



Irradiated Food will not feed the World

“Food irradiation is not a panacea for eliminating waste of food overnight. On the contrary, irradiated food is wasted food.” *David Murray, in Biology of Food Irradiation*ⁱ

The International Atomic Energy Agency (IAEA) thinks that irradiated food is the best thing since sliced bread. A poster child of the “atoms for peace” movement, irradiation extends the shelf