysis Center)

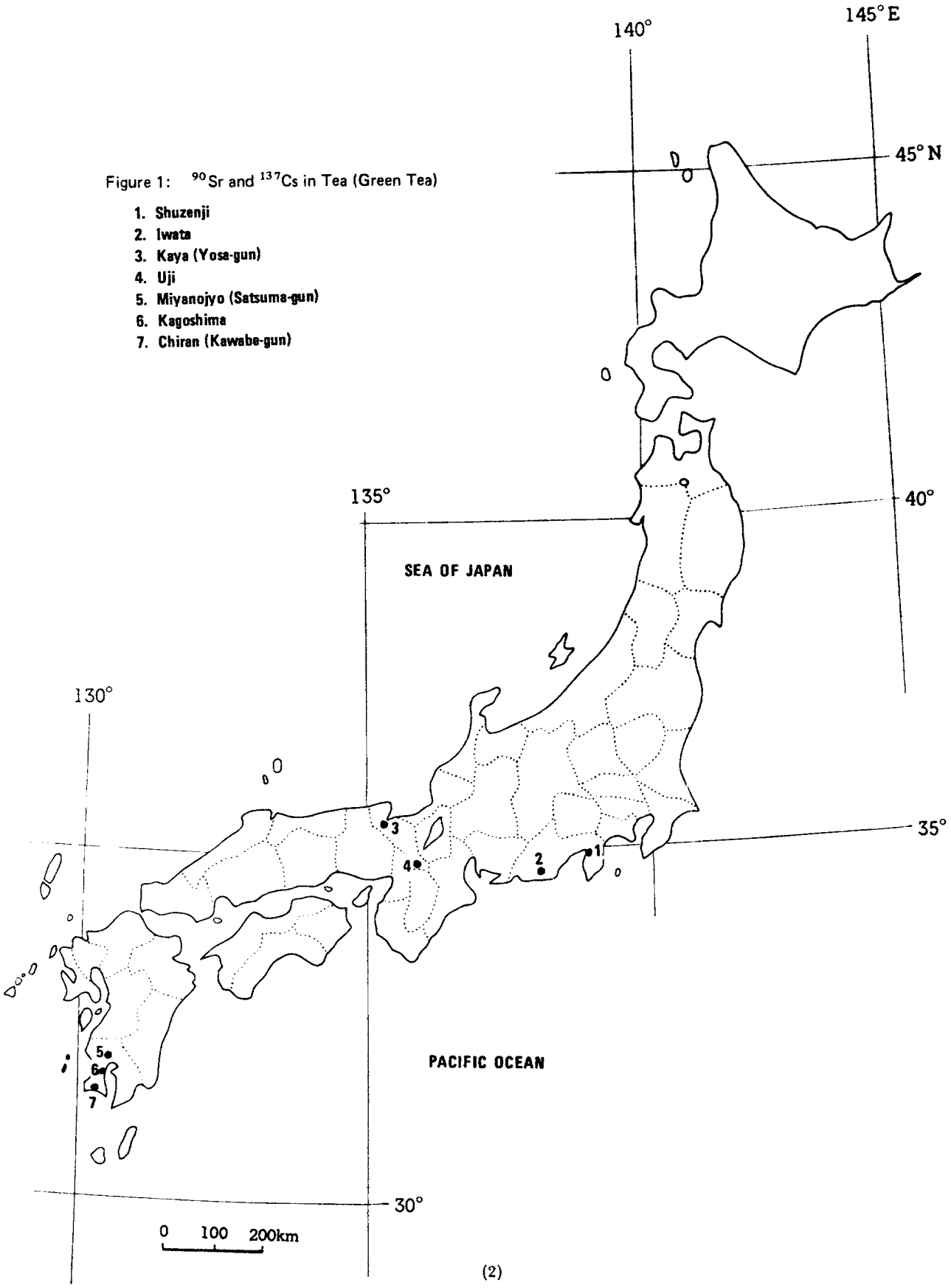
(Continued from Table 7, No. 41 of this publication)

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
May, 1975							
Shuzenji, SHIZUOKA	5.63	0.288	2.05	190 ± 3	65 ± 1.0	240 ± 5	12 ± 0.3
Iwata, SHIZUOKA	5.13	0.315	1.80	46 ± 1.5	14 ± 0.5	75 ± 2.7	4.2 ± 0.15
(Yosa-gun,) Kaya, KYOTO	5.22	0.223	1.79	150 ± 3	46 ± 0.8	270 ± 5	15 ± 0.2
(Kawabe-gun), Chiran, KAGOSHIMA	4.91	0.267	1.76	93 ± 2.0	35 ± 0.8	310 ± 5	18 ± 0.3
(Satsuma-gun), Miyanojyo, KAGOSHIMA	5.42	0.237	1.97	110 ± 2	47 ± 1.0	230 ± 5	12 ± 0.2
June, 1975							
Uji, KYOTO	5.54	0.269	2.02	120 ± 3	44 ± 0.9	190 ± 4	9.5 ± 0.21
April, 1976							
Kagoshima, KAGOSHIMA	5.54	0.243	1.96	88 ± 4.1	36 ± 1.7	210 ± 5	11 ± 0.3
May, 1976							
Shuzenji, SHIZUOKA	5.63	0.305	2.85	120 ± 5	38 ± 1.6	110 ± 4	3.7 ± 0.14
Uji, KYOTO	5.66	0.276	1.92	31 ± 3.0	11 ± 1.1	42 ± 3.1	2.2 ± 0.16
Kaya, KYOTO	5.83	0.372	2.05	120 ± 5	31 ± 1.2	130 ± 4	6.3 ± 0.21
Miyanojyo, KAGOSHIMA	4.61	0.209	1.59	55 ± 2.9	26 ± 1.4	88 ± 3.2	5.6 ± 0.20
June, 1976							
Iwata, SHIZUOKA	5.12	0.286	1.75	94 ± 3.8	33 ± 1.3	93 ± 3.3	4.7 ± 0.19

Note: Ten grams of materials and ashes are used for analysis of radioactivity, respectively.

Figure 1: ^{90}Sr and ^{137}Cs in Tea (Green Tea)

1. Shuzenji
2. Iwata
3. Kaya (Yosa-gun)
4. Uji
5. Miyanojyo (Satsuma-gun)
6. Kagoshima
7. Chiran (Kawabe-gun)



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

(Japan Chemical Analysis Center)

JJapan Chemical Analysis Center has analyzed for strontium 90 and cesium-137 contents in rice samples collected from 30 prefectures once a year by the commission of Science and Technology Agency of Japan Government.

Samples were obtained as processed rice from producing and consuming districts during the harvest and the first sale period, respectively. At each local public health laboratories, five kilograms of samples were ashed. These ashed samples were sent to Japan Chemical Analysis Center and analyzed for strontium-90 and cesium-137 contents, using the method recommended by Science and Technology Agency.

Results obtained during the period from April 1975 to March 1977 are shown in Table 2.

The sampling locations are shown in Figure 2.

Table 2. ^{90}Sr and ^{137}Cs in Rice

– April, 1975 to March, 1977 –

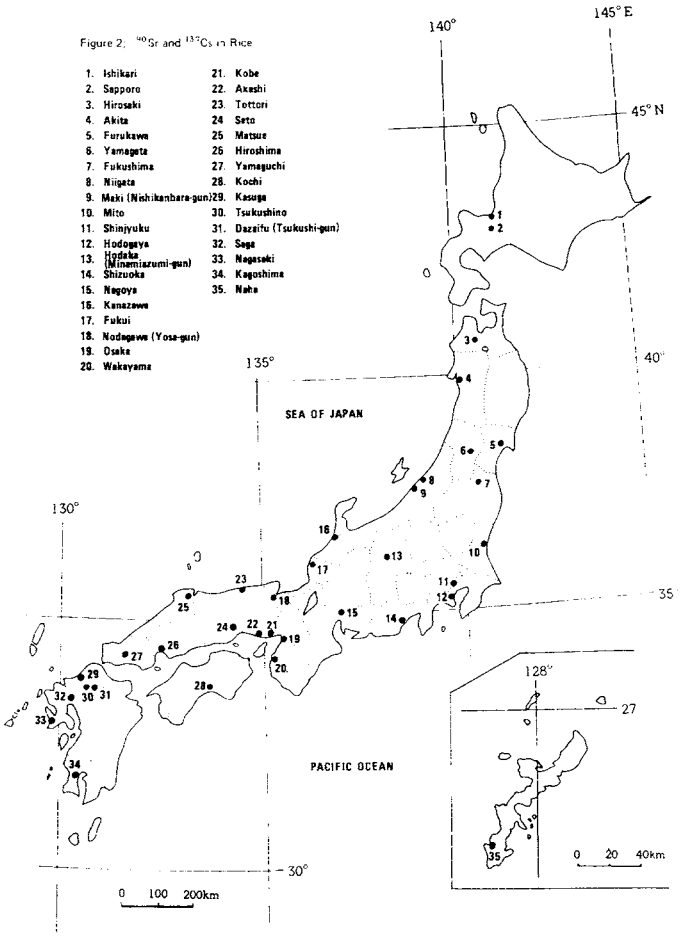
(Jpaan Chemical Analysis Center)

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Sept. 1975							
Mito, IBARAKI	0.416	0.0045	0.091	0.7 ± 0.07	16 ± 1.7	10 ± 0.3	11 ± 0.4
Oct. 1975							
Maki (Nishikanbara-gun), NIIGATA	0.237	0.004	0.053	0.37 ± 0.076	9.0 ± 1.9	1.1 ± 0.15	2.1 ± 0.28
Nov. 1975							
Ishikari, HOKKAIDO	0.484	0.006	0.098	0.53 ± 0.081	9.5 ± 1.4	8.0 ± 0.33	8.1 ± 0.34
Furukawa, MIYAGI	0.527	0.005	0.102	0.7 ± 0.10	13 ± 1.9	4.8 ± 0.26	4.7 ± 0.26
Kasuga, FUKUOKA	0.557	0.008	0.121	0.60 ± 0.10	7.6 ± 1.3	2.9 ± 0.28	2.4 ± 0.23
Dec. 1975							
Fukushima, FUKUSHIMA	0.374	0.006	0.062	0.38 ± 0.061	6.3 ± 1.0	9.1 ± 0.34	15 ± 0.6
Nodagawa (Yosa-gun,) KYOTO	0.351	0.006	0.071	1.1 ± 0.09	18 ± 1.4	5.0 ± 0.33	7.1 ± 0.46
Akashi, HYOGO	0.427	0.005	0.082	0.5 ± 0.07	9.5 ± 1.4	0.7 ± 0.12	0.8 ± 0.14
Kochi, KOCHI	0.406	0.007	0.081	0.55 ± 0.10	8.3 ± 1.5	2.2 ± 0.28	2.7 ± 0.35
Chikushino, FUKUOKA	0.537	0.006	0.094	0.29 ± 0.090	4.5 ± 1.4	4.0 ± 0.27	4.2 ± 0.29
jan. 1976							
Yamaguchi, YAMAGUCHI	0.379	0.005	0.073	0.4 ± 0.07	7.9 ± 1.2	2.2 ± 0.15	3.0 ± 0.21
Oct. 1976							
Mito, IBARAKI	0.646	0.007	0.089	1.1 ± 0.41	17 ± 6.1	11 ± 0.6	13 ± 0.7
Maki (Nishikanbara-gun), NIIGATA	0.376	0.004	0.065	0.4 ± 0.22	9.4 ± 5.1	1.9 ± 0.22	3.0 ± 0.35
Hodaka (Minamiazumi-gun), NAGANO	0.629	0.008	0.095	0.1 ± 0.33	2.0 ± 4.4	0.3 ± 0.30	0.3 ± 0.31
Nov. 1976							
Fukushima, FUKUSHIMA	0.408	0.005	0.083	1.3 ± 0.35	25 ± 6.6	8.8 ± 0.40	11 ± 0.5
Yamaguchi, YAMAGUCHI	0.429	0.005	0.065	0.2 ± 0.23	4.4 ± 4.6	2.3 ± 0.26	3.5 ± 0.40
Dec. 1976							
Furukawa, MIYAGI	0.382	0.004	0.079	0.5 ± 0.23	12 ± 5.5	2.1 ± 0.24	2.7 ± 0.30
Akashi, HYOGO	0.408	0.005	0.069	0.5 ± 0.21	9.7 ± 4.2	0.7 ± 0.20	1.0 ± 0.29
Dazaifu (Tsukushi-gun), FUKUOKA	0.349	0.004	0.071	1.0 ± 0.12	24 ± 2.9	1.4 ± 0.19	1.9 ± 0.27
Jan. 1977							
Ishikari, HOKKAIDO	0.374	0.003	0.089	0.2 ± 0.20	5.0 ± 5.7	3.5 ± 0.33	4.0 ± 0.36

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Oct. 1975							
Shinjyuku, TOKYO	0.444	0.006	0.102	0.82 ± 0.10	13 ± 1.6	11 ± 0.4	11 ± 0.4
Niigata, NIIGATA	0.399	0.006	0.087	0.58 ± 0.075	10 ± 1.3	2.8 ± 0.30	3.2 ± 0.34
Kanazawa, ISHIKAWA	0.473	0.013	0.087	0.9 ± 0.09	6.9 ± 0.72	1.6 ± 0.17	1.9 ± 0.19
Fukui, FUKUI	0.604	0.009	0.117	1.1 ± 0.14	12 ± 1.5	4.7 ± 0.45	4.0 ± 0.39
Nov. 1975							
Sapporo, HOKKAIDO	0.439	0.006	0.097	0.88 ± 0.090	15 ± 1.6	11 ± 0.4	11 ± 0.4
Akita, AKITA	0.366	0.007	0.076	1.3 ± 0.10	19 ± 1.4	14 ± 0.5	19 ± 0.7
Hodogaya, KANAGAWA	0.519	0.008	0.116	0.69 ± 0.10	9.2 ± 1.3	11 ± 0.5	9.7 ± 0.39
Osaka, OSAKA	0.392	0.006	0.078	0.77 ± 0.10	12 ± 1.5	4.4 ± 0.23	5.6 ± 0.26
Saga, SAGA	1.28	0.009	0.280	1.2 ± 0.20	14 ± 2.2	4.4 ± 0.44	1.6 ± 0.16
Kagoshima, KAGOSHIMA	0.396	0.004	0.075	0.7 ± 0.09	18 ± 2.1	13 ± 0.4	18 ± 0.5
Dec. 1975							
Yamagata, YAMAGATA	0.359	0.006	0.076	0.53 ± 0.071	9.3 ± 1.2	4.6 ± 0.23	6.1 ± 0.30
Shizuoka, SHIZUOKA	0.460	0.005	0.100	0.8 ± 0.09	16 ± 1.8	4.9 ± 0.24	4.9 ± 0.24
Nagoya, AICHI	0.489	0.006	0.081	0.8 ± 0.11	14 ± 2.0	4.2 ± 0.24	5.2 ± 0.30
Wakayama, WAKAYAMA	0.496	0.010	0.078	0.23 ± 0.074	2.4 ± 0.76	4.5 ± 0.28	5.8 ± 0.36
Matsue, SHIMANE	0.324	0.006	0.057	0.78 ± 0.073	14 ± 1.3	6.7 ± 0.24	12 ± 0.4
Hiroshima, HIROSHIMA	0.325	0.006	0.066	0.43 ± 0.060	7.3 ± 1.0	2.2 ± 0.20	3.4 ± 0.30
Naha, OKINAWA	0.455	0.004	0.096	0.6 ± 0.09	14 ± 2.0	3.4 ± 0.20	3.5 ± 0.21
Jan. 1976							
Kobe, HYOGO	0.397	0.005	0.076	0.6 ± 0.08	12 ± 1.8	1.0 ± 0.12	1.3 ± 0.16
Tottori, TOTTORI	0.413	0.005	0.094	0.9 ± 0.09	17 ± 1.7	5.7 ± 0.25	6.0 ± 0.27
Nagasaki, NAGASAKI	0.419	0.004	0.099	0.3 ± 0.06	6.1 ± 1.4	1.7 ± 0.14	1.7 ± 0.14
Feb. 1976							
Hirosaki, AOMORI	0.390	0.004	0.079	0.6 ± 0.14	12 ± 3.2	1.7 ± 0.23	2.2 ± 0.29
Jun. 1976							
Mito, IBARAKI	0.406	0.004	0.095	0.4 ± 0.07	9.3 ± 1.8	4.8 ± 0.23	5.0 ± 0.24
Oct. 1976							
Akita, AKITA	0.436	0.010	0.084	1.5 ± 0.31	15 ± 3.0	27 ± 0.7	32 ± 0.9
Mito, IBARAKI	0.394	0.005	0.078	0.7 ± 0.24	15 ± 5.0	4.9 ± 0.31	6.3 ± 0.40
Shinjyuku, TOKYO	0.561	0.005	0.096	1.1 ± 0.36	22 ± 7.1	1.6 ± 0.31	1.6 ± 0.32
Niigata, NIIGATA	0.389	0.005	0.068	0.9 ± 0.24	16 ± 4.4	2.0 ± 0.22	2.9 ± 0.33
Kanazawa, ISHIKAWA	1.45	0.024	0.292	12 ± 0.8	51 ± 3.4	8.3 ± 0.59	2.8 ± 0.20
Fukui, FUKUI	0.510	0.007	0.099	0.9 ± 0.32	12 ± 4.4	1.7 ± 0.28	1.7 ± 0.28
Nov. 1976							
Yokohama, KANAGAWA	0.474	0.005	0.098	1.2 ± 0.30	23 ± 5.7	10 ± 0.5	10 ± 0.5
Shizuoka, SHIZUOKA	0.446	0.006	0.062	0.8 ± 0.26	14 ± 4.4	1.6 ± 0.24	2.5 ± 0.39
Kyoto, KYOTO	0.514	0.007	0.100	1.1 ± 0.32	15 ± 4.4	2.9 ± 0.32	2.9 ± 0.32
Wakayama, WAKAYAMA	0.404	0.005	0.081	1.0 ± 0.25	20 ± 5.1	3.3 ± 0.27	4.1 ± 0.34
Saga, SAGA	1.24	0.012	0.28	2.8 ± 0.27	22 ± 2.2	2.5 ± 0.37	0.9 ± 0.13
Dec. 1976							
Yamagata, YAMAGATA	0.365	0.005	0.071	0.3 ± 0.22	5.5 ± 4.5	6.3 ± 0.33	8.8 ± 0.47
Nagoya, AICHI	0.460	0.006	0.087	1.2 ± 0.31	22 ± 5.5	3.2 ± 0.32	3.7 ± 0.37
Osaka, OSAKA	0.396	0.006	0.073	0.8 ± 0.23	14 ± 3.9	5.4 ± 0.32	7.4 ± 0.44
Kobe, HYOGO	0.389	0.006	0.067	0.6 ± 0.24	11 ± 4.2	1.3 ± 0.21	1.9 ± 0.32

