RUTABAGA REVIEW

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Food Irradiation: Political and Environmental Aspects

by Doug Smith and Simson L. Garfinkel

(This article is the second of two parts. The first discussed what food irradiation is and its possible risks and benefits.)

The health effects of irradiated food have not been studied at all conclusively. While the process may hold promise, experts on the issue feel that irradiation is being pushed for political reasons, without sufficient attention to the risks posed to people and the environment.

They also worry that the source of radiation being used is more risky than is necessary. The radiation used for treating food is most often extracted from cesium-137 and cobalt-60, two highly radioactive isotopes produced by nuclear reactors. However, radiation can also be made with electricity, using X-ray tubes similar to those in a doctor's office to generate the needed levels of radiation. Alternatively, electron "guns" can be used to spray beams of electrons directly onto food. One of the largest food irradiation plants in the world, located at a port-of-entry into the Soviet Union, uses electron beams made with electricity, but most irradiation plants in the United States use isotopes.

The advantage of electrically-produced radiation is that the power source can be turned off with the flip of a switch; an isotope, by contrast, slowly loses its activity over a great many years. (Cesium-137 takes 30 years to lose 1/2 its radioactivity; cobalt-60 takes 5.) Radioactive isotopes therefore pose special safety problems in their transportation, handling, storage and disposal. Disposing of the radioctive wastes made in the irradiation process would be another problem.

Irradiation plants would themselves be fueled by radioactive wastes from commercial nuclear energy plants. While this recycling of wastes is a plus, some believe that irradiation's proponents want to rush into a heavy irradiation program as a way of dealing with the country's nuclear waste problem, and that they are not willing to take the time to examine all the potential health risks. "We think that the government has all this waste in storage and they want to create a new industry [for it]," says Duane Underwood, a representative of the National Coalition to Stop Food Irradiation.

Others charge that the U.S. Department of Energy (DOE), whose function is primarily nuclear weapons production, is a chief governmental backer of food irradiation for another reason: to boost the nation's plutonium production. Plutonium, which is used in warheads, is made from spent nuclear power fuel; the isotopes needed to irradiate food are a by-product of this process. Despite a drop in plutonium production in the early 1980s — and the current halt, caused by the shutdown of all of the DOE's production facilities — Congress has forbidden the DOE from gleaning plutonium from commercial reactors.

Department of Energy projections for cesium requirements have assumed that there will be 1,000 plants operating throughout the country in 20 years. There is no way this demand could be satisfied without reprocessing the spent fuel from commercial nuclear reactors. On the pro-irradiation side, taking the cesium-137 out of commerical nuclear wastes would make the wastes less radioactive. However, publications such as *The New York Times* and *The Nation* have insinuated that the DOE endorses food irradiation only because it provides a purpose for the reprocessing of nuclear waste. Irradiation foes believe that by creating a civilian demand for the leftovers of a military activity, the DOE might convince Congress to lift its ban.

After the isotopes are produced, they must then be transferred to the irradiation sites, which presents another host of problems. Although radioactive isotopes have been used for many years in research and for medical purposes, food irradiators typically require a hundred to a thousand times more radioactive material. "My concern is that [a] tremendous increase in the amount of radioactive material in and around our communities will likewise increase the risk of accidents," Representative Douglas H. Bosco (D-CA) said before the House early last year. "Food irradiation is a potentially ultra-hazardous technique."

Worker safety in irradiation plants is another issue, and irradiation plants have some of the worst operating records in the entire nuclear industry. "In 1977, a worker at a Rockaway, NJ, irradiation plant accidentally walked into the radiation chamber and received a near-lethal dose of radiation," Bosco said. In 1982, following a radioactive spill, workers at another plant "threw some of the contaminated water down shower drains [and] into the public sewer."

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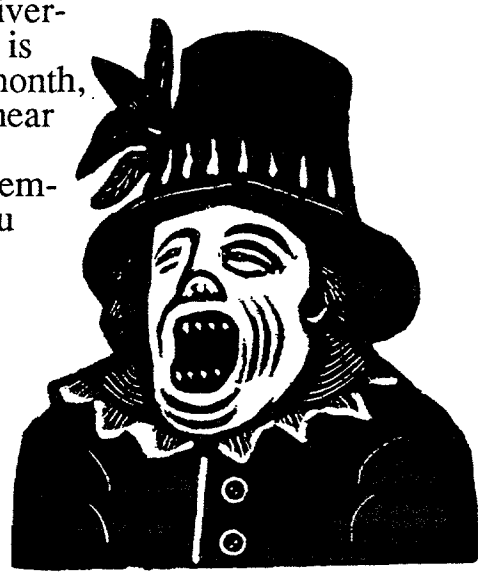
The fifteenth anniversary of the Co-op is coming up next month, and we'd like to hear from members. What do you remember, how have you seen the Co-op change? Send or bring us your short pieces on the Co-op, and see yourself in print.



