
LETTERS TO THE EDITOR

Questioning the Safety of Food Irradiation

As a long time reader of *Public Health Reports* but not a member of [a] health profession, I have come to rely on *PHR* for fair treatment of informative topics.

Your editorial on food irradiation (107: 489-490, September-October 1992) seemed to me to be more of an advertisement disguised in a suit of science than a reasonable discussion of the merits of food irradiation.

I know of no one who thinks that radiation makes food radioactive, but I am not convinced that irradiation of food is safe. First, the question of breakdown products which are toxic lingers. Nutrition and toxicology are not exact sciences, and the data collected by irradiation supporters are too easily manipulated in the collection process to be believed. Secondly, the useful life audit has not been completed to my satisfaction. How much radioactive wastes pile up in the manufacture of cesium pellets, and how do these hidden costs, whose tab the taxpayer picks up, stack up to the costs of alternate technology?

I am wont to ask about the effects of mutated species of bacteria and of other agents of human discomfort that are generated in the process of irradiating food. We tried to solve the salmonella problem by lacing all livestock diets with antibiotics, only to have the species develop drug-resistances. Is the irradiation factory going to be a mutation factory too?

As for the industry which does the irradiation, the radium paint industry of the 30s and 40s said radium paint was safe. The atomic industry of the 50s and 60s said that bombs were safe to build. The nuclear industry of the 70s and 80s said that power plants were safe to use. The history of the industry is a history of assurances broken by time. Now the industry says food irradiation is safe, and the president who claimed that all the wastes generated by a nuclear power plant in a year's time could be put in a shoe box authorized dubious science to prove that food irradiation was safe.

By some voodoo logic *PHR* implies that public skepticism of the food irradiation industry is foolish. That a few clever citations of sloppy science is enough to purge any doubts I have about the honesty, integrity and humanity of the new "irradiation" industry. *PHR* is wrong—I can detect the words of a political squib from those of the medical profession, and I won't take the industry's word for anything.

If *PHR* were really concerned about the promises of food safety, it might run an opinion piece on the promises of organic food and its impacts on public health. (Nutrition of trace elements, USDA, Office of Public Affairs, 202-720-4026, for example) (or organic milk—no mad cow disease in organic herds in England).

I really regret that you spend the space to push

inconsequential—or at worst, detrimental—technologies instead of public health.

Bud Hoekstra, General Delivery, Mariposa, CA 95338.

Food and Drug Administration Responds

Mr. Hoekstra has questioned whether irradiating food is safe and environmentally sound. He notes the limits of toxicology and nutrition, limits resulting from the immense complexity of living organisms, particularly humans. In short, he illustrates the concerns that public health officials have faced in assessing whether irradiating food is a safe practice. These concerns are addressed in the articles cited by Dr. Mason.

Mr. Hoekstra implies that assurance of safety is based simply on claims from the "irradiation" industry. This is totally false. Rather, food irradiation has not been allowed until its safety had been positively demonstrated. This demonstration has been a slow and arduous process, requiring several decades and many hundreds of studies (some of which required several years) to accumulate the knowledge we have today. Such studies have been carefully scrutinized by independent scientists throughout the world.

Mr. Hoekstra asks two specific questions: whether manufacturing cesium will pile up radioactive wastes and whether bacteria will be mutated to more harmful forms.

First, radioactive material is not created in manufacturing cesium sources. Radioactive cesium is simply concentrated, purified, and placed in physically secure containers. Cesium has not been an important commercial source of radiation, however.

Second, while irradiation can cause bacteria to mutate, it is not alone in this regard, heat can also cause mutations. As with heat, experience from more than two decades of radiation processing of medical supplies and consumer products, as well as from laboratory experimentation, has not shown such mutations to confer any properties to the bacteria that would be detrimental to humans or the environment.

In sum, while it is important to evaluate any change in food processing carefully, there should be no doubt that irradiation of food has undergone such an evaluation. Such foods would not be allowed for sale unless their safety had been demonstrated. The real issue is, as stated by Dr. Mason, the number of illnesses that might be prevented by applying a safe processing method.

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