Composition of Food Rations Collected
at Rongelap Island September, 1959.
(Each sample is a 24 hr. ration)

Sample number	Contributor	Description of food items	Wet wt. grams	Total wt.dry
1	Berberin	a) Pandanus paste, boiled rice and baked fish (mixed)	253	374.68
		b) Partly baked bread dough with bully beef	252	
		c) Bully beef sandwiches	195	
2	Paul	a) Coconut meat (green)	30	175.85
		b) Pandanus "pie"	16	
		c) Baked fish	23	
		d) Sardines, canned	20	
		e) Boiled rice w/coconut milk	249	
3	No name	a) Breadfruit, baked	41	87.12
		b) Coconut and bread dough, baked	24	
		c) Bread	31	
		d) Bully beef	17	
		e) Ship's biscuit	13	
		f) Rice w/coconut milk, boiled	49	
4	Bwio	a) Coconut, ripe	72	321.69
		b) 1/2 Papaya	57	
		c) Rice and fish (mixed)	306	
		d) Bread, local (coconut milk, not saved)	81	
5	Atha	a) Rice and Fish mixed	243	203.16
		b) Bread, local	80	
		c) Rice	197	

NMB 6

Rpngelap food samples (continued)

Sample number	Contributor	Description of food items	Wet wt. grams	Total wt.dry
6	Mellelon	a) Breadfruit, baked	203	484.10
		b) Coconut w/baked dough	203	
		c) Fish, baked	126	
		d) Bread, local	75	
		e) Coconut, entire	50	
		f) Rice, boiled	291	
		g) Sardines, canned	154	
7	Menana	a) Pandanus Keys, raw	115	314.90
		b) Goatfish, baked	26	
		c) Sardines, canned	101	
		d) Rice, boiled	721	
8	Lisie	a) Fish, baked	155	440.50
		b) Bread, local	145	
		c) Bully beef	66	
		d) Sardines, canned	94	
		e) Rice, boiled	622	
9	Kaser	a) Rice and fish mixed	421	262.30
		b) Rice and fish mixed	64	

5002217

Radioisotopes and Potassium and Calcium in Food Rations
Collected at Rongelap Island, September 1959.

Sample number	Co^{60} 10^{-5} µc	Co^{60} 95% counting error	Zn^{65} 10^{-4} µc	Zn^{65} 95% counting error	Cs^{137} 10^{-4} µc	Cs^{137} 95% counting error	K grams	Sr^{90} 10^{-5} µc	Sr^{90} 95% counting error	µµc/gmCa	Error
1	5.9	2.0	0.67	0.49	100	1.0	0.175	14.2	1.18	497.0	41.4
2	4.2	2.0	*		11	0.40	0.193	12.9	1.27	1239.0	121.6
3	*		*		8.3	0.34	0.212	4.90	0.98	612.7	122.5
4	3.3	1.9	*		26	0.55	0.200	6.20	0.87	1339.2	47.3
5	3.9	2.0	*		3.3	0.26	0.246	1.92	0.82	248.4	106.5
6	20.0	4.8	3.7	0.65	35	0.63	0.403	14.4	1.31	139.7	12.7
7	7.9	2.0	1.2	0.50	28	0.54	0.570	12.2	1.14	300.1	27.9
8	24.0	3.0	5.0	0.82	5.9	0.34	0.258	4.36	0.99	158.8	36.1
9	3.9	1.9	*		3.1	0.25	0.359	3.78	0.95	331.1	82.8