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	Pci/kg	S.U.	pCi/kg	C.U.
Tottori, TOTTORI	0.366	0.006	0.069	1.6 ± 0.26	26 ± 4.4	4.9 ± 0.30	7.0 ± 0.44
Matsue, SHIMANE	0.439	0.005	0.100	1.6 ± 0.30	31 ± 5.8	5.5 ± 0.35	5.5 ± 0.36
Seto, OKAYAMA	0.578	0.010	0.116	1.6 ± 0.38	16 ± 3.8	0.9 ± 0.27	0.7 ± 0.23
Kochi, KOCHI	0.485	0.006	0.089	0.9 ± 0.30	14 ± 4.7	1.1 ± 0.25	1.3 ± 0.28
Dazaifu (Tsukushi-gun), FUKUOKA	0.515	0.005	0.11	0.4 ± 0.13	7.4 ± 2.7	2.3 ± 0.29	2.0 ± 0.26
Kagoshima, KAGOSHIMA	0.394	0.005	0.078	0.5 ± 0.10	11 ± 2.3	23 ± 0.6	29 ± 0.8
Jan. 1977							
Sapporo, HOKKAIDO	0.422	0.004	0.100	0.5 ± 0.26	15 ± 7.4	2.7 ± 0.27	2.7 ± 0.27
Hirosaki, AOMORI	0.385	0.004	0.080	0.3 ± 0.21	6.0 ± 5.1	1.7 ± 0.22	2.1 ± 0.28
Nagasaki, NAGASAKI	0.433	0.005	0.11	1.4 ± 0.16	27 ± 3.1	7.7 ± 0.39	7.1 ± 0.36
Naha, OKINAWA	0.460	0.005	0.093	0.6 ± 0.14	13 ± 3.1	1.3 ± 0.23	1.4 ± 0.25
Feb.1 977							
Hiroshima, HIROSHIMA	0.414	0.005	0.11	0.7 ± 0.13	15 ± 2.6	2.7 ± 0.26	2.4 ± 0.23

Note: Samples used for analysis are the processed rice.



(3) Strontium-90 and Cesium-137 in Vegitables

(Japan Chemical Analysis Center)

Japan Chemical Analysis Center has analyzed for strontium-90 and cesium-137 contents in various vegitables by the commission of Science and Technology Agency of Japanese Government.

Samples were collected by each local public health laboratories once a year. Samples were separately collected from the producing and consuming districts as root vegitables (mainly radish) and leaf vegitables (mainly spinach), respectively. At each local public health laboratories, four kilograms of each fresh specimen were washed with water, and the inedible parts removed, then only edible parts ashed at a temperature under 450°C. These samples were sent to Japan Chemical Analysis Center and analyzed for strontium-90 and cesium-137 contents, using the method recommended by Science and Technology Agency.

Results obtained during a period from April 1975 to March 1977 are shown in Table 3.

The sampling locations are shown in Figure 3.

Table 3. ^{90}Sr and ^{137}Cs in Vegitables

—April, 1975 to March, 1977—

(Japan Chemical Analysis Center)

(Continued from Table 4, No. 41 of this publication)

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	PCi/kg	C.U.
Japanese-radish (Comsumption)							
Jun. 1975							
Sendai, MIYAGI	0.995	0.06	0.370	7.2 ± 0.32	12 ± 0.5	1.3 ± 0.25	0.40 ± 0.068
Sep. 1975							
Bunkyo-ku, TOKYO	0.486	0.03	0.169	21 ± 0.4	74 ± 1.3	1.3 ± 0.16	0.74 ± 0.094
Oct. 1975							
Yamagata, YAMAGATA	0.636	0.04	0.243	37 ± 0.6	110 ± 2	4.1 ± 0.28	1.7 ± 0.12
Nov. 1975							
Akita, AKITA	0.316	0.02	0.109	17 ± 0.3	91 ± 1.5	0.80 ± 0.10	0.71 ± 0.088
Niigata, NIIGATA	0.496	0.02	0.178	13 ± 0.3	61 ± 1.5	1.7 ± 0.17	0.95 ± 0.094
Kanazawa, ISHIKAWA	0.692	0.037	0.268	4.9 ± 0.22	13 ± 0.6	0.6 ± 0.17	0.2 ± 0.06
Okayama, OKAYAMA	0.481	0.03	0.185	4.4 ± 0.19	16 ± 0.7	2.8 ± 0.20	1.5 ± 0.11
Dec. 1975							
Osaka, OSAKA	0.705	0.02	0.160	30 ± 0.6	170 ± 3	1.0 ± 0.20	0.60 ± 0.13
Jan. 1976							
Yokohama, KANAGAWA	0.638	0.025	0.230	2.4 ± 0.16	9.4 ± 0.63	0.3 ± 0.14	0.1 ± 0.06
Kyoto, KYOTO	0.466	0.020	0.149	4.7 ± 0.17	23 ± 0.9	0.9 ± 0.14	0.6 ± 0.09
Nagasaki, NAGASAKI	0.518	0.033	0.181	1.7 ± 0.3	52 ± 1.1	3.0 ± 0.22	1.7 ± 0.12
Feb. 1976							
Saga, SAGA	0.928	0.052	0.278	7.8 ± 0.39	15 ± 0.8	0.2 ± 0.20	0.1 ± 0.07
Naha, OKINAWA	0.534	0.035	0.207	1.8 ± 0.13	5.1 ± 0.38	0.3 ± 0.11	0.1 ± 0.06
Sep. 1976							
Sendai, MIYAGI	0.608	0.020	0.274	16 ± 0.6	79 ± 2.8	0.7 ± 0.15	0.2 ± 0.05
Oct. 1976							
Akita, AKITA	0.440	0.033	0.162	27 ± 0.6	84 ± 1.9	0.8 ± 0.12	0.5 ± 0.08
Yamagata, YAMAGATA	0.439	0.028	0.163	19 ± 0.7	69 ± 2.7	1.0 ± 0.22	0.6 ± 0.14

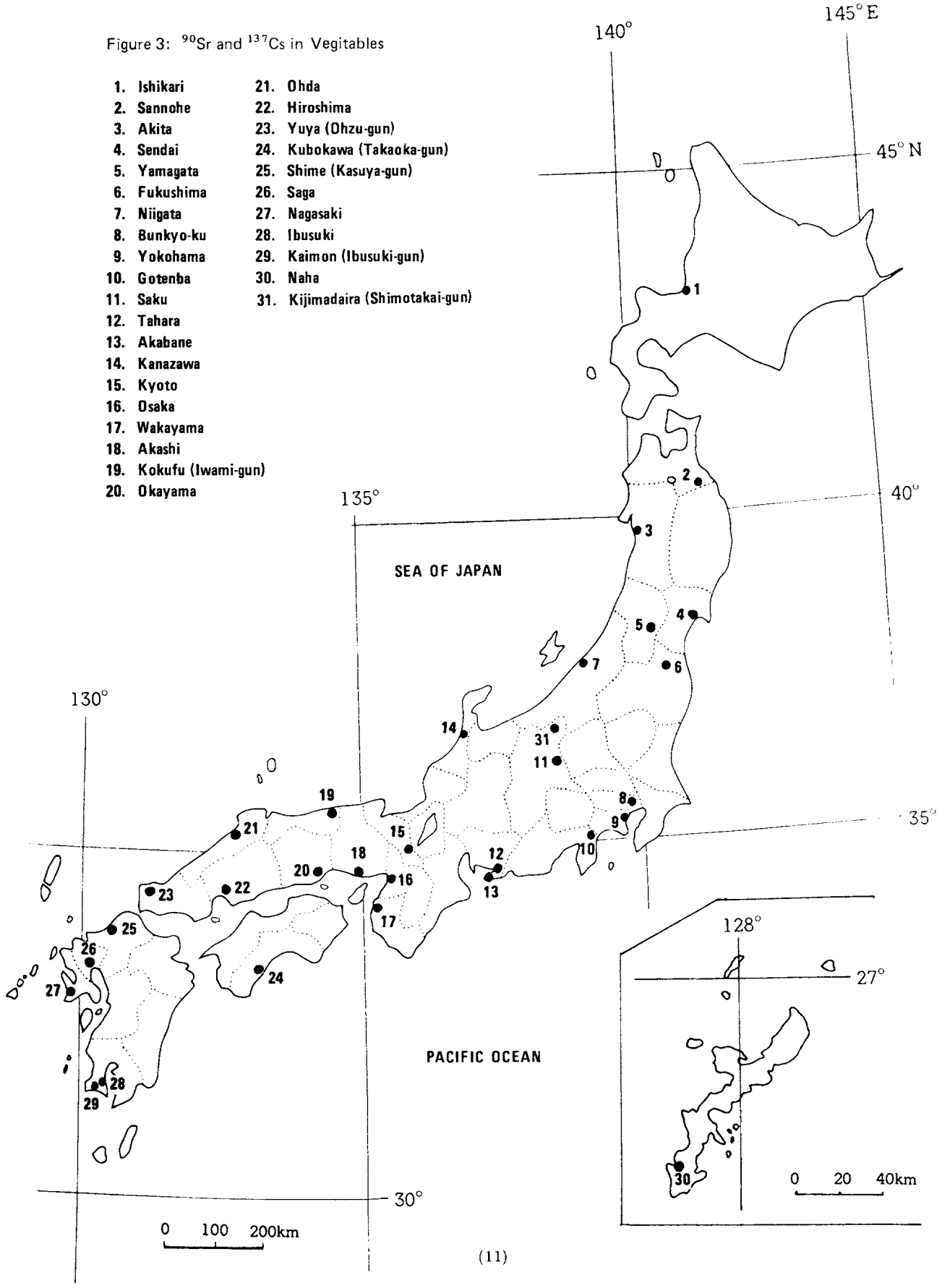
Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Nov. 1975							
Bunkyo-ku, TOKYO	0.625	0.028	0.259	14 ± 0.5	50 ± 1.9	0.5 ± 0.16	0.2 ± 0.06
Niigata, NIIGATA	0.517	0.024	0.172	15 ± 0.5	63 ± 2.1	5.9 ± 0.26	3.4 ± 0.15
Kanazawa, ISHIKAWA		0.052	0 264	4.1 ± 0.32	7.9 ± 0.62	0.8 ± 0.18	0.3 ± 0.07
Okayama, OKAYAMA	0.518	0.022	0.229	2.5 ± 0.34	11 ± 1.6	0.5 ± 0.23	0.2 ± 0.10
Dec. 1976							
Osaka, OSAKA	0.489	0.024	0.179	9.0 ± 0.38	38 ± 1.6	0.7 ± 0.13	0.4 ± 0.07
Jan. 1977							
Yokohama, KANAGAWA	0.504	0.032	0.145	4.3 ± 0.32	14 ± 1.0	1.4 ± 0.15	1.0 ± 0.10
Kyoto, KYOTO	0.482	0.028	0.191	4.8 ± 0.30	17 ± 1.1	1.0 ± 0.13	0.5 ± 0.07
Nagasaki, NAGASAKI	0.500	0.033	0.223	14 ± 0.5	43 ± 1.5	0.9 ± 0.13	0.4 ± 0.06
Naha, OKINAWA	0.884	0.055	0.327	14 ± 0.7	26 ± 1.2	0.5 ± 0.19	0.2 ± 0.06
Feb. 1977							
Saga, SAGA	0.666	0.068	0.263	17 ± 0.6	2.6 ± 0.9	1.0 ± 0.17	0.4 ± 0.06
(Producting)							
Jun. 1975							
Tahara, AICHI	0.695	0.01	0.259	5.9 ± 0.29	39 ± 1.9	0.1 ± 1.22	0.05 ± 0.085
Jul. 1975							
Ohda, SHIMANE	0.627	0.07	0.257	14 ± 0.4	87 ± 2.4	0.44 ± 0.17	0.17 ± 0.066
Sep. 1975							
Ishikari, HOKKAIDO	0.603	0.03	0.231	39 ± 0.5	140 ± 2	2.6 ± 0.18	1.1 ± 0.08
Nov. 1975							
Sannohe, AOMORI	0.646	0.04	0.233	3.7 ± 0.19	9.7 ± 0.50	0.00 ± 0.14	0.00 ± 0.06
Fukushima, FUKUSHIMA	0.28	0.046	0.489	15 ± 0.4	33 ± 1.0	0.8 ± 0.22	0.2 ± 0.05
Gotenba, SHIZUOKA	0.846	0.045	0.332	36 ± 0.7	80 ± 1.5	2.3 ± 0.27	0.7 ± 0.08
Akashi, HYOGO	0.730	0.034	0.283	12 ± 0.4	34 ± 1.0	0.5 ± 0.16	0.2 ± 0.06
Shime (Kasuya-gun), FUKUOKA	0.617	0.045	0.190	8.8 ± 0.29	19 ± 0.6	2.7 ± 0.24	1.4 ± 0.12
Dec. 1975							
Wakayama, WAKAYAMA	0.704	0.02	0.242	2.6 ± 0.18	11 ± 0.7	0.3 ± 0.17	0.11 ± 0.071
Kokufu (Iwami-gun), TOTTORI	0.721	0.029	0.255	15 ± 0.4	53 ± 1.4	0.6 ± 0.17	0.3 ± 0.07
Hiroshima, HIROSHIMA	0.571	0.02	0.213	2.9 ± 0.17	15 ± 0.9	0.1 ± 0.13	0.07 ± 0.062
Ibusuki, KAGOSHIMA	0.592	0.025	0.218	12 ± 0.3	48 ± 1.3	1.5 ± 0.19	0.8 ± 0.10
Jan. 1976							
Kubokawa, KOCHI	0.598	0.033	0.210	21 ± 0.4	63 ± 1.3	0.4 ± 0.14	0.2 ± 0.06
Mar. 1976							
Yuya (Ohzu-gun), YAMAGUCHI	0.772	0.026	0.228	10 ± 0.3	40 ± 1.4	0.7 ± 0.19	0.3 ± 0.08
Jun. 1976							
Akabane (Atsumi-gun), AICHI	0.752	0.024	0.323	2.4 ± 0.30	10 ± 1.3	0.03 ± 0.15	0.01 ± 0.05
Jul. 1976							
Ohda, SHIMANE	0.593	0.021	0.258	35 ± 0.8	160 ± 4	10 ± 0.4	4.0 ± 0.15
Sep. 1976							
Ishikari, HOKKAIDO	0.390	0.025	0.138	24 ± 0.8	95 ± 3.2	2.2 ± 0.24	1.6 ± 0.17
Nov. 1976							
Sannohe, AOMORI	0.618	0.030	0.215	7.7 ± 0.38	26 ± 1.3	5.7 ± 0.29	2.6 ± 0.13
Fukushima, FUKUSHIMA	0.565	0.034	0.189	6.0 ± 0.32	17 ± 0.9	0.5 ± 0.15	0.3 ± 0.08

