Food Safety *Fact Sheet*

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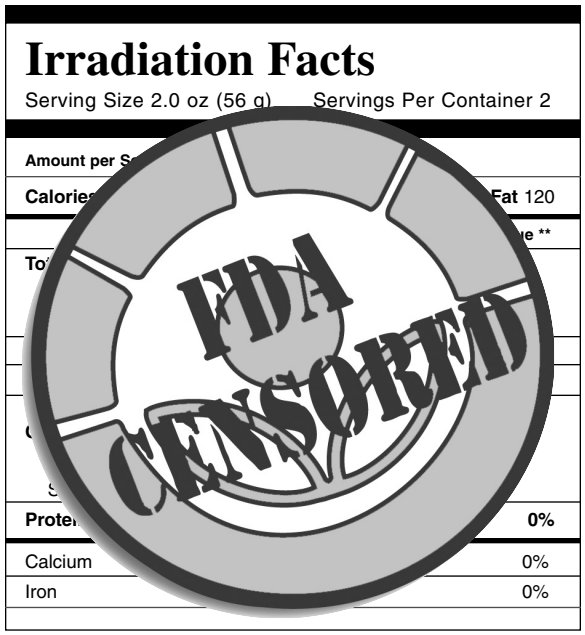
Your Right to Know: FDA Poised to Weaken Labeling on Food Irradiation



WHAT IF THE FOOD AND DRUG ADMINISTRATION (FDA) proposed a rule that would intentionally hide information you rely on to make decisions about what to feed yourself and your family? Or if FDA proposed changing food labeling information to something the agency knows would be misleading to consumers?

Well, FDA has announced just such a rule to weaken labeling of irradiated foods.

Currently, irradiated food must be labeled as "Treated with irradiation" or "Treated by radiation" and must display the irradiated symbol. But now, in yet another attempt to appease industry at the expense of the public, the FDA has proposed a new rule that would allow irradiated food to be marketed in some cases without any labeling at all. In other cases, the rule would allow the terms "electronically pasteurized" or "cold pasteurized" to replace the use of "irradiated" on labels. These terms are not used by scientists, but rather are designed to fool consumers about what's been done to their food.

Consumers have a right to truthful labeling in order to make informed choices for themselves and their families. A public comment period is open until July 3, 2007. Let your voice be heard by writing a letter to FDA via our website, www.centerforfoodsafety.org.

WHAT IS FOOD IRRADIATION?

Food irradiation uses high-energy Gamma rays, electron beams, or X-rays (all of which are millions of times more powerful than standard medical X-rays) to break apart the bacteria and insects that can hide in meat, grains, and other foods.[1] Radiation can do strange things to food, by creating substances called "unique radiolytic products." These irradiation byproducts include a variety of mutagens—substances that can cause gene mutations, polyploidy (an abnormal condition in which cells contain more than two sets of chromosomes), chromosome aberrations (often associated with cancerous cells), and dominant lethal mutations (a change in a cell that prevents it from reproducing) in human cells.[2] Making matters worse, many mutagens are also carcinogens.

Research also shows that irradiation forms volatile toxic chemicals such as benzene and toluene,[3] chemicals known or suspected to cause cancer and birth defects. Irradiation also causes stunted growth in lab animals fed irradiated foods.[4] An important 2001 study linked colon tumor promotion in lab rats to 2-alkylcyclobutanones (2-ACB's),[5] a new chemical compound found *only* in irradiated foods.[6] The FDA has never tested the safety of these byproducts. Irradiation has also been shown to cause the low-level production of furans (similar to cancer-causing dioxins) in fruit juice.[7]

FOOD SAFETY CONCERNS

In addition to the proposed weakening of the labeling requirements for irradiated food, FDA's rule would also severely limit them by requiring companies to label irradiated food *only* when the radiation treatment causes a 'material change' to the product. Examples include changes to the taste, texture, smell or shelf life of a food. Published research on irradiated foods reveals that irradiation does change, and can actually ruin, the flavor, odor, appearance, and texture of food. Such research repeatedly finds that irradiated foods smell rotten, metallic, bloody, burnt, grassy, and generally off. The taste has been described as like sulfur, singed hair, burnt feathers, burnt oil, and rancid fat.[8] Beyond the obvious yuck factor, serious questions remain as to whether irradiated foods are safe to eat.

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Irradiation Destroys the Vitamin Content of Foods

Irradiated foods can lose from 2-95% of their vitamins.[9] For example, irradiation can destroy up to 80% of the vitamin A in eggs, up to 95% of the vitamin A and lutein in green beans, up to 50% of the vitamin A and lutein in broccoli, and 40% of the beta-carotene in orange juice. Irradiation also doubles the amount of trans fats in beef.

Despite 50 years of research, food scientists still do not fully understand how these changes take place. Much of the ongoing research, in fact, is focused on devising new ways to hide these changes, rather than addressing the cause of the changes themselves.

Irradiation is an after the fact "solution" that does nothing to address the unsanitary conditions of factory farms.

IRRADIATION IS NOT THE SOLUTION TO FOOD-BORNE ILLNESS

Using recent food-contamination scandals as a springboard, irradiation has been touted as the solution to food-borne illness in everything from spinach to deli meats. But a good, hard look at the systemic food and agricultural problems that cause these tragic outbreaks in the first place has yet to be undertaken by government agencies.