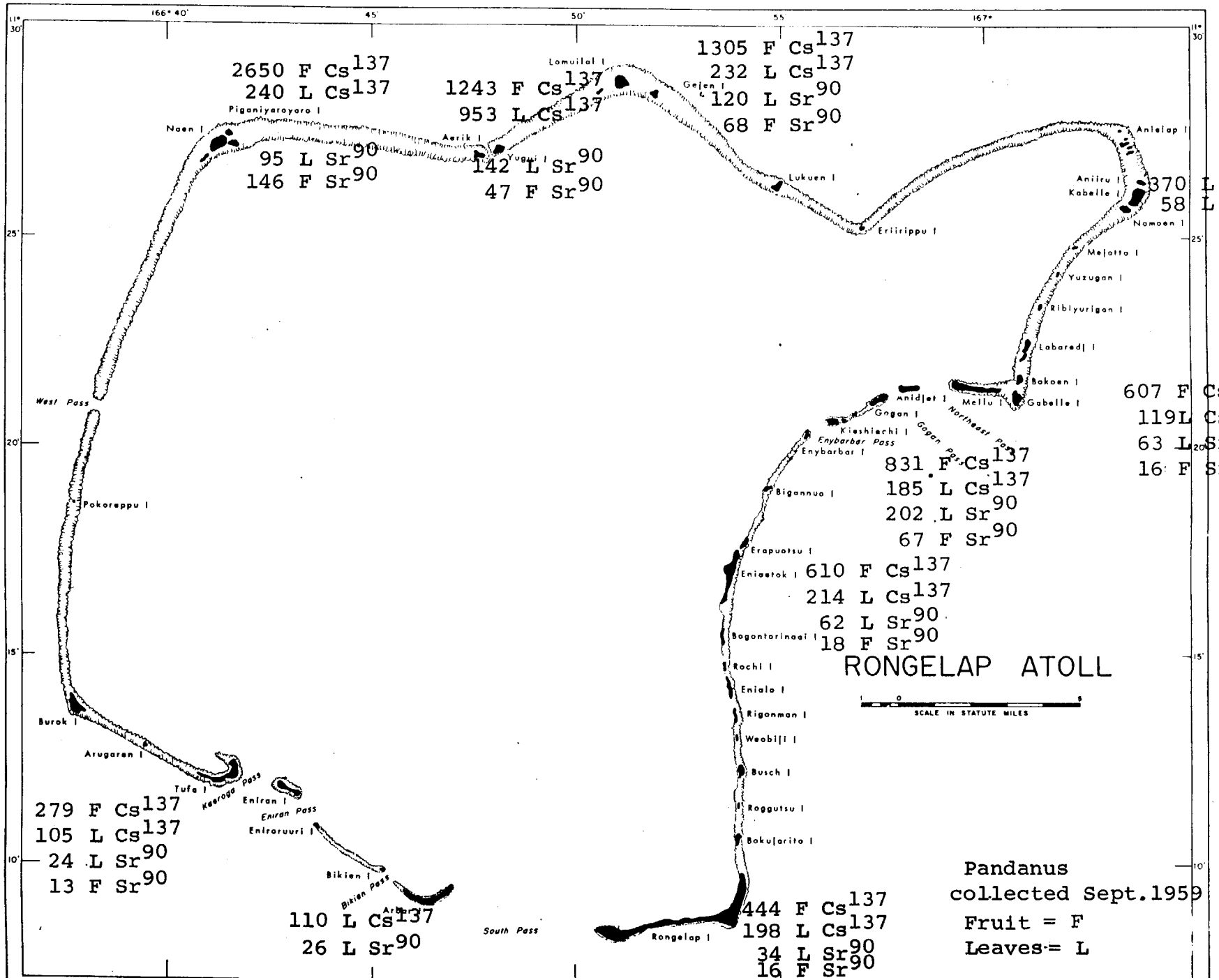
Each sample number represents one days ration for one adult male. Values given are per total ration.
*indicates values less than, or not different than background (see d/m/g tabulation).