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	Pci/kg	S.U.	pCi/kg	C.U.
Fukui, FUKUI	0.630	0.022	0.271	1.7 ± 0.39	8.0 ± 1.8	0.8 ± 0.28	0.3 ± 0.10
Saku, NAGANO	0.675	0.035	0.267	13 ± 0.5	38 ± 1.5	0.6 ± 0.16	0.2 ± 0.06
Gotenba, SHIZUOKA	0.589	0.038	0.240	25 ± 0.6	67 ± 1.7	1.4 ± 0.17	0.6 ± 0.07
Akashi, HYOGO	0.650	0.023	0.287	3.6 ± 0.31	16 ± 1.3	0.4 ± 0.15	0.1 ± 0.05
Shime (Kosuya-gun), FUKUOKA	0.578	0.021	0.253	6.6 ± 0.32	32 ± 1.6	0.4 ± 0.14	0.2 ± 0.06
Dec. 1976							
Hiroshima, HIROSHIMA	0.501	0.002	0.205	2.8 ± 0.25	12 ± 1.0	0.4 ± 0.11	0.2 ± 0.05
Wakayama, WAKAYAMA	0.619	0.003	0.232	5.3 ± 0.33	16 ± 1.0	0.3 ± 0.14	0.04 ± 0.06
Kokufu (Iwami-gun), TOTTORI	0.727	0.025	0.310	13 ± 0.5	52 ± 2.0	0.2 ± 0.17	0.1 ± 0.05
Kaimon, KAGOSHIMA	0.713	0.037	0.250	4.9 ± 0.35	13 ± 1.0	9.6 ± 0.38	3.8 ± 0.15
Kubokawa (Takaoka-gun), KOCHI	0.642	0.066	0.254	13 ± 0.5	19 ± 0.8	0.5 ± 0.15	0.2 ± 0.06
Feb. 1977							
Yuya (Ohzu-gun), YAMAGUCHI	0.749	0.050	0.258	21 ± 0.7	42 ± 1.4	0.1 ± 0.15	0.04 ± 0.06
Spinach							
(Consumption)							
Jun. 1975							
Sendai, MIYAGI	1.53	0.09	0.483	11 ± 0.5	13 ± 0.5	3.4 ± 0.37	0.71 ± 0.077
Niigata, NIIGATA	1.36	0.06	0.575	14 ± 0.4	22 ± 0.7	1.3 ± 0.25	0.23 ± 0.43
Fukui, FUKUI	1.47	0.07	0.595	17 ± 0.5	24 ± 0.7	6.4 ± 0.44	1.1 ± 0.07
Tahara, AICHI	2.08	0.05	0.686	3.3 ± 0.26	7.3 ± 0.58	1.8 ± 0.35	0.26 ± 0.051
Jul. 1975							
Akashi, KYOGO	1.98	0.10	0.483	6.5 ± 0.34	6.5 ± 0.34	1.4 ± 0.30	0.29 ± 0.062
Ohda, SHIMANE	0.913	0.03	0.376	36 ± 0.8	130 ± 3	2.2 ± 0.33	0.60 ± 0.088
Sep. 1975							
Ishikari, HOKKAIDO	1.62	0.13	0.552	4.3 ± 0.37	3.3 ± 0.28	2.8 ± 0.50	0.50 ± 0.090
Oct. 1975							
Yamagata, YAMAGATA	1.21	0.08	0.379	13 ± 0.5	17 ± 0.6	2.3 ± 0.38	0.6 ± 0.10
Nov. 1975							
Fukushima, FUKUSHIMA	1.51	0.065	0.557	8.5 ± 0.37	13 ± 0.6	1.8 ± 0.29	0.3 ± 0.05
Gotenba, SHIZUOKA	1.32	0.099	0.445	30 ± 0.6	31 ± 0.6	7.5 ± 0.43	1.7 ± 0.10
Shime (Kasuya-gun), FUKUOKA	1.57	0.11	0.568	12 ± 0.4	11 ± 0.4	2.8 ± 0.33	0.5 ± 0.06
Kanazawa, ISHIKAWA	1.50	0.066	0.488	4.4 ± 0.30	6.8 ± 0.46	3.1 ± 0.35	0.06 ± 0.07
Osaka, OSAKA	1.42	0.06	0.545	4.5 ± 0.35	7.7 ± 0.60	0.3 ± 0.30	0.06 ± 0.055
Okayama, OKAYAMA	1.67	0.09	0.735	2.6 ± 0.32	3.0 ± 0.36	0.6 ± 0.38	0.07 ± 0.051
Dec. 1975							
Hiroshima, HIROSHIMA	1.45	0.08	0.528	6.6 ± 0.32	8.5 ± 0.41	1.7 ± 0.30	0.32 ± 0.057
Jan. 1976							
Kukokawa, KOCHI	2.01	0.12	0.681	18 ± 0.5	15 ± 0.4	3.5 ± 0.36	0.5 ± 0.05
Ibusuki, KAGOSHIMA	1.63	0.073	0.492	11 ± 0.5	15 ±0.7	10 ± 0.6	2.1 ± 0.11
Yokohama, KANAGAWA	1.51	0.061	0.578	5.5 ± 0.34	8.8 ± 0.54	1.8 ± 0.29	0.3 ± 0.05
Kyoto, KYOTO	1.55	0.067	0.0535	5.6 ± 0.31	8.2 ± 0.45	2.0 ± 0.33	0.4 ± 0.06
Nagasaki, NAGASAKI	1.42	0.062	0.533	16 ± 0.5	25 ± 0.8	15 ± 0.28	0.3 ± 0.05

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Feb. 1976							
Shinjyuku, TOKYO	2.17	0.074	0.380	6.2 ± 0.35	8.4 ± 0.48	2.0 ± 0.34	0.5 ± 0.09
Saga, SAGA	1.70	0.062	0.724	11 ± 0.4	17 ± 0.6	1.6 ± 0.26	0.2 ± 0.09
Naha, OKINAWA	1.55	0.079	0.524	4.7 ± 0.30	5.9 ± 0.38	1.3 ± 0.27	0.3 ± 0.05
Mar. 1976							
Yuya (Onzu-gun), YAMAGUCHI	1.22	0.033	0.450	12 ± 0.4	36 ± 1.2	1.3 ± 0.22	0.3 ± 0.05
Jun. 1976							
Rifu (Miyagi-gun), MIYAGI	1.81	0.10	0.793	8.6 ± 0.52	8.4 ± 0.52	0.7 ± 0.22	0.1 ± 0.03
Niigata, NIIGATA	1.18	0.046	0.452	8.4 ± 0.40	18 ± 0.9	1.1 ± 0.18	0.3 ± 0.04
Jul. 1976							
Ohda, SHIMANE	1.05	0.035	0.443	26 ± 1.0	73 ± 2.9	1.6 ± 0.28	0.4 ± 0.06
Sep. 1976							
Ishikari, HOKKAIDO	2.14	0.27	0.589	5.6 ± 0.77	2.0 ± 0.28	3.5 ± 0.59	0.6 ± 0.10
Oct. 1976							
Yamagata, YAMAGATA	1.53	0.056	0.574	13 ± 1.0	24 ± 1.8	2.2 ± 0.41	0.4 ± 0.07
Nov. 1976							
Fukushima, FUKUSHIMA	2.00	0.10	0.683	12 ± 1.0	12 ± 0.9	1.8 ± 0.50	0.3 ± 0.07
Gotenba, SHIZUOKA	1.47	0.097	0.527	42 ± 1.3	44 ± 1.3	27 ± 0.9	5.2 ± 0.17
Akashi, HYOGO	1.93	0.21	0.641	6.1 ± 0.81	3.0 ± 0.39	2.3 ± 0.49	0.4 ± 0.08
Kurayoshi, TOTTORI	1.62	0.095	0.520	21 ± 1.0	22 ± 1.1	7.0 ± 0.58	1.3 ± 0.11
Shime (Kasuya-gun), FUKUOKA	1.37	0.058	0.526	12 ± 0.7	21 ± 1.2	3.8 ± 0.42	0.7 ± 0.08
Okayama, OKAYAMA	1.51	0.085	0.538	2.9 ± 0.50	3.4 ± 0.59	3.5 ± 0.45	0.6 ± 0.08
Dec. 1976							
Osaka, OSAKA	1.87	0.073	0.640	2.4 ± 0.59	3.2 ± 0.80	0.6 ± 0.39	0.1 ± 0.06
Bunkyo-ku, TOKYO	1.81	0.094	0.749	8.8 ± 0.87	9.4 ± 0.93	0.9 ± 0.39	0.1 ± 0.05
Jan. 1977							
Yokohama, KANAGAWA	1.92	0.11	0.676	19 ± 1.3	17 ± 1.2	4.4 ± 0.57	0.7 ± 0.08
Kyoto, KYOTO	1.86	0.20	0.578	14 ± 1.0	7.0 ± 0.50	3.8 ± 0.48	0.7 ± 0.08
Nagasaki, NAGASAKI	1.37	0.080	0.618	6.0 ± 0.63	7.5 ± 0.79	1.0 ± 0.30	0.2 ± 0.05
Naha, OKINAWA	1.68	0.098	0.563	6.5 ± 0.78	6.7 ± 0.79	1.6 ± 0.37	0.3 ± 0.07
Feb. 1977							
Saga, SAGA	1.29	0.081	0.521	5.2 ± 0.61	6.4 ± 0.75	4.7 ± 0.44	0.9 ± 0.08
(Producting)							
May, 1975							
Kurayoshi, TOTTORI	1.78	0.069	0.600	9.2 ± 0.33	13 ± 0.5	8.3 ± 0.45	1.4 ± 0.08
Hiroshima, HIROSHIMA	1.46	0.085	0.635	8.4 ± 0.79	9.9 ± 0.93	0.7 ± 0.31	0.1 ± 0.05
Jan. 1977							
Kubokawa (Takaoka-gun), KOCHI	1.56	0.12	0.619	19 ± 1.1	16 ± 0.9	1.1 ± 0.47	0.2 ± 0.08
Yuya (Ohzu-gun), YAMAGUCHI	1.32	0.099	0.516	29 ± 1.1	29 ± 1.1	3.5 ± 0.37	0.7 ± 0.07
Mar. 1977							
Akabane (Atsumi-gun), AICHI	1.33	0.049	0.567	2.7 ± 0.52	5.5 ± 1.1	1.0 ± 0.41	0.2 ± 0.07

Location	Component			^{90}Sr		^{137}Cs	
	Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Cabbage							
Aug. 1975							
Akita, AKITA	0.468	0.03	0.185	1.1 ± 0.10	3.8 ± 0.34	1.0 ± 0.14	0.53 ± 0.074
Jun. 1976							
Akita, AKITA	0.825	0.047	0.251	17 ± 0.7	36 ± 1.6	2.5 ± 0.28	1.0 ± 0.11
(Producting)							
Nov. 1975							
Sannohe, AOMORI	0.553	0.05	0.187	4.7 ± 0.19	9.4 ± 0.34	0.50± 0.14	0.29 ± 0.074
Nov. 1976							
Sannohe, AOMORI	0.547	0.034	0.209	17 ± 0.5	50 ± 1.5	6.7 ± 0.29	3.2 ± 0.14
Chinese Cabbage							
(Comsumption)							
Nov. 1976							
Kanazawa, ISHIKAWA	0.556	0.044	0.202	0.9 ± 0.17	2.0 ± 0.39	0.6 ± 0.14	0.3 ± 0.07
(Producting)							
Dec. 1975							
Wakayama, WAKAYAMA	0.700	0.05	0.215	5.8 ± 0.24	11 ± 0.5	0.50 ± 0.19	0.20 ± 0.086
Feb. 1975							
Fukui, FUKUI	0.594	0.024	0.223	2.5 ± 0.16	10 ± 0.6	0.5 ± 0.14	0.2 ± 0.07
Nov. 1976							
Fukui, FUKUI	0.601	0.049	0.223	1.9 ± 0.22	4.0 ± 0.46	0.8 ± 0.15	0.4 ± 0.07
Dec. 1976							
Wakayama, WAKAYAMA	1.13	0.11	0.280	12 ± 0.7	11 ± 0.6	2.3 ± 0.32	0.8 ± 0.11
Nozawana							
(Productiong)							
Kijimadaira (Shimotakai-gun), NAGANO	1.09	0.14	0.358	32 ± 1.0	23 ± 0.7	7.2 ± 0.44	2.0 ± 0.12

Figure 3: ^{90}Sr and ^{137}Cs in Vegitables



(4) Strontium-90 and Cesium-137 in Marine Products.

(Japan Chemical Analysis Center)

Japan Chemical Analysis Center has analyzed for strontium-90 and cesium-137 contents in marine products such as fishes, shell and sea weeds by the commission of Science and Technology Agency of Japanese Government.

Samples of marine products were collected by each local public health laboratories once a year. Samples were separately collected from main producing and consurming districts as typical products which obtained and consumeed throughout a whole year in each district. At each local public health laboratories, four kilograms of each specimen were ashed at a temperature under 450°C. Ashed samples were sent to Japan Chemical Analysis Center and analyzed for strontium-90 and cesium-137 contents, using the method recommended by Science and Technology Agency.

Results obtained during the period from April 1975 to March 1977 are shown in Table 4.

The sampling locations are shown in Figure 4.

Table 4. ^{90}Sr and ^{137}Cs in Marine Products

– April, 1975 to March, 1977 –

(Japan Chemical Analysis Center)

(Continued from Table 3, No. 40 of this publication)

Location	Date	Component			^{90}Sr		^{137}Cs	
		Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Oncorhynchus keta								
Urakawa, HOKKAIDO	Nov. '75	1.61	9.20	19.7	0.41 ± 0.11	0.30 ± 0.07	8.2 ± 0.45	2.6 ± 0.14
Urakawa, HOKKAIDO	Nov. '75	1.51	9.42	24.6	0.1 ± 0.34	0.04 ± 0.24	4.3 ± 0.53	1.2 ± 0.14
Pleuronectidae								
Fukui, FUKUI	Jun. '75	1.48	8.37	21.7	0.30 ± 0.16	0.30 ± 0.13	11 ± 0.6	3.6 ± 0.17
Sendai, MIYAGI	Oct. '75	2.64	22.7	10.5	0.50 ± 0.12	0.10 ± 0.02	3.6 ± 0.40	1.3 ± 0.13
Mutsu-bay, AOMORI	Nov. '75	0.99	6.5	20.5	0.40 ± 0.18	0.70 ± 0.28	4.3 ± 0.38	2.1 ± 0.19
Niigata, NIIGATA	Nov. '75	3.07	23.1	12.0	1.2 ± 0.23	0.2 ± 0.03	4.9 ± 0.40	1.3 ± 0.11
Hiroshima-bay, HIROSHIMA	Nov. '75	3.37	23.4	11.3	1.4 ± 0.14	0.20 ± 0.02	8.2 ± 0.53	2.2 ± 0.14
Fukui, FUKUI	Jun. '76	1.28	9.20	25.9	1.1 ± 0.21	0.9 ± 0.18	7.5 ± 0.55	2.3 ± 0.17
Sendai, MIYAGI	Oct. '76	2.41	25.1	7.56	0.7 ± 0.23	0.1 ± 0.04	1.8 ± 0.29	1.0 ± 0.16
Mutsu-bay, AOMORI	Nov. '76	1.46	9.92	24.1	0.7 ± 0.41	0.5 ± 0.28	7.6 ± 0.56	2.2 ± 0.16
Niigata, NIIGATA	Nov. '76	3.49	27.1	9.82	2.7 ± 0.93	0.3 ± 0.10	3.8 ± 0.90	1.1 ± 0.26
Hiroshima-bay, HIROSHIMA	Feb. '77	1.31	1.71	32.3	0.5 ± 0.75	2.4 ± 3.4	11 ± 0.8	2.7 ± 0.20
Trachurus trachurus								
Odawara, KANAGAWA	Jul. '75	2.92	22.5	8.6	0.60 ± 0.15	0.10 ± 0.02	8.7 ± 0.53	3.5 ± 0.21
Ieshima (Shikama-gun), HYOGO	Aug. '75	3.11	22.6	13.2	0.80 ± 0.15	0.12 ± 0.02	12 ± 0.6	3.0 ± 0.16
Miyake-Island, TOKYO	Sep. '75	2.85	20.9	10.6	0.50 ± 0.18	0.10 ± 0.03	6.4 ± 0.50	2.1 ± 0.17
Wakayama, WAKAYAMA	Oct. '75	4.11	22.5	10.0	1.0 ± 0.13	0.10 ± 0.013	11 ± 0.6	2.7 ± 0.14
Shizuoka, SHIZUOKA	Dec. '75	3.48	23.7	10.3	0.9 ± 0.17	0.1 ± 0.02	14 ± 0.7	3.9 ± 0.19
Ieshima (Shikama-gun), HYOGO	Jul. '76	2.79	22.4	10.2	1.2 ± 0.18	0.2 ± 0.03	13 ± 0.6	4.5 ± 0.21
Miyake-Island, TOKYO	Sep. '76	2.21	18.5	14.8	0.3 ± 0.19	0.1 ± 0.05	7.9 ± 0.41	2.4 ± 0.13
Odawara, KANAGAWA	Sep. '76	3.13	25.0	7.98	0.8 ± 0.30	0.1 ± 0.04	10 ± 0.6	4.0 ± 0.22
Wakayama, WAKAYAMA	Sep. '76	3.70	25.4	8.43	0.4 ± 0.25	0.04 ± 0.03	6.4 ± 0.45	2.1 ± 0.14
Shizuoka, SHIZUOKA	Nov. '76	3.11	25.0	12.1	1.6 ± 0.72	0.2 ± 0.09	11 ± 1.0	3.0 ± 0.27
Nagano, NAGANO	Dec. '76	3.14	26.6	7.66	1.4 ± 0.34	0.2 ± 0.04	7.4 ± 0.41	3.1 ± 0.17

