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National Institute of Radiological Sciences

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Contents

Science and Technology Agency
National Institute of Radiological Sciences

ENVIRONMENTAL DATA

(1) External Exposure due to Natural Radiation (Kanto)

(National Institute of Radiological Sciences)

A field survey of exposure rates due to natural radiation has been conducted throughout the Kanto district of Japan during Oct., Nov., Dec. (1976), Feb., Mar. (1977), Dec. (1969), and Aug., Sep. (1973).

The situation of the Kanto district in Japan is shown in Figure 1. Distribution of observed locations in the district is indicated in Figure 2. In each location, measurements of exposures at one thirty two sites, one of where contained 5 stations at least, were made. A total of 211 sites were measured.

Observations were made using a spherical ionization chamber and several scintillation surveymeters. The spherical plastic ionization chamber of which inner diameter and wall thickness are 200 mm and 3 mm (acrylate) respectively has adequate sensitivity for field survey. The chamber was used as a standard of apparatus, but is difficult to use the apparatus in all locations, so that a surveymeter with a NaI (Tl) 1"ϕ x 1" scintillator was used for regular measurements. Two types of surveymeters, the one with a 2"ϕ x 2" NaI (Tl) scintillator and the other with a 3"ϕ x 3" NaI (Tl) scintillator, were used as auxiliary devices. Both the chamber and the surveymeter were used in 27 sites and their readings were compared for drawing a relationship between them.

Practically the direct reading of the surveymeter were reduced into the corresponding value of the plastic chamber through the relationship of linear proportion. Systematic error at calibration (^{60}Co) and reading error (radom) of the plastic chamber were within ±6% (maximum over all error) and within ±3.5% (standard error for 6μR/hr) respectively. Reading error of the surveymeter is about ±3% (standard error for 6μR/hr).

Measurements in open bare field were made at one meter above the ground and outdoor gamma-rays exposure rates (μR/hr) were due to cosmic rays as well as terrestrial radiation, as it may be considered that the contribution of fallout due to artificial origin was very small.

Gamma-ray exposure rates due to natural radiations in each location are shown in Table 1, and population exposure due to natural radiations in each prefecture of the Kanto district is shown in Table 2.

Table 1: Gamma-ray Exposure Rates due to Natural Radiations in each Location of the Kanto District – Oct., Nov., Dec., (1976), Feb., Mar., (1977), Dec., (1969), and Aug., Sep., (1973)
by S. Abe, K. Fujitaka, K. Fujimoto, K. Arai, T. Ido, M. Ishida and S. Tamoyama
(National Institute of Radiological Sciences)

Prefecture	Location*	Exposure Rate (μR/hr)	Number of Sites in each Location	Number of Stations in each Location	Apparatus**
Ibaraki	1 Kitaibaraki	10.2	1	5	B, C
	2 Takahagi	8.0	1	5	B, C
	3 Satomi	13.0	1	5	B, C
	4 Hitachi	7.5	3	15	B, C
	5 Hitachiota	8.2	1	5	A, B, C
	6 Nakaminato	8.8	1	5	B, C
	7 Mito, Katsuta	9.4	2	10	A, B, C
	8 Kasama	13.6	1	5	B, C
	9 Ishioka	12.5	1	5	B, C
	10 Tsuchiura	11.1	1	6	B, C

Prefecture		Location*	Exposure Rate (μR/hr)	Number of Sites in each Location	Number of Stations in each Location	Apparatus**
	11	Ryugasaki	8.8	1	5	B, C
	12	Shimodate	9.2	1	5	B, C
	13	Yuki	7.7	1	5	B, C
	14	Shimotsuma	10.1	1	5	B, C
	15	Koga	10.5	1	5	A, B, C
	16	Mitsukaido	9.5	1	5	B, C
	17	Iwai	7.9	1	5	A, B, C
	18	Toride	8.6	1	5	B, C
	19	Kashima	6.7	1	5	B, C
Tochigi	20	Shiobara	8.8	1	5	A, B, C
	21	Otawara	8.8	1	5	B, C
	22	Yaita	8.5	1	5	B, C
	23	Kitsuregawa	11.1	1	5	B, C
	24	Imaichi, Nikko	7.6	1	5	B, C
	25	Mooka	9.8	1	5	B, C
	26	Utsunomiya	11.8	3	16	A, B, C
	27	Kanuma	14.6	1	5	B, C
	28	Oyama	11.8	1	5	A, B, C
	29	Tochigi	9.8	1	5	B, C
	30	Sano	6.6	1	5	B, C
	31	Ashikaga	8.4	1	5	B, C
Gunma	32	Katashina	15.9	1	5	B, C
	33	Numata	8.5	1	5	B, C
	34	Shibukawa	5.5	1	5	B, C
	35	Naganohara	5.8	1	5	A, B, C
	36	Tatebayashi	6.3	1	5	B, C
	37	Ota	10.9	1	5	B, C
	38	Kiryu	8.7	1	5	B, C
	39	Isesaki	5.9	1	5	B, C
	40	Maebashi	10.3	2	10	A, B, C
	41	Fujioka	5.6	1	5	B, C
	42	Takasaki	6.4	2	10	A, B, C
	43	Annaka	5.6	1	5	B, C
	44	Tomioka	5.6	1	5	B, C
	45	Matsuida	7.0	1	5	B, C
Saitama	46	Hanyu, Kazo, Kuki	7.6	1	5	B, C
	47	Kumagaya, Gyoda	9.8	1	5	B, C
	48	Fukaya	7.6	1	5	B, C
	49	Honjo	7.0	1	5	B, C
	50	Kasukabe	7.4	1	5	B, C

Prefecture		Location*	Exposure Rate (μR/hr)	Number of Sites in each Location	Number of Stations in each Location	Apparatus**
	51	Hasuda, Iwatsuki	6.3	1	5	B, C
	52	Konosu, Kitamoto	7.5	1	5	B, C
	53	Ageo, Okegawa	6.0	1	5	B, C
	54	Higashimatsuyama	5.8	1	5	B, C
	55	Chichibu	9.0	1	5	A, B, C
	56	Koshigaya	7.4	1	5	B, C
	57	Misato, Yashio	7.9	1	5	B, C
	58	Soka, Hatogaya	8.7	1	5	B, C
	59	Kawaguchi	7.4	2	10	B, C
	60	Omiya, Yono	6.0	2	10	A, B, C
	61	Urawa	6.0	1	5	B, C
	62	Toda, Warabi	8.3	1	5	B, C
	63	Kawagce	8.4	1	5	B, C
	64	Shiki, Kamifukuoka Fujimi	9.9	1	6	B, C
	65	Wako, Asaka	8.1	1	5	B, C
	66	Niiza	5.6	1	5	B, C
	67	Tokorozawa	5.4	1	5	B, C
	68	Sayama, Iruma	6.4	1	5	B, C
	69	Hanno	8.4	1	9	A, B, C
Chiba	70	Choshi	7.0	2	11	B, C
	71	Asahi	8.4	1	5	B, C
	72	Sawara	6.5	1	5	B, C
	73	Yokaichiba	7.6	1	5	B, C
	74	Narita	6.5	1	5	B, C
	75	Sakura	5.4	1	5	B, C
	76	Yachiyo	6.4	1	5	B, C
	77	Kashiwa	6.3	2	10	B, C
	78	Noda	5.9	1	5	B, C
	79	Matsudo	6.8	3	14	B, C
	80	Ichikawa	6.4	3	15	B, C
	81	Funabashi	6.7	3	15	B, C
	82	Narashino	6.0	2	11	B, C
	83	Chiba	6.1	5	27	A, B, C
	84	Ichihara	6.2	2	11	B, C
	85	Togane	7.4	1	5	B, C
	86	Mobara	7.0	1	5	B, C
	87	Katsuura	7.8	1	7	B, C
	88	Otaki	7.3	1	5	B, C
	89	Kimitsu Kazusa	6.6	3	15	B, C
	90	Kimitsu Kimitsu	6.5	1	5	B, C

Prefecture		Location*	Exposure Rate (μR/hr)	Number of Sites in each Location	Number of Stations in each Location	Apparatus**
	91	Kisarazu	5.9	1	5	B, C
	92	Futtsu	6.0	1	5	B, C
	93	Kamogawa	6.7	2	10	B, C
	94	Kyonan	7.5	1	5	B, C
	95	Tateyama	7.1	1	7	B, C
	96	Shirahama	5.5	1	6	B, C
Tokyo	97	Tokyo	7.4	32	166	A, B, C
	98	Kiyose, Higashikurume	6.0	1	5	B, C
	99	Tanashi, Hoya	5.4	1	5	B, C
	100	Musashino	6.0	1	5	B, C
	101	Mitaka	7.4	1	5	B, C
	102	Chofu, Komae	8.1	2	10	A, B, C
	103	Inagi, Tama	8.4	1	5	B, C
	104	Fuchu	7.2	1	5	B, C
	105	Kokubunji, Koganei	7.1	1	5	B, C
	106	Kodaira	7.2	1	5	B, C
	107	Higashimurayama	5.7	1	5	B, C
	108	Higashiyamato Musashimurayama	8.1	1	5	B, C
	109	Tachikawa, Kunitachi	8.4	1	5	B, C
	110	Hino	9.2	1	5	B, C
	111	Fussa, Akishima Akikawa	8.8	1	5	B, C
	112	Hachioji	11.1	2	10	B, C
	113	Machida	5.3	1	5	B, C
	114	Ome	10.6	1	5	B, C
	115	Okutama	11.9	1	5	B, C
Kanagawa	116	Kawasaki	7.5	5	25	B, C
	117	Yokohama	6.0	15	82	A, B, C
	118	Yamato	5.1	1	5	B, C
	119	Sagamihara	5.4	1	5	B, C
	120	Sagamiko	7.9	1	5	B, C
	121	Ebina, Zama	4.8	1	5	B, C
	122	Atsugi, Isehara	5.8	1	5	B, C
	123	Hadano	4.4	1	5	B, C
	124	Minamiashigara	4.9	1	5	A, B, C
	125	Hakone	3.9	1	5	B, C
	126	Yokosuka	7.2	2	10	A, B, C
	127	Miura	4.8	1	5	B, C
	128	Kamakura, Zushi	6.0	1	5	B, C

Prefecture	Location*	Exposure Rate (μR/hr)	Number of Sites in each Location	Number of Stations in each Location	Apparatus**
129	Fujisawa	5.5	2	10	A, B, C
130	Chigasaki	5.1	1	5	B, C
131	Hiratsuka	5.3	1	5	B, C
132	Odawara	5.2	1	5	B, C

* cf. Fig. 2

** A: Spherical Ionization Chamber
B: Surveymeter with 2"ϕ x 2" NaI (Tl) Scintillator
C: Surveymeter with 1"ϕ x 1" NaI (Tl) Scintillator

Table 2: Population Exposure due to Natural Radiations in Each Prefecture of the Kanto District by S. Abe, K. Fujitaka, K. Fujimoto, K. Arai, T. Ido, M. Ishida and S. Tamoyama

Prefecture	Exposure Rate ± Standard Deviation (μR/hr)	Population* (x 1,000)	Number of Sites
Ibaraki	9.4 ± 1.9	2,342	22
Tochigi	10.1 ± 2.2	1,698	14
Gunma	7.8 ± 2.9	1,756	16
Saitama	7.4 ± 1.3	4,821	26
Chiba	6.6 ± 0.7	4,149	44
Tokyo	7.6 ± 1.7	11,669	52
Kanagawa	6.0 ± 1.2	6,398	37
Kanto	7.4 ± 2.0	32,833	211

* 1975 National Census

Figure 1: The Situation of the Kanto District in Japan

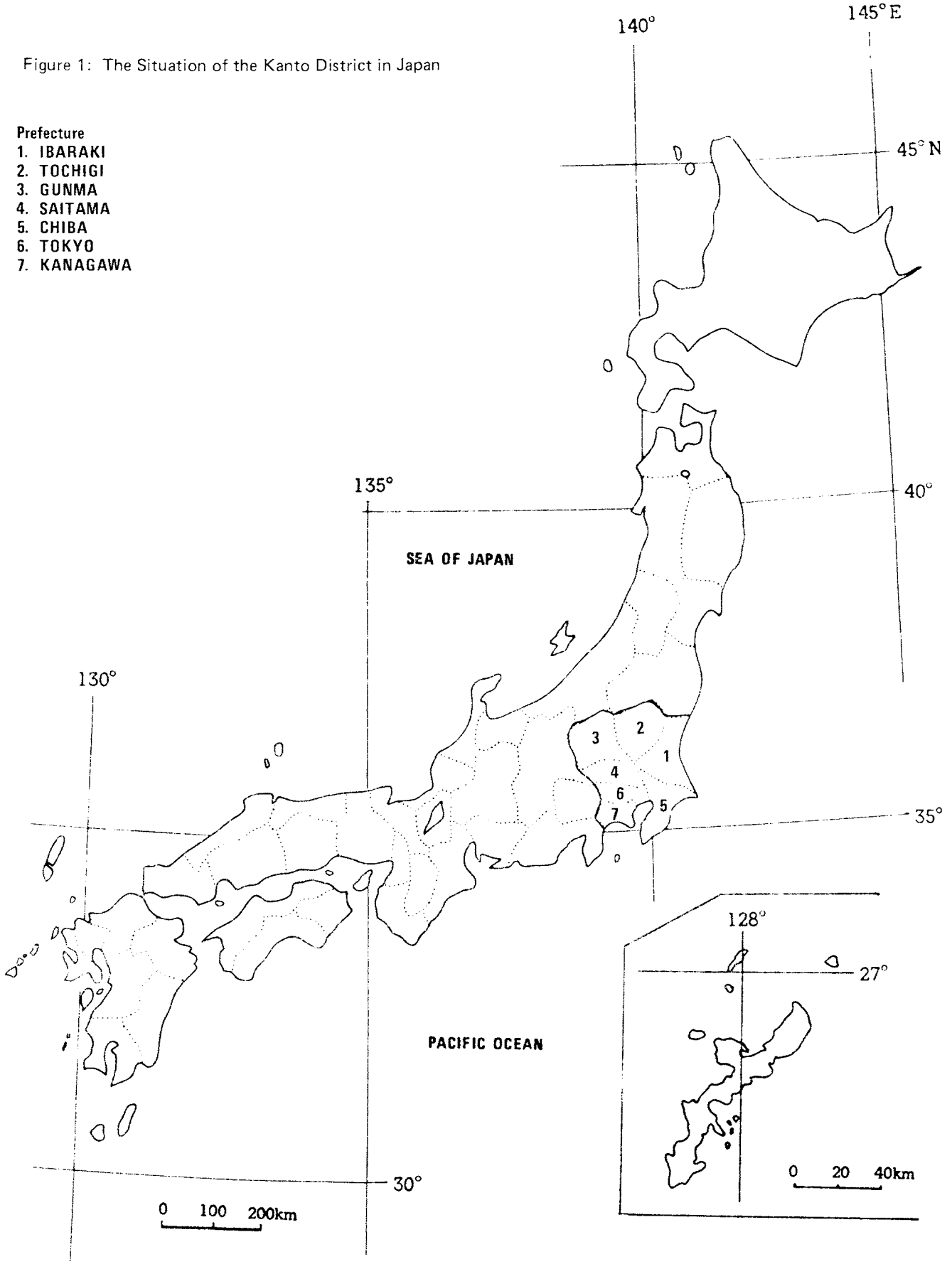
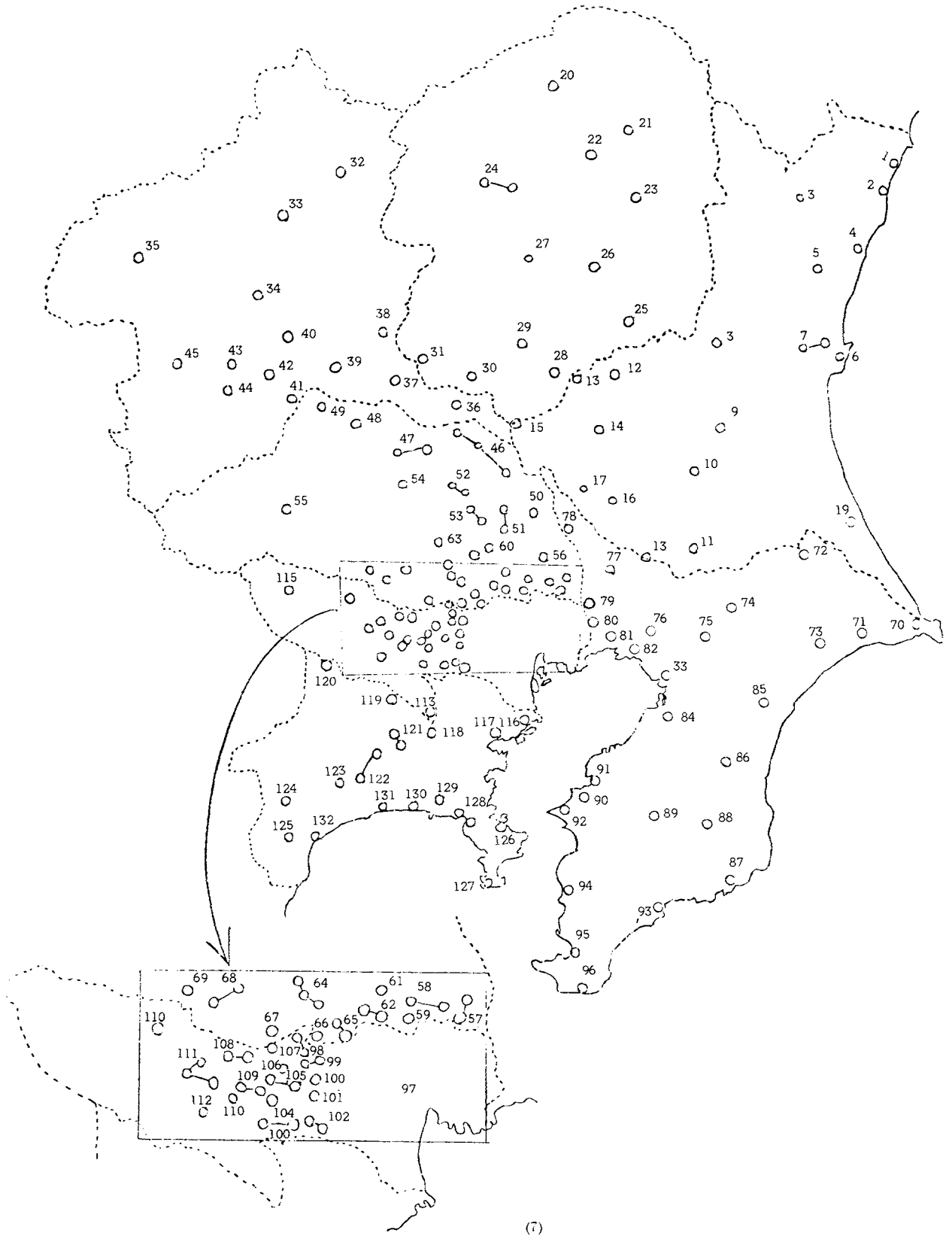


