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October 23, 1953

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Dr. Anthony Lopez
Associate Professor
Food Technology Department
The University of Georgia
College of Agriculture
Athens, Georgia

Dear Professor Lopez:

Your letter of October 8, addressed to the Atomic Energy Commission, asks for information on the effects of atomic warfare on fresh and processed foods.

To the best of our knowledge, such effects have not been studied during any of our nuclear weapons tests, although the U. S. Food and Drug Administration has made some tests with drugs.

Neither the Atomic Energy Commission nor the Federal Civil Defense Administration has felt that any real purpose could be served by studies on food because the results can be estimated reasonably well from known facts. It is not to be expected that radiation, whether gamma rays or neutrons, acting on foodstuffs will produce any deleterious results or toxic substances, even though the foods were close enough to the explosion to receive large doses of radiation. It is much more likely that the food would be destroyed by the blast, but if it did survive it would be perfectly edible as far as effects of primary or secondary radiation are concerned.

Of concern, however, is the possibility that the foodstuffs would be contaminated with radioactive debris from the bomb. Dust drawn into the fireball may become highly active, and if this falls on the food it creates a problem as a surface contamination. That is, the food itself is not adversely affected, but the contamination, if present in high concentration, should not be ingested.

Presumably canned or packaged foods could be opened "aseptically" and the contents would be edible. Some difficulty might be

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encountered in peeling contaminated potatoes, but one might assume that if all washable contamination were removed, very little would rub off during peeling. Leafy vegetables present a further problem. It has been found that such leaves are cleaned only with great difficulty. One could only wash such vegetables as well as possible, then monitor them to determine whether the radioactivity were small enough to be ingested safely.

It should be emphasized that the mere presence of measureable radioactivity does not make food or water unfit for consumption. Absorption of atomic debris from the intestinal tract is relatively low, so that considerable quantities can be ingested without serious hazard. Enclosed are two technical bulletins prepared by the Federal Civil Defense Administration which discuss this phase of your problem.

It is possible that the Quartermaster Corps of the U. S. Army has actually made some studies on foods subjected to atomic explosions, about which we have no information. You may wish to inquire of them. I believe that the inquiry should be addressed to Office of the Quartermaster Corps, 2800 South 20th Street, Philadelphia.

I hope that this discussion may be of some value to you.

Very truly yours,

Walter D. Claus
Chief, Biophysics Branch
Division of Biology and Medicine

- Enclosures - 2
1. FCDA TB-11-9
2. FCDA TB-11-8

cc: Mr. Corsbie, CDLB

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