Location	Date	Component			^{90}Sr		^{137}Cs	
		Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Caranx ishikawai								
Naha, OKINAWA	Mar. '77	3.14	24.6	9.31	1.2 ± 0.30	0.2 ± 0.04	6.3 ± 0.38	2.1 ± 0.13
Pneumatophorus japonicus								
Maizuru-bay, KYOTO	May '75	2.63	20.4	12.5	0.70 ± 0.14	0.13 ± 0.03	13 ± 0.6	3.9 ± 0.17
Osaka, OSAKA	Dec. '75	2.57	19.6	14.1	1.4 ± 0.26	0.30 ± 0.051	11 ± 0.6	3.0 ± 0.15
Sakaiminato, TOTTORI	Feb. '76	1.54	6.61	27.3	1.0 ± 0.16	1.0 ± 0.16	15 ± 0.7	3.6 ± 0.16
Maizuru-bay, KYOTO	Nov. '76	2.63	21.1	13.1	1.3 ± 0.67	0.2 ± 0.12	12 ± 0.9	3.5 ± 0.27
Osaka, OSAKA	Dec. '76	2.75	20.7	13.6	0.9 ± 0.65	0.2 ± 0.11	8.6 ± 0.88	2.3 ± 0.24
Sakaiminato, TOTTORI	Jan. '77	1.38	6.88	23.7	0.3 ± 0.25	0.3 ± 0.26	10 ± 0.4	3.0 ± 0.13
Arctoscopus japonicus								
Sakata, YAMAGATA	Oct. '75	1.92	20.8	13.6	0.70 ± 0.15	0.20 ± 0.04	4.4 ± 0.40	1.7 ± 0.15
Oga, AKITA	Dec. '75	2.23	19.2	12.2	0.80 ± 0.13	0.20 ± 0.03	4.4 ± 0.37	1.6 ± 0.14
Oga, AKITA	Dec. '76	2.29	19.9	11.7	1.1 ± 0.55	0.2 ± 0.12	4.4 ± 0.64	1.7 ± 0.24
Seriola equinqueradiata								
Togi (Hakui-gun), ISHIKAWA	Oct. '75	1.25	9.05	25.9	0.4 ± 0.15	0.3 ± 0.14	15 ± 0.7	4.6 ± 0.22
Togi (Hakui-gun) ISHIKAWA	Oct. '76	1.17	6.68	29.0	0.1 ± 0.27	0.1 ± 0.35	11 ± 0.5	3.3 ± 0.16
Mylio macrocephalus								
Ushimado (Oku-gun), OKAYAMA	Nov. '75	0.96	2.07	32.3	0.20 ± 0.14	1.1 ± 0.72	7.5 ± 0.48	2.4 ± 0.15
Chrysophrys major								
Fukuoka, FUKUOKA	Aug. '75	5.02	28.8	6.6	1.3 ± 0.16	0.09 ± 0.01	7.1 ± 0.52	2.1 ± 0.16
Fukuoka, FUKUOKA	Jul. '76	4.28	26.9	5.71	1.3 ± 0.18	0.1 ± 0.02	7.1 ± 0.49	2.9 ± 0.20
Katsuwonus pelamis								
Tosa, KOCHI	May '75	3.17	21.0	10.7	0.80 ± 0.17	0.13 ± 0.03	20 ± 0.8	5.9 ± 0.23
Tosa, KOCHI	May '76	1.65	2.27	24.8	0.1 ± 0.10	0.4 ± 0.27	18 ± 0.6	4.4 ± 0.15
Mugil cephalus								
Saga, SAGA	Aug. '75	1.54	7.49	17.9	0.40 ± 0.10	0.30 ± 0.09	4.9 ± 0.35	1.8 ± 0.13
Saga, SAGA	Aug. '76	1.22	9.10	26.3	0.3 ± 0.14	0.3 ± 0.13	3.6 ± 0.25	1.1 ± 0.08
Ushimado (Oku-gun), OKAYAMA	Nov. '76	1.06	10.5	25.6	0.5 ± 0.29	0.4 ± 0.26	3.7 ± 0.35	1.4 ± 0.13
Hexagrammos otakii								
Ajisu, YAMAGUCHI	Mar. '76	2.66	19.9	14.6	0.3 ± 0.14	0.1 ± 0.03	3.7 ± 0.34	0.9 ± 0.09
Ajisu, YAMAGUCHI	Jun. '76	4.1	22.6	8.59	1.2 ± 0.31	0.1 ± 0.03	7.8 ± 0.44	1.9 ± 0.11
Sillago sihame								
Minamichita, AICHI	Jun. '75	3.75	22.6	8.4	0.80 ± 0.14	0.10 ± 0.02	8.6 ± 0.51	2.7 ± 0.16
Minamichita, AICHI	Jun. '76	4.04	23.3	4.87	0.5 ± 0.14	0.1 ± 0.01	6.6 ± 0.47	3.3 ± 0.24
Sardinops melanosticta								
Yamagata, YAMAGATA	Sep. '76	1.95	14.6	13.4	0.3 ± 0.13	0.1 ± 0.04	2.3 ± 0.31	0.9 ± 0.12
Sebastiscus marmoratus								
Gohtsu, SHIMANE	Jun. '75	5.96	30.4	4.4	1.6 ± 0.19	0.09 ± 0.01	6.7 ± 0.55	2.6 ± 0.21
Masuda, SHIMANE	Jun. '76	5.19	3.95	3.02	0.6 ± 0.15	0.3 ± 0.07	10 ± 0.6	6.5 ± 0.36
Argyrosomus argentatus								
Nagasaki, NAGASAKI	Jul. '75	4.30	25.8	8.9	1.5 ± 0.21	0.15 ± 0.02	14 ± 0.8	4.0 ± 0.23
Nagasaki, NAGASAKI	Jul. '76	3.75	27.6	6.20	0.8 ± 0.29	0.1 ± 0.03	8.3 ± 0.41	3.6 ± 0.17

Location	Date	Component			^{90}Sr		^{137}Cs	
		Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Stolephorus japonicus								
Akune, KAGOSHIMA	Dec. '75	2.36	21.9	9.8	0.09 ± 0.13	0.02 ± 0.03	6.1 ± 0.42	2.7 ± 0.18
Akune, KAGOSHIMA	Dec. '76	2.76	23.9	9.02	0.2 ± 0.26	0.04 ± 0.04	6.1 ± 0.36	2.5 ± 0.14
Caesio chrysozonus Cuvier								
Naha, OKINAWA	Dec. '75	3.01	23.3	12.6	0.7 ± 0.15	0.1 ± 0.02	9.5 ± 0.54	2.5 ± 0.14
Dioaon holacanthus								
Katsuren, OKINAWA	Mar. '76	6.65	29.4	2.36	1.8 ± 0.22	0.1 ± 0.01	1.5 ± 0.27	0.9 ± 0.17
Priacanthus macracanthus								
Katsuren, OKINAWA	Mar. '76	4.60	20.0	5.47	0.6 ± 0.13	0.1 ± 0.01	8.8 ± 0.50	3.5 ± 0.20
Sebastes inermis								
Soma, FUKUSHIMA	Aug. '75	5.30	30.4	5.3	1.6 ± 0.21	0.10 ± 0.01	10 ± 0.6	3.7 ± 0.22
Soma, FUKUSHIMA	Feb. '77	4.65	27.7	4.63	1.3 ± 0.27	0.1 ± 0.02	11 ± 0.5	5.3 ± 0.22
Tectus maximus								
off Naha-port, OKINAWA	Mar. '76	3.63	18.6	5.49	0.9 ± 0.18	0.1 ± 0.03	1.5 ± 0.30	0.8 ± 0.15
Tridachnes cookianus								
off Naha-port, OKINAWA	Mar. '76	2.51	8.11	7.27	0.5 ± 0.25	0.3 ± 0.12	1.3 ± 0.28	0.7 ± 0.15
Bise, OKINAWA	Mar. '76	2.47	9.21	6.24	0.6 ± 0.14	0.3 ± 0.06	0.8 ± 0.24	0.5 ± 0.16
Venerupis phillippinarum								
Minamichita, AICHI	Jun. '75	1.95	4.64	16.0	0.30 ± 0.12	0.40 ± 0.14	2.5 ± 0.52	0.82 ± 0.17
Takaki, (Kitatakaki-gun), NAGASAKI	Jul. '75	2.10	4.99	6.1	0.40 ± 0.13	0.30 ± 0.12	1.6 ± 0.30	1.3 ± 0.23
Minamichita, AICHI	Jun. '76	1.59	3.90	17.4	0.8 ± 0.20	1.3 ± 0.32	1.0 ± 0.39	0.4 ± 0.14
Takaki (Kitatakiki-gun), NAGASAKI	Jul. '76	2.27	5.53	7.31	0.5 ± 0.27	0.4 ± 0.21	1.7 ± 0.32	1.1 ± 0.20
Meretrix meretrix lusoria								
Shonai, YAMAGATA	Jun. '75	0.798	4.78	7.8	0.60 ± 0.27	1.6 ± 0.71	1.2 ± 0.37	2.0 ± 0.60
Turbo cornutus								
Ryotsu-bay, NIIGATA	Jun. '75	2.04	2.88	2.5	1.3 ± 0.67	2.0 ± 1.1	3.2 ± 0.93	6.0 ± 1.8
Togi (Hakui-gun), ISHIKAWA	Jun. '75	2.54	6.27	7.2	0.70 ± 0.24	0.40 ± 0.15	2.8 ± 0.50	1.5 ± 0.27
Togi (Hakui-gun), ISHIKAWA	Jun. '76	2.14	5.87	8.20	1.0 ± 0.19	0.8 ± 0.15	0.8 ± 0.27	0.4 ± 0.16
Ryotsu, NIIGATA	Jul. '76	1.70	3.50	14.9	2.0 ± 0.49	3.4 ± 0.82	1.7 ± 0.80	0.7 ± 0.32
Shonai, YAMAGATA	Aug. '76	1.90	5.24	8.95	0.9 ± 0.26	0.9 ± 0.26	3.3 ± 0.53	2.0 ± 0.31
Ostrea gigas								
Hiroshima-bay, HIROSHIMA	Jan. '76	1.20	4.52	17.3	0.3 ± 0.37	0.5 ± 0.68	2.2 ± 0.64	1.0 ± 0.31
Hiroshima-bay, HIROSHIMA	Feb. '77	0.970	2.71	18.0	0.0 ± 0.7	0.0 ± 2.6	1.3 ± 0.51	0.8 ± 0.29
Pecten yessoensis								
Mutsu-bay, AOMORI	Nov. '75	0.704	1.10	16.8	0.30 ± 0.11	4.3 ± 1.4	0.60 ± 0.19	0.50 ± 0.16
Mutsu-bay, AOMORI	Nov. '76	1.70	1.67	18.2	0.4 ± 0.31	1.5 ± 1.1	1.9 ± 0.29	0.6 ± 0.09
Sargassum fulvellum								
Fukaura, AOMORI	Nov. '75	3.29	21.6	11.8	8.3 ± 0.41	1.2 ± 0.06	1.2 ± 0.32	0.30 ± 0.08
Fukaura, AOMORI	Nov. '76	3.84	19 5	14.1	6.9 ± 0.52	0.9 ± 0.07	1.4 ± 0.24	0.3 ± 0.04
Undaria pinnatifida								
Togi (Hakui-gun), ISHIKAWA	Jun. '75	1.36	4.98	26.1	2.8 ± 0.22	4.2 ± 0.32	1.0 ± 0.25	0.27 ± 0.07
Ryotsu-bay, NIIGATA	Jun. '75	8.77	4.27	22.3	2.9 ± 0.23	2.4 ± 0.19	2.5 ± 0.29	0.41 ± 0.05
Sakata, YAMAGATA	Jul. '75	3.58	6.30	17.5	5.6 ± 0.33	2.5 ± 0.15	3.3 ± 0.39	0.52 ± 0.06