Figure 2: Distribution of Observed Locations in the Kanto District
(cf. Table 1)



(2) ^{90}Sr and ^{137}Cs in Rain and Dry Fallout.

(Japan Chemical Analysis Center)

Under the commission of Science and Technology Agency, Japan Chemical Analysis Center has measured the levels of strontium-90 and cesium-137 in rain and dry fallout samples collected in 30 prefectures throughout Japan.

Sampling and pretreatment were performed by 30 prefectural public health laboratories and institutes. The large tray containing water was used for the collection of samples, and it was exposed to rain and dust for a month. Water in the collection tray and water used to wash the tray are combined with strontium and cesium carrier, and filtrate through the filter paper. The filtration is then applied no column filled resin, and all the cation were obsorbed in it. These resin and filter papers used were collected in Japan Chemical Analysis Center.

The fraction containing both strontium-90 and cesium-137 was eluted from the resin with hydrochloric acid. Eluted solution and filter papers collected were ashed in an electric muffle furnance. The ash to which was treated with hydrochloric acid, was eluted with hydrochloric acid and water, and it was filtered and washed. The filtrate was radiochemically analysed for strontium-90 and cesium-137.

Results obtained during the period from April, 1976 to March, 1977 are shown in Table 3.

And smapling locations are shown in Figure 3.

Table 3: ^{90}Sr and ^{137}Cs in Rain and Dry Fallout
– April, 1976 to March, 1977 –

(Japan Chemical Analysis Center)

(Continued from Table 1, No. 43 of this publication)

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
April, 1976				
Sapporo, HOKKAIDO	31	21.0	0.010 ± 0.0005	0.021 ± 0.0012
Aomori, AOMORI	31	25.5	0.011 ± 0.0006	0.019 ± 0.0012
Sendai, MIYAGI	30	44.5	0.015 ± 0.0007	0.026 ± 0.0014
Akita, AKITA	30	117.5	0.033 ± 0.0010	0.061 ± 0.0020
Yamagata, YAMAGATA	30	41.8	0.015 ± 0.0008	0.029 ± 0.0015
Okuma, FUKUSHIMA	31	85.7	0.017 ± 0.0007	0.029 ± 0.0014
Mito, IBARAKI	30	90.0	0.020 ± 0.0008	0.025 ± 0.0017
Shinjyuku, TOKYO	30	124.0	0.028 ± 0.0008	0.056 ± 0.0019
Yokohama, KANAGAWA	36	158.0	0.040 ± 0.0010	0.071 ± 0.0021
Niigata, NIIGATA	34	102.5	0.026 ± 0.0009	0.048 ± 0.0018
Kanazawa, ISHIKAWA	30	90.0	0.020 ± 0.0008	0.035 ± 0.0015
Fukui, FUKUI	31	159.5	0.020 ± 0.0008	0.054 ± 0.0019
Nagoya, AICHI	31	255.6	0.026 ± 0.0008	0.045 ± 0.0018
Kyoto, KYOTO	36	222.7	0.021 ± 0.0008	0.039 ± 0.0017
Osaka, OSAKA	31	155.6	0.016 ± 0.0007	0.023 ± 0.0013
Kobe, HYOGO	31	115.5	0.016 ± 0.0007	0.037 ± 0.0016
Shizuoka, SHIZUOKA	35	247.5	0.017 ± 0.0008	0.042 ± 0.0017
Wakayama, WAKAYAMA	35	124.5	0.014 ± 0.0007	0.025 ± 0.0014
Tottori, TOTTORI	31	82.3	0.017 ± 0.0007	0.024 ± 0.0013
Matsue, SHIMANE	30	144.0	0.020 ± 0.0008	0.041 ± 0.0017

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Okayama, OKAYAMA	30	177.8	0.015 ± 0.0007	0.023 ± 0.0014
Hiroshima, HIROSHIMA	30	252.4	0.021 ± 0.0008	0.041 ± 0.0018
Yamaguchi, YAMAGUCHI	31	301.0	0.022 ± 0.0008	0.039 ± 0.0017
Kochi, KOCHI	34	283.3	0.029 ± 0.0009	0.051 ± 0.0020
Dazaifu, FUKUOKA	30	169.0	0.014 ± 0.0007	0.026 ± 0.0014
Saga, SAGA	30	157.0	0.021 ± 0.0008	0.032 ± 0.0015
Nagasaki, NAGASAKI	30	123.0	0.023 ± 0.0008	0.042 ± 0.0018
Kagoshima, KAGOSHIMA	30	254.5	0.015 ± 0.0008	0.052 ± 0.0020
Naha, OKINAWA	31	34.0	0.006 ± 0.0005	0.011 ± 0.0010
May, 1976				
Sapporo, HOKKAIDO	32	33.0	0.009 ± 0.0005	0.020 ± 0.0012
Aomori, AOMORI	32	47.0	0.009 ± 0.0005	0.033 ± 0.0015
Sendai, MIYAGI	31	64.0	0.004 ± 0.0005	0.012 ± 0.0010
Akita, AKITA	31	98.0	0.009 ± 0.0005	0.019 ± 0.0012
Yamagata, YAMAGATA	31	39.4	0.009 ± 0.0005	0.019 ± 0.0012
Ohkuma, FUKUSHIMA	32	89.8	0.011 ± 0.0006	0.026 ± 0.0014
Mito, IBARAKI	31	207.5	0.020 ± 0.0007	0.047 ± 0.0018
Shinjyuku, TOKYO	31	212.6	0.019 ± 0.0008	0.035 ± 0.0016
Yokohama, KANAGAWA	27	244.7	0.011 ± 0.0006	0.020 ± 0.0012
Niigata, NIIGATA	28	58.0	0.008 ± 0.0005	0.018 ± 0.0012
Kanazawa, ISHIKAWA	31	119.5	0.009 ± 0.0006	0.014 ± 0.0011
Fukui, FUKUI	32	151.6	0.013 ± 0.0006	0.043 ± 0.0017
Shizuoka, SHIZUOKA	27	311.0	0.040 ± 0.0011	0.074 ± 0.0022
Nagoya, AICHI	32	365.5	0.014 ± 0.0006	0.031 ± 0.0015
Kyoto, KYOTO	27	148.4	0.016 ± 0.0007	0.030 ± 0.0014
Osaka, OSAKA	31	154.0	0.008 ± 0.0005	0.016 ± 0.0011
Kobe, HYOGO	34	146.7	0.015 ± 0.0007	0.030 ± 0.0015
Wakayama, WAKAYAMA	34	171.5	0.014 ± 0.0007	0.028 ± 0.0014
Tottori, TOTTORI	32	67.8	0.015 ± 0.0007	0.021 ± 0.0013
Matsue, SHIMANE	31	97.7	0.010 ± 0.0006	0.023 ± 0.0014
Okayama, OKAYAMA	31	152.1	0.013 ± 0.0007	0.020 ± 0.0012
Hiroshima, HIROSHIMA	31	211.9	0.014 ± 0.0006	0.024 ± 0.0014
Yamaguchi, YAMAGUCHI	32	209.5	0.018 ± 0.0008	0.035 ± 0.0017
Kochi, KOCHI	28	278.2	0.025 ± 0.0008	0.042 ± 0.0018
Fukuoka, FUKUOKA	31	170.8	0.012 ± 0.0007	0.026 ± 0.0016
Saga, SAGA	31	233.0	0.013 ± 0.0007	0.020 ± 0.0012
Nagasaki, NAGASAKI	31	183.5	0.011 ± 0.0006	0.015 ± 0.0011
Kagoshima, KAGOSHIMA	34	330.0	0.003 ± 0.0004	0.006 ± 0.0008
Naha, OKINAWA	32	225.0	0.009 ± 0.0005	0.014 ± 0.0011
June, 1976				
Sapporo, HOKKAIDO	31	78.5	0.004 ± 0.0006	0.018 ± 0.0011
Aomori, AOMORI	31	85.5	0.017 ± 0.0007	0.045 ± 0.0023

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Sendai, MIYAGI	30	124.6	0.030 ± 0.0011	0.049 ± 0.0018
Akita, AKITA	30	116.0	0.003 ± 0.0003	0.005 ± 0.0007
Yamagata, YAMAGATA	30	106.3	0.016 ± 0.0007	0.022 ± 0.0013
Ohkuma, FUKUSHIMA	31	177.0	0.029 ± 0.0010	0.050 ± 0.0019
Mito, IBARAKI	30	259.0	0.039 ± 0.0011	0.066 ± 0.0021
Shinjyuku, TOKYO	30	144.4	0.016 ± 0.0007	0.032 ± 0.0015
Yokohama, KANAGAWA	31	194.5	0.018 ± 0.0007	0.038 ± 0.0016
Niigata, NIIGATA	31	170.5	0.015 ± 0.0007	0.029 ± 0.0014
Kanazawa, ISHIKAWA	30	405.5	0.021 ± 0.0008	0.037 ± 0.0016
Fukui, FUKUI	31	229.6	0.019 ± 0.0019	0.045 ± 0.0018
Nagoya, AICHI	31	187.2	0.013 ± 0.0006	0.022 ± 0.0013
Kyoto, KYOTO	31	245.0	0.015 ± 0.0007	0.029 ± 0.0014
Osaka, OSAKA	30	212.0	0.010 ± 0.0006	0.019 ± 0.0012
Kobe, HYOGO	29	158.2	0.007 ± 0.0005	0.015 ± 0.0011
Wakayama, WAKAYAMA	29	196.0	0.011 ± 0.0007	0.022 ± 0.0013
Tottori, TOTTORI	31	40.0	0.013 ± 0.0006	0.018 ± 0.0013
Matsue, SHIMANE	30	99.4	0.010 ± 0.0007	0.021 ± 0.0013
Okayama, OKAYAMA	30	116.6	0.006 ± 0.0005	0.016 ± 0.0011
Hiroshima, HIROSHIMA	30	168.7	0.009 ± 0.0006	0.024 ± 0.0014
Yamaguchi, YAMAGUCHI	31	144.5	0.013 ± 0.0006	0.020 ± 0.0012
Kochi, KOCHI	30	281.6	0.015 ± 0.0007	0.026 ± 0.0014
Dazaifu, FUKUOKA	30	283.4	0.013 ± 0.0006	0.020 ± 0.0012
Saga, SAGA	30	222.0	0.014 ± 0.0012	0.023 ± 0.0014
Nagasaki, NAGASAKI	30	258.0	0.011 ± 0.0010	0.020 ± 0.0012
Kagoshima, KAGOSHIMA	29	492.0	0.003 ± 0.0004	0.004 ± 0.0007
Naha, OKINAWA	31	188.0	0.008 ± 0.0009	0.012 ± 0.0010
Shizuoka, SHIZUOKA	29	359.0	0.023 ± 0.0020	0.052 ± 0.0020
July, 1976				
Sapporo, HOKKAIDO	33	18.5	0.052 ± 0.0011	0.009 ± 0.0009
Aomori, AOMORI	32	19.5	0.006 ± 0.0005	0.011 ± 0.0010
Sendai, MIYAGI	31	88.8	0.007 ± 0.0007	0.014 ± 0.0011
Akita, AKITA	31	113.0	0.010 ± 0.0008	0.015 ± 0.0011
Yamagata, YAMAGATA	32	137.2	0.008 ± 0.0005	0.014 ± 0.0011
Ohkuma, FUKUSHIMA	35	120.0	0.006 ± 0.0005	0.014 ± 0.0015
Mito, IBARAKI	33	141.5	0.010 ± 0.0006	0.015 ± 0.0011
Shinjyuku, TOKYO	31	107.5	0.006 ± 0.0005	0.012 ± 0.0010
Yokohama, KANAGAWA	33	244.3	0.007 ± 0.0005	0.012 ± 0.0010
Niigata, NIIGATA	33	111.0	0.006 ± 0.0005	0.014 ± 0.0011
Kanazawa, ISHIKAWA	31	85.5	0.005 ± 0.0005	0.011 ± 0.0010
Fukui, FUKUI	33	66.5	0.005 ± 0.0004	0.010 ± 0.0010
Nagano, NAGANO	33	139.5	0.007 ± 0.0007	0.007 ± 0.0008
Shizuoka, SHIZUOKA	34	226.5	0.012 ± 0.0010	0.022 ± 0.0012
Nagoya, AICHI	35	315.4	0.013 ± 0.0010	0.020 ± 0.0012

