



Smoke and Mirrors: The Truth Behind the ‘Endorsements’ of Food Irradiation

Food irradiation proponents – whether they be from food corporations, government agencies, or international organizations – are quick to cite a variety of endorsements in asserting the safety and wholesomeness of irradiated foods. On closer inspection, however, these endorsements are dubious at best. Consumers deserve reliable information from respected institutions. In the case of food irradiation, however, consumers are not getting the straight scoop.

U.S. Food and Drug Administration

Since 1986, FDA officials have legalized irradiation for fruit, vegetables, beef, pork, lamb and eggs while knowingly and systematically ignoring federal regulations and their own testing protocols that must be followed before food additives, such as irradiation, can be approved for human consumption.

FDA officials have legalized irradiation for these foods while relying on nearly 80 scientific studies that the agency’s own expert scientists dismissed as “deficient.”

Further, none of the seven key scientific studies that FDA officials used to legitimize their first major approval of food irradiation in 1986 met modern standards. (One of them had actually been declared “deficient” by FDA toxicologists; three others were never translated into English.)

And, FDA officials have systematically dismissed evidence that irradiated foods caused genetic damage, reproductive problems, organ malfunction, nutritional deficiencies and other serious health problems in test animals. Much of this evidence resulted from government-funded research submitted to the FDA and members of Congress as early as 1968.

Moreover, officials of the FDA, U.S. Army and other federal agencies who have appeared before Congress have consistently downplayed the potential hazards of irradiated foods.¹

U.S. Department of Agriculture

The USDA has never actually legalized irradiation for any products. In 1999 the agency instituted regulations for the irradiation of beef and poultry, but only after the FDA legalized the irradiation of these foods.² The USDA has not conducted its own independent analysis of the safety and wholesomeness of irradiated beef and poultry.

World Health Organization

The WHO has played a role in abandoning the original research agenda it co-drafted in 1961 – which urged experiments into whether irradiated foods are toxic or radioactive; whether they could cause cancer, mutations or nutritional deficiencies; and whether the scientific expertise even existed to answer these fundamental questions.

The WHO has also played a role in dismissing and misrepresenting evidence suggesting that irradiated foods may not be safe for human consumption. The WHO, along with the International Atomic Energy Agency and the United Nations’ Food and Agriculture Organization, took research that revealed health problems in animals that ate irradiated foods, and stated in key publications that the research actually revealed no health problems that could be attributed to irradiation. Additionally, such research was outright omitted from key publications.³

Further, the WHO has played a role in dismissing recent evidence that chemical byproducts formed in irradiated foods called 2-alkylcyclobutanones (2-ACBs) promoted the cancer-forming process, spawned tumors and lesions, and caused genetic damage in rats; and caused genetic damage in human cells. The scientists who conducted the research cautioned: "Since our results point towards toxic, genotoxic and even tumor promoting activity of certain 2-ACBs, we strongly recommend to carry out further research to elucidate a possible risk associated with the consumption of irradiated fat-containing foods."^{4,5}

International Atomic Energy Agency

The IAEA is not a health, food safety or agriculture organization. Its stated purpose is to "accelerate and enlarge the contribution of atomic energy." Yet, the IAEA is the main sponsor of the International Consultative Group on Food Irradiation (ICGFI), a quasi-governmental agency that advises the United Nations on food irradiation policy. Like the WHO, ICGFI has consistently dismissed evidence suggesting that irradiated foods may be unsafe to eat.

American Medical Association

Though the AMA endorsed food irradiation in 1984, the organization did not do so in a comprehensive fashion. Instead of being a regular agenda item at an AMA meeting, the item appeared on the "consent agenda," meaning that it was approved without any discussion. Further, an internal AMA memo reveals a number of "unresolved" questions within the organization, such as:

- Whether there are any "potential long-term effects on humans."
- Whether irradiated foods "create any adverse offspring affects to animals."
- Whether irradiation "stimulates the production of highly toxic and carcinogenic aflatoxins."
- Whether irradiation "will initiate radiation-resistant strains of bacteria and viruses."⁶

Mayo Clinic

The Mayo Clinic told a New Jersey State Assembly member in 2000: "The Mayo Clinic does not endorse processes or products, and has not made any institutional endorsement of food irradiation."⁷

NASA

The small amount of irradiated food eaten by NASA astronauts hardly represents an endorsement. NASA told a New Jersey State Assembly member in 2000 that irradiated beef steak and sliced turkey "repre-

sent about 2 percent of the total number of food items currently available in the Shuttle food program," and that "no Shuttle crewmember is required to consume the irradiated food items. It is strictly optional."⁸

American Dietetic Association

The ADA endorsed food irradiation in 2000. However, the organization did so, in part, based on the incorrect statement: "Irradiation produces such a minimal chemical change in food that it is difficult to design a test to determine whether a food has been irradiated."⁹

In reality, this test involves the detection of 2-ACBs (see above). 2-ACBs, which have never been found to occur naturally in any food, are so readily detectable in irradiated foods^{10,11,12} that this test has become the international standard for determining whether food has been irradiated.

Notes

- ¹ *A Broken Record: How the FDA Legalized – and Continues to Legalize – Food Irradiation Without Testing it for Safety*. Washington, DC: Public Citizen, Cancer Prevention Coalition and the Global Resource Action Center for the Environment, Oct. 2000.
- ² 64 Federal Register 72150, Dec. 23, 1999.
- ³ *Bad Taste: The Disturbing Truth About the World Health Organization's Endorsement of Food Irradiation*. Washington, DC: Public Citizen, Oct. 2002.
- ⁴ Raul, F. et al. "Food-borne radiolytic compounds promote experimental colon carcinogenesis." *Nutrition and Cancer*, 44(2):189-191, 2002.
- ⁵ Burnouf, D. et al. (Eds.) "Etude toxicologique transfrontalière destinée à évaluer le risque encouru lors de la consommation d'aliments gras ionisés – Toxikologische Untersuchung zur Risikobewertung beim Verzehr von bestrahlten fetthaltigen Lebensmitteln – Eine französisch-deutsch Studien im Grenzraum Oberrhein. Rapport Final d'étude Interreg II, Projet N° 3.171, 2002.
- ⁶ Memorandum from Harold Lubin to Harry N. Peterson, American Medical Association, June 11, 1984.
- ⁷ Letter from Bruce M. Kelly, Director of Government Relations, Mayo Clinic, to New Jersey Assemblyman John V. Kelly, Oct. 30, 2000.
- ⁸ Letter from Vickie L. Kloeris, Subsystem Manager Shuttle and ISS Food, to New Jersey Assemblyman John V. Kelly, Nov. 9, 2000.
- ⁹ "Food Irradiation." *Journal of the American Dietetic Association*, 100:246-253, 2000.
- ¹⁰ Crone, A.V.J. et al. "Synthesis, characterization and use of 2-tetradecylcyclobutanone together with other cyclobutanones as markers for irradiated liquid whole egg." *Journal of the Science of Food and Agriculture*, 62: 361-367, 1993.
- ¹¹ Stevenson, M.H. et al. "The use of 2-dodecylcyclobutanone for the identification of irradiated chicken meat and eggs." *Radiation Physics and Chemistry*, 42: 363-366, 1993.
- ¹² Stevenson, M.H. "Identification of irradiated foods." *Food Technology*, 48:141-144, 1994.



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