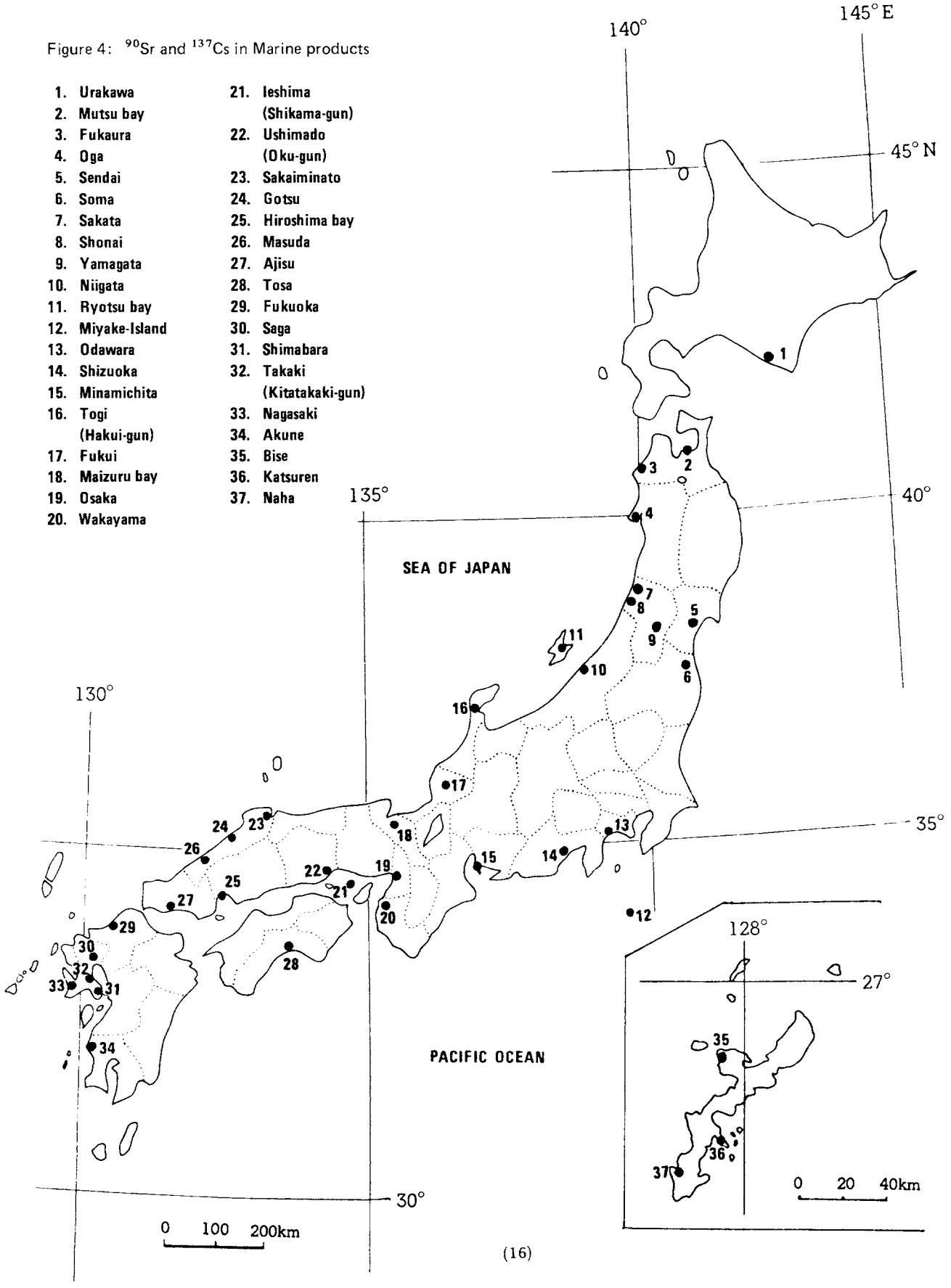
Location	Date	Component			^{90}Sr		^{137}Cs	
		Ash(%)	Ca(%)	K(%)	pCi/kg	S.U.	pCi/kg	C.U.
Minamichita, AICHI	Jan. '76	3.7	3.05	19.6	0.9 ± 0.16	0.8 ± 0.14	2.0 ± 0.28	0.3 ± 0.04
Hiroshima-bay, HIROSHIMA	Feb. '76	1.53	4.01	30.1	1.2 ± 0.19	1.9 ± 0.30	1.5 ± 0.28	0.3 ± 0.06
Shimabara, NAGASAKI	Feb. '76	1.43	3.75	29.7	1.3 ± 0.16	2.4 ± 0.31	1.2 ± 0.24	0.3 ± 0.06
Togi (Hakui-gun), ISHIKAWA	Jun. '76	1.61	4.75	19.5	1.5 ± 0.17	2.0 ± 0.23	0.9 ± 0.28	0.3 ± 0.09
Ryotsu, NIIGATA	Jul. '76	2.24	7.86	17.9	3.6 ± 0.26	2.1 ± 0.15	1.0 ± 0.30	0.3 ± 0.07
Nagasaki, NAGASAKI	Feb. '76	2.90	2.37	28.8	0.03 ± 0.24	0.04 ± 0.35	1.7 ± 0.30	0.2 ± 0.04
Ceramium kondoi								
Shonai, YAMAGATA	Aug. '76	0.94	44.2	12.9	1.7 ± 0.20	0.4 ± 0.05	1.1 ± 0.22	0.9 ± 0.18
Portunus pelagicus								
Katsuren, OKINAWA	Mar. '76	12.9	33.3	2.21	8.5 ± 0.44	0.2 ± 0.01	1.1 ± 0.31	4.0 ± 1.1
Portunus trituberculatus								
off Naha-port, OKINAWA	Mar. '76	12.9	33.6	2.90	10 ± 0.4	0.2 ± 0.01	1.2 ± 0.34	3.2 ± 0.92

Names of Samples

Scientific name	English name	Japanese name
Oncorhynchus keta	Salmon	Sake
Pleuronectidae	Flatfish	Karei
Trachurus trachurus	Saurel	Aji
Caranx ishikawai	Kurohiraaji	Kurohiraaji
Pneumatophorus japonicus	Macherel	Saba
Arctoscopus japonicus	Hatahata	Hatahata
Seriola quinqueradiata	Yellow-tail	Buri
Mylio macrocephalus	Gilthead	Kurodai
Chrysophrys majo	Sea bream	Tai
Katsuwonus pelamis	Bonito	Katsuo
Mugil cephalus	Gray mullet	Bora
Hexagrammos otakii	Rock-trout	Ainame
Sillago sihame	sillago	Kisu
Sardinops melanosticta	Sardine	Iwashi
Sebastiscus marmoratus	Scorpion-fish	Kasago
Argyrosomus argentatus	White croaker	Ishimochi
Stolephorus japonicus	Kibinago	Kibinago
Caesio chrysozonus cuvier	Takasago	Takasago
Dioaon holacanthus	Porcupine-fish	Harisenbon
Priacanthus macracanthus	Alfoncino curvier	Kintokidai
Sebastes inermis	Jacopever	Kurogara
Tectus maximus	Button sheel	Sarasabatei
Tridachnes cookianus	Giant clam	Shakogai
Venerupis phillippinarum	Short-necked clam	Asari
Meretrix meretrix lusoria	Clam	Hamaguri
Turbo cornutus	Wreath shell	Sazae
Ostrea gigas	Oyster	Kaki
Pecten yessoensis	Scallop	Hotategai
Sargassum fulvellum	Gulfweed	Hondawara
Undaria pinnatifida	Wakame seaweed	Wakame
Ceramium kondoi	Igisu	Igisu
Portunus pelagicus	Crab	Taiwan-gazami
Portunus trituberculatus	Crab	Gazami

Figure 4: ^{90}Sr and ^{137}Cs in Marine products

1. Urakawa
2. Mutsu bay
3. Fukaura
4. Oga
5. Sendai
6. Soma
7. Sakata
8. Shonai
9. Yamagata
10. Niigata
11. Ryotsu bay
12. Miyake-Island
13. Odawara
14. Shizuoka
15. Minamichita
16. Togi (Hakui-gun)
17. Fukui
18. Maizuru bay
19. Osaka
20. Wakayama
21. Ieshima (Shikama-gun)
22. Ushimado (Oku-gun)
23. Sakaiminato
24. Gotsu
25. Hiroshima bay
26. Masuda
27. Ajisu
28. Tosa
29. Fukuoka
30. Saga
31. Shimabara
32. Takaki (Kitatakaki-gun)
33. Nagasaki
34. Akune
35. Bise
36. Katsuren
37. Naha



Part 2 : The 23rd Nuclear Explosion Test of the People's Republic of China

US Federal Energy Agency (US FEA) announced for the 23rd Nuclear Explosion Test of the People's Republic of China as follows:

Date of Test : March 15, 1978 (2:00 pm Japanese Time)
Scale of Test : about 20 kilotons or less.
Place of Test : the upper atmospheric level over the Lop Nor district, the western region of China.

New China News Agency and Radio Peking announced formally that the People's Republic of China has proved a great success in the 23rd Nuclear Explosion Test.

Concerning this test, the radioactivity surveillance in Japan was carried out for the period from March 16 to 23, 1978. From the results of this surveillance, the effects of this test were detected in the radioactivity measurements of airborne dusts in upper atmosphere, rain water, dry fallout, airborne dusts of ground surface, and radioactive iodine contents in raw milk. The hot particles were also observed in the airbone dusts.

(1) Gross Beta-Radioactivity in Upper Air
(Japan Defence Agency)

Research and Development H.Q. of Japan Defence Agency has collected the dust samples in upper atmosphere of the central and western regions of Japan during the period from March 16 to 19, 1978, and has measured the gross beta-radioactivity of these samples.

A high radioactivity was measured in the samples collected from the upper atmosphere of the western region.

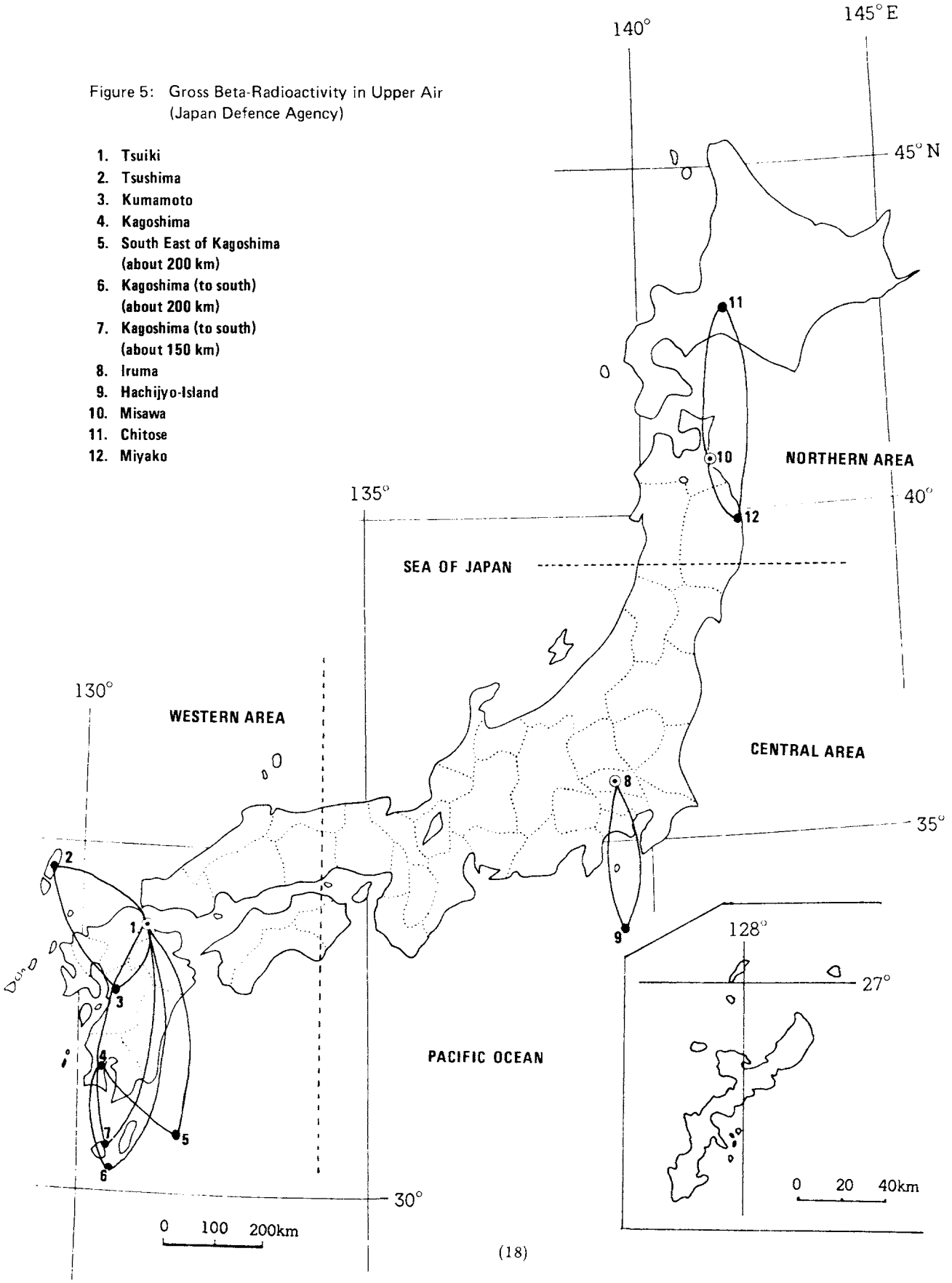
Results obtained are shown in Table 5. Figure 5. shows the sampling areas and the flight course.

Table 5. Gross Beta-Radioactivity in Upper Air
(Japan Defence Agency)

Area	Take-Off Date	Take-Off Time	Flight Course	Altitude (m)	Activity (pCi/m)
Western Area	March 16	21:26 23:03	Tsuiki-Tsushima-Kumamoto-Tsuiki	11,700	6.72 ± 0.07
	March 17	11:31 12:57	Tsuiki-Kagoshima-South East of Kagoshima (about 200 km)	9,140	172.48 ± 0.32
	March 17	17:31 18:51	Tsuiki-Kagoshima-Kagoshima (to south) (about 200 km)	7,620	8.91 ± 0.06
	March 18	08:47 10:08	Tsuiki-Kagoshima-Kagoshima (to south) (about 150 km)	6,090	36.92 ± 0.09
	March 19	09:51 11:08	Tsuiki-Kagoshima-Kagoshima (to south) (about 150 km)	4,870	1.10 ± 0.01
Central Area	March 17	03:25 05:00	Iruma-Hachijyo Island- Iruma	11,800	5.65 ± 0.06
Northern Area	March 16	09:41 10:51	Misawa-Chitose-Miyako-Misawa	10,000	18.21 ± 0.15

Figure 5: Gross Beta-Radioactivity in Upper Air
(Japan Defence Agency)

1. Tsuiki
2. Tsushima
3. Kumamoto
4. Kagoshima
5. South East of Kagoshima (about 200 km)
6. Kagoshima (to south) (about 200 km)
7. Kagoshima (to south) (about 150 km)
8. Iruma
9. Hachijyo-Island
10. Misawa
11. Chitose
12. Miyako



(2) Gross Beta-Radioactivity in Surface Air at Monitoring Posts.

(Japan Meteorological Agency)
(Japan Atomic Energy Research Institute)
(Prefectural Public Health Institutes and Laboratories)

Gross beta-radioactivity in air over ground surface was measured by Japan Meteorological Agency (2 monitoring posts), Japan Atomic Energy Research Institute, and 20 prefectural monitoring posts. The relatively higher radioactivity was detected on the samples collected from the south-western region of Honshu, Shikoku, and Kyushu.

Results obtained are shown in Table 6.

Figure 6 shows the sites of monitoring posts.

Table 6. Gross Beta-Radioactivity in Surface Air at the Monitoring Posts
(Japan Meteorological Agency)
(Prefectural Public Health Institutes and Laboratories)
(Japan Atomic Energy Agency)

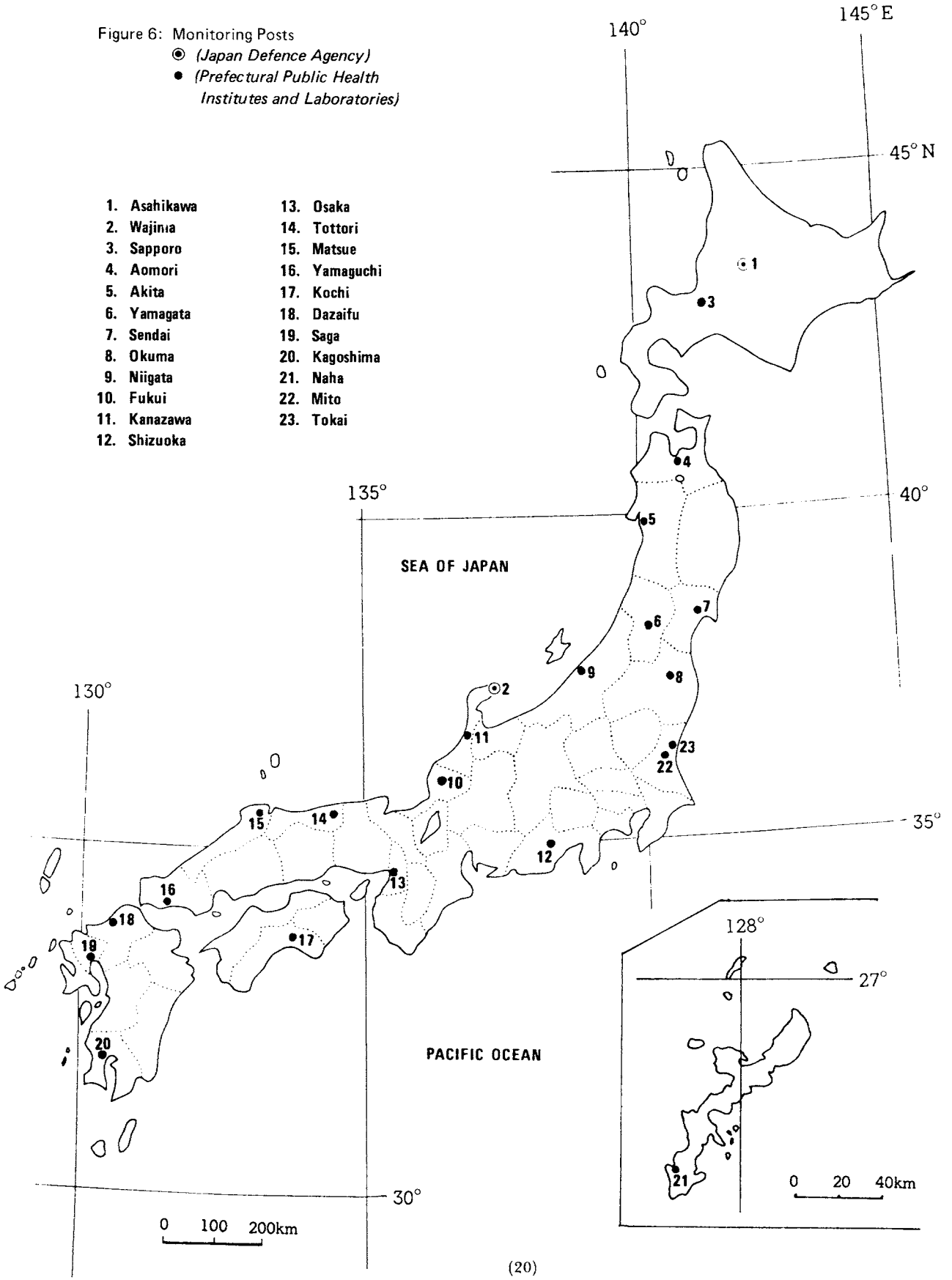
Station	Mar. 15 ~ Mar. 23		Normal State	
	Highest Value	Lowest Value	Highest Value	Lowest Value
Asahikawa	13.7	8.0	27.0	8.0
Wajima	19.0	13.0	25.0	12.0
Sapporo, HOKKAIDO	7.5	5.6	29.0	7.0
Aomori, AOMORI	9.2	6.0	28.2	5.0
Akita, AKITA	14.5	12.0	29.0	9.0
Yamagata, YAMAGATA	13.1	10.6	18.7	10.0
Sendai, MIYAGI	12.3	10.0	24.8	8.2
Okuma, FUKUSHIMA	*6.9	*4.6	20.8	11.3
Niigata, NIIGATA	22.2	19.5	37.3	18.8
Fukui, FUKUI	23.3	15.6	24.5	11.0
Kanazawa, ISHIKAWA	19.0	14.9	28.9	11.0
Shizuoka, SHIZUOKA	26.0	15.5	28.5	15.0
Osaka, OSAKA	17.2	13.2	17.5	11.4
Tottori, TOTTORI	32.2	16.0	35.8	13.0
Matsue, SHIMANE	18.8	13.8	39.7	13.0
Yamaguchi, YAMAGUCHI	30.0	21.0	43.5	17.0
Kochi, KOCHI	14.7	9.1	14.4	8.1
Dazaifu, FUKUOKA	26.0	16.0	28.0	13.5
saga, SAGA	22.2	12.6	24.2	10.4
Kagoshima, KAGOSHIMA	22.4	11.0	21.5	13.0
Naha, OKINAWA	15.7	10.7	12.0	10.0
Mito, IBARAKI	*4.9	*2.5	*5.1	*2.1
Tokai, IBARAKI	*6.3	*4.5	——	——