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Kyoto, KYOTO	33	112.9	0.013 ± 0.0009	0.020 ± 0.0012
Osaka, OSAKA	32	119.0	0.003 ± 0.0007	0.004 ± 0.0007
Kobe, HYOGO	33	87.9	0.007 ± 0.0006	0.010 ± 0.0010
Wakayama, WAKAYAMA	31	74.5	0.006 ± 0.0007	0.008 ± 0.0009
Tottori, TOTTORI	33	19.25	0.014 ± 0.0010	0.007 ± 0.0008
Matsue, SHIMANE	32	44.0	0.003 ± 0.0007	0.008 ± 0.0008
Okayama, OKAYAMA	32	54.7	0.004 ± 0.0004	0.006 ± 0.0008
Hiroshima, HIROSHIMA	31	110.08	0.005 ± 0.0007	0.010 ± 0.0009
Yamaguchi, YAMAGUCHI	33	226.0	0.012 ± 0.0007	0.016 ± 0.0011
Kochi, KOCHI	32	251.0	0.012 ± 0.0006	0.018 ± 0.0012
Dazaifu, FUKUOKA	31	225.7	0.008 ± 0.0005	0.014 ± 0.0011
Saga, SAGA	33	312	0.008 ± 0.0009	0.011 ± 0.0010
Nagasaki, NAGASAKI	32	417.0	0.006 ± 0.0009	0.010 ± 0.0009
Kagoshima, KAGOSHIMA	33	364.5	0.002 ± 0.0006	0.006 ± 0.0008
Naha, OKINAWA	32	319.5	0.006 ± 0.0009	0.008 ± 0.0009
August, 1976				
Sapporo, HOKKAIDO	31	105.0	0.010 ± 0.0009	0.016 ± 0.0010
Aomori, AOMORI	32	131.0	0.013 ± 0.0009	0.021 ± 0.0012
Sendai, MIYAGI	31	304.9	0.014 ± 0.0010	0.021 ± 0.0012
Akita, AKITA	31	156.0	0.009 ± 0.0006	0.016 ± 0.0011
Yamagata, YAMAGATA	30	340.5	0.010 ± 0.0010	0.014 ± 0.0010
Ohkuma, FUKUSHIMA A	32	289.6	0.009 ± 0.0008	0.015 ± 0.0010
Shinjyuku, TOKYO	31	160.0	0.006 ± 0.0007	0.013 ± 0.0010
Yokohama, KANAGAWA	31	121.2	0.007 ± 0.0005	0.008 ± 0.0009
Niigata, NIIGATA	31	424.5	0.011 ± 0.0006	0.016 ± 0.0011
Kanazawa, ISHIKAWA	31	360.1	0.005 ± 0.0004	0.012 ± 0.0010
Fukui, FUKUI	31	300.8	0.006 ± 0.0008	0.030 ± 0.0014
Nagano, NAGANO	31	180.0	0.004 ± 0.0006	0.004 ± 0.0007
Shizuoka, SHIZUOKA	28	167.0	0.003 ± 0.0006	0.008 ± 0.0009
Nagoya, AICHI	29	228.5	0.007 ± 0.0008	0.010 ± 0.0009
Kyoto, KYOTO	31	153.9	0.005 ± 0.0007	0.009 ± 0.0009
Osaka, OSAKA	31	89	0.002 ± 0.0006	0.007 ± 0.0008
Kobe, HYOGO	31	147.7	0.005 ± 0.0008	0.006 ± 0.0008
Wakayama, WAKAYAMA	30	98.5	0.004 ± 0.0009	0.004 ± 0.0007
Tottori, TOTTORI	31	242.25	0.011 ± 0.0008	0.007 ± 0.0008
Matsue, SHINANE	32	422.7	0.007 ± 0.0008	0.012 ± 0.0010
Okayama, OKAYAMA	30	80.5	0.003 ± 0.0007	0.006 ± 0.0008
Hiroshima, HIROSHIMA	31	125.52	0.002 ± 0.0006	0.006 ± 0.0008
Yamaguchi, YAMAGUCHI	31	194.0	0.004 ± 0.0007	0.004 ± 0.0008
Kochi, KOCHI	31	148.5	0.007 ± 0.0005	0.006 ± 0.0009
Dazaifu, FUKUOKA	31	265.0	0.005 ± 0.0004	0.007 ± 0.0009

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Saga, SAGA	30	312	0.004 ± 0.0009	0.007 ± 0.0010
Nagasaki, NAGASAKI	30	175.0	0.001 ± 0.0011	0.006 ± 0.0008
Kagoshima, KAGOSHIMA	31	189.0	–	0.005 ± 0.0012
Naha, OKINAWA	31	84.0	0.001 ± 0.0003	0.001 ± 0.0006
September, 1976				
Sapporo, HOKKAIDO	31	87.0	0.005 ± 0.0006	0.009 ± 0.0008
Aomori, AOMORI	31	134.5	0.001 ± 0.0009	0.013 ± 0.0010
Sendai, MIYAGI	30	357.5	0.014 ± 0.0010	0.020 ± 0.0012
Akita, AKITA	30	263.0	0.024 ± 0.0013	0.026 ± 0.0013
Yamagata, YAMAGATA	30	129.5	0.006 ± 0.0009	0.009 ± 0.0009
Ohkuma, FUKUSHIMA	33	330.9	0.018 ± 0.0014	0.033 ± 0.0014
Shinjyuku, TOKYO	30	255.0	0.010 ± 0.0008	0.014 ± 0.0010
Yokohama, KANAGAWA	31	361.3	0.013 ± 0.0009	0.015 ± 0.0010
Niigata, NIIGATA	31	190.0	0.014 ± 0.0010	0.019 ± 0.0011
Kanazawa, ISHIKAWA	30	279.0	0.006 ± 0.0007	0.011 ± 0.0009
Fukui, FUKUI	31	321.6	0.007 ± 0.0009	0.019 ± 0.0012
Nagano, NAGANO	31	152.7	0.013 ± 0.0013	0.016 ± 0.0012
Shizuoka, SHIZUOKA	34	289.0	0.013 ± 0.0009	0.020 ± 0.0012
Nagoya, AICHI	31	768.0	0.009 ± 0.0011	0.009 ± 0.0009
Kyoto, KYOTO	32	317.3	0.003 ± 0.0007	0.009 ± 0.0009
Osaka, OSAKA	30	255	0.005 ± 0.0007	0.007 ± 0.0008
Kobe, HYOGO	31	256.3	0.007 ± 0.0008	0.011 ± 0.0009
Wakayama, WAKAYAMA	30	382.0	0.006 ± 0.0009	0.009 ± 0.0009
Tottori, TOTTORI	31	411.4	0.010 ± 0.0009	0.011 ± 0.0010
Matsue, SHIMANE	31	178.1	0.005 ± 0.0009	0.010 ± 0.0009
Okayama, OKAYAMA	30	459.0	0.003 ± 0.0007	0.004 ± 0.0007
Hiroshima, HIROSHIMA	30	260.7	0.004 ± 0.0007	0.006 ± 0.0008
Yamaguchi, YAMAGUCHI	31	255.0	0.006 ± 0.0009	0.006 ± 0.0009
Kochi, KOCHI	30	1385.7	0.013 ± 0.0011	0.010 ± 0.0009
Dazaifu, FUKUOKA	30	222.0	0.004 ± 0.0009	0.005 ± 0.0008
Saga, SAGA	29	282.5	0.001 ± 0.0006	0.004 ± 0.0007
Nagasaki, NAGASAKI	30	378.0	0.003 ± 0.0011	0.008 ± 0.0009
Kagoshima, KAGOSHIMA	33	281.5	0.002 ± 0.0010	0.006 ± 0.0008
Naha, OKINAWA	31	228.5	0.003 ± 0.0003	0.006 ± 0.0008
October, 1976				
Sapporo, HOKKAIDO	32	183.0	0.030 ± 0.0016	0.046 ± 0.0016
Aomori, AOMORI	32	98.0	0.020 ± 0.0011	0.035 ± 0.0014
Sendai, MIYAGI	31	173.2	0.023 ± 0.0012	0.041 ± 0.0016
Akita, AKITA	31	113.5	0.025 ± 0.0013	0.040 ± 0.0016
Yamagata, YAMAGATA	31	98.5	0.014 ± 0.0011	0.025 ± 0.0013
Ohkuma, FUKUSHIMA	34	248.6	0.032 ± 0.0016	0.049 ± 0.0017
Shinjyuku, TOKYO	31	150.0	0.027 ± 0.0014	0.044 ± 0.0016

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Yokohama, KANAGAWA	32	154.5	0.023 ± 0.0015	0.040 ± 0.0016
Niigata, NIIGATA	32	99.5	0.022 ± 0.0012	0.031 ± 0.0014
Kanazawa, ISHIKWA	30	140.5	0.036 ± 0.0016	0.046 ± 0.0017
Fukui, FUKUI	32	164.3	0.035 ± 0.0016	0.053 ± 0.0018
Nagano, NAGANO	32	61.5	0.006 ± 0.0008	0.012 ± 0.0010
Shizuoka, SHIZUOKA	30	164.5	0.025 ± 0.0014	0.042 ± 0.0016
Nagoya, AICHI	32	142.7	0.026 ± 0.0015	0.038 ± 0.0016
Kyoto, KYOTO	32	134.6	0.010 ± 0.0010	0.017 ± 0.0011
Osaka, OSAKA	31	97	0.011 ± 0.0011	0.016 ± 0.0011
Kobe, HYOGO	32	111.3	0.012 ± 0.0010	0.021 ± 0.0012
Wakayama, WAKAYAMA	32	110.0	0.024 ± 0.0013	0.034 ± 0.0015
Tottori, TOTTORI	32	50.0	0.018 ± 0.0012	0.025 ± 0.0013
Matsue, SHIMANE	32	117.8	0.015 ± 0.0013	0.023 ± 0.0013
Okayama, OKAYAMA	31	123.3	0.007 ± 0.0009	0.012 ± 0.0010
Hiroshima, HIROSHIMA	31	105.9	0.009 ± 0.0009	0.016 ± 0.0010
Yamaguchi, YAMAGUCHI	33	107.0	0.013 ± 0.0011	0.024 ± 0.0012
Kochi, KOCHI	31	238.1	0.031 ± 0.0015	0.036 ± 0.0015
Dazaifu, FUKUOKA	32	151	0.011 ± 0.0011	0.014 ± 0.0010
Saga, SAGA	30	141.0	0.013 ± 0.0010	0.012 ± 0.0010
Nagasaki, NAGASAKI	31	158.5	0.017 ± 0.0014	0.033 ± 0.0014
Kagoshima, KAGOSHIMA	32	85.0	0.009 ± 0.0011	0.004 ± 0.0007
Naha, OKINAWA	29	237.5	0.017 ± 0.0007	0.026 ± 0.0013
November, 1976				
Sapporo, HOKKAIDO	30	117.5	0.013 ± 0.0009	0.024 ± 0.0012
Aomori, AOMORI	31	156.0	0.027 ± 0.0014	0.041 ± 0.0016
Sendai, MIYAGI	30	59.5	0.016 ± 0.0010	0.017 ± 0.0011
Akita, AKITA	30	193.0	0.036 ± 0.0015	0.052 ± 0.0017
Yamagata, YAMAGATA	30	49.6	0.004 ± 0.0006	0.010 ± 0.0010
Ohkuma, FUKUSHIMA	22	122.4	0.014 ± 0.0009	0.012 ± 0.0010
Mito, IBARAKI	30	72.0	0.007 ± 0.0010	0.011 ± 0.0010
Shinjyuku, TOKYO	30	81.4	0.006 ± 0.0008	0.014 ± 0.0010
Yokohama, KANAGAWA	31	84.3	0.009 ± 0.0009	0.016 ± 0.0011
Niigata, NIIGATA	31	156.0	0.022 ± 0.0013	0.037 ± 0.0016
Kanazawa, ISHIKAWA	31	322.5	0.059 ± 0.0018	0.077 ± 0.0021
Fukui, FUKUI	31	251.1	0.028 ± 0.0014	0.054 ± 0.0018
Nagano, NAGANO	31	17.5	0.002 ± 0.0006	0.004 ± 0.0007
Shizuoka, SHIZUOKA	32	110.0	0.007 ± 0.0012	0.014 ± 0.0011
Nagoya, AICHI	32	67.1	0.008 ± 0.0010	0.011 ± 0.0010
Kyoto, KYOTO	31	34.2	0.005 ± 0.0007	0.006 ± 0.0008
Osaka, OSAKA	30	46	0.005 ± 0.0010	0.007 ± 0.0008
Kobe, HYOGO	31	31.4	0.006 ± 0.0007	0.011 ± 0.0009
Wakayama, WAKAYAMA	29	91.5	0.006 ± 0.0008	0.012 ± 0.0010
Tottori, TOTTORI	31	249.0	0.038 ± 0.0017	0.056 ± 0.0018

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Matsue, SHIMANE	29	145.7	0.024 ± 0.0009	0.040 ± 0.0015
Okayama, OKAYAMA	30	39.4	0.003 ± 0.0008	0.005 ± 0.0008
Hiroshima, HIROSHIMA	30	73.3	0.003 ± 0.0007	0.008 ± 0.0009
Yamaguchi, YAMAGUCHI	31	78.5	0.011 ± 0.0009	0.019 ± 0.0011
Kochi, KOCHI	30	247.8	0.024 ± 0.0015	0.032 ± 0.0014
Dazaifu, FUKUOKA	30	76.2	0.012 ± 0.0013	0.020 ± 0.0012
Saga, SAGA	31	57.5	0.007 ± 0.0009	0.012 ± 0.0010
Nagasaki, NAGASAKI	30	53.0	0.012 ± 0.0006	0.014 ± 0.0012
Kagoshima, KAGOSHIMA	29	101.5	-	0.014 ± 0.0011
Naha, OKINAWA	30	67.5	0.005 ± 0.0005	0.009 ± 0.0009
December, 1976				
Sapporo, HOKKAIDO	34	118.5	0.013 ± 0.0009	0.020 ± 0.0011
Aomori, AOMORI	35	92.0	0.019 ± 0.0011	0.003 ± 0.0001
Sendai, MIYAGI	36	57.6	0.007 ± 0.0008	0.012 ± 0.0010
Akita, AKITA	34	109.5	0.022 ± 0.0012	0.028 ± 0.0013
Yamagata, YAMAGATA	34	126.2	0.009 ± 0.0008	0.002 ± 0.0001
Ohkuma, FUKUSHIMA A	35	17.4	0.004 ± 0.0006	0.004 ± 0.0007
Mito, IBARAKI	35	18.5	0.006 ± 0.0001	0.006 ± 0.0008
Shinjyuku, TOKYO	35	32.6	0.012 ± 0.0009	0.004 ± 0.0007
Yokohama, KANAGAWA	36	43.0	0.007 ± 0.0010	0.010 ± 0.0010
Niigata, NIIGATA	41	198.5	0.019 ± 0.0011	0.033 ± 0.0014
Kanazawa, ISHIKAWA	36	455.0	0.040 ± 0.0021	0.085 ± 0.0023
Fukui, FUKUI	35	349.0	0.023 ± 0.0010	0.042 ± 0.0016
Nagano, NAGANO	35	53.0	0.004 ± 0.0009	0.009 ± 0.0009
Shizuoka, SHIZUOKA	32	119.0	0.007 ± 0.0008	0.019 ± 0.0012
Nagoya, AICHI	36	62.5	0.011 ± 0.0011	0.016 ± 0.0011
Kyoto, KYOTO	34	24.7	0.006 ± 0.0005	0.011 ± 0.0009
Wakayama, WAKAYAMA	36	40.0	0.006 ± 0.0005	0.011 ± 0.0010
Tottori, TOTTORI	36	146.0	0.029 ± 0.0014	0.055 ± 0.0018
Matsue, SHIMANE	36	90.1	0.027 ± 0.0014	0.045 ± 0.0016
Okayama, OKAYAMA	35	34.1	0.003 ± 0.0009	0.043 ± 0.0017
Hiroshima, HIROSHIMA	31	63.9	0.005 ± 0.0007	0.012 ± 0.0010
Yamaguchi, YAMAGUCHI	37	77.5	0.013 ± 0.0012	0.008 ± 0.0009
Kochi, KOCHI	35	48.1	0.019 ± 0.0015	0.003 ± 0.0007
Dazaifu, FUKOKA	36	86.8	0.013 ± 0.0010	0.023 ± 0.0012
Saga, SAGA	27	91.0	0.009 ± 0.0010	0.011 ± 0.0010
Nagasaki, NAGASAKI	34	97.5	0.013 ± 0.0006	0.022 ± 0.0012
Kagoshima, KAGOSHIMA	35	65.5	0.007 ± 0.0005	0.010 ± 0.0009
Naha, OKINAWA	31	57.5	0.004 ± 0.0004	0.009 ± 0.0009
January, 1977				
Sapporo, HOKKAIDO	28	88.0	0.004 ± 0.0006	0.007 ± 0.0009
Aomori, AOMORI	27	215.0	0.013 ± 0.0012	0.018 ± 0.0011