Masks the Unsanitary Condition of Factory Farms

Irradiation is an after the fact "solution" that does nothing to address the unsanitary conditions of factory farms, and actually creates a disincentive for producers and handlers to take preventative steps in production in handling. The longer shelf life created by irradiation (affording longer shipping distances) also provides greater opportunity for post-treatment contamination via shipping, handling, etc. Additionally, irradiation does not work to stop toxins produced by some bacteria (like botulism); viruses, like foot and mouth disease or hepatitis, are resistant to the irradiation doses used in food; and prions (thought to be the cause of BSE, or Mad Cow disease) are resistant as well.[10]

Contributes to Consolidation of the Agriculture Industry and the Globalization of Food

American food processing companies see the use of irradiation as a potential means of boosting profits. In fact, the motivation for expanding irradiation to additional categories of food may be less about getting rid of disease-causing organisms, and more about increasing market share in international trade. Irradiation can dramatically increase the shelf life of food. This gives corporations more flexibility in marketing and transportation, making it easier for large companies to move some operations to countries with lower labor costs and lower sanitary and safety standards. As in many other "outsourced" industries, American workers, farmers and ranchers, could lose their jobs. In other words, food irradiation supports globalization at its worst, where concerns over long-term health risks carry less weight than the lure of expanded markets. Additionally, since irradiation has become a tool for the globalization of U.S. food production, food irradiation procedures are modeled for large, centralized operations. This furthers the consolidation of "Big Ag" companies and contributes to the destruction of small U.S. family farms—further degrading the security and diversity of our food supply.

YOUR RIGHT TO KNOW: FDA, CONSUMERS, AND THE LABELING LIE

Labeling irradiated foods as "pasteurized" is simply untruthful and misleading. Pasteurization involves heating liquids for the purpose of destroying harmful bacteria and other pathogens, and has been used safely for decades. Any twelve year-old could tell you that irradiation—using high-energy gamma rays, electron beams, or X-rays on foods—is a completely different process than pasteurization.

In fact, FDA's own research found that the proposed change would confuse consumers, stating "Research indicates that many consumers regard substitute terms for irradiation to be misleading." Consumer data has repeatedly shown that consumers recognize and prefer the current labeling requirements of irradiated food. In 2001, FDA conducted focus groups of consumers on this issue. Consumers participating unanimously rejected replacing the term irradiation with pasteurization and reacted with phrases such as, "sneaky," "deceptive," "misleading," and "trying to fool us." Allowing the marketing of irradiated food without any labeling is equally misleading.

For more information and to send comments to FDA, visit our website at www.centerforfoodsafety.org

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[1] 21 CFR 179.26

[2] Anderson, D., M. Brena-Valle, K. Turanitz, R. Hruby, and G. Stehlik. "Irradiated laboratory animal diets—Dominant lethal studies in the mouse." *Mutation Research* (1981) 80:333-345

[3] Peter Jenkins and Mark Worth, *Food Irradiation: A Gross Failure*. Center for Food Safety and Food & Water Watch, January 2006.

[4] Verchurren, H., G. Van Esch, and J. Van Kooy. 1966 Ninety day rat feeding study on irradiated strawberries. *Food Irradiation-Quarterly International Newsletter*, 7(1-2): A17-A21; Spiher, A.T. 1968. Food Irradiation: An FDA Report. *FDA Papers*, Oct.; Tinsley, I.J., et al. 1970 The growth, reproduction, longevity, and histopathology of rats fed gamma-irradiated carrots. *Toxicology and Applied Pharmacology*, 16:306-317; Hagiwara, A et al. 2005. Thirteen-week feeding study of thaumatin (a natural proteinaceous sweetener), stelized by electron beam irradiation, in Sprague-Dawley rats. *Food and Chemical Toxicology*, 43: 1297-1302.

[5] Raul, F., F. Gossé, H. Delinceé, A. Hartwig, E. Marchioni, M. Miesch, D. Werner, and D. Burnouf. 2002. Food-borne radiolytic compounds (2-alkylcyclobutanones) may promote experimental colon carcinogenesis. *Nutrition and Cancer* 44(2): 188-191.

[6] The untranslated report is online at: www.bfa-ernaehrung.de/Bfe-Deutsch/Information/bfeber91.htm (2nd 2002 paper). The full citation is: D. Burnouf, H. Delincée, A. Hartwig, E. Marchioni, M. Miesch, F. Raul, D. Werner (2001), Etude toxicologique transfrontalière destinée à évaluer le risque encouru lors de la consummation d'aliments gras ionisés - Toxikologische Untersuchung zur Risikobewertung beim Verzehr von bestrahlten fetthaltigen Lebensmitteln—Eine französisch-deutsche Studie im Grenzraum Oberrhein, Rapport final d'étude Interreg II, projet N° 3.171. BFE-R--02-02, Federal Research Centre for Nutrition, Karlsruhe, Germany. English translation was done by William Freese Translations of Mt. Rainier, MD. Mr. Freese has a degree in chemistry and more than 13 years experience translating medical and scientific texts.

[7] Fan, X. 2005. Impact of ionizing radiation and thermal treatments on furan levels in fruit juice. Journal of Food Science 70(7):e409.

[8] Peter Jenkins and Mark Worth, *Food Irradiation: A Gross Failure*. Center for Food Safety and Food & Water Watch, January 2006.

[9] Franceschini, et al. *Food Technol*. 13:358 (1959)

[10] "Centers for Disease Control and Prevention, *Food Irradiation*. Division of Bacterial and Mycotic Diseases, CDC, Oct. 11, 2005.