

Report Exposes Irradiated Food Lists and Their Dangers

14 June 2011

Science has been unable to establish the long-term safety of food irradiation and the lasting health effects if any. Yet, almost every food category can now be legally irradiated by government regulators at the expense of our health.

Irradiated foods are exposed to high level radiation for the purpose of sterilizing it. There is an abundance of convincing evidence in the refereed scientific literature that the condensation products of the free radicals formed during irradiation produce statistically significant increases in carcinogenesis, mutagenesis and cardiovascular disease in animals and man. This is in addition to the destruction of vitamins, minerals and other nutrients.

Irradiated Foods List

The following is a list of irradiated foods provided for the [American Council on Science and Health](#).

Purpose of Irradiation	Range (kGy*)	Irradiated Dose Products
Low Dose (up to 1 kGy)		
(a) Inhibition of sprouting	0.06-0.20	Potatoes, onions, garlic, ginger root, chestnut, etc
(b) Insect disinfection (including quarantine treatment)	0.15-1.0	Cereals and legumes, fresh and dried fruits, dried fish and meat etc
(c) Parasite disinfection	0.3-1.0	Fresh pork, freshwater fish, fresh fruits
(d) Delay of ripening	0.5-1.0	Fresh fruits.
Medium Dose (1-10 kGy)		
(a) Extension of shelf-life	1.0-3.0	Raw fish and seafood, fruits and vegetables
(b) Inactivation of spoilage and pathogenic bacteria	1.0-7.0	Raw and frozen seafood, meat and poultry, spices and dried vegetable seasonings.
(c) Improving technical properties of foods	3.0-7.0	Increasing juice yield (grapes), reducing cooking time (dehydrated vegetables)
High Dose (above 10 kGy)		
(a) Industrial sterilization (in combination with mild heat)	30-50	Meat, poultry, seafood, sausages, prepared meals, hospital diets, etc.
(b) Decontamination of certain		

food additives and ingredients	10-50	Spices, enzyme preparations, natural gum, gel, etc.
--------------------------------	-------	---

In essence, most foods available at major grocery chains can be potentially irradiated since the list is inclusive of all food categories.

The population cannot protect itself from the carcinogenic and other harmful insults to the body placed into the food supplies. There is absolutely no tangible benefit to be traded for the possible increased incidence of malignant disease one to three decades in the future.

The United States currently has the highest rate of food irradiation in the world. Canadian neighbours approve only onions, potatoes, wheat, flour, whole wheat flour, and whole or ground spices and dehydrated seasonings for irradiation and sale in Canada. Unfortunately for Canadians, this means they too cannot benefit from the high antioxidant values of spices since the majority would be irradiated.

Irradiation works by splitting chemical bonds in molecules with high energy beams to form ions and free radicals. When sufficient critical bonds are split in organisms contaminating a food, the organism is killed. Comparable bonds are split in the food. Ions are stable; free radicals contain an unpaired electron and are inherently unstable and therefore reactive. How long free radicals remain in food treated with a given dose of radiation or the reaction products formed in a given food cannot be calculated but must be tested experimentally for each food. Different doses of radiation will produce different amounts and kinds of products.

The kinds of bonds split in a given molecule are governed by statistical considerations. Thus, while most molecules of a given fatty acid, for example, may be split in a certain manner, other molecules of the same fatty acid will be split differently. A free radical can either combine with another free radical to form a stable compound, or it can initiate a [chemical] chain reaction by reacting with a stable molecule to form another free radical, et cetera, until the chain is terminated by the reaction of two free radicals to form a stable compound. These reactions continue long after the irradiation procedure.

There are a vast number of new molecules that can be formed from irradiation of a single molecular species, to say nothing of a complicated mixture such as food. Furthermore, the final number and types of new molecules formed will depend on the other molecules present in the sample. Thus, free radicals originating from fats could form new compounds with proteins, nucleic acids [DNA], and so forth.

Irradiation Damages the Quality of Food

The free radicals caused by irradiation kill some bacteria, but they also bounce around in the food, damage vitamins and enzymes, and combine with existing chemicals (like pesticides) in the food to form new chemicals, called unique radiolytic products (URPs).

Some of these URPs are known toxins (benzene, formaldehyde, lipid peroxides) and some are unique to irradiated foods. Scientists have not studied the long-term effect of these new chemicals in our diet. Therefore, we cannot assume they are safe.

Irradiated foods can lose 5%-80% of many vitamins (A, C, E, K and B complex). The amount of loss depends on the dose of irradiation and the length of storage time.

Most of the food in the American diet is already approved by the U.S. Food and Drug Administration (FDA) for irradiation: beef, pork, lamb, poultry, wheat, wheat flour, vegetables, fruits, shell eggs, seeds for sprouting, spices, herb teas. (Dairy is already pasteurized).