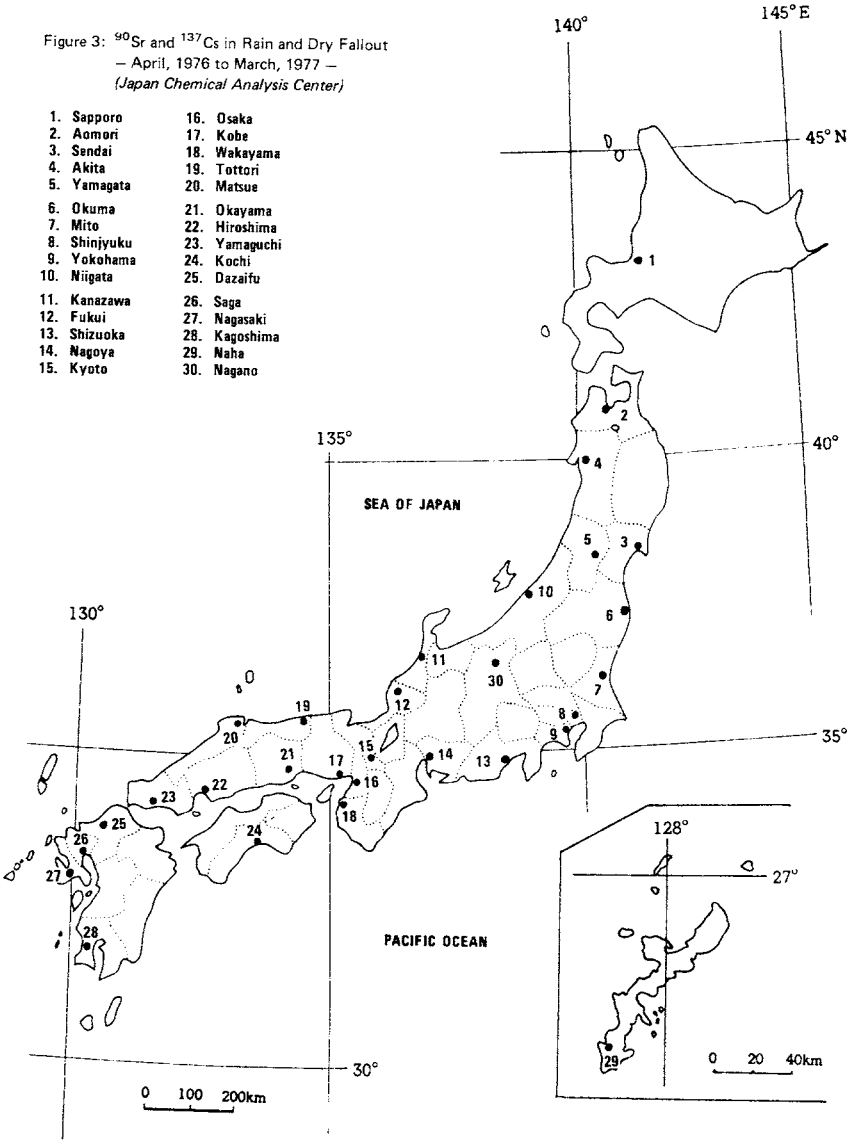
Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Sendai, MIYAGI	28	1.0	0.010 ± 0.0009	0.003 ± 0.0007
Akita, AKITA	28	51.5	0.008 ± 0.0007	0.013 ±0.0010
Yamagata, YAMAGATA	28	28.4	0.005 ± 0.0007	0.001 ± 0.0001
Ohkuma, FUKUSHIMA	29	2.6	0.012 ± 0.0010	0.006 ± 0.0012
Mito, IBARAKI	26	13.0	0.003 ± 0.0004	0.004 ± 0.0007
Shinjyuku, TOKYO	27	21.1	0.010 ± 0.0010	0.004 ± 0.0007
Yokohama, KANAGAWA	27	29.4	0.003 ± 0.0006	0.001 ± 0.0001
Niigata, NIIGATA	25	151.5	0.005 ± 0.0008	0.014 ± 0.0011
Kanazawa, ISHIKAWA	26	220.5	0.023 ± 0.0013	0.004 ± 0.0002
Fukui, FUKUI	28	216.8	0.029 ± 0.0013	0.046 ± 0.0016
Nagano, NAGANO	28	17.0	0.010 ± 0.0005	0.003 ± 0.0007
Shizuoka, SHIZUOKA	33	34.5	0.005 ± 0.0008	0.009 ± 0.0009
Nagoya, AICHI	26	17.5	0.003 ± 0.0004	0.004 ± 0.0008
Osaka, OSAKA	35	56	0.005 ± 0.0008	0.013 ± 0.0010
Kobe, HYOGO	36	56.1	0.007 ± 0.0005	0.013 ± 0.0010
Kyoto, KYOTO	30	57.2	0.004 ± 0.0004	0.005 ± 0.0008
Osaka, OSAKA	27	20.0	0.002 ± 0.0004	0.004 ± 0.0007
Kobe, HYOGO	26	5.0	0.004 ± 0.0004	0.005 ± 0.0008
Wakayama, WAKAYAMA	27	20.5	0.004 ± 0.0004	0.007 ± 0.0008
Tottori, TOTTORI	28	141.8	0.020 ± 0.0012	0.032 ± 0.0015
Matsue, SHIMANE	26	103.4	0.026 ± 0.0008	0.029 ± 0.0013
Okayama, OKAYAMA	27	13.5	0.000 ± 0.0001	0.004 ± 0.0007
Hiroshima, HIROSHIMA	31	7.3	0.002 ± 0.0006	0.004 ± 0.0007
Yamaguchi, YAMAGUCHI	27	13.0	0.006 ± 0.0008	0.008 ± 0.0008
Kochi, KOCHI	27	11.8	0.009 ± 0.0008	0.004 ± 0.0007
Dazaifu, FUKUOKA	26	34.3	0.006 ± 0.0008	0.010 ± 0.0009
Saga, SAGA	35	14.0	0.003 ± 0.0007	0.003 ± 0.0007
Nagasaki, NAGASAKI	28	29.0	0.006 ± 0.0007	0.007 ± 0.0008
Kagoshima, KAGOSHIMA	30	33.0	0.004 ± 0.0007	0.005 ± 0.0016
Naha, OKINAWA	31	144.0	0.007 ± 0.0005	0.013 ± 0.0010
February, 1977				
Sapporo, HOKKAIDO	28	89.0	0.015 ± 0.0009	0.017 ± 0.0011
Aomori, AOMORI	28	192.0	0.018 ± 0.0013	0.020 ± 0.0012
Sendai, MIYAGI	26	7.7	0.014 ± 0.0010	0.007 ± 0.0008
Akita, AKITA	29	90.0	0.025 ± 0.0012	0.032 ± 0.0014
Yamagata, YAMAGATA	27	26.7	0.012 ± 0.0009	0.002 ± 0.0001
Mito, IBARAKI	28	13	0.010 ± 0.0005	0.006 ± 0.0008
Shinjyuku, TOKYO	28	26.2	0.012 ± 0.0010	0.011 ± 0.0010
Yokohama, KANAGAWA	28	16.3	0.011 ± 0.0009	0.001 ± 0.0001
Niigata, NIIGATA	25	117.0	0.016 ± 0.0007	0.023 ± 0.0012
Kanazawa, ISHIKAWA	34	223.0	0.030 ± 0.0009	0.036 ± 0.0015

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Fukui, FUKUI	27	185.5	0.029 ± 0.0016	0.050 ± 0.0020
Nagano, NAGANO	28	25.5	0.013 ± 0.0006	0.010 ± 0.0009
Shizuoka, SHIZUOKA	22	74.5	0.008 ± 0.0009	0.017 ± 0.0010
Nagoya, AICHI	28	18.2	0.014 ± 0.0010	0.010 ± 0.0009
Kyoto, KYOTO	26	38.9	0.013 ± 0.0006	0.011 ± 0.0009
Osaka, OSAKA	28	57.0	0.011 ± 0.0006	0.008 ± 0.0008
Kobe, HYOGO	28	29.0	0.005 ± 0.0007	0.008 ± 0.0009
Wakayama, WAKAYAMA	28	46.0	0.005 ± 0.0008	0.007 ± 0.0009
Tottori, TOTTORI	28	227.5	0.031 ± 0.0009	0.033 ± 0.0014
Matsue, SHIMANE	28	109.0	0.028 ± 0.0009	0.028 ± 0.0013
Okayama, OKYAMA	28	8.5	0.013 ± 0.0009	0.003 ± 0.0007
Hiroshima, HIROSHIMA	28	16.4	0.016 ± 0.0010	0.010 ± 0.0009
Yamaguchi, YAMAGUCHI	27	36.0	0.017 ± 0.0011	0.015 ± 0.0010
Kochi, KOCHI	28	35.9	0.013 ± 0.0009	0.005 ± 0.0008
Dazaifu, FUKUOKA	28	57.3	0.009 ± 0.0009	0.013 ± 0.0096
Saga, SAGA	28	54.0	0.015 ± 0.0010	0.008 ± 0.0008
Nagasaki, NAGASAKI	28	61.5	0.021 ± 0.0011	0.020 ± 0.0011
Kagoshima, KAGOSHIMA	29	94.0	0.019 ± 0.0011	0.008 ± 0.0008
Naha, OKINAWA	28	43.5	0.017 ± 0.0011	0.011 ± 0.0009
March, 1977				
Sapporo, HOKKAIDO	31	77.0	0.022 ± 0.0011	0.023 ± 0.0012
Aomori, AOMORI	31	38.5	0.018 ± 0.0012	0.036 ± 0.0014
Sendai, MIYAGI	31	131.1	0.019 ± 0.0011	0.028 ± 0.0013
Akita, AKITA	31	83.5	0.037 ± 0.0015	0.051 ± 0.0016
Yamagata, YAMAGATA	31	57.3	0.021 ± 0.0012	0.025 ± 0.0012
Fukushima, FUKUSHIMA	36	82.0	0.015 ± 0.0010	0.011 ± 0.0009
Mito, IBARAKI	31	136.5	0.018 ± 0.0011	0.034 ± 0.0014
Shinjyuku, TOKYO	31	164.4	0.040 ± 0.0015	0.052 ± 0.0017
Yokohama, KANAGAWA	31	227.2	0.037 ± 0.0010	0.070 ± 0.0020
Niigata, NIIGATA	32	70.1	0.022 ± 0.0008	0.039 ± 0.0016
Kanazawa, ISHIKAWA	25	115.0	0.033 ± 0.0009	0.038 ± 0.0015
Fukui, FUKUI	31	192.0	0.041 ± 0.0021	0.090 ± 0.0029
Nagano, NAGANO	31	62.0	0.019 ± 0.0011	0.022 ± 0.0012
Shizuoka, SHIZUOKA	33	318.0	0.042 ± 0.0016	0.061 ± 0.0018
Nagoya, AICHI	31	218.2	0.040 ± 0.0016	0.050 ± 0.0016
Kyoto, KYOTO	31	176.4	0.039 ± 0.0010	0.056 ± 0.0017
Osaka, OSAKA	30	158.5	0.035 ± 0.0010	0.047 ± 0.0016
Kobe, HYOGO	37	136.8	0.047 ± 0.0017	0.075 ± 0.0021
Wakayama, WAKAYAMA	30	151.0	0.035 ± 0.0016	0.051 ± 0.0018
Tottori, TOTTORI	32	147.7	0.030 ± 0.0009	0.034 ± 0.0013

Location	Duration (Days)	Precipitation (mm)	^{90}Sr (mCi/km^2)	^{137}Cs (mCi/km^2)
Matsue, SHIMANE	31	130.1	0.030 ± 0.0014	0.041 ± 0.0016
Okayama, OKAYAMA	31	115.8	0.023 ± 0.0012	0.026 ± 0.0012
Hiroshima, HIROSHIMA	31	176.5	0.039 ± 0.0016	0.047 ± 0.0016
Yamaguchi, YAMAGUCHI	30	235.0	0.048 ± 0.0017	0.069 ± 0.0019
Kochi, KOCHI	31	195.9	0.053 ± 0.0018	0.064 ± 0.0018
Dazaifu, FUKUOKA	31	146.8	0.037 ± 0.0015	0.058 ± 0.0019
Saga, SAGA	31	150.0	0.038 ± 0.0015	0.053 ± 0.0017
Nagasaki, NAGASAKI	31	88.5	0.038 ± 0.0015	0.015 ± 0.0011
Kagoshima, KAGOSHIMA	25	281.0	0.024 ± 0.0012	0.014 ± 0.0010
Naha, OKINAWA	31	62.5	0.010 ± 0.0012	0.028 ± 0.0013

Figure 3: ^{90}Sr and ^{137}Cs in Rain and Dry Fallout
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)

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



(3) ^{90}Sr and ^{137}Cs in Air-Borne Dust.

(Japan Chemical Analysis Center)

Under the commission of Science and Technology Agency, Japan Chemical Analysis Center has determined the levels of strontium-90 and cesium-137 in air-borne dust samples collected in 10 prefectures throughout Japan.

Dust samples were collected by the aspiration of 3000m or more air at 1.0 1.5m above the ground surface in 10 prefectural public health laboratories and institutes. The samples collected during three months (the precipitation of about 10,000m air) were combined, and were forwarded to Japan Chemical Analysis Center after carbonization.

These samples were ashed in an electric muffle furnance at Japan Chemical Analysis Center. The ash to which both some carriers and hydrochloric acid were added, was destroyed under heating. The solution was dissolved into hydrochloric acid and filtered, after it was added with nitric acid and heated to dryness. The filtrate was radiochemically analyzed for strontium-90 and cesium-137. Results obtained during the period from April, 1975 to March, 1976 are shown in Table 4.

And sampling locations are shown in Figure 4.