* Unit μR/h

Figure 6: Monitoring Posts

◉ *(Japan Defence Agency)*

● *(Prefectural Public Health Institutes and Laboratories)*



(3) Gross Beta-Radioactivity in Rain and Dry Fallout

(Japan Meteorological Agency)
(National Institute of Radiological Sciences)
(Japan Atomic Energy Research Institute)
(Prefectural PUblic Health Institutes and Laboratories)

Gross beta-radioactivity in rain water and dry fallout was measured by Japan Meteorological Agency (13 locations), National Institute of Radiological Sciences, Japan Atomic Energy Research Institute, and 32 prefectural public health institutes and laboratories.

The following higher radioactivity was detected on the samples collected during the period from March 18 to 19, 1978: 130 mCi/km^2 in the samples collected from Hachijyo Island, and 101.9 mCi/km^2 in that from Saitama Prefecture. And the relatively higher activity than that of normals was measured in the samples collected from the western regions of Kanto district.

For the dry fallout, the higher radioactivity, 82 mCi/km^2, was detected in the samples collected at National Institute of Radiological Sciences (Chiba) during the period from March 18 to 19, 1978, and the relatively higher levels than that of normals were also measured in the samples collected from Fukui Prefecture, and others.

Tables 7 and 8 show the results obtained by Japan Meteorological Agency (10 locations), National Institute of Radiological Sciences, Japan Atomic Energy Research Institute, and prefectural public health institutes and laboratories, respectively.

And Figures 7 and 8 show the sampling locations collected by Japan Meteorological Agency, National Institute of Radiological Sciences, Japan Atomic Energy Research Institute, and prefectural public health institutes and laboratories, respectively.

Table 7. Gross Beta-Radioactivity in Rain and Dry Fallout
(Japan Meteorological Agency)
(Japan Atomic Energy Agency)
(National Institute of Radiological Sciences)

Station \ Date	Mar. 16~17	17~18	18~19	19~20	20~21	21~22	22~23
(Japan Meteorological Agency)							
Sendai, MIYAGI			0.2 (2.0)	0.0 (0.0)		0.0 (0.0)	0.0 (0.00
Akita, AKITA		0.0 (0.0)		0.2 (0.2)		0.1 (0.1)	0.0 (0.0)
Chiyoda, TOKYO			1.1 (21.0)			0.1 (2.0)	0.0 (0.0)
Wajima, ISHIKAWA	0.0 (0.0)					0.0 (0.0)	0.1 (0.4)
Osaka, OSAKA						0.0 (0.1)	
Yonago, TOTTORI	0.1 (0.1)			0.2 (0.7)		0.0 (0.0)	0.0 (0.0)
Muroto-cape, KOCHI			39.0 (39)		6.5 (1.0)	0.4 (8.0)	
Fukuoka, FUKUOKA					0.1 (2.0)	0.0 (0.0)	
Kagoshima, KAGOSHIMA					0.2 (3.0)	0.1 (0.9)	
Hachijyo-Island, TOKYO			4.4 (130)			0.2 (10.0)	

Station \ Date	Mar. 16~17	17~18	18~19	19~20	20~21	21~22	22~23
(National Institute of Radiological Sciences)							
Chiba, CHIBA	*(0.12)	*(0)	*(82)	*(10.1)	*(0.25)	*(1.12)	*(0.21)
(Japan Atomic Energy Agency)							
Tokai, IBARAKI			1.6			ND	ND
			(27.7)				
Tokai, IBARAKI	*(ND)	*(ND)	*(27.7)	(*0.53)	*(0.21)	*(0.27)	*(0.15)

Notes: 1) Upper row: Concentration (pCi/ml), Normal Concentration → under 1 pCi/m
(Lower row): Deposition (mCi/km^2), Normal Deposition → under 2~3 mCi/km^2
2) *collected with a tray

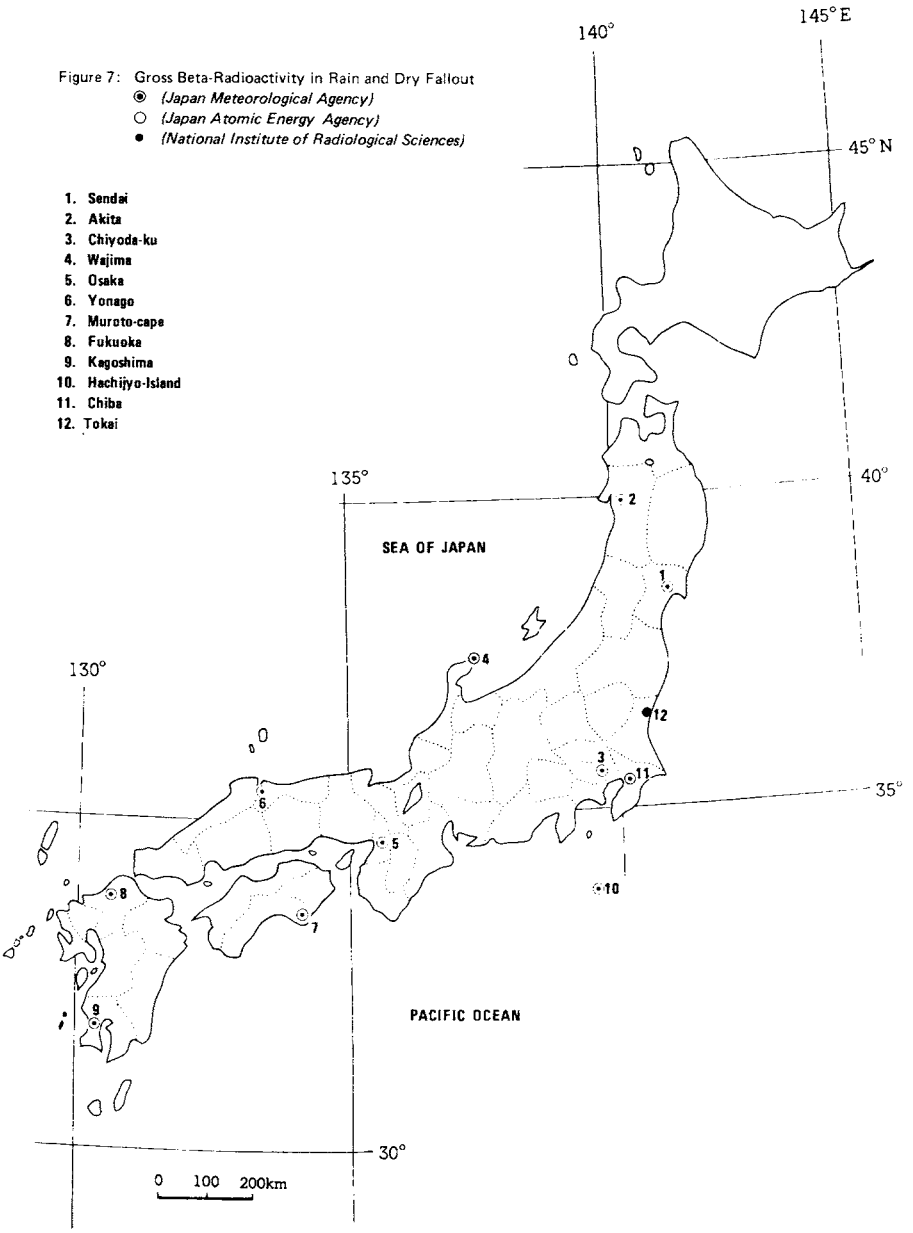


Table 8. Gross Beta-Radioactivity in Rain and Dry Fallout

(Prefectural Institutes Public Health and Laboratories)

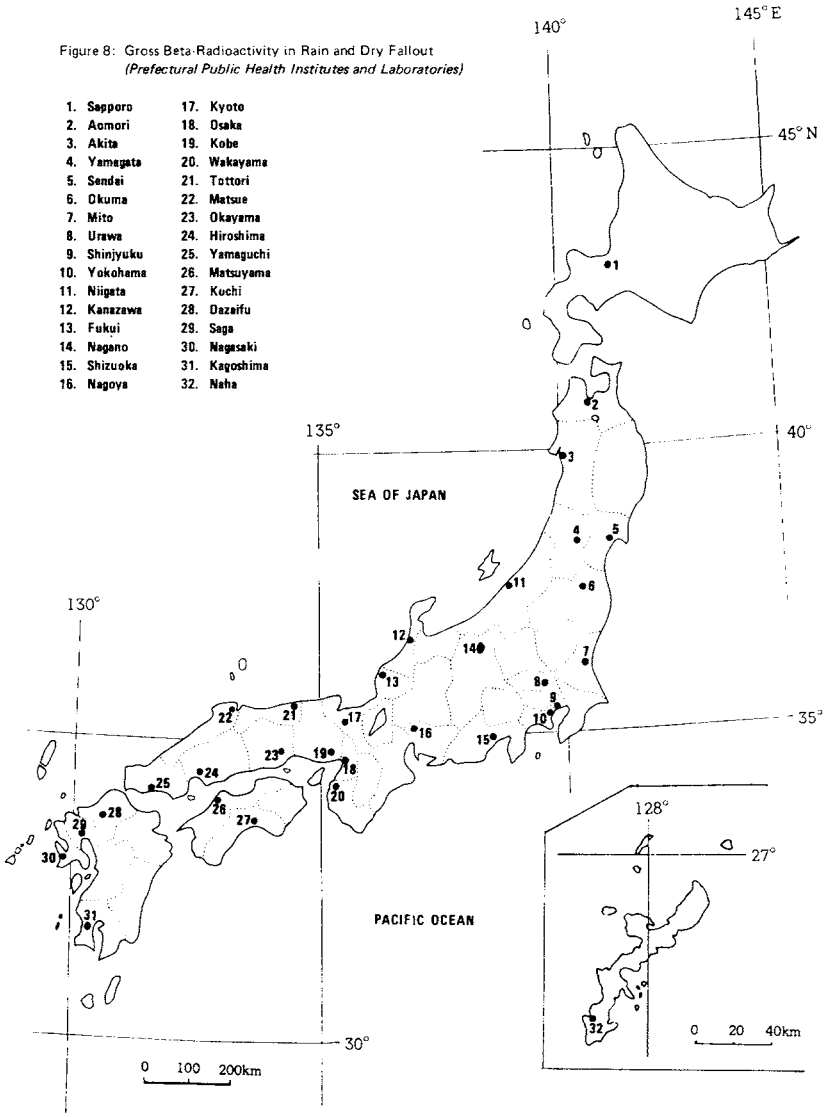
Station \ Date	Mar. 15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23
Sapporo, HOKKAIDO	11 (0.09)							
Aomori, AOMORI		0.09 (0.26)			0.07 (0.41)			0.08 (0.23)
Akita, AKITA			0.13 (0.4)		0.14 (0.24)		0.04 (0.05)	0.03 (0.2)
Yamagata, YAMAGATA		0.37 (0.06)			0.14 (1.7)		0.04 (0.11)	0.07 (0.66)
Sendai, MIYAGI					0.5 (4.9)	2.0 (0.03)		0.003 (.004)
Ohkuma, FUKUSHIMA				0.22 (0.4)	0.18 (0.3)		0.02 (0.49)	0.01 (0.24)
Mito, IBARAKI			* (.004)	3.55 (52.5)	3.22 (1.03)	* (0.03)	0.01 (0.2)	0.04 (0.15)
Urawa, SAITAMA				4.49 (101.9)			0.04 (0.92)	0.03 (0.12)
Shinjyuku, TOKYO				1.8 (36)				
Yokohama, KANAGAWA				3.1 (63)			0.06 (1.1)	ND
Niigata, NIIGATA		0.09 (0.14)		7.38 (3.64)			0.02 (0.11)	0.03 (0.12)
kanazawa, ISHIKAWA		0.003 (0.04)					1.02 (8.7)	0.33 (1.34)
Fukui, FUKUI	0.05 (0.08)	0.07 (0.12)		* (79.36)	* (4.94)	* (0.15)	0.01 (0.29)	0.01 (0.03)
Nagano, NAGANO				62.8 (81.7)	0.56 (1.0)		0.01 (0.1)	
Shizuoka, SHIZUOKA				21.4 (44.96)			0.083 (1.33)	
Nagoya, AICHI		* (0.02)	* (0.01)		* (17.8)	* (1.7)	0.22 (5.3)	* (0.30)
Kyoto, KYOTO		* (0.08)	* (0.01)	* (19.7)	* (5.8)	* (0.48)		* (0.15)
Osaka, OSAKA							2.37 (34.9)	
Kobe, HYOGO		* (0.06)	* (0.02)	* (28.9)	* (3.79)	* (2.59)	4.33 (60.2)	0.15 (0.33)
Wakayama, WAKAYAMA							1.26 (9.42)	
Tottori, TOTTORI		0.50 (0.20)					0.42 (13.5)	0.05 (0.6)
Matsue, SHIMANE					49.5 (0.02)		0.06 (1.05)	0.02 (0.49)
Okayama, OKAYAMA		* (0.09)			* (3.55)	8.47 (14.14)	0.22 (4.46)	0.11 (0.17)
Hiroshima, HIROSHIMA							0.01 (4.73)	
Yamaguchi, YAMAGUCHI						0.08 (0.87)	0.03 (0.95)	0.05 (0.49)
Matsuyama, EHIME						0.17 (1.4)	0.08 (0.31)	0.08 (0.18)
Kochi, KOCHI						2.38 (20.96)	0.05 (0.67)	

Station \ Date	Mar. 15~16	16~17	17~18	18~19	19~20	20~21	21~22	22~23
Dazaifu, FUKUOKA						0.18 (3.18)	0.05 (1.71)	
Saga, SAGA						0.09 (13.9)	0.02 (0.38)	
Nagasaki, NAGASAKI	35.3 (0.18)					0.54 (6.50)	0.20 (1.29)	
Kagoshima, KAGOSHIMA			0.08 (54.37)			1.61 (19.3)	0.77 (4.99)	
Naha, OKINAWA	0.1 (0.1)	0.10 (0.35)	0.037 (0.08)	3.83 (1.15)			0.03 (1.57)	

Note: 1) Upper row: Concentration (pCi/ml), Normal Concentration → under 1 pCi/ml
(Lower row): Deposition (mCi/km^2), Normal Deposition → under 2~3 mCi/km^2
2) *collected with a Tray

Figure 8: Gross Beta-Radioactivity in Rain and Dry Fallout
(Prefectural Public Health Institutes and Laboratories)

1. Sapporo
2. Aomori
3. Akita
4. Yamagata
5. Sendai
6. Okuma
7. Mito
8. Urawa
9. Shinjyuku
10. Yokohama
11. Niigata
12. Kanazawa
13. Fukui
14. Nagano
15. Shizuoka
16. Nagoya
17. Kyoto
18. Osaka
19. Kobe
20. Wakayama
21. Tottori
22. Matsue
23. Okayama
24. Hiroshima
25. Yamaguchi
26. Matsuyama
27. Kuchi
28. Dazaifu
29. Saga
30. Nagasaki
31. Kagoshima
32. Naha



(4) Gross Beta-Radioactivity in Air-borne Dust.

