

Please contact these Australian Organisations for more info on Food Irradiation:

Australian Freedom & Survival Guide PO Box 66, Kenilworth Q 4574
Greenpeace
FOE -Friends of the Earth
ENUFF—Everyone for a Nuclear Free Future
East Narangba Community Action Group

Check out these web sites.

www.stopfoodirradiation.com

www.citizen.org/cmep/foodsafety/international/australia/

www.purefood.org

REFUSE TO EAT IRRADIATED FOOD TELL YOUR SUPERMARKET MANAGER TODAY!

Sources: Food and Water Inc., Organics Consumers Association, Public Citizen—Ralph Nader

USA Today 22/1/92 p.11A

[www.citizen.org/documents/Dangers of Irradiation Facility Case Study—New Jersey](http://www.citizen.org/documents/Dangers_of_Irradiation_Facility_Case_Study—New_Jersey)

a US Nuclear Regulatory Commission:Byproduct Materials:April 2002

b E Magazine July/August 2000

c BBC News 26/10/01 Nuclear Policy Info nfnznc.gn.apc.org/incidents.html

d Bulletin of Atomic Scientists /Zapping the Food Supply/June 1990

e [Gracelinks.org/nuke/docs/ Food Irradiation](http://Gracelinks.org/nuke/docs/Food_Irradiation)

f Sustainable City

g [greenlivingnow.com/ Food Irradiation/Amy Todisco](http://greenlivingnow.com/Food_Irradiation/Amy_Todisco)

h Blooming Prairie—Feb, 1998

i Herbs and Home/ Sarah's Promise

j US Nuclear Regulatory Commission Report

k www.pure-food.com/food.htm

l Food irradiation—The Global Agenda-Susan Bryce Feb/Mar 2001

m Nuclear Lunch –Dr Joseph Mercola 25/4/01

n Northern Times 14/7/02.

o The Food Campaigner (UK) Ltd. July 2001

p Nuclear Energy Institute Fact Sheet July/2000

q US Environmental Protection Agency www.epa.gov/radiation/topics/understand/gamma.htm

This Fact Sheet is prepared by residents opposed to the proposed Steritech Nuclear Irradiation Facility in Narangba—visit the protest site—187 Potassium Street Narangba.

Why Don't We Want Our Food Irradiated?

**Ask yourself if it has to be irradiated,
what's wrong with the food in the first place?**

Where did the idea of food irradiation originate?

It was the brainchild of the Atomic Energy Commission's efforts in the Eisenhower administration to find practical (and profitable) uses for the flood of radioactive wastes from the production of nuclear weapons. It was called the Atoms for Peace Program.^(a) The push for food irradiation has always come from the Nuclear establishment. ⁽ⁱ⁾

What fuel source is used in the irradiation of food?

Cobalt 60 & Cesium 137. These are byproduct and are the radioactive material that results from the use of uranium or thorium in a nuclear reactor. It is also produced in linear accelerators. ^(a)

What happens when food is irradiated?

Food Irradiation is a technology which uses radioactive isotopes to create an amount of radiation equivalent to 10 million to 70 million chest X-rays. Irradiated food has been described as the "food that would last forever", because the process is used to prolong shelf-life and to kill bacteria and insects. Two of the most toxic and deadly substances known to humanity are used in the process of food irradiation. They are cobalt-60 and cesium 137. ^{(b) (i)}

The radioactive gamma rays break up the molecular structure of the food, forming positively and negatively charged particles called free radicals. The free radicals react with the food to create new chemical substances called "radiolytic products". Those unique to the irradiation process are known as "unique radiolytic products" (URPs). Some radiolytic products, such as formaldehyde, benzene, formic acid and quinones are harmful to human health. Some URPs are completely new chemicals that have not been identified, let alone tested for toxicity. ^{(i) (m)}

Irradiation converts nitrate to nitrite in a dose-dependent manner. Mutagenesis is directly proportional to nitrite concentration. Nitrite is a reactive molecule and reacts with nucleic acids and various amino acids in protein to form the known family of carcinogens referred to as nitrosamines. These have been demonstrated to be potent carcinogens in humans. ⁽ⁱ⁾

What are the detrimental health effects of eating irradiated foods ?