Table 4: ^{90}Sr and ^{137}Cs in Air-Borne Dust
– April, 1976 to March, 1977 –

(Japan Chemical Analysis Center)

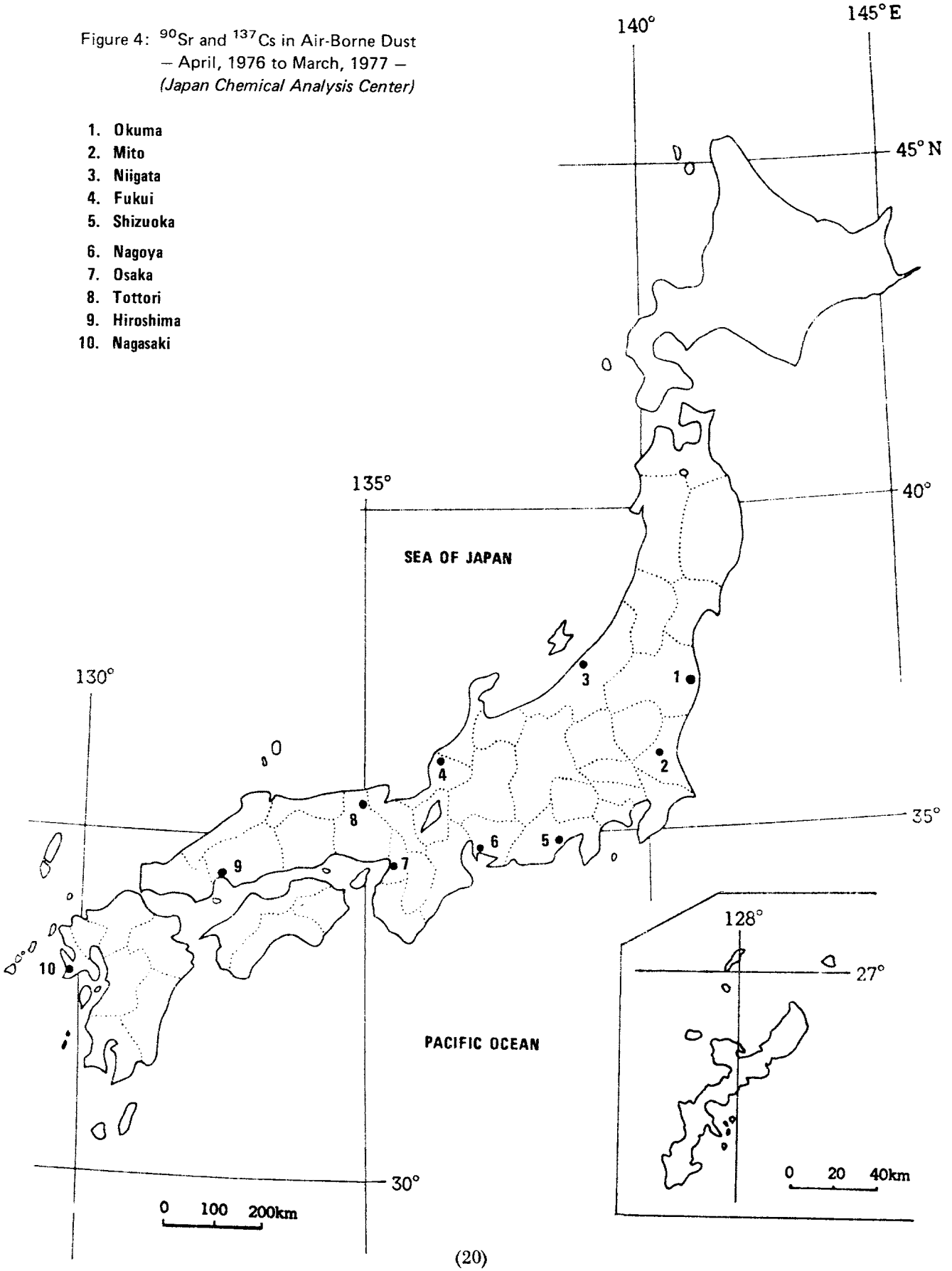
(Continued from Table 2, No. 40 of this publication)

Location	Sampling period	Absorption volume (m^3)	^{90}Sr (10^{-3}pCi/m^3)	^{137}Cs (10^{-3}pCi/m^3)
April ~ June, 1976				
Ohkuma, FUKUSHIMA	5 ~ 6	7,723	0.4 ± 0.05	0.8 ± 0.06
Mito, IBARAKI	4 ~ 6	13,608	0.1 ± 0.02	0.1 ± 0.02
Niigata, NIIGATA	4 ~ 5	10,253.4	0.3 ± 0.04	0.8 ± 0.05
Fukui, FUKUI	4 ~ 6	18,462	0.2 ± 0.02	0.6 ± 0.03
Shizuoka, SHIZUOKA	6	10,039.5	0.03±0.03	1.2 ± 0.05
Nagoya, AICHI	4 ~ 6	16,340	0.4 ± 0.03	0.1 ± 0.01
Osaka, OSAKA	4 ~ 6	7,776	0.3 ± 0.04	0.4 ± 0.04
Tottori, TOTTORI	4 ~ 6	13,156	0.3 ± 0.03	0.6 ± 0.03
Hiroshima, HIROSHIMA	4 ~ 6	10,800	0.03±0.02	0.1 ± 0.02
Nagasaki, NAGASAKI	4 ~ 6	4,800	0.4 ± 0.07	0.7 ± 0.06
July ~ September, 1976				
Ohkuma, FUKUSHIMA	8 ~ 9	7,761	0.2 ± 0.04	0.3 ± 0.04
Mito, IBARAKI	7 ~ 9	12,960	0.1 ± 0.03	0.1 ± 0.02
Niigata, NIIGATA	7 ~ 9	10,242.0	0.1 ± 0.03	0.2 ± 0.03
Fukui, FUKUI	7 ~ 9	17,844	0.1 ± 0.02	0.2 ± 0.02
Shizuoka, SHIZUOKA	9	3,825	0.4 ± 0.08	0.6 ± 0.08
Nagoya, AICHI	7 ~ 9	18,977	0.1 ± 0.02	0.1 ± 0.02
Osaka, OSAKA	7 ~ 9	7,776	0.2 ± 0.04	0.1 ± 0.03
Tottori, TOTTORI	7 ~ 9	13,410	0.1 ± 0.02	0.2 ± 0.02
Hiroshima, HIROSHIMA	7 ~ 9	10,800	0.02±0.03	0.1 ± 0.02
Nagasaki, NAGASAKI	7 ~ 9	6,900	0.2 ± 0.05	0.2 ± 0.03

Location	Sampling period	Absorption volume (m^3)	^{90}Sr (10^{-3} pCi/m^3)	^{137}Cs (10^{-3} pCi/m^3)
October ~ December, 1976				
Ohkuma, FUKUSHIMA	10 ~ 11	6,569	0.8 ± 0.07	0.9 ± 0.06
Mito, IBARAKI	10 ~ 12	35,352	0.2 ± 0.01	0.1 ± 0.01
Niigata, NIIGATA	10 ~ 12	10,800.3	0.3 ± 0.03	1.2 ± 0.05
Fukui, FUKUI	10 ~ 12	21,607	0.3 ± 0.02	0.2 ± 0.02
Shizuoka, SHIZUOKA	10 ~ 12	12,338	0.1 ± 0.03	0.2 ± 0.03
Nagoya, AICHI	11 ~ 12	8,993	0.3 ± 0.04	0.4 ± 0.04
Osaka, OSAKA	10 ~ 12	8,424	0.1 ± 0.03	0.3 ± 0.03
Tottori, TOTTORI	10 ~ 12	12,742	0.3 ± 0.04	0.6 ± 0.03
Hiroshima, HIROSHIMA	10 ~ 12	10,800	0.2 ± 0.03	0.3 ± 0.03
Nagasaki, NAGASAKI	10 ~ 12	4,800	0.2 ± 0.07	0.3 ± 0.05
January ~ March, 1977				
Ohkuma, FUKUSHIMA	1 ~ 3	6,441	0.5 ± 0.04	0.7 ± 0.05
Mito, IBARAKI	1 ~ 3	10,368	0.1 ± 0.02	0.2 ± 0.03
Niigata, NIIGATA	2 ~ 3	9,615.8	0.4 ± 0.03	0.9 ± 0.04
Fukui, FUKUI	1 ~ 3	19,658	0.2 ± 0.01	0.3 ± 0.02
Shizuoka, SHIZUOKA	3	11,014.5	0.1 ± 0.02	0.2 ± 0.03
Nagoya, AICHI	1 ~ 3	19,192	0.2 ± 0.01	0.2 ± 0.02
Osaka, OSAKA	1 ~ 3	8,424	0.2 ± 0.02	0.2 ± 0.03
Tottori, TOTTORI	1 ~ 3	12,223	0.2 ± 0.02	0.3 ± 0.03
Hiroshima, HIROSHIMA	1 ~ 3	10,800	0.1 ± 0.04	0.2 ± 0.03
Nagasaki, NAGASAKI	1 ~ 3	6,600	0.3 ± 0.07	0.4 ± 0.05

Figure 4: ^{90}Sr and ^{137}Cs in Air-Borne Dust
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)

1. Okuma
2. Mito
3. Niigata
4. Fukui
5. Shizuoka
6. Nagoya
7. Osaka
8. Tottori
9. Hiroshima
10. Nagasaki



(4) ^{90}Sr and ^{137}Cs in Service Water.
(Japan Chemical Analysis Center)

Japan Chemical Analysis Center has analyzed the contents of strontium-90 and cesium-137 in service water collected from 32 prefectures in Japan under the commission of Science and Technology Agency.

The service water was divided into following two categories, (1) the source water obtained from the intake of each station of waterworks, and (2) the tap water obtained from the cock of each house or building. At each prefectural public health laboratory or institute, 100 liters of sample water were filtrated with large filter papers after addition and mixture of both some carriers. The filtration was then applied on a column filled the sodium cation exchange resin, and all the cations were absorbed on it. These resin and filter papers were collected at Japan Chemical Analysis Center.

At Japan Chemical Analysis Center, these collected samples analyzed radiochemically for strontium-90 and cesium-137 using the method applied for the analysis of rain and dry fallout materials. Results obtained during the period from April, 1976 to March, 1977 are shown in Table 5.

And sampling locations are shown in Figure 5.

Table 5: ^{90}Sr and ^{137}Cs in Service Water
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)
(Continued from Table 3, No. 43 of this publication)

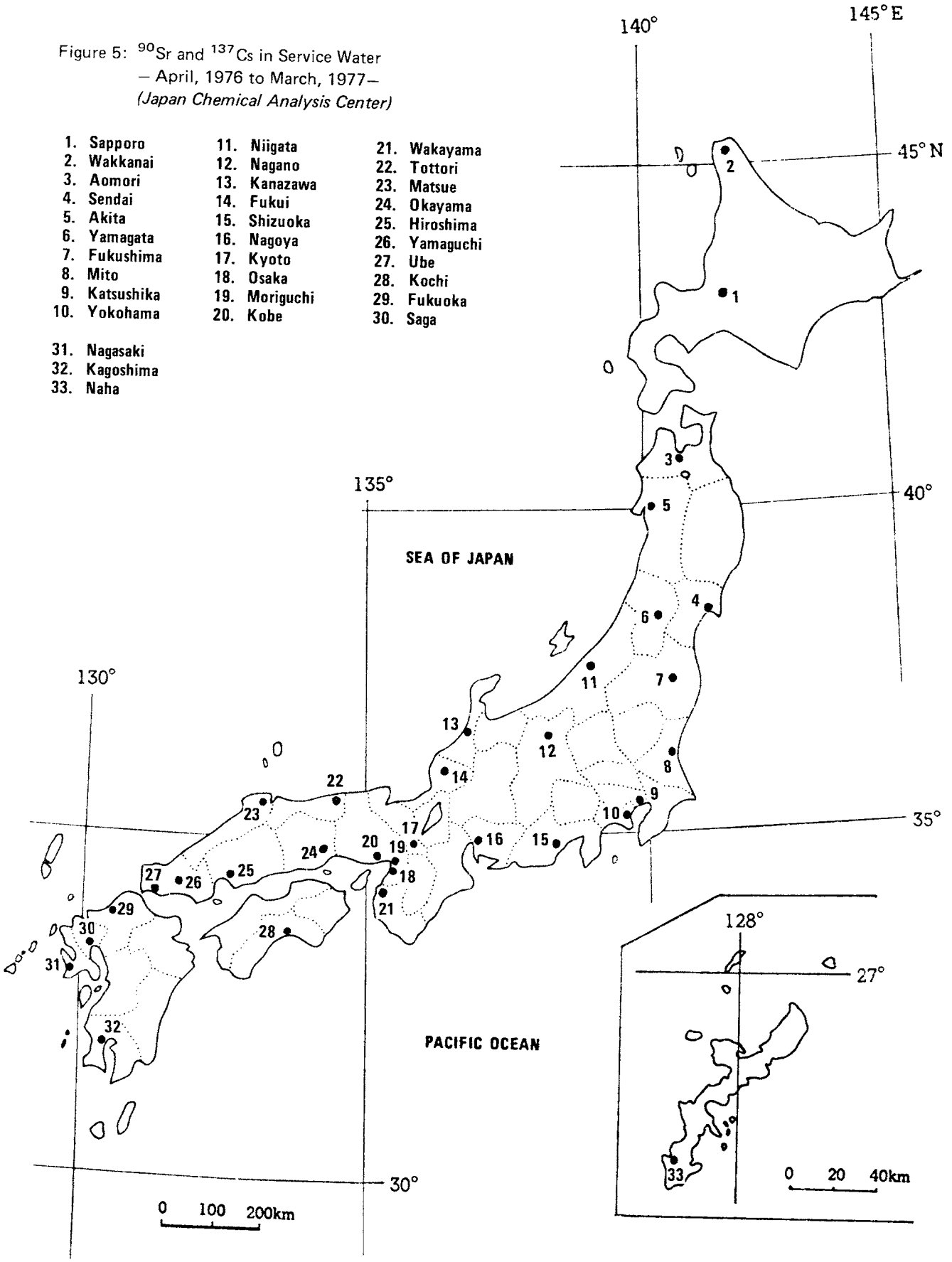
Location	pH	^{90}Sr (pCi/ℓ)	^{137}Cs (pCi/ℓ)
SOURCE WATER			
June, 1976			
Sapporo, HOKKAIDO	7.1	0.08 ± 0.003	0.01 ± 0.003
Katsushika, TOKYO	6.8	0.11 ± 0.005	0.03 ± 0.004
Nagoya, AICHI	6.8	0.09 ± 0.003	0.01 ± 0.003
Moriguchi, OSAKA	7.0	0.23 ± 0.008	0.01 ± 0.003
Fukuoka, FUKUOKA	6.8	0.10 ± 0.006	0.01 ± 0.003
July, 1976			
Yokohama, KANAGAWA	7.2	0.02 ± 0.002	0.001±0.003
Kyoto, KYOTO	8.7	0.31 ± 0.006	0.02 ± 0.003
December, 1976			
Katsushika, TOKYO	6.9	0.08 ± 0.008	0.02 ± 0.004
Yokohama, KANAGAWA	7.2	0.02 ± 0.003	0.002±0.003
Nagoya, AICHI	6.9	0.10 ± 0.005	0.01 ± 0.003
Kyoto, KYOTO	7.4	0.30 ± 0.009	0.01 ± 0.003
Moriguchi, OSAKA	6.2	0.24 ± 0.010	0.02 ± 0.004
January, 1977			
Wakkanai, HOKKAIDO	6.8	0.11 ± 0.007	0.01 ± 0.003

Location	pH	$\frac{^{90}Sr}{(pCi/\ell)}$	$\frac{^{137}Cs}{(pCi/\ell)}$
TAP WATER			
June, 1976			
Wakkanai, HOKKAIDO	6.4	0.35 ± 0.011	0.02 ± 0.004
Aomori, AOMORI	7.2	0.05 ± 0.003	0.02 ± 0.005
Sendai, MIYAGI	7.6	0.09 ± 0.003	0.01 ± 0.003
Yamagata, YAMAGATA	6.4	0.10 ± 0.004	0.02 ± 0.003
Fukushima, FUKUSHIMA	–	0.11 ± 0.006	0.004±0.003
Katsushika, TOKYO	6.8	0.10 ± 0.005	0.02 ± 0.004
Yokohama, KANAGAWA	7.2	0.03 ± 0.002	0.001±0.003
Niigata, NIIGATA	6.8	0.17 ± 0.005	0.01 ± 0.003
Kanazawa, ISHIKAWA	7.2	0.12 ± 0.004	0.01 ± 0.003
Fukui, FUKUI	7.0	0.01 ± 0.002	0.003±0.003
Nagoya, AICHI	6.6	0.09 ± 0.006	0.003±0.003
Osaka, OSAKA	6.8	0.15 ± 0.007	0.001±0.003
Kobe, HYOGO	7.5	0.22 ± 0.005	0.01 ± 0.005
Wakayama, WAKAYAMA	7.1	0.08 ± 0.003	0.000±0.003
Tottori, TOTTORI	6.4	0.09 ± 0.003	0.000±0.002
Matsue, SHIMANE	7.0	0.21 ± 0.005	0.02 ± 0.003
Okayama, OKAYAMA	7.0	0.03 ± 0.002	0.02 ± 0.005
Ube, YAMAGUCHI	7.0	0.12 ± 0.006	0.00 ± 0.003
Kochi, KOCHI	7.4	0.07 ± 0.003	0.01 ± 0.003
Fukuoka, FUKUOKA	7.3	0.10 ± 0.006	0.01 ± 0.003
Saga, SAGA	7.1	0.08 ± 0.006	0.002±0.003
Naha, OKINAWA	7.5	0.08 ± 0.006	0.004±0.003
Kagoshima, KAGOSHIMA	6.8	0.01 ± 0.002	0.01 ± 0.003
July, 1976			
Kyoto, KYOTO	7.4	0.31 ± 0.006	0.01 ± 0.003
August, 1976			
Nagano, NAGANO	7.5	0.04 ± 0.004	0.004±0.003
Shizuoka, SHIZUOKA	6.7	0.004±0.003	0.000±0.003
September, 1976			
Hiroshima, HIROSHIMA	7.0	0.11 ± 0.006	0.01 ± 0.003
October, 1976			
Mito, IBARAKI	7.0	0.06 ± 0.005	0.01 ± 0.003
November, 1976			
Fukushima, FUKUSHIMA	–	0.13 ± 0.007	0.004±0.003
Nagasaki, NAGASAKI	7.4	0.11 ± 0.007	0.01 ± 0.005