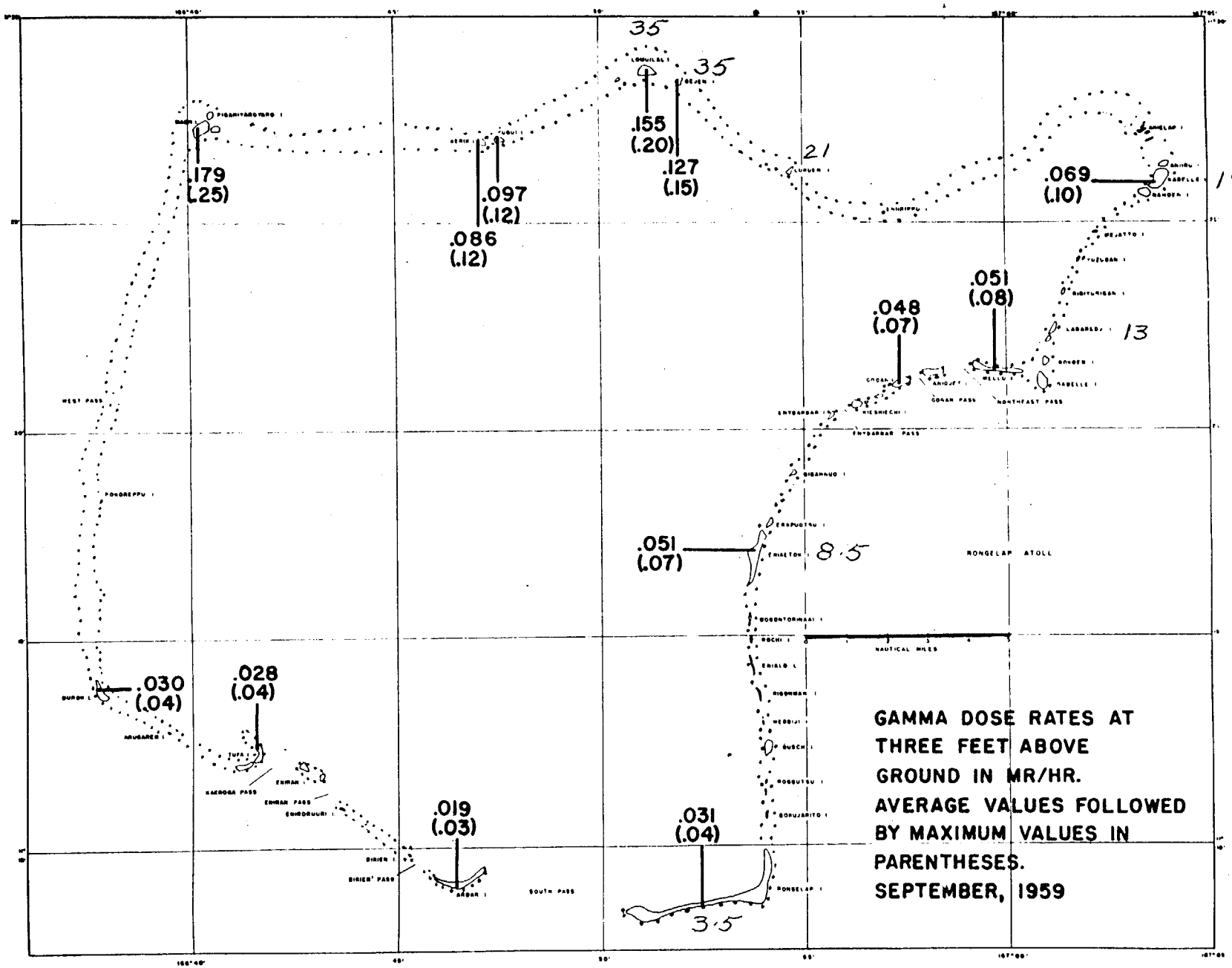
5002219

Radioisotopes in Food Rations Collected at
Rongelap Island, September, 1959.

Sample number	Co^{60} d/m/g	Co^{60} 95% counting error	Zn^{65} d/m/g	Zn^{65} 95% counting error	Mn^{54} d/m/g	Mn^{54} 95% counting error	Cs^{137} d/m/g	Cs^{137} 95% counting error	Sr^{90} d/m/g	Sr^{90} 95% counting error
1	0.35	0.12	0.40	0.29	-0.04	0.09	61.4	0.60	0.84	0.07
2	0.52	0.25	-1.03	0.53	0.11	0.20	14.1	0.50	1.63	0.16
3	0.12	0.32	-2.40	1.0	-0.49	0.39	21.1	0.87	1.25	0.25
4	0.23	0.13	-0.76	0.28	-0.07	0.10	17.6	0.38	0.43	0.06
5	0.43	0.22	-0.67	0.45	-0.11	0.16	3.6	0.28	0.21	0.09
6	0.90	0.13	1.70	0.30	-0.23	0.09	16.1	0.29	0.66	0.06
7	0.56	0.14	0.87	0.35	-0.19	0.10	20.0	0.38	0.86	0.08
8	1.20	0.15	2.50	0.41	-0.21	0.11	3.0	0.17	0.22	0.05
9	0.33	0.16	0.05	0.36	-0.003	0.13	2.6	0.21	0.32	0.08