Irradiation reduces levels of essential nutrients in food especially vitamins A, thiamine, B2, B3, B6, B12 folic acid, C, E, K; amino acid and polyunsaturated fatty acid content may also be effected. A 20 to 80% loss of any of these is not uncommon. Cooking irradiated food reduces these levels further. ^{(f)(g)} The loss of vitamins, friendly bacteria, enzymes, effectively render the food “dead” and therefore useless to your body.^(k)

There is a long overdue need for further studies which is emphasized by numerous reports of chronic toxic effects in insensitive studies on test animal fed unextracted irradiated food. These include reproductive damage in rodents and chromosomal damage in rodents, monkeys and children. A study using malnourished Indian children fed irradiated wheat had unusually high chromosomal abnormalities in their blood indicative of future cancer development.

Can I choose not to eat/use Radiated Foodstuffs?

George West of Steritech recently advised in an advertisement in *The Northern Times* that adhesive bandages, tampons, syringes, cosmetics and herbal teas are all being irradiated at Steritech facilities in Australia—local consumers were angry that they may have been using these irradiated products which carry no warning labels to indicate the product has been irradiated. Your freedom of choice has been removed. No labeling is required when you buy processed goods containing irradiated ingredients. Passing off irradiated food as ‘cold pasteurised’ is another deception. ^{(b) (d)} Labeling of loose (unpacked) items will merely require a sign nearby. Items sold in restaurants, school tuckshops etc. will not be labelled. In short, the proposed labelling system will not be sufficient to enable the consumer to avoid irradiated foods completely. ^{(k) (n)}

Does Food Irradiation pose any risks?

Irradiation kills most bacteria, but it does not destroy the toxins created in the early stages of contamination. And it also kills beneficial bacteria which produce both odours indicating spoilage and naturally control the growth of harmful bacteria.

Irradiation also stimulates aflatoxin production. Aflatoxin occurs naturally in humid areas and tropical countries in fungus spores and on grains and vegetables. The World Health Organization (WHO) considers aflatoxin to be a significant public health risk and a major contributor to liver cancer. In addition, irradiation will likely have a mutagen effect on bacteria and viruses that survive exposure. Mutated survivors could be resistant to antibiotics, and could evolve into more virulent strains. Mutated bacteria could also become radiation-resistant, rendering the radiation process ineffective for food exposed to radiation-resistant strains. ^{(f)(g)(m)}

Scientists Speak Out...

There are potentially serious concerns about the issues of waste disposal, engineering safety, transport of radioactive material, production of new isotopes, handling of poorly trained personnel, and others we haven't even thought of yet. Sheldon Margen, M.D. Professor Emeritus, University of California, Berkeley.

I am opposed to food irradiation because it is clear that this process increases the levels of mutagens and carcinogens in the food. The inevitable consequence of this is that two to five decades in the future, the incidence of cancer will increase from what we see now, in direct proportion to the amounts of irradiated food consumed... Thus, food irradiation becomes very expensive both in terms of human lives, as well as health care costs... George L. Tritsch, Ph. D. Roswell Park Cancer Institute, Buffalo, NY.

I am not against food irradiation. I am opposed to the hype, some of which is voiced by people who should know better and therefore appear to be deliberate falsehoods... I and others worked very hard to try to find a useful place for irradiation during the Atoms for Peace program. Unfortunately, we were not able to find it. Noel F Sommer, Ph. D. Emeritus, Postharvest Pathologist, University of California, Davis.

The large scale irradiation of food, as proposed by the industry and administration, represents the largest prospective toxicological experiment in human populations in the history of public health. Samuel S. Epstein, M. D., Professor of Occupational & Environmental Medicine, The University of Illinois at Chicago.

Radiation is a carcinogen, mutagen, and teratogen. At doses of 1000,00 rads to fruits and vegetables, the cells of the fruits and vegetables will be destroyed, but fungi, bacteria, and viruses growing on the fruits and vegetables will not all be killed or inactivated at these doses. They will be mutated, possibly leading to more virulent contaminants. Has anyone addressed this problem? Geraldine Dettman, Ph.D.

