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Through the years, great minds have been exercised as to whether or not the light is on in the fridge after the door has closed! Somehow, in spite of assurances that the light goes off, there is still an element of doubt that some entertain. However, the "glow" in the title does not refer to the fridge light, but the possibility of having irradiated food stored there, and the uncertainties still remain.

Food radiation has been studied for the past 50 years, and is an enduring issue. If the unleashing of atomic power had not come about during World War II, there might have been less debate about radiation today. As it is, the health science professionals are polarized in the arguments surrounding irradiation.

While the World Health Organization and the UN Food and Agricultural Organization, along with the American Academy of Pediatrics, American Medical Association, and the Infectious Diseases Society of America all endorse food irradiation, there is strong opposition to the very idea in Europe and the UK.

Pro-irradiation scientists believe that the process could save around 300 lives, and prevent 900,000 cases of food-borne illness in the US along, per annum, just by irradiating 50 percent of the meat and poultry consumed by Americans. Irradiating (using gamma rays, electron beams, or x-rays) kills parasites and bacteria. Escherichia coli, salmonella, listeria, and campylobacter – all associated with food poisoning world-wide – could be dramatically reduced in incidence by irradiation, which also extends the shelf-life of various perishable food items.

The general public are concerned that irradiated food may lead to people suffering the effects of radiation, and worry about such conditions as radiation sickness and those associated with some cancer treatments. Research shows that people do not become radioactive as a result of eating irradiated food, and that the nutritional values of the foods subjected to the technique are essentially unchanged. There is in any case change in the nutritional status of foods undergoing storage, or in the cooking process.

Scientists antagonistic to food irradiation are generally agreed that further studies on the health effects of irradiation are necessary before irradiation can be accepted as a routine food preservative operation. Their "feet dragging" has some justification. German and French researchers in 2002 found that 2-alkylcyclobutanones unique to irradiated promotes tumor growth in laboratory animals subjected to irradiation in strong doses. Further research will determine whether or not humans will have a similar reaction if consuming foods irradiated at high levels of radiation.

While the EU permitted the sale of some irradiated foods, such as fruits and poultry, it imposed a moratorium in 2002, following the publication of the research, on the expansion of the range of foods permitted to be irradiated.

Perhaps the most worrying concern of those opposed to irradiation is that the process could conceal unsanitary practices in food handling. However "good" irradiation may prove to be, its usefulness could still be limited by the human element. "Wait and see" is the current state of affairs. For the time being, the only glow likely to be seen in the fridge is the light, and that only when the door is open!