Location	pH	^{90}Sr (pCi/ℓ)	^{137}Cs (pCi/ℓ)
December, 1976			
Wakkanai, HOKKAIDO	6.3	0.51 ± 0.013	0.02 ± 0.004
Aomori, AOMORI	7.2	0.06 ± 0.005	0.01 ± 0.005
Sendai, MIYAGI	–	0.10 ± 0.006	0.004±0.003
Akita, AKITA	6.9	0.18 ± 0.007	0.01 ± 0.003
Yamagata, YAMAGATA	5.9	0.08 ± 0.005	0.01 ± 0.003
Katsushika, TOKYO	6.6	0.04 ± 0.007	0.01 ± 0.003
Niigata, NIIGATA	7.4	0.16 ± 0.007	0.01 ± 0.003
Fukui, FUKUI	7.1	0.05 ± 0.004	0.01 ± 0.003
Kanazawa, ISHIKAWA	7.1	0.13 ± 0.007	0.01 ± 0.003
Shizuoka, SHIZUOKA	6.7	0.01 ± 0.003	0.01 ± 0.003
Nagoya, AICHI	6.9	0.11 ± 0.006	0.01 ± 0.003
Kyoto, KYOTO	6.9	0.29 ± 0.010	0.01 ± 0.003
Osaka, OSAKA	6.7	0.13 ± 0.006	0.003±0.003
Tottori, TOTTORI	6.4	0.08 ± 0.005	0.00 ± 0.003
Matsue, SHIMANE	7.1	0.12 ± 0.004	0.001±0.003
Yamaguchi, YAMAGUCHI	–	0.06 ± 0.005	0.004±0.003
Kochi, KOCHI	7.5	0.04 ± 0.004	0.003±0.004
Okayama, OKAYAMA	6.7	0.02 ± 0.004	0.001±0.003
Saga, SAGA	7.3	0.07 ± 0.003	0.004±0.003
January, 1977			
Mito, IBARAKI	6.7	0.04 ± 0.004	0.004±0.003
Yokohama, KANAGAWA	6.9	0.02 ± 0.003	0.001±0.003
Nagano, NAGANO	7.2	0.03 ± 0.004	0.005±0.003
Kobe, HYOGO	7.0	0.21 ± 0.005	0.004±0.003
Hiroshima, HIROSHIMA	7.0	0.11 ± 0.004	0.001±0.003
Naha, OKINAWA	7.9	0.21 ± 0.005	0.000±0.003
February, 1977			
Fukuoka, FUKUOKA	7.0	0.14 ± 0.004	0.01 ±0.003
March, 1977			
Wakayama, WAKAYAMA	7.2	0.10 ± 0.004	0.004±0.003
Nagasaki, NAGASAKI	7.2	0.09 ± 0.006	0.01 ±0.003
Kagoshima, KAGOSHIMA	6.7	0.06 ± 0.005	0.01 ±0.003

Figure 5: ^{90}Sr and ^{137}Cs in Service Water
– April, 1976 to March, 1977–
(Japan Chemical Analysis Center)

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



DIETARY DATA

(1) ^{90}Sr and ^{137}Cs in Total Diet

(Japan Chemical Analysis Center)

Under the commission of Science and Technology Agency, Japan Chemical Analysis Center has analyzed total diet samples collected from 30 prefectures, and determined the content of strontium-90 and cesium-137 in these samples.

Each prefectural public health laboratory and institute have collected 2 times a year all the daily regular diet consumed for five persons, namely three meals and other eating between meals. These samples were collected at Japan Chemical Analysis Center after carbonation without smoke rising.

At Japan Chemical Analysis Center, these samples were ashed in an electric muffle furnance. And the ash to which both some carriers and hydrochloric acid were added, was destroyed under heating. The nuclides were dissolved into hydrochloric acid and filtrated, after it was added with nitric acid and heated to dryness. The filtrate was radiochemically analyzed for strontium-90 and cesium-137.

Results obtained during the period from April, 1976 to March, 1977 are shown in Table 6.

And sampling locations are shown in Figure 6.

Table 6: ^{90}Sr and ^{137}Cs in Total Diet
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)
(Continued from Table 4, No. 43 of this publication)

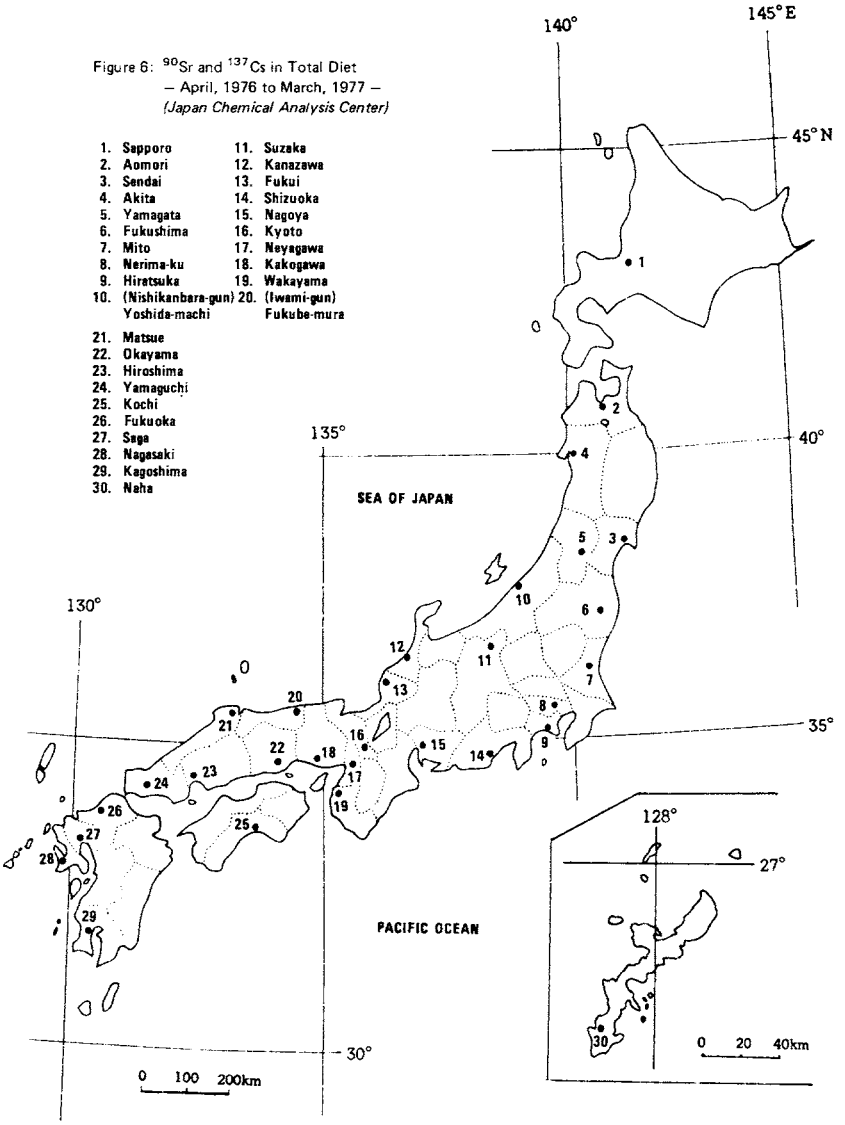
Location	Ash (g/p/d)	Ca (mg/p/d)	K (mg/p/d)	^{90}Sr pCi/p/d	^{90}Sr S.U.	^{137}Cs pCi/p/d	^{137}Cs C.U.
June, 1976							
Aomori, AOMORI	24.1	1330	2310	10 ± 0.6	7.5 ± 0.45	8.4 ± 0.52	3.6 ± 0.23
Sendai, MIYAGI	16.0	320	1370	2.9 ± 0.36	9.1 ± 1.1	2.5 ± 0.26	1.8 ± 0.19
Akita, AKITA	17.2	550	1540	7.4 ± 0.51	13 ± 0.9	6.8 ± 0.40	4.4 ± 0.26
Yamagata, YAMAGATA	28.3	820	2970	14 ± 0.8	17 ± 1.0	23 ± 0.9	7.7 ± 0.30
Fukushima, FUKUSHIMA	18.2	610	1760	4.6 ± 0.39	7.5 ± 0.63	2.4 ± 0.28	1.4 ± 0.16
Nerima-ku, TOKYO	18.9	510	1640	2.1 ± 0.36	4.1 ± 0.71	5.3 ± 0.39	3.2 ± 0.24
Nishikanbara-gun, NIIGATA	27.5	630	3080	4.8 ± 0.52	7.6 ± 0.82	6.3 ± 0.50	2.0 ± 0.16
Kanazawa, ISHIKAWA	18.2	460	1980	2.9 ± 0.34	6.4 ± 0.75	6.2 ± 0.39	3.1 ± 0.20
Fukui, FUKUI	17.0	730	1870	3.6 ± 0.35	4.9 ± 0.48	3.8 ± 0.32	2.1 ±0. 17
Shizuoka, SHIZUOKA	16.9	520	1980	3.0 ± 0.31	5.7 ± 0.60	5.0 ± 0.33	2.5 ± 0.17
Kyoto, KYOTO	15.2	550	1940	2.9 ± 0.30	5.3 ± 0.55	5.5 ± 0.41	2.9 ± 0.21
Neyagawa, OSAKA	20.3	680	2930	4.3 ± 0.40	6.4 ± 0.59	5.5 ± 0.40	1.9 ± 0.14
Kakogawa, HYOGO	17.7	570	2160	2.8 ± 0.37	4.9 ± 0.64	2.9 ± 0.29	1.3 ± 0.13
Iwami-gun, TOTTORI	18.3	360	1750	4.6 ± 0.46	13 ± 1.3	4.4 ± 0.36	2.5 ± 0.21
Okayama, OKAYAMA	19.6	510	1870	3.4 ± 0.41	6.7 ± 0.80	3.4 ± 0.34	1.8 ± 0.18
Yamaguchi, YAMAGUCHI	16.9	350	2060	2.3 ± 0.32	6.7 ± 0.92	3.5 ± 0.31	1.7 ± 0.15
Kochi, KOCHI	17.9	440	1730	4.2 ± 0.45	9.5 ± 1.0	5.1 ± 0.46	2.9 ± 0.26
Fukuoka, FUKUOKA	20.0	720	2660	4.0 ± 0.42	5.5 ± 0.58	6.3 ± 0.41	2.4 ± 0.15
Saga, SAGA	16.7	660	1730	2.2 ± 0.29	3.4 ± 0.44	3.8 ± 0.32	2.2 ± 0.19

Location	Ash (g/p/d)	Ca (mg/p/d)	K (mg/p/d)	^{90}Sr pCi/p/d	^{90}Sr S.U.	^{137}Cs pCi/p/d	^{137}Cs C.U.
July, 1976							
Sapporo, HOKKAIDO	15.4	360	1800	3.3 ± 0.30	9.3 ± 0.85	3.7 ± 0.29	2.1 ± 0.16
Mito, IBARAKI	18.1	480	1710	3.0 ± 0.38	6.3 ± 0.79	3.4 ± 0.32	20 ± 0.19
Hiratsuka, KANAGAWA	19.8	290	1370	2.1 ± 0.38	7.5 ± 1.3	7.3 ± 0.50	5.3 ± 0.37
Matsue, SHIMANE	15.7	550	2010	4.7 ± 0.37	8.6 ± 0.68	4.7 ± 0.32	2.4 ± 0.16
Hiroshima, HIROSHIMA	12.6	370	1260	3.1 ± 0.29	8.3 ± 0.77	2.3 ± 0.21	1.8 ± 0.17
Kagoshima, KAGOSHIMA	15.8	470	2240	3.2 ± 0.33	6.9 ± 0.70	6.7 ± 0.37	3.0 ± 0.17
Nagasaki, NAGASAKI	15.9	830	1750	3.5 ± 0.46	4.2 ± 0.55	2.3 ± 0.23	1.3 ± 0.13
September, 1976							
Suzaka, NAGANO	18.3	680	2240	3.2 ± 0.35	4.7 ± 0.51	5.0 ± 0.36	2.2 ± 0.16
October, 1976							
Nagoya, AICHI	16.5	450	1980	3.9 ± 0.35	8.7 ± 0.79	6.9 ± 0.37	3.5 ± 0.19
November, 1976							
Yamagata, YAMAGATA	25.3	690	2890	7.3 ± 0.53	11 ± 0.8	8.0 ± 0.50	2.8 ± 0.17
Kanazawa, ISHIKAWA	18.8	450	1730	4.8 ± 0.41	11 ± 0.9	5.2 ± 0.36	3.0 ± 0.21
Neyagawa, OSAKA	20.1	780	2410	6.1 ± 0.46	7.8 ± 0.57	4.5 ± 0.36	1.9 ± 0.15
Okayama, OKAYAMA	15.9	410	1880	4.2 ± 0.34	10 ± 0.8	2.9 ± 0.28	1.5 ± 0.15
Kochi, KOCHI	14.7	660	1720	5.2 ± 0.37	7.8 ± 0.47	7.2 ± 0.36	4.2 ± 0.21
Fukuoka, FUKUOKA	17.8	1000	1920	3.6 ± 0.35	3.5 ± 0.35	5.5 ± 0.35	2.8 ± 0.18
Sendai, MIYAGI	15.5	400	1600	3.0 ± 0.23	7.4 ± 0.57	3.3 ± 0.24	2.1 ± 0.15
Fukushima, FUKUSHIMA	15.5	900	1700	4.6 ± 0.41	5.1 ± 0.45	3.2 ± 0.24	1.9 ± 0.14
Nishikanbara-gun, NIIGATA	25.3	880	3170	7.7 ± 0.62	8.7 ± 0.70	3.8 ± 0.36	1.2 ± 0.11
Fukui, FUKUI	15.9	450	1630	3.6 ± 0.35	7.9 ± 0.77	3.0 ± 0.25	1.9 ± 0.15
Shizuoka, SHIZUOKA	18.8	850	2100	5.0 ± 0.47	5.8 ± 0.55	4.0 ± 0.30	1.9 ± 0.14
Iwami-gun, TOTTORI	16.5	510	1730	5.2 ± 0.26	10 ± 0.5	2.6 ± 0.25	1.5 ± 0.14
Saga, SAGA	18.1	1030	1560	3.4 ± 0.40	3.3 ± 0.39	1.8 ± 0.23	1.1 ± 0.15
Naha, OKINAWA	15.9	480	1490	2.8 ± 0.37	5.8 ± 0.76	2.1 ± 0.22	1.4 ± 0.15
December, 1976							
Aomori, AOMORI	19.4	510	2520	5.9 ± 0.47	12 ± 0.9	4.4 ± 0.32	1.7 ± 0.13
Akita, AKITA	19.7	660	2350	4.8 ± 0.48	7.2 ± 0.72	8.6 ± 0.41	3.7 ± 0.17
Mito, IBARAKI	15.6	560	1690	3.4 ± 0.37	6.1 ± 0.67	2.8 ± 0.24	1.7 ± 0.14
Meguro-ku, TOKYO	16.0	640	1920	2.6 ± 0.35	4.1 ± 0.54	3.4 ± 0.26	1.8 ± 0.14
Hiratsuka, KANAGAWA	16.9	650	2290	4.1 ± 0.34	6.4 ± 0.53	5.3 ± 0.34	2.3 ± 0.15
Nagoya, AICHI	15.9	830	2130	4.2 ± 0.22	5.1 ± 0.27	3.4 ± 0.26	1.6 ± 0.12
Kyoto, KYOTO	14.7	720	1990	4.9 ± 0.29	6.9 ± 0.40	5.0 ± 0.28	2.5 ± 0.14
Kakogawa, HYOGO	15.4	650	1920	3.8 ± 0.23	5.8 ± 0.35	3.2 ± 0.24	1.7 ± 0.13
Wakayama, WAKAYAMA	23.9	2180	2360	12 ± 0.4	5.4 ± 0.20	2.9 ± 0.32	1.2 ± 0.14
Matsue, SHIMANE	10.5	390	1120	3.0 ± 0.16	7.7 ± 0.41	2.1 ± 0.17	1.9 ± 0.15
Hiroshima, HIROSHIMA	14.1	490	1550	3.1 ± 0.23	6.2 ± 0.47	2.0 ± 0.21	1.3 ± 0.13
Yamaguchi, YAMAGUCHI	13.1	670	1370	3.8 ± 0.20	5.6 ± 0.29	2.0 ± 0.19	1.5 ± 0.14