(Japan Meteorological Agency)
(National Institute of Radiological Sciences)
(Japan Atomic Energy Research Institute)
(Prefectural Public Health Institutes and Laboratories)

Gross beta-radioactivity in the samples of air-borne dusts in surface air was measured by Japan Meteorological Agency (5 locations), National INstitute of Radilogical Sciences, Japan Atomic Energy Research Institutes, and 13 prefectural public health institutes and laboratories. The higher radioactivity with compared to that of normal level was measured in the samples collected from several prefectures.

Tables 9, 10, 11 and 12 show the results obtained by Japan Meteorological Agency, National Institute of Radiological Sciences, Japan Atomic Energy Research Institute, and 13 prefectural public health institutes and laboratories, respectively.

And the sampling locations by Japan Meteorological Agency, National Institute of Radiological Sceinces, Japan Atomic Energy research Institute, and prefectural public health institutes and laboratories are given in Figures 9 and 10, respectively.

Table 9. Gross Beta-Radioactivity in Air-borne Dust
(Japan Meteorological Agency)

(pCi/m^3)

Station \ Date	Mar. 17th	18th	19th	20th	21st	22nd
Sapporo	0.2	0.1	0.1	0.1	0.1	0.1
Sendai	0.2	0.2	0.2	0.0	0.3	0.1
Tokyo	0.2	0.3	0.4	0.2	–	0.1
Osaka	0.6	1.2	0.3	0.2	0.9	0.3
Fukuoka	0.0	2.7	0.2	0.4	0.2	0.1

Notes: 1) Normal value → under 1 pCi/m^3
2) Collecting operation is from 09:00 to 14:00 (about 5 hours) every day.

Table 10. Gross Beta-Radioactivity in Air-Borne Dust
(National Institute of Radiological Sciences)

(pCi/m^3)

Time after dust sampling \ Date	Mar. 16~17	17~18	18~19	19~20	20~21	21~22	22~23
80 min.	2.43	3.69	1.46	1.78	4.50	1.56	1.38
24 hr.	1.47	0.58	0.84	0.25	0.64	0.42	–
48 hr.	0.10	0.29	0.63	0.12	0.25	–	–

Note: Collecting operation is from 10:00 to next 10:00 (about 24 hours) every day.

Table 11. Gross Beta-Radioactivity in Air-Borne Dust

(Japan Atomic Energy Agency)

(pCi/m³)

Time after dust sampling \ Date	Mar. 16~17	17~18	18~19	19~20	20~21	21~22	22~23
100 min.	3.50	2.60	1.90	0.85	1.20	0.12	0.55
24 hr.	0.63	0.78	0.46	0.18	0.42	0.11	–
48 hr.	0.22	0.41	0.22	0.12	0.20	–	–

Note: Collecting operation is from 09:20 to next 09:20 (about 24 hours) every day.

Table 12. Gross Beta-Radioactivity in Air-Borne Dust

(Prefectural Public Health Institutes and Laboratories)

(pCi/m³)

Station \ Date	Mar. 16~17	17~18	18~19	19~20	20~21	21~22	22~23
Niigata, NIIGATA	–	1.15	1.48	0.37	2.08	0.78	0.15
Okuma, FUKUSHIMA	1.3	1.2	1.5	0.85	0.55	0.37	0.12
Mito, IBARAKI	0.14	0.96	1.53	0.19	0.67	0.3	0.31
Shizuoka, SHIZUOKA	–	0.003	0.041	0.196	0.097	0.031	0.020
Yokohama, KANAGAWA	–	0.43	0.3	0.74	0.33	0.06	0.07
*Osaka, OSAKA	3.7	0.58 2.45	2.0 17.9	5.3 1.0	0.51 1.8	2.4 0.20	0.4 0.58
Nagoya, AICHI	3.82	4.17	12.2	4.09	3.40	2.22	0.22
Fukui, FUKUI	0.45	0.78	6.18	0.72	1.46	0.52	0.49
Matsue, SHIMANE	2.6	2.4	2.1	2.0	2.1	1.0	0.7
Dazaifu, FUKUOKA	5.5	3.3	8.1	4.32	1.65	0.32	0.24
Saga, SAGA	–	1.2	21.09	0.55	0.66	0.33	0.3
Nagasaki, NAGASAKI	0.45	0.81	1.56	2.26	0.76	–	0.68
Naha, OKINAWA	0.06	0.09	1.91	6.85	1.87	0.05	0.22

(collecting operation)

Note: *upper row → From 10:00 to 14:00

lower row → From 18:10 to next 9:10

Figure 9: Gross Beta-Radioactivity in Air-borne Dust

- ● *Japan Meteorological Agency*
- ◉ *national Institute of Radiological Sciences*
- ⊗ *Japan Atomic Energy Agency*

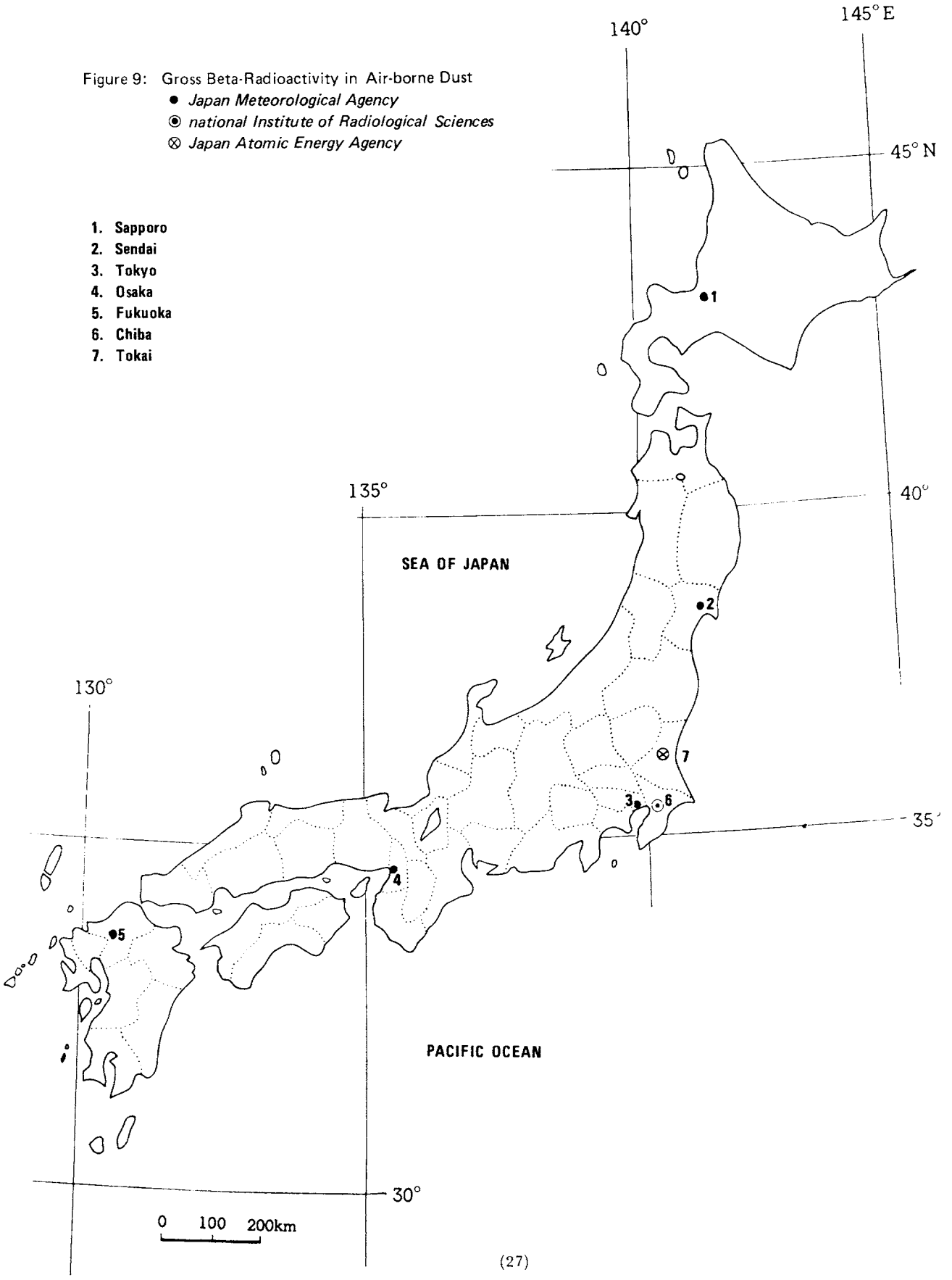
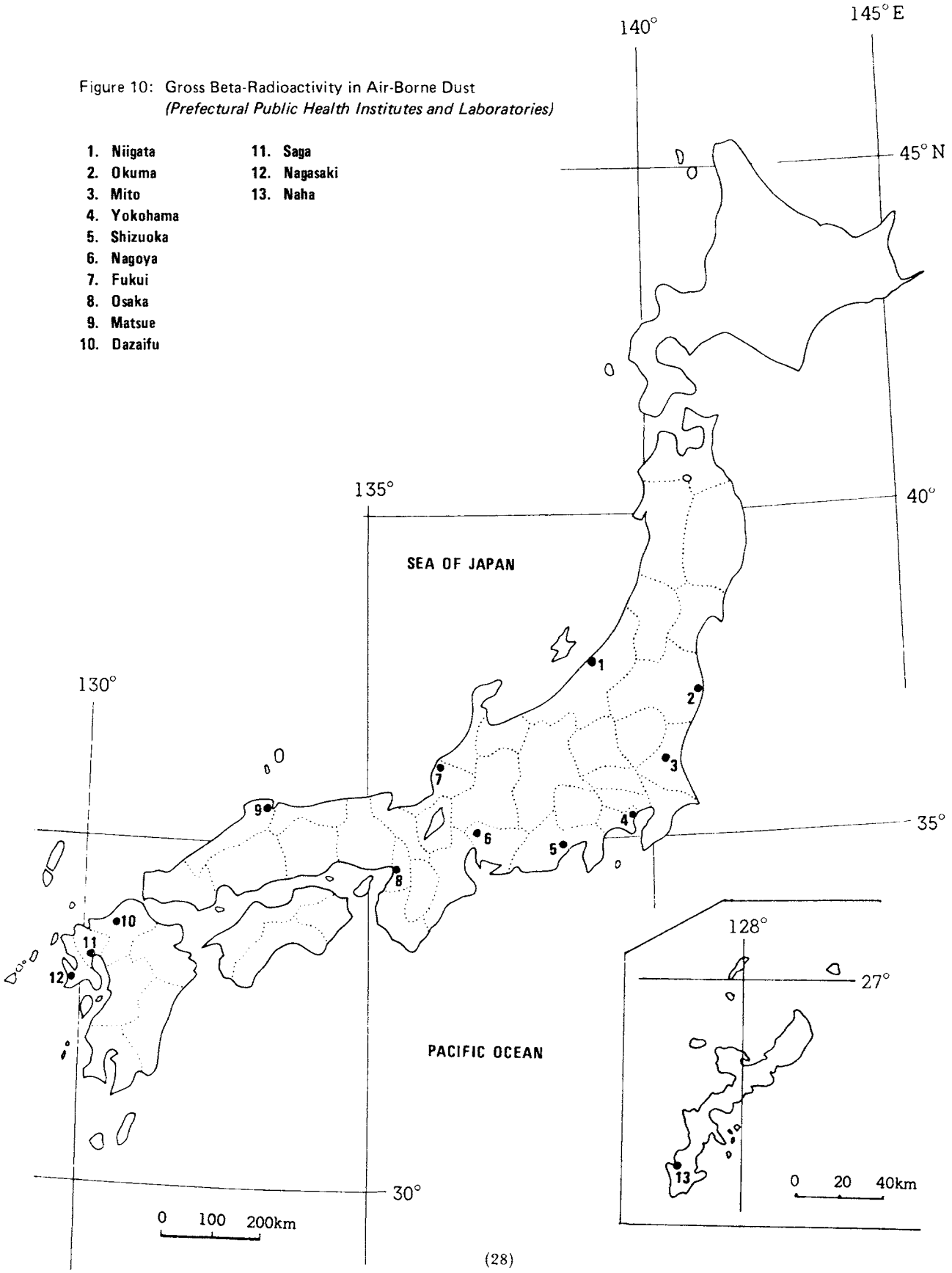


Figure 10: Gross Beta-Radioactivity in Air-Borne Dust
(Prefectural Public Health Institutes and Laboratories)

1. Niigata
2. Okuma
3. Mito
4. Yokohama
5. Shizuoka
6. Nagoya
7. Fukui
8. Osaka
9. Matsue
10. Dazaifu
11. Saga
12. Nagasaki
13. Naha



(5) Radioactive iodine Concentration in Raw Milk

(National Institutes under the control of Ministry of Agriculture and Forestry)
(National Institute of Radiological Sciences)
(Prefectural Public Health Institutes and Laboratories)

Concentration of radioactive iodine in raw milk was determined by 3 National Institutes under the control of Ministry of Agriculture and Forestry, National Institute of Radiological Sciences, and 12 Prefectural Public Health Institutes and Laboratories.

A relatively higher concentration of radioactive iodine was detected in the samples analysed at National Institute of Radiological Sciences (Chiba).

Table 13 shows the results obtained by National Institute of Animal Industry and National Institute of Radiological Sciences.

The radioactivity level in the samples collected from Hokkaido and Kyushu National Agricultural Experiment Stations was also less than the detectable limits.

Figure 11 shows the sampling locations by National Institutes under the control of Ministry of Agriculture and Forestry, National Institute of Radiological Sciences, and 12 Prefectural Public Health Institutes and Laboratories.