Irradiation damages the natural digestive enzymes found in raw foods. This means the body has to work harder to digest them.

If unlabeled, raw foods that have been irradiated look like fresh foods, but nutritionally they are like cooked foods, with decreased vitamins and enzymes. The FDA allows these foods to be labeled "fresh."

Unproven Science

Science has not proved that a long-term diet of irradiated foods is safe for human health.

The longest human feeding study was 15 weeks. No one knows the long-term effects of a life-long diet that includes foods which will be frequently irradiated, such as meat, chicken, vegetables, fruits, salads, sprouts and juices.

There are no studies on the effects of feeding babies or children diets containing irradiated foods, except a very small and controversial study from India that showed health effects.

Studies on animals fed irradiated foods have shown increased tumors, reproductive failures and kidney damage. Some possible causes are: irradiation-induced vitamin deficiencies, the inactivity of enzymes in the food, DNA damage, and toxic radiolytic products in the food.

The FDA based its approval of irradiation for poultry on only 5 of 441 animal-feeding studies. Marcia van Gemert, Ph.D., the toxicologist who chaired the FDA committee that approved irradiation, later said, "These studies reviewed in the 1982 literature from the FDA were not adequate by 1982 standards, and are even less accurate by 1993 standards to evaluate the safety of any product, especially a food product such as irradiated food." The 5 studies are not a good basis for approval of irradiation for humans, because they showed health effects on the animals or were conducted using irradiation at lower energies than those the FDA eventually approved.

The FDA based its approval of irradiation for fruits and vegetables on a theoretical calculation of the amount of URPs in the diet from one 7.5 oz. serving/day of irradiated food. Considering the different kinds of foods approved for irradiation, this quantity is too small and the calculation is irrelevant.

Even with current labeling requirements, people cannot avoid eating irradiated food. That means there is no control group, and epidemiologists will never be able to determine if irradiated food has any health effects.

Science is always changing. The science of today is not the science of tomorrow. The science we have today is not adequate to prove the long-term safety of food irradiation.

Electron-beam Irradiation Today, Nuclear Irradiation Tomorrow.

The source of the irradiation is not listed on the label. The original sponsor of food irradiation in the US was the Department of Energy, which wanted to create a favorable image of nuclear power as well as dispose of radioactive waste. These goals have not changed. Cobalt-60, which is used for irradiation, must be manufactured in a nuclear reactor.

Many foods cannot be irradiated using electron beams. E-beams only penetrate 1-1.5 inches on each side, and are suitable only for flat, evenly sized foods like patties. Large fruits, foods in boxes, and irregularly shaped foods must be irradiated using x-rays or gamma rays from nuclear materials.

Countries that lack a cheap and reliable source of electricity for e-beams use nuclear materials. Opening U.S. markets to irradiated food encourages the spread of nuclear irradiation worldwide.

Irradiation Doesn't Provide Clean Food

Because irradiation doesn't kill all the bacteria in a food, the ones that survive are by definition radiation-resistant. These bacteria will multiply and eventually work their way back to the 'animal factories'. Soon thereafter, the bacteria that contaminate the meat will no longer be killed by currently approved doses of irradiation. The technology will no longer be usable, while stronger bacteria contaminate our food supply.

People may become more careless about sanitation if irradiation is widely used. Irradiation doesn't kill all the bacteria in a food. In a few hours at room temperature, the bacteria remaining in meat or poultry after irradiation can multiply to the level existing before irradiation.

Some bacteria, like the one that causes botulism, as well as viruses and prions (which are believed to cause Mad Cow Disease) are not killed by current doses of irradiation.

Irradiation encourages food producers to cut corners on sanitation, because they can 'clean up' the food just before it is shipped.

What is ironic about regulators that approve food irradiation, is that they believe through their flawed science that irradiated foods are safe, nutritious and wholesome as evident on page 5 in the executive summary of the [SCSH report](#).

Sources:

acsh.org

geocities.com

organicconsumers.org

livestrong.com

inspection.gc.ca

[Irradiated Foods Cause Severe Neurological Damage](#)

[Reference Sources](#)

June 14, 2011

Donate <<http://preventdisease.com/donate.shtml>> to help maintain our newsletter, website and resources.

Write for us <<http://preventdisease.com/writeforus.shtml>> and assist in expanding our content base

Join Us on Facebook<<http://www.facebook.com/pages/PreventDiseasecom/199701427498>>

For the latest updates and connect with other PD members

Contact Us <<http://preventdisease.com/home/contact.shtml>>

Privacy Statement <<http://preventdisease.com/home/privacy.shtml>>

Copyright Statement<http://preventdisease.com/home/terms_conditions.shtml#copyright>

This site is owned and operated by PreventDisease.com © 2010. All Rights Reserved. All content on this site may be copied, without permission, whether reproduced digitally or in print, provided copyright, reference and source information are intact and use is strictly for not-for-profit purposes