5002220


RONGELAP ATOLL
SCALE IN STATUTE MILES
166° 40'
45'
50'
55'
167°
11° 30'
25'
20'
15'
10'
2650 F Cs137
240 L Cs137
95 L Sr90
146 F Sr90
1243 F Cs137
953 L Cs137
142 L Sr90
47 F Sr90
1305 F Cs137
232 L Cs137
120 L Sr90
68 F Sr90
370 L Cs137
58 L Sr90
607 F Cs137
119L Cs137
63 L Sr90
16 F Sr90
831 F Cs137
185 L Cs137
202 L Sr90
67 F Sr90
610 F Cs137
214 L Cs137
62 L Sr90
18 F Sr90
279 F Cs137
105 L Cs137
24 L Sr90
13 F Sr90
110 L Cs137
26 L Sr90
444 F Cs137
198 L Cs137
34 L Sr90
16 F Sr90
Pandanus
collected Sept.1959
Fruit = F
Leaves = L
Lomuilal I
Gejen I
Piganiyaroyaro I
Naen I
Aerik I
Yugui I
Lukuen I
Eriirippu I
Anielap I
Aniiru I
Kabelle I
Namoen I
Mejatto I
Yuzugan I
Riblyurigan I
Labaredl I
Bokoen I
Gabelle I
Mellu I
Anidjet I
Gogan I
Kieshiechi I
Enybarbar Pass
Enybarbar I
Gogan Pass
Northeast Pass
Bigannuo I
Erapuatsu I
Eniaetok I
Bogontorinaai I
Rochi I
Enialo I
Rigonman I
Weobil I
Busch I
Roggutsu I
Bokujarito I
Rongelap I
South Pass
West Pass
Pokoreppu I
Burok I
Arugaren I
Tufa I
Keeroga Pass
Eniran I
Eniran Pass
Eniraruuri I
Bikien I
Bikien Pass



Gamma Dose Rates
D+1 2 March, 1954
R/HR

5002221

5002222

BREADFRUIT (ARTOCARPUS SPECIES)
Collected at Rongelap Island
September 1959

Sample number	Tissue	d/m/g dry K^{40}	95% counting error	Mn^{54}	95% counting error	Zn^{65}	95% counting error	Cs^{137}	95% counting error
VA-ART-1	Edible portion	16	4	*		*		59	0.93
VA-ART-2	"	19	3	*		*		44	0.53
VA-ART-3	"	19	9	*		0.17	0.12	64	2.0
VA-ART-1	Skin	59	15	*		*		129	3.0
VA-ART-2	"	49	12	*		0.16	0.14	82	2.0
VA-ART-3	"	25	12	0.86	0.57	*		84	2.0
VA-ART-1	Terminal Leaves	60	24	*		*		97	3.0
VA-ART-2	"	42	19	*		0.29	0.23	102	3.0
VA-ART-3	"	53	33	*		*		58	3.0
VA-ART-1	Basal Leaves	18	9	0.88	0.42	*		24	1.0
VA-ART-2	"	29	18	*		*		43	2.0
VA-ART-3	"	22	13	0.85	0.68	*		52	2.0

* 95% counting error equal to or greater than background.

Pandanus Fruit and Coconut Crabs

Pandanus fruit and coconut crabs (Birgus latro) were the two food items of major concern with respect to Sr^{90} content at the time of the return of the Rongelapese. (Dunning, Radioactive Contamination of Certain Areas in the Pacific Ocean from Nuclear Tests, 1957, USAEC). These have therefore been the subject of special study.

There is no indication that the Sr^{90} levels have changed significantly between 1955 and 1959 in either Pandanus or Birgus.

About 30% of the total radioactivity in Pandanus fruit is due primarily to Cs^{137} with traces of Zn^{65}. Traces of Ce^{144} are found in the leaves but none in the fruit.

No significant seasonal trends have been noted although there is greater variation in Cs^{137} and potassium levels in Pandanus in the dry than in the wet season.

See also UWFL-59, UWFL-64

Strontium-90 and total calcium in Pandanus Leaves, Rongelap Atoll

		No. of samples	Sr^{90} d/m/g dried	Ca mg/g dried
Rongelap Island				
March	58	4	56±11	13.3±1.2
August	58	4	71±14	13.2±3.0
March	59	5	44±34	14.7±3.4
September	59	15	34±13	14.3±2.4
Kabelle Island				
March	58	2	101±76	18.7±6.0
August	58	1	74 ±4	11.7
March	59	0	no sample	no sample
September	59	1	58 ±3	14.9±0.2
Eniaetok Island				
March	58	2	84±22	16.4±4.2
August	58	2	73±18	16.5±0.4
March	59	0	no sample	no sample
September	59	2	62±21	14.9±0.1

When there is only one sample, the error given is derived from counting error.

