

UNIVERSITY OF WASHINGTON
LABORATORY OF RADIATION BIOLOGY
FISHERIES CENTER
SEATTLE 5, WASHINGTON

April 27, 1959

WMS 5

Dr. John N. Wolfe, Chief
Environmental Sciences Branch
Division of Biology and Medicine
U.S. Atomic Energy Commission
Washington 25, D.C.

Dear John:

Enclosed are data concerning Sr^{90} in food samples collected at Rongelap Island in August 1958. These are being sent in response to a request from Gordon Dunning to Al Seymour.

Information concerning the collection of the food samples is to be found in a letter to Seymour 23 September 1958, and in the table " Cs^{137} in Daily Rations of Food Grown at Rongelap Atoll." These two items are pages 31--38 of the "Rongelap Notebook".

Some additional remarks might clarify questions as to the interpretation of these data. First, it should be clearly understood that the samples are daily rations of locally grown foods only and do not represent the total daily ration. If the weight of the total ration given by Dunning in "Radioactive Contamination in the Pacific Ocean," 1957, is used, then the locally grown foods accounted for about 40 per cent of the total daily ration on the average in August 1958. At the present time this proportion of locally grown foods in the diet is probably lower due to the current supply of "C-rations" (Dr. Conard obtained data concerning diets during March 1959 and may have sent them to Dr. Dunning.)

Second, obtaining a truly representative sample of the diet for even a single day involves many possible sampling errors as, for example, bias on the part of the Rongelapese in an effort to please. This might result in too large a sample being taken. As has been pointed out before, it is to be expected that there will be discrepancies between information obtained at different times.

Third, the Sr^{90} results enclosed are based on analysis of aliquots of a pooled sample made up of the 13 sam-

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ples for which Cs¹³⁷ levels have been given. The Sr⁹⁰ values are given as approximate because the Sr⁹⁰ spike was erroneously omitted from aliquots which were to be analyzed for accurate yield determination for these specific samples (new aliquots have been taken and the complete analysis is being repeated by a second person).

We hope these data will be of use to you pending more precise determinations. We are retaining enough of the sample for cross checking by other laboratories if this seems desirable.

Please enter the enclosed data as page 38A in the "Rongelap Notebook".

Sincerely yours,



Edward E. Held
Research Assistant Professor

EEH:jf

cc: Dr. Gordon M. Dunning
Dr. Robert A. Conard

Sr⁹⁰ in Locally Grown Food Collected
at Rongelap Island, August 1958

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| Sr ⁹⁰ in local food (weight of food as received) | 0.267 $\mu\mu\text{c/g}$ (approximate value subject to revision) |
| Calcium in local food | 4.24×10^{-4} g/g |
| Average daily intake of local food in August 1958 | 361 g* |
| Daily intake of calcium (National Bureau of Standards, Handbook 52, and Nutritional Data, H.J. Heinz Co., P.O. Box 57, Penn., 1958) | 0.8 g/day |
| Sr ⁹⁰ intake per day | $0.267 \mu\mu\text{c/g} \times 361 \text{ g}$ = 96.4 $\mu\mu\text{c}$ |
| Strontium Unit intake per day | $96.4 \mu\mu\text{c Sr}^{90} \div 0.8 \text{ g Ca}$ = 120 |

* The locally grown food is to be regarded as a supplement to the diet of the Rongelapese.