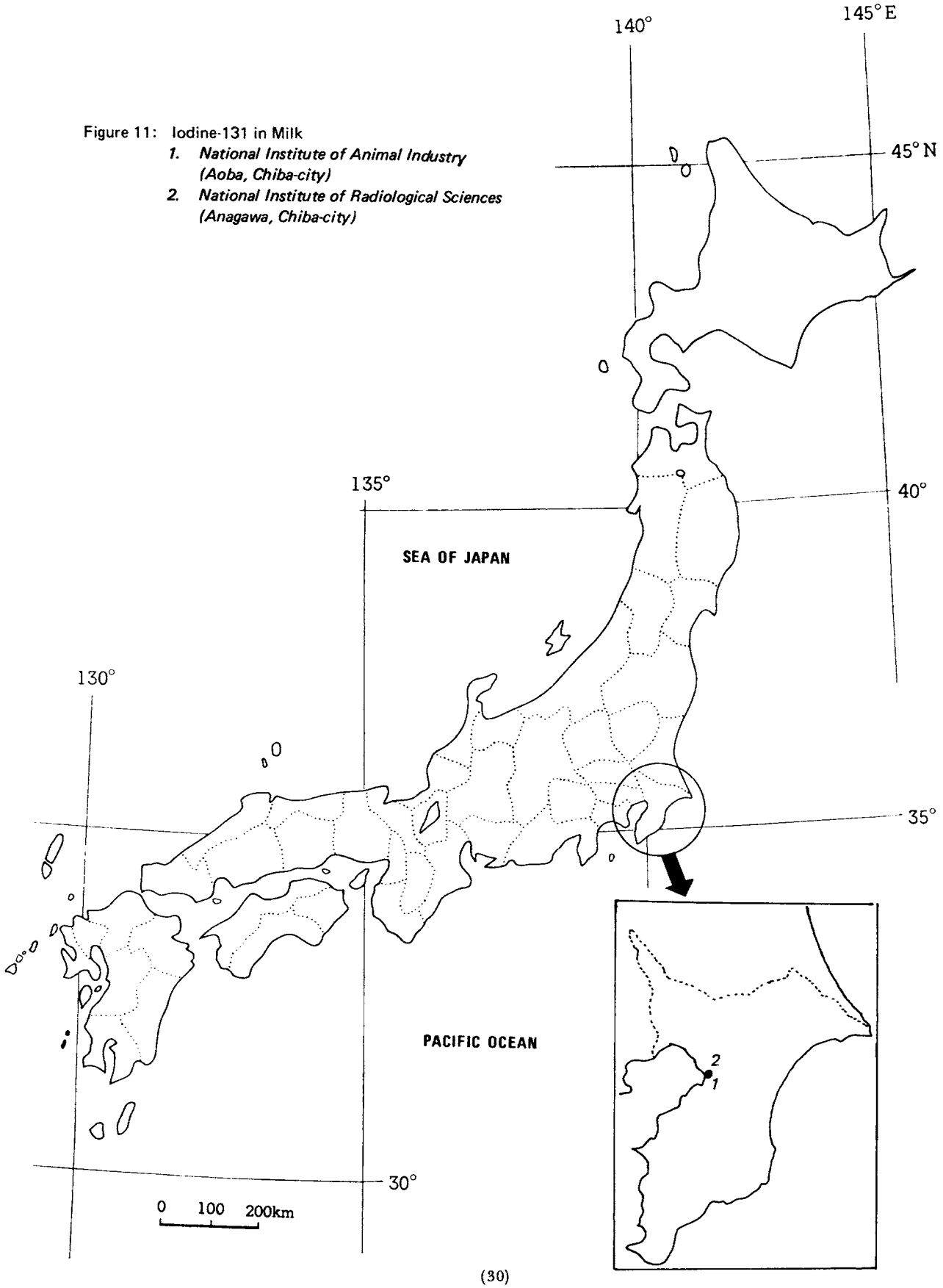
Table 13. Iodine – 131 in Milk

Station \ Date	Mar. 16	17	18	19	20	21	22	23	24
National Institute of Animal Industry (Chiba)	ND	ND	ND	ND	11.5±5.5	ND	ND	ND	ND
National Institute of Radiological Sciences (Chiba)	–	ND	60±7	78±7	81±7	ND	ND	55±7 (Detectable limit 50 pCi/l)	–

*: Values from National Institute of Animal Industry and National Institute of Radiological Sciences are obtained by the measurements using the β-ray spectrometry (gas flow counter) and the γ-ray spectrometry (NaI multi-channel pulse analyzer), respectively.

Figure 11: Iodine-131 in Milk

1. *National Institute of Animal Industry (Aoba, Chiba-city)*
2. *National Institute of Radiological Sciences (Anagawa, Chiba-city)*



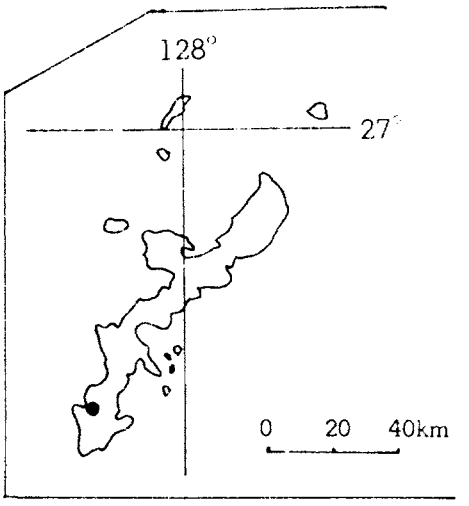
(6) Hot Particles

Hot particles were observed in the samples collected from Okinawa Prefecture (Table 14 and Figure 12)

Table 14. Hot Particles
(Okinawa Prefecture)

	March 19	March 20		
The Number	1 Piece/8m²	3 Pieces/6m²		
Intensity	790.9 pCi/Piece	782.41 pCi/Piece	633.83 pCi/Piece	355.12 pCi/Piece

Fig. 12: Hot Particles
(Okinawa Prefecture)
● *Naha*

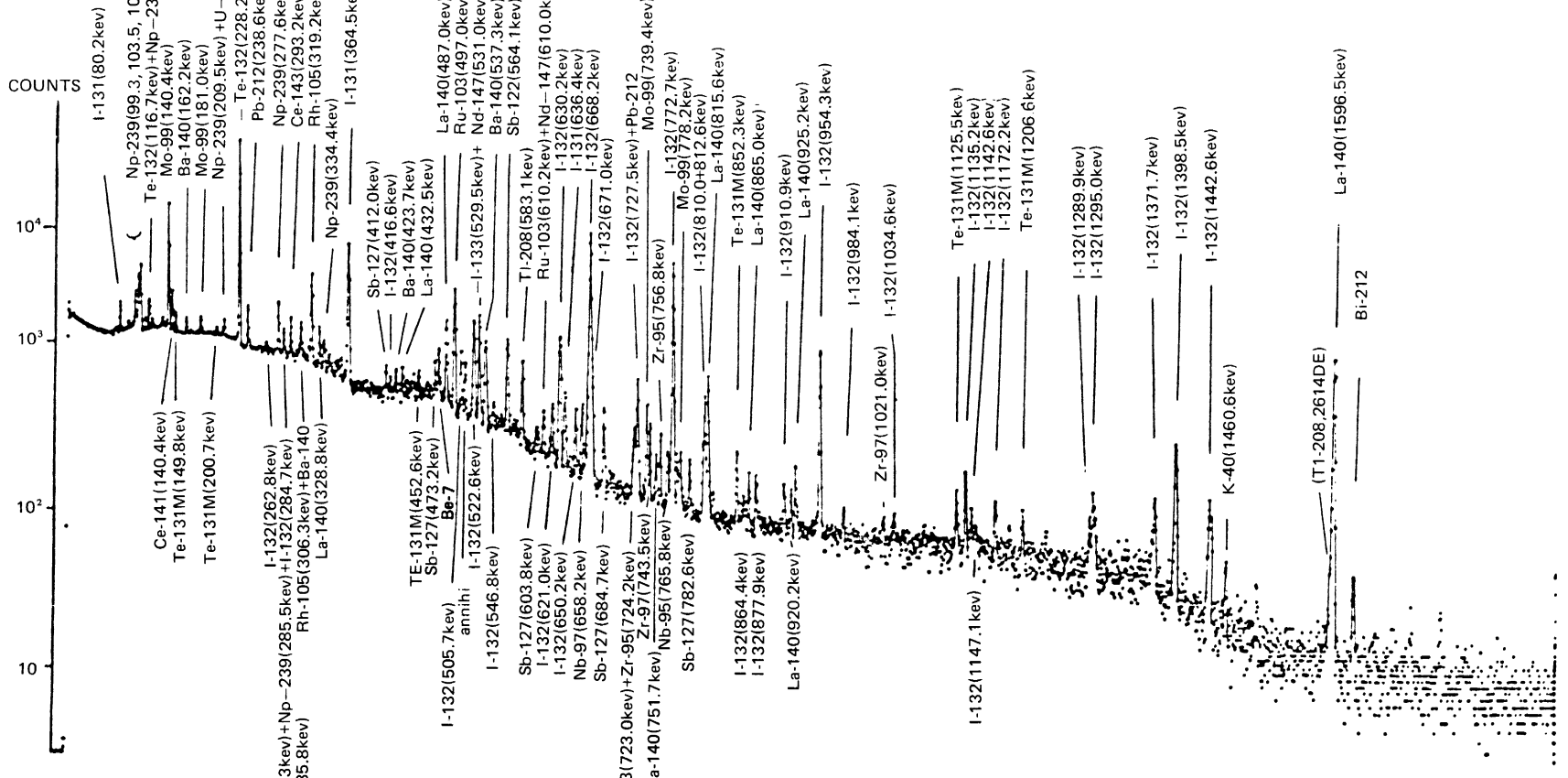


(7) Analysis of Radionuclides

Air-borne dust samples collected from Fukui Prefecture were analyzed using a Ge(Li) semiconductor instrument. The results for radionuclides analysis are shown in Figure 13.

Figure 13: Spectrum of Radionuclides in Air-borne Dust Analyzed by the Ge(LI) Semi-conductor
(Fukui Prefectural Institute of Public Health)

Sampling	Airborne Dust ($2447m^3$ air) Fukui Prefectural Institute of Public Health on 19th March, '78
Measurement	20th March, '78 801 min.



(8) Other Related Data

1 Chart of air stream in upper atmosphere (Japan Meteorological Agency) (Figure 14)

2 Chart of radiosensitivity measured at the same time in various monitoring posts (Japan Meteorological Agency) (Figure 15)

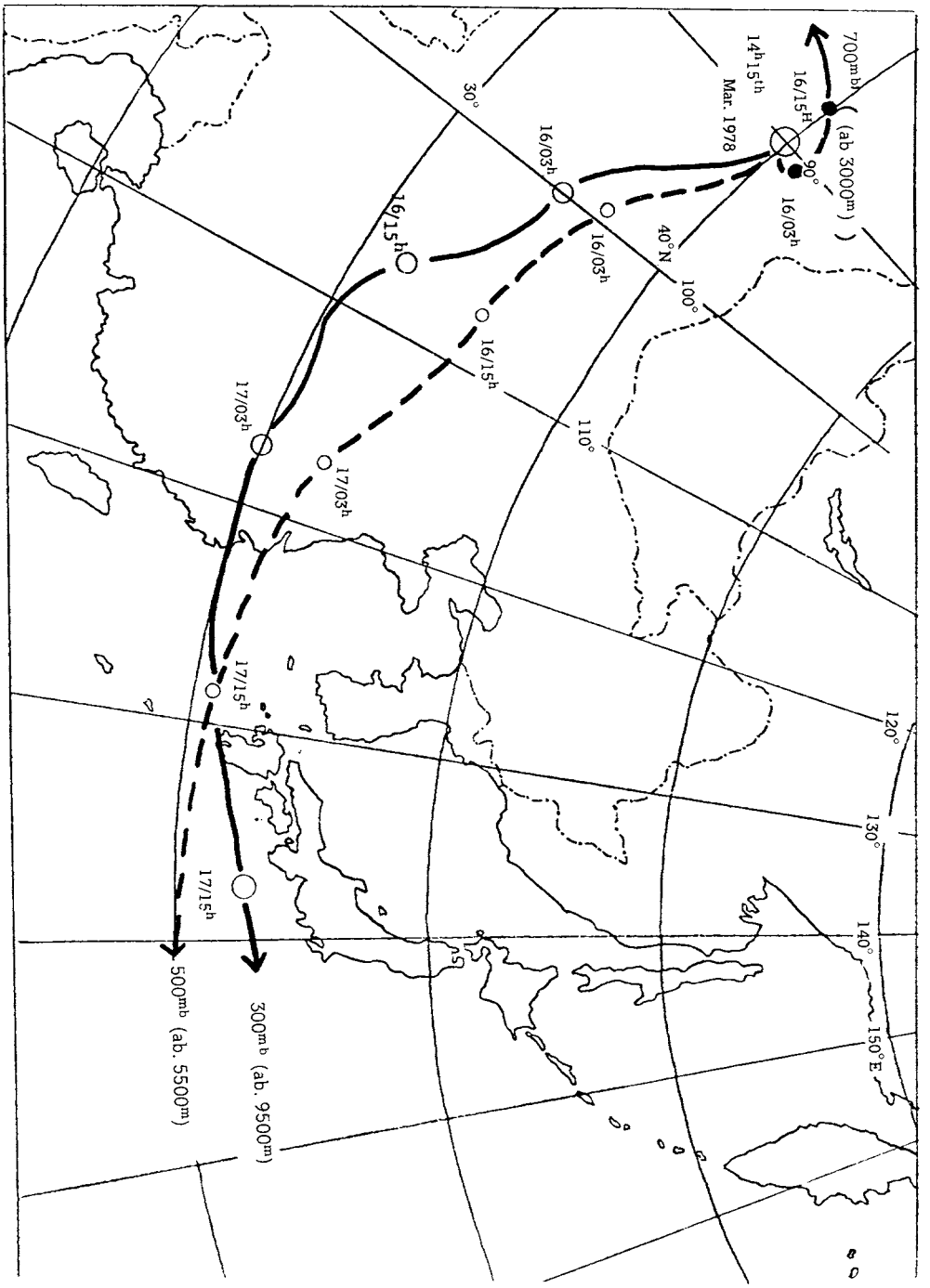
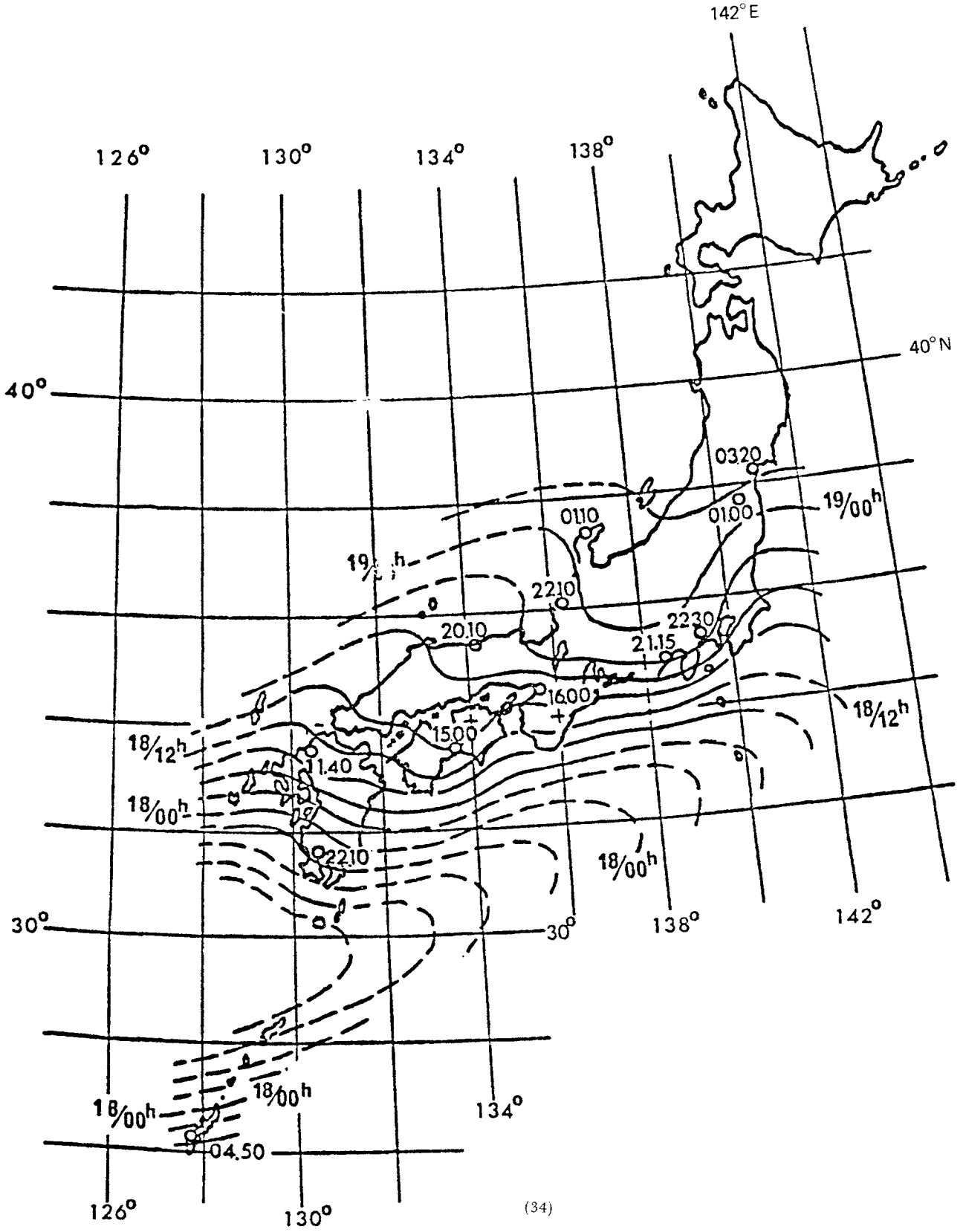


Figure 14: Pursuit Lines of Upper winds
For The 23rd Nuclear Explosion of the People's Republic of China

Figure 15: Chart of Radiosensitivity Measured at the Same Time in Various Monitoring Posts
(March, 1978)



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