When there is more than one sample, the value given is the average and the error given is standard deviation.

5002225

5002223

SQUASH (CUCURBITA SPECIES)
Collected at Rongelap Atoll
September 1959

Sample number	Tissue	K^{40} d/m/g dry	95% counting error	Mn^{54} d/m/g dry	95% counting error	Zn^{65} d/m/g dry	95% counting error	Cs^{137} d/m/g dry	95% counting error
Rongelap Island									
VA-Cuc-1	Edible portion	136	35	3	2	*		651	12
VA-Cuc-2	"								
VA-Cuc-3	"								
VA-Cuc-1	Skin	248	63	*		*		1,283	17
VA-Cuc-2	"	116	28	*		0.48	0.32	529	7
VA-Cuc-3	"	102	18	*		0.42	0.23	261	4
VA-Cuc-1	Terminal Leaves	198	51	3	2	*		341	8
VA-Cuc-2	"	270	62	*		*		584	11
VA-Cuc-3	"	245	56	*		1.32	0.66	170	6
VA-Cuc-1	Basal Leaves	35	28	*		*		243	5
VA-Cuc-2	"	238	45	*		*		563	9
VA-Cuc-3	"	135	25	2	1	*		163	4
VA-Cuc-1	Seeds	60	18	1	0.83	*		148	3
VA-Cuc-2	"	79	21	0.97	0.86	*		81	2
VA-Cuc-3	"	69	17	2	0.80	0.33	0.20	44	2
Eniaetok Island									
ENI-Cuc	Edible portion	139	18	0.42	0.24	1.31	0.82	215	3
ENI-Cuc	Skin	1,054	211	*		*		751	21
ENI-Cuc	Terminal Leaves	139	10	1.0	0.17	3	0.47	702	3
ENI-Cuc	Basal Leaves	67	16	0.74	0.21	0.73	0.65	413	4

* 95% counting error equal to or greater than background.

Strontium-90 and total calcium in Pandanus Fruit, Rongelap Atoll

		No. of samples	Sr^{90} d/m/g dried	Ca mg/g dried
Rongelap Island				
March	58	1	28	2.4
August	58	1	4.6± 0.4	4.1
March	59	5	19.0±13.2	5.3±2.8
September	59	4	16.0± 8.2	6.8±3.0
Kabelle Island				
March	58	1	37	3.0
August	58	1	13.±0.1	4.0
March	59	0	no sample	no sample
September	59	0	no sample	no sample
Eniaetok Island				
March	58	2	20 ±3	3.7±0.8
August	58	1	13 ±0.1	5.0
March	59	0	no sample	no sample
September	59	2	18 ±2	4.1±0.7

When there is only one sample, the error given is derived from counting error.

When there is more than one sample, the value given is the average and the error given is standard deviation.

Cesium-137 and total potassium in Pandanus Fruit, Rongelap Atoll

		No. of samples	Cs^{137} d/m/g dried	K mg/g dried
Rongelap Island				
March	58	1	787	18.2
August	58	1	192	8.7
March	59	5	217±126	12.2±7.8
September	59	4	444±145	12.4±7.8
Kabelle Island				
March	58	1	991	19.4
August	58	1	387	4.5
March	59	0	no sample	no sample
September	59	0	no sample	no sample
Eniaetok Island				
March	58	2	592±412	15.6±1.0
August	58	1	284	10.1
March	59	0	no sample	no sample
September	59	2	610±180	13.4±2.2

The errors given are standard deviations.

5002227

Cesium-137 and total potassium in Pandanus Leaves, Rongelap Atoll

		No. of samples	Cs^{137} d/m/g dried	K mg/g dried
Rongelap Island				
March	58	4	244±100	9.9±1.2
August	58	4	364±19	11.6±2.3
March	59	5	48±24	4.7±3.2
September	59	15	198±76	10.3±5.0
Kabelle Island				
March	58	2	842±486	22.0±7.4
August	58	1	464	15.0
March	59	0	no sample	no sample
September	59	1	370	8.3
Eniaetok Island				
March	58	2	283±107	9.6±1.9
August	58	2	121±7	8.4±1.0
March	59	0	no sample	no sample
September	59	2	214±20	6.8±2.1

The errors given are standard deviations.

5002228