Irradiation, Continued

Last June, 10 workers at Radiation Sterilizers, Inc., an Atlanta-based irradiation company, were exposed to cesium-137 used in the sterilizing process. The workers' blood tests showed no signs of contamination, but cesium brought out on the shoes and pants of three employees contaminated the carpeting of a car. The clothing and carpeting had to be destroyed.

Last year, Representative Douglas Bosco proposed a bill that would have strengthened the FDA's labeling requirements and funded a $200,000 study by the National Academy of Sciences (NAS) to evaluate the safety of food irradiation. Congress voted against funding the NAS study. At the same time, Congress gave the Department of Energy $5 million to promote food irradiation demonstration projects in six states: Alaska, Florida, Hawaii, Iowa and Oklahoma.

These demonstrations fly in the face of public opinion. Consumers in the U.S. and abroad have repeatedly shown their unwillingness to knowingly purchase irradiated foods, and for this reason most supermarkets will not carry irradiated products: "My primary concern would be the fact that there has been public concern expressed in the media," said Robert Wunderle, a spokesman for Pathmark, a national supermarket chain.

"I avoid those kinds of issues like the plague," Raymond Smith, director of produce operations for Sloan's Supermarkets Inc., told *The New York Times*.

"Even though irradiation is lawful, it appears that no food company wants the public to identify its products with irradiation," said Representative Henry A. Waxman (D-CA), chairman of the House Health and Environment subcommittee, in a hearing last year.

Radiation Technology, a company that irradiates medical products in Rockaway, New Jersey, doesn't irradiate food any more. "[Virtually] no one is irradiating food in this country because we have to put labels on it," says John Schlecht, a radiation physicist at Radiation Technology. "No company is really interested," he says, because of consumer fears about irradiated foods.

At the moment, irradiated foods have not been introduced widely, and this may be attributable to the FDA's requirement that irradiated foods be labeled with both the radura symbol and the words "processed with radiation". The requirement that the words accompany the symbol will expire in April 1990, but every time in the past that the requirement has expired, the FDA has renewed it.

"I'm sure that they will [again]," says Nancy Blair with the Coalition for Food Irradiation, an industry group that seeks to educate people on the subject. "The symbol means nothing to most people. Without the words, nobody knows what it is."

Despite consumer resistance, government agencies and the food industry continue to exercise pressure to implement irradiation. Public concern and education about irradiation must be maintained. Only through continued, honest research and truthful communication of test results can this treatment of our food be finally approved or rejected.

The Co-op and Irradiation

At CFC, we will not knowingly sell irradiated food unless the food is unavailable in non-irradiated form. In that case, the Board would vote on each food item, and theirradiated food would be clearly labeled on the shelf.

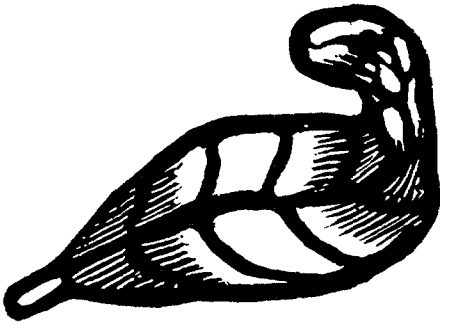
At present, Northeast Co-ops, one of our suppliers, will not sell irradiated food. They ask food producers if their products contain irradiated ingredients, but not all producers have given them full answers. No product sold by Frontier Herbs is irradiated. *(Editor's note: If you are concerned about a specific product or producer, leave a note in the newsletter mailbox, and I' ll see what I can find out.)*

For further information, contact:

The Coalition for Food Irradiation
10509 Walter Thompson Drive
Vienna, VA 22180
(703)255-9195

National Coalition to Stop Food Irradiation
P. O. Box 59-0488
San Francisco, CA 94159.
(415)626-2734

Food and Water, Inc.
(800)EAT-SAFE
(201)625-3111



Foods approved by FDA for irradiation

Food	Purpose	Date
Fruits, vegetables	Slow ripening, control insects	April, 1986
Dry herbs, spices, seeds, teas, vegetable seasonings	Control insects, microorganisms	April, 1986
Pork	Control *Trichinells spiralis* (causes trichinosis)	July, 1985
White potatoes	Inhibit sprouting	August, 1964
Wheat, wheat flour	Control insects	August, 1963