Studies first used to evaluate the safety of food irradiation were inadequate to assure there will not be any long term ill health effects. I am not for or against food irradiation, but believe politics—not good science was the basis for its acceptance.^(b)

Dr Marcia van Gemert, Toxicologist & Chair of the FDA Committee that investigated 441 irradiation studies before approval of the process in 1982.

Can things get any worse?

Accidents during transport happen— On 11/9/97, 110 km from Chelyabinsk, a serious accident between a truck carrying radioactive waste including cobalt 60 and a tractor resulted in lids from two containers separating and the other 21 containers suffering varying degrees of damage.

A container of Cobalt 60 was lost at sea from a ship.

The US Nuclear Regulatory Commission (NRC) reports that it is notified of approximately 200 lost or stolen or abandoned radioactive sources each year and they suspect that this is merely the tip of the iceberg. (j)

How can Nuclear irradiation Facilities be terrorist targets?

The International Atomic Energy Agency (IAEA) states that illicit trafficking of nuclear materials has doubled since 1996. There is concern about the rising proliferation of risks and inadequate precautions taken at facilities. Reports from the USA indicate that Nuclear Irradiation Facilities have manned anti-aircraft guns and a 10 kilometres no-fly zone. Terrorist organisations could use cobalt 60 with conventional bombs to make “dirty bombs” to spread radioactive material over a wide area causing radiation poisoning. (c)

Other concerns?

- Dangers of transporting radioactive sources to nuclear irradiation facilities. (d)
- Danger of worker exposure in environments where irradiation chambers are frequently opened to allow foodstuffs to pass in and out rapidly. (d)
- The environmental practices of these facilities. (d)
- It increases the cost of the food.
- Premature adoption of food irradiation will hamper research on its health effects (d)
- Food can be recontaminated from the moment it leaves the facility till it is on the table. (e)
- Most Irradiators use Cobalt 60 now —but the only isotope available in sufficient quantities for large scale irradiation is cesium 137, which is also one of the deadliest. With a half-life of 30 years, cesium 137 remains dangerous for nearly 600 years and is water soluble. Irradiators can change from cobalt 60 to cesium 137 without the public’s knowledge. All Cesium 137 is conveniently owned by governments of nuclear-weapons building countries—it is nuclear waste. (h)(d)(l)
- Spent cobalt 60 rods must be stored as radioactive waste—what are we leaving our children?

Radiation resistant strains of salmonella have already been developed under laboratory conditions. Bacteria called D.radiourans was exposed to between 10 and 15 kilograys (kGy) or radiation for several hours—enough radiation to kill a person several thousand times over—it survived the radiation exposure. (m)

Has the safety of nuclear irradiation of food been investigated?

You be the judge! The uncertainties about safety never appear in the reports of international agencies advocating irradiation. The USA’s Food and Drug Administration reviewed 441 toxicity studies to determine the safety of irradiated foods. Dr Marcia Gemert, toxicologist & the team leader in charge of new food additives at the FDA and the chairperson of the committee in charge of investigating the studies, testified that all 441 studies were flawed. In fact the FDA claimed only 5 of the 441 studies were properly conducted and shakily approved the irradiation of food on those. Since then the New Jersey Medical School’s Department of Preventative medicine has found 2 of those 5 methodologically flawed and the third study revealed animals eating a diet of irradiated food experienced weight loss and miscarriage. The other two studies investigated the effects of diets of foods irradiated at doses below the FDA-approved general level of 100,000 rads. Thus they cannot be used to justify food irradiation at the levels approved by the FDA. (d)(e)(f)

Other studies indicate serious health problems associated with eating irradiated food. Raltech Scientific Services, Inc. under contract to the US Government compiled 12 studies examining the effect of feeding irradiated chicken to several different animal species. The studies indicated the possibility of chromosomal damage, immunotoxicity, greater incidence of kidney disease, cardiac thrombus, and fibroplasia. Are consumers merely guinea pigs for Nuclear Irradiation Profiteers? (f)

Irradiation proponents often claim decades of research demonstrate the safety of food irradiation, but the studies they use are questionable. For instance, their ‘proof’ includes studies completed by Industry Bio-Test (IBT), a firm convicted in 1983 of conducting fraudulent research for government and industry. Some of this discredited work is still used as part of the “scientific” basis for assurances of the safety of food irradiation.