Location	Ash (g/p/d)	Ca (mg/p/d)	K (mg/p/d)	^{90}Sr pCi/p/d	^{90}Sr S.U.	^{137}Cs pCi/p/d	^{137}Cs C.U.
Nagasaki, NAGASAKI	14.0	570	1570	3.0 ± 0.33	5.2 ± 0.58	3.1 ± 0.23	2.0 ± 0.15
Kagoshima, KAGOSHIMA	16.6	530	2130	6.2 ± 0.48	12 ± 0.89	5.5 ± 0.31	2.6 ± 0.15
January, 1977							
Sapporo, HOKKAIDO	17.9	800	2020	4.2 ± 0.40	5.2 ± 0.50	7.4 ± 0.37	3.7 ± 0.18
February, 1977							
Nagano, NAGANO	17.2	640	1790	2.1 ± 0.36	3.4 ± 0.56	3.1 ± 0.26	1.7 ± 0.14
Wakayama, WAKAYAMA	22.1	1050	2400	6.3 ± 0.57	6.1 ± 0.54	2.5 ± 0.29	1.1 ± 0.12
March, 1977							
Naha, OKINAWA	13.2	600	1800	2.5 ± 0.16	4.1 ± 0.27	2.4 ± 0.20	1.3 ± 0.11

Figure 6: ^{90}Sr and ^{137}Cs in Total Diet
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)

1. Sapporo
2. Aomori
3. Sendai
4. Akita
5. Yamagata
6. Fukushima
7. Mito
8. Nerima-ku
9. Hiratsuka
10. (Nishikanbara-gun) Yoshida-machi
11. Suzaka
12. Kanazawa
13. Fukui
14. Shizuoka
15. Nagoya
16. Kyoto
17. Neyagawa
18. Kakogawa
19. Wakayama
20. (Iwami-gun) Fukube-mura
21. Matsue
22. Okayama
23. Hiroshima
24. Yamaguchi
25. Kochi
26. Fukuoka
27. Saga
28. Nagasaki
29. Kagoshima
30. Naha



(2) ^{90}Sr and ^{137}Cs in Milk.

(Japan Chemical Analysis Center)

Under the commission of Science and Technology Agency, Japan Chemical Analysis Center has measured the levels of strontium-90 and cesium-137 in milk samples collected in 29 prefectures throughout Japan.

Collected samples were the raw milk and the city ones for the producing districts and the consuming districts, respectively. These samples have been collected 2 times a year (for the report to WHO, 4 times of raw milk a year). Three liters of fresh milk were carbonated in each prefectural public health laboratory and institute, and the carbonated samples were collected to Japan Chemical Analysis Center.

At Japan Chemical Analysis Center, these collected samples analyzed radiochemically for strontium-90 and cesium-137 using the method applied for the analysis of total diet.

Results obtained during the period from April, 1976 to March, 1977 are shown in Tables 7 and 8.

And sampling locations are shown in Figure 7.

Table 7: ^{90}Sr and ^{137}Cs in Milk (Production)

– April, 1976 to March, 1977 –

(Continued from Table 5, No. 43 of this publication)

Location	Component			^{90}Sr		^{137}Cs	
	Ash (g/ℓ)	Ca (g/ℓ)	K (g/ℓ)	pCi/ℓ	S.U.	pCi/ℓ	C.U.
May, 1976							
Hachijyo, TOKYO	7.98	1.25	1.82	5.3 ± 0.38	4.2 ± 0.30	74 ± 1.1	41 ± 0.6
Yagumo (Yatsuka-gun), SHIMANE	7.10	0.92	1.81	1.2 ± 0.23	1.3 ± 0.25	5.9 ± 0.35	3.2 ± 0.19
Kochi, KOCHI	7.04	1.07	1.65	1.9 ± 0.25	1.8 ± 0.23	2.3 ± 0.23	1.4 ± 0.14
Koga (Kasuya-gun), FUKUOKA	7.40	1.04	1.64	1.5 ± 0.24	1.5 ± 0.23	4.0 ± 0.30	2.4 ± 0.18
June, 1976							
Sapporo, HOKKAIDO	7.49	1.18	1.82	2.2 ± 0.27	1.9 ± 0.23	7.5± 0.41	4.1 ± 0.23
Nishikawa (Nishikanbara-gun), NIIGATA	5.83	0.85	1.30	2.3 ± 0.22	2.7 ± 0.27	3.1 ± 0.23	2.4 ± 0.18
Katsuyama, FUKUI	7.29	0.94	2.01	2.6 ± 0.27	2.8 ± 0.29	7.6 ± 0.38	3.8 ± 0.19
Shobara, HIROSHIMA	7.37	1.00	1.65	0.7 ± 0.21	0.7 ± 0.21	2.4 ± 0.25	1.5 ± 0.15
Yamato (Saga-gun), SAGA	6.88	0.95	1.50	1.3 ± 0.21	1.3 ± 0.23	2.1 ± 0.22	1.4 ± 0.15
Kajiki (Aira-gun), KAGOSHIMA	7.08	1.05	1.60	3.0 ± 0.28	2.9 ± 0.27	5.1 ± 0.32	3.2 ± 0.20
July, 1976							
Nose (Toyono-gun), OSAKA	6.93	0.98	1.59	1.9 ± 0.25	2.0 ± 0.25	2.4 ± 0.25	1.5 ± 0.16
Yagumo (Yatsuka-gun), SHIMANE	6.42	0.98	1.52	1.9 ± 0.24	2.0 ± 0.25	3.9 ± 0.27	2.6 ± 0.18
August, 1976							
Sapporo, HOKKAIDO	7.27	1.16	1.66	2.6 ± 0.27	2.3 ± 0.24	3.5 ± 0.27	2.1 ± 0.16
Aomori, AOMORI	7.21	0.94	1.71	15 ± 0.5	16 ± 0.6	22 ± 0.6	13 ± 0.3
Hachijyo, TOKYO	7.55	1.03	2.08	4.5 ± 0.34	4.3 ± 0.33	36 ± 0.7	17 ± 0.4
Nishikawa (Nishikanbara-gun), NIIGATA	6.48	0.95	2.24	1.4 ± 0.21	1.5 ± 0.23	2.6 ± 0.23	1.2 ± 0.10
Katsuyama, FUKUI	6.77	1.01	1.63	4.7 ± 0.33	4.7 ± 0.33	4.6 ± 0.28	2.8 ± 0.17

Location	Component			^{90}Sr		^{137}Cs	
	Ash (g/ℓ)	Ca (g/ℓ)	K (g/ℓ)	pCi/ℓ	S.U.	pCi/ℓ	C.U.
Nose (Toyono-gun), OSAKA	6.97	1.06	1.51	2.2 ± 0.25	2.0 ± 0.24	2.2 ± 0.22	1.5 ± 0.15
Akashi, HYOGO	6.67	0.91	1.67	0.6 ± 0.17	0.6 ± 0.19	1.1 ± 0.18	0.7 ± 0.11
Shobara, HIROSHIMA	7.11	1.03	1.67	1.7 ± 0.25	1.6 ± 0.24	1.6 ± 0.21	1.0 ± 0.13
Kochi, KOCHI	7.21	1.19	1.54	4.2 ± 0.32	3.5 ± 0.27	1.3 ± 0.20	0.8 ± 0.13
Koga (Kasuya-gun), FUKUOKA	8.90	1.21	1.93	1.8 ± 0.31	1.5 ± 0.26	2.8 ± 0.31	1.5 ± 0.16
Oshimizu (Hakui-gun), ISHIKAWA	7.76	1.01	1.90	2.5 ± 0.18	2.4 ± 0.18	2.4 ± 0.23	1.3 ± 0.12
September, 1976							
Kajiki (Aira-gun), KAGOSHIMA	6.98	1.02	1.58	3.1 ± 0.30	3.0 ± 0.29	11 ± 0.4	6.7 ± 0.28
November, 1976							
Sapporo, HOKKAIDO	7.94	1.41	1.64	3.8 ± 0.34	2.7 ± 0.24	11 ± 0.4	6.9 ± 0.26
Hachijo, TOKYO	7.48	1.08	1.79	6.6 ± 0.40	6.1 ± 0.37	51 ± 0.9	29 ± 0.5
Nishikawa (Nishikanbara-gun), NIIGATA	7.00	0.99	1.69	1.9 ± 0.26	1.9 ± 0.26	3.7 ± 0.27	2.2 ± 0.16
Nose (Toyono-gun), OSAKA	7.20	1.13	1.63	1.2 ± 0.23	1.0 ± 0.20	2.1 ± 0.24	1.3 ± 0.15
Shobara, HIROSHIMA	7.22	1.09	1.68	1.6 ± 0.24	1.4 ± 0.22	2.4 ± 0.25	1.4 ± 0.15
Kanda, KOCHI	7.53	1.04	1.67	1.2 ± 0.24	1.2 ± 0.23	1.5 ± 0.23	0.9 ± 0.14
Koga (Kasuya-gun), FUKUOKA	7.42	1.11	1.54	1.2 ± 0.23	1.1 ± 0.20	1.8 ± 0.22	1.2 ± 0.14
Kajiki (Aira-gun), KAGOSHIMA	7.02	1.09	1.56	2.2 ± 0.26	2.0 ± 0.24	7.0 ± 0.34	4.5 ± 0.22
December, 1976							
Sapporo, HOKKAIDO	7.72	1.33	1.68	2.9 ± 0.36	2.2 ± 0.27	8.9 ± 0.44	5.3 ± 0.26
Katsuyama, FUKUI	7.40	1.10	1.72	3.7 ± 0.33	3.4 ± 0.30	4.2 ± 0.29	2.4 ± 0.17
Yagumo (Yatsuka-gun), SHIMANE	7.58	1.04	1.64	2.6 ± 0.28	2.5 ± 0.27	3.5 ± 0.28	2.2 ± 0.17
Yamato (Saga-gun), SAGA	6.92	0.95	1.36	1.2 ± 0.25	1.3 ± 0.26	1.9 ± 0.19	1.4 ± 0.14
January, 1977							
Nose (Toyono-gun), OSAKA	7.30	1.08	1.48	1.7 ± 0.25	1.6 ± 0.23	1.7 ± 0.21	1.1 ± 0.14
Yagumo (Yatsuka-gun), SHIMANE	7.38	0.90	1.45	2.1 ± 0.27	2.3 ± 0.30	3.5 ± 0.27	2.4 ± 0.18
February, 1977							
Aomori, AOMORI	7.20	1.09	1.53	5.4 ± 0.36	5.0 ± 0.33	7.8 ± 0.35	5.1 ± 0.23
Hachijo, TOKYO	7.40	0.94	1.50	2.6 ± 0.17	2.8 ± 0.18	48 ± 0.8	32 ± 0.5
Nishikawa (Nishikanbara-gun), NIIGATA	6.89	0.99	1.52	1.0 ± 0.20	1.0 ± 0.21	2.2 ± 0.21	1.4 ± 0.14
Oshimizu, ISHIKAWA	7.53	1.16	1.69	2.8 ± 0.18	2.4 ± 0.16	4.0 ± 0.27	2.4 ± 0.16
Katsuyama, FUKUI	7.49	1.15	1.49	4.4 ± 0.34	3.8 ± 0.30	3.9 ± 0.27	2.6 ± 0.18
Akashi, HYOGO	6.47	0.93	1.26	1.1 ± 0.22	1.2 ± 0.24	0.7 ± 0.16	0.5 ± 0.12
Shobara, HIROSHIMA	6.85	0.92	1.62	0.8 ± 0.20	0.8 ± 0.22	1.6 ± 0.19	1.0 ± 0.12
Kochi, KOCHI	7.30	1.12	1.45	4.2 ± 0.33	3.8 ± 0.30	1.7 ± 0.20	1.2 ± 0.14
Koga (Kasuya-gun), FUKUOKA	7.19	1.06	1.50	1.6 ± 0.23	1.5 ± 0.22	2.5 ± 0.23	1.7 ± 0.15
March, 1977							
Kajiki (Aira-gun), KAGOSHIMA	7.25	1.11	1.55	2.8 ± 0.29	2.5 ± 0.26	6.0 ± 0.35	3.9 ± 0.22

Table 8: ^{90}Sr and ^{137}Cs in Milk (Comsumption)

-- April, 1976 to March, 1977 --

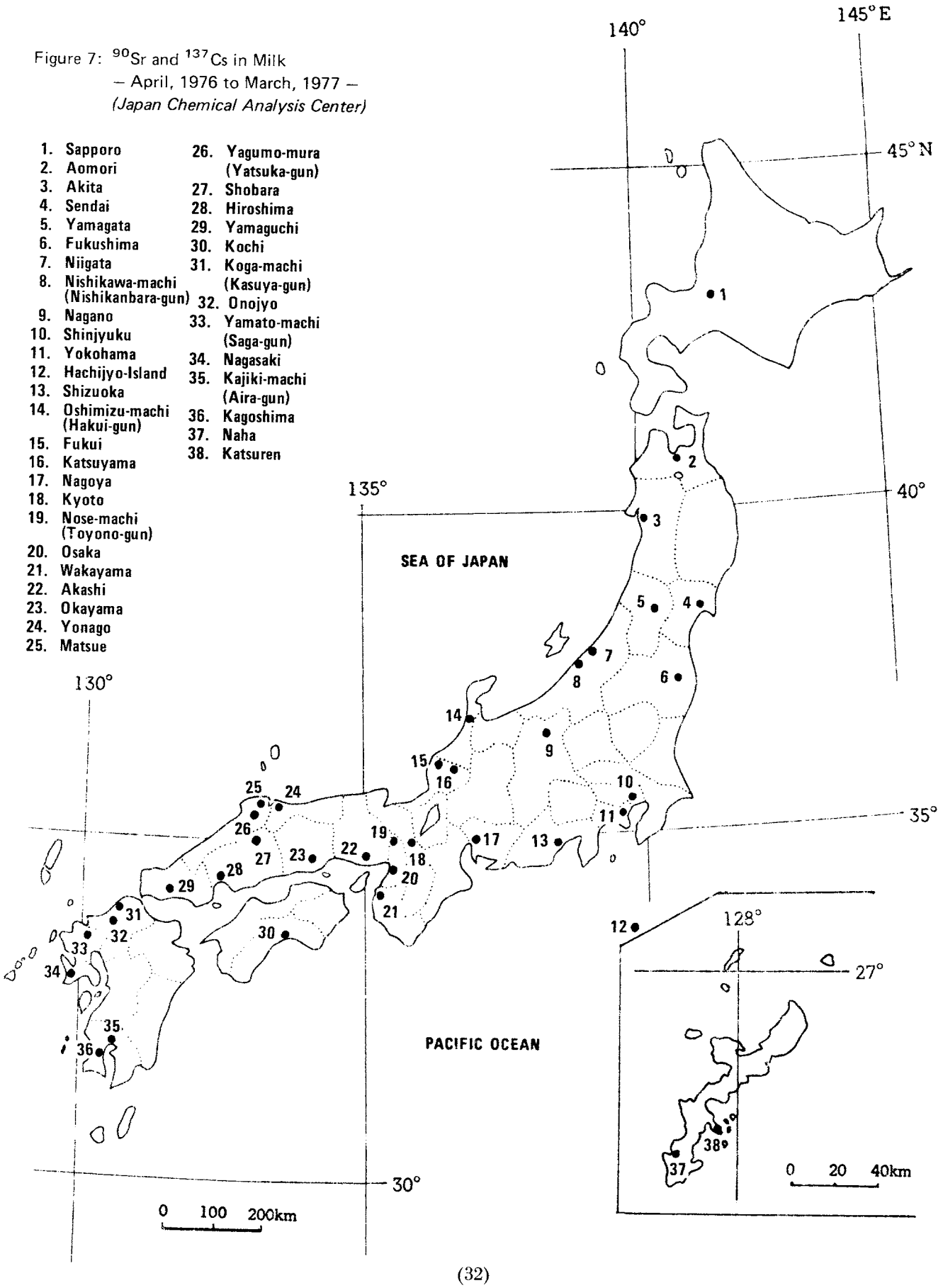
(Continued from Table 5, No. 43 of this publication)

Location	Component			^{90}Sr		^{137}Cs	
	Ash (g/ℓ)	Ca (g/ℓ)	K (g/ℓ)	pCi/ℓ	S.U.	pCi/ℓ	C.U.
June, 1976							
Akita (Ushijima), AKITA	6.90	1.03	1.63	3.5 ± 0.29	3.4 ± 0.28	3.0 ± 0.25	1.8 ± 0.15
July, 1976							
Matsue, SHIMANE	7.59	1.09	1.71	4.0 ± 0.32	3.7 ± 0.29	8.4 ± 0.40	4.9 ± 0.24
August, 1976							
Sapporo, HOKKAIDO	6.96	1.11	1.63	3.6 ± 0.30	3.2 ± 0.27	12 ± 0.5	7.6 ± 0.29
Sendai, MIYAGI	6.84	1.08	1.59	2.0 ± 0.24	1.8 ± 0.22	4.8 ± 0.30	3.0 ± 0.19
Yamagata, YAMAGATA	7.16	1.07	1.53	2.3 ± 0.27	2.2 ± 0.25	3.4 ± 0.26	2.2 ± 0.17
Shinjyuku, TOKYO	6.81	1.04	1.65	2.1 ± 0.25	2.0 ± 0.24	3.5 ± 0.26	2.1 ± 0.16
Yokohama, KANAGAWA	6.87	1.02	1.53	1.2 ± 0.22	1.2 ± 0.21	3.4 ± 0.25	2.3 ± 0.17
Niigata, NIIGATA	7.12	1.04	1.59	2.0 ± 0.26	2.0 ± 0.25	3.3 ± 0.26	2.0 ± 0.16
Fukui, FUKUI	7.58	1.17	1.86	1.9 ± 0.26	1.6 ± 0.22	3.6 ± 0.29	1.9 ± 0.16
Nagano, NAGANO	6.96	1.07	1.59	1.5 ± 0.23	1.4 ± 0.21	3.9 ± 0.28	2.4 ± 0.17
Shizuoka, SHIZUOKA	7.23	1.09	1.73	2.3 ± 0.26	2.1 ± 0.24	3.9 ± 0.29	2.3 ± 0.17
Kyoto, KYOTO	6.40	0.97	1.46	1.6 ± 0.22	1.6 ± 0.23	2.1 ± 0.21	1.6 ± 0.14
Osaka, OSAKA	6.73	1.00	1.51	1.9 ± 0.24	1.9 ± 0.24	3.0 ± 0.25	2.0 ± 0.16
Wakayama, WAKAYAMA	9.00	1.18	1.87	2.5 ± 0.32	2.1 ± 0.27	11 ± 0.5	5.8 ± 0.27
Yonago, TOTTORI	7.25	1.06	1.71	2.6 ± 0.29	2.5 ± 0.27	12 ± 0.4	7.1 ± 0.26
Okayama, OKAYAMA	7.85	1.20	1.82	2.1 ± 0.28	1.7 ± 0.23	4.0 ± 0.30	2.2 ± 0.17
Hiroshima, HIROSHIMA	7.09	1.01	1.67	2.1 ± 0.26	2.1 ± 0.25	2.6 ± 0.25	1.6 ± 0.15
Kochi, KOCHI	7.55	1.02	1.57	2.1 ± 0.27	2.1 ± 0.26	2.7 ± 0.25	1.7 ± 0.16
Ohnojyo, FUKUOKA	5.71	0.85	1.34	0.9 ± 0.18	1.0 ± 0.22	2.7 ± 0.22	2.0 ± 0.17
Kagoshima, KAGOSHIMA	7.03	1.03	1.65	1.8 ± 0.27	1.8 ± 0.26	9.4 ± 0.40	6.7 ± 0.24
Fukushima, FUKUSHIMA	7.35	1.06	1.61	1.9 ± 0.26	1.8 ± 0.25	3.2 ± 0.24	2.0 ± 0.15
September, 1976							
Nagoya, AICHI	7.50	1.03	1.67	1.7 ± 0.25	1.6 ± 0.24	5.2 ± 0.33	3.1 ± 0.20
Yamaguchi, YAMAGUCHI	7.05	1.04	1.65	1.6 ± 0.23	1.5 ± 0.22	4.7 ± 0.30	2.8 ± 0.18
October, 1976							
Nagasaki, NAGASAKI	6.87	1.07	1.37	1.5 ± 0.15	1.4 ± 0.14	2.6 ± 0.22	1.9 ± 0.16
December, 1976							
Sapporo, HOKKAIDO	7.23	1.11	1.42	3.7 ± 0.34	3.3 ± 0.31	6.6 ± 0.30	4.6 ± 0.21
Akita, AKITA	7.11	1.05	1.41	4.4 ± 0.34	4.2 ± 0.32	2.8 ± 0.22	2.0 ± 0.16
January, 1977							
Nagano, NAGANO	6.93	1.06	1.48	0.9 ± 0.12	0.9 ± 0.12	1.5 ± 0.19	1.0 ±0.13

Location	Component			^{90}Sr		^{137}Cs	
	Ash (g/ℓ)	Ca (g/ℓ)	K (g/ℓ)	pCi/ℓ	S.U.	pCi/ℓ	C.U.
Osaka, OSAKA	7.79	1.18	1.39	2.1 ± 0.17	1.8 ± 0.14	3.9 ± 0.28	2.8 ± 0.20
Wakayama, WAKAYAMA	7.09	1.03	1.42	1.5 ± 0.13	1.4 ± 0.13	1.6 ± 0.20	1.1 ± 0.14
Matsue, SHIMANE	7.36	1.14	1.52	2.4 ± 0.19	2.1 ± 0.17	5.3 ± 0.31	3.5 ± 0.21
Kagoshima, KAGOSHIMA	6.97	1.08	1.44	1.7 ± 0.15	1.5 ± 0.14	6.0 ± 0.29	4.2 ± 0.20
Naha, OKINAWA	7.40	1.16	1.60	0.9 ± 0.14	0.8 ± 0.12	1.7 ± 0.20	1.1 ± 0.13
February, 1977							
Sendai, MIYAGI	7.10	1.01	1.52	1.5 ± 0.25	1.5 ± 0.25	2.5 ± 0.22	1.7 ± 0.14
Yamagata, YAMAGATA	7.04	1.04	1.50	2.1 ± 0.29	2.0 ± 0.28	2.1 ± 0.21	1.4 ± 0.14
Shinjyuku, TOKYO	6.97	1.07	1.48	1.5 ± 0.14	1.4 ± 0.13	4.5 ± 0.27	3.1 ± 0.18
Yokohama, KANAGAWA	6.56	1.05	1.38	1.0 ± 0.11	1.0 ± 0.11	2.3 ± 0.21	1.6 ± 0.15
Niigata, NIIGATA	7.28	1.09	1.49	1.8 ± 0.16	1.7 ± 0.14	3.5 ± 0.26	2.4 ± 0.17
Fukui, FUKUI	7.06	1.10	1.48	1.5 ± 0.14	1.3 ± 0.12	3.9 ± 0.27	2.6 ± 0.18
Shizuoka, SHIZUOKA	7.14	1.08	1.43	1.4 ± 0.14	1.3 ± 0.13	2.7 ± 0.23	1.9 ± 0.16
Nagoya, AICHI	7.03	1.08	1.37	1.2 ± 0.13	1.1 ± 0.12	1.8 ± 0.21	1.3 ± 0.15
Kyoto, KYOTO	7.05	1.09	1.43	1.4 ± 0.13	1.3 ± 0.12	2.9 ± 0.24	2.1 ± 0.17
Yonago, TOTTORI	7.61	1.15	1.54	2.1 ± 0.16	1.8 ± 0.14	6.9 ± 0.34	4.5 ± 0.22
Okayama, OKAYAMA	7.22	1.13	1.49	1.6 ± 0.14	1.4 ± 0.12	2.1 ± 0.22	1.4 ± 0.15
Hiroshima, HIROSHIMA	6.88	1.09	1.47	1.7 ± 0.14	1.6 ± 0.13	3.1 ± 0.24	2.1 ± 0.17
Kochi, KOCHI	7.55	1.09	1.43	1.6 ± 0.15	1.5 ± 0.14	2.5 ± 0.24	1.8 ± 0.17
Ohnojyo, FUKUOKA	7.33	1.13	1.44	0.9 ± 0.13	0.8 ± 0.11	3.1 ± 0.25	2.2 ± 0.17
Nagasaki, NAGASAKI	6.41	1.00	1.26	1.0 ± 0.14	1.0 ± 0.14	1.8 ± 0.19	1.4 ± 0.15
March, 1977							
Fukushima, FUKUSHIMA	7.99	1.15	1.57	1.4 ± 0.14	1.2 ± 0.12	5.1 ± 0.31	3.2 ± 0.20
Yamaguchi, YAMAGUCHI	6.89	1.05	1.83	1.6 ± 0.14	1.6 ± 0.13	2.0 ± 0.21	1.1 ± 0.12
Katsuren, OKINAWA	7.38	1.21	1.62	1.9 ± 0.17	1.6 ± 0.14	5.1 ± 0.28	3.1 ± 0.17

Figure 7: ^{90}Sr and ^{137}Cs in Milk
– April, 1976 to March, 1977 –
(Japan Chemical Analysis Center)

1. Sapporo
2. Aomori
3. Akita
4. Sendai
5. Yamagata
6. Fukushima
7. Niigata
8. Nishikawa-machi (Nishikanbara-gun)
9. Nagano
10. Shinjyuku
11. Yokohama
12. Hachijyo-Island
13. Shizuoka
14. Oshimizu-machi (Hakui-gun)
15. Fukui
16. Katsuyama
17. Nagoya
18. Kyoto
19. Nose-machi (Toyono-gun)
20. Osaka
21. Wakayama
22. Akashi
23. Okayama
24. Yonago
25. Matsue
26. Yagumo-mura (Yatsuka-gun)
27. Shobara
28. Hiroshima
29. Yamaguchi
30. Kochi
31. Koga-machi (Kasuya-gun)
32. Onojyo
33. Yamato-machi (Saga-gun)
34. Nagasaki
35. Kajiki-machi (Aira-gun)
36. Kagoshima
37. Naha
38. Katsuren



(3) ^{90}Sr and ^{137}Cs in Powdered Milk.

(Japan Chemical Analysis Center)

Japan Chemical Analysis Center has analyzed the contents of strontium-90 and cesium-137 in powdered milk under the commission of Science and Technology Agency. The samples were purchased on the open market in Tokyo from the powdered milk producers.

The analysis of strontium-90 and cesium-137 content was radiochemically carried out using the method applied for the analysis of fresh milk.

Results obtained during the period from April, 1976 to March, 1977 are shown in Table 9.

Table 9: ^{90}Sr and ^{137}Cs in Powdered Milk

– April, 1976 to March, 1977 –

(Continued from Table 6, No. 43 of this publication)

Name of Producer	Component			^{90}Sr		^{137}Cs	
	Ash (%)	Ca (%)	K (%)	pCi/kg	S.U.	pCi/kg	C.U.
June, 1976							
MORINAGA	2.46	0.327	0.576	21 ± 0.5	6.4 ± 0.15	210 ± 2	36 ± 0.4
* "	8.36	1.30	1.96	29 ± 0.8	2.2 ± 0.06	67 ± 1.7	3.4 ± 0.08
YUKIJIRUSHI	2.40	0.343	0.518	23 ± 0.6	6.8 ± 0.17	200 ± 2	39 ± 0.4
WAKODO	2.52	0.318	0.612	5.0 ± 0.28	1.6 ± 0.09	19 ± 0.6	3.2 ± 0.11
MEIJI	3.12	0.469	0.690	20 ± 0.6	4.3 ± 0.12	140 ± 2	20 ± 0.3
* "	5.16	0.782	1.25	53 ± 1.0	6.8 ± 0.13	85 ± 1.4	6.8 ± 0.11
October, 1976							
* MORINAGA	8.32	1.34	2.01	32 ± 1.3	2.4 ± 0.10	67 ± 1.5	3.3 ± 0.08
"	2.45	0.307	0.588	8.8 ± 0.45	2.9 ± 0.15	56 ± 1.0	9.4± 0.16
MEIJI	3.09	0.562	0.677	22 ± 0.8	3.9 ± 0.14	130 ± 2	19 ± 0.2
YUKIJIRUSHI	2.42	0.384	0.460	18 ± 0.7	4.6 ± 0.17	92 ± 1.2	20 ± 0.3
WAKODO	2.18	0.288	0.530	4.7 ± 0.34	1.6 ± 0.12	16 ± 0.5	3.1 ± 0.10
* MEIJI	8.08	1.23	1.84	66 ± 2.0	5.3 ± 0.16	210 ± 3	11 ± 0.1

* Skim Milk

ADDENDA

(1) Strontium-90 and Cesium-137 in Fresh Water.
(Japan Chemical Analysis Center)
Addendum to Table 15 No. 44 of this publication

Sampling Location	Date	pH	^{90}Sr (pCi/ℓ)	^{137}Cs (pCi/ℓ)
Fukushima, FUKUSHIMA	Dec. 1976	–	0.14 ± 0.007	0.01 ± 0.003
Suwa-lake, NAGANO	Dec. 1976	9.3	0.04 ± 0.002	0.01 ± 0.003

(2) Strontium-90 and Cesium-137 in Fresh Water Fish.
(Japan Chemical Analysis Center)
Addendum to Table 16 No. 44 of this publication

Sampling Location	Ash (%)	Component (% by weight)		^{90}Sr		^{137}Cs	
		Ca (%)	K (%)	pCi/kg	S.U.	pCi/kg	C.U.
Cyprinus carpio							
Aug. 1976							
Fukushima, FUKUSHIMA	3.30	28.2	6.62	51 ± 1.5	5.5 ± 0.16	8.5 ± 0.45	3.9 ± 0.21
Hypomesus olidus							
Dec. 1976							
Suwa-lake, NAGANO	2.61	24.1	9.52	6.1 ± 0.45	1.0 ± 0.07	5.3 ± 0.33	2.1 ± 0.13
Carassius carassius							
Mar. 1977							
Uji, KYOTO	4.25	31.8	5.02	88 ± 1.7	6.6 ± 0.12	1.9 ± 0.28	0.9 ± 0.13

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