No long term studies on effects to humans of eating irradiated foods have been done.

Don't Companies claim that Nuclear Irradiating is perfectly safe?

Their safety record is so abysmal that it should make government officials think twice about entrusting these companies with handling our food.

- Facilities have caught fire
- Equipment has malfunctioned
- Radioactive waste has been flushed down the toilets into the sewer system
- Radioactive waste has been thrown into the garbage
- Company Officials have been convicted of cover-ups over their mishaps
- Their sometimes casual, incompetent & sometimes criminal approach to safety can have lethal consequences for the public.
- Cover-up and denials.

The Australia and New Zealand Food Authority is the organisation giving the go ahead for the Nuclear Irradiation of our food.

Choice Magazine article (May/2001) forewarned of an increase in power for the food regulator (ANZFA) indicating they will be more answerable to industry interests. In short, it's bad news for the consumer: less representation, less say, and less information about what's happening with our food.

Dispelling some Myths?

- There have been 54 accidents in 152 irradiation facilities in 39 countries in the last 14 years. At least 2 have been in Australia.
- Nuclear Irradiation is not like an X-Ray and cannot be compared with the type of equipment used in medicine eg. Cancer treatments. Gamma rays originate in the nucleus. X-rays originate in the electron fields surrounding the nucleus. ^(q)
- Once Foodstuffs are approved to be irradiated in Australia for export under the World Trade Organisation rules we cannot prohibit the importation of irradiated food. Many Australian farmers are already suffering under economic pressure—how will they compete with cheap irradiated imports that have an extended shelf life.
- It does not matter how many rules and regulations are in place—it depends on how they are policed and monitored—and generally this is the area that is understaffed.
- The very least anyone can say is that the best medical & scientific opinion is very divided over this issue.

What do Companies and Government have to say?

The United States Food & Drug Administration (FDA) approved food irradiation in 1986 basing its decision on five questionable or allegedly negative tests on theoretical estimates of cancer risk, which was claimed to be insignificant and "acceptable". Cancer rates have now reached epidemic proportions. Further risks of cancer, besides other health effects, hardly seem justified by the narrow economic interest of a small industry supported by government bureaucracy and powerful lobbying by the Nuclear Industry .

The Australian authorities appear to follow blindly behind the American Government with no research of their own before inflicting it on the unwary public. Companies around the world—faced with consumer reluctance to buy irradiated products - are lobbying governments to change the labeling on irradiated food to "cold pasteurization" and include a positive statement like "treated to promote health" in order to sell it to a wary public.

If it's not safe why is Food Irradiation being encouraged?

The US Department of Energy (DOE) initially encouraged food irradiation as part of its Byproduct Utilization Program created in the 1970s to promote the commercial use of nuclear products. This would in effect, transfer the burden of nuclear waste from weapons production to consumerism a fact that DOE admitted to the House Armed Services Committee in 1983: "The utilization of these radioactive materials simply reduces our waste handling problem". The USDA gave grants to projects designed to influence public acceptance of food technologies, specifically food irradiation. ^(m)

Still Further Issues?

- Food Irradiation can cover poor hygiene practices and so provides no incentive to clean up food processing operations.
- Irradiation renders contaminants such as insects and rodent faeces sterile, enabling them to go undetected in food supplies.
- Food irradiation supports the trend towards centralised mass production and distribution of foods worldwide. Prolonged shelf life allows the transportation of foods over greater distances contributing to increased fuel consumption and air pollution, more road accidents, socio-economic decline among small-scale local farmers and loss of wildlife habitats to industrial farming and road construction.
- Some organisations use the argument that food irradiation is the answer to the starving people in third world countries. At this stage, it looks like they are only using this argument to further their own interests (globalisation of food irradiation). We are still waiting for some proof this is going to happen—who will meet the costs and will this food bring horrendous health problems in future generations. ^(o)
- Radioactive materials provide substantial economic and employment benefits to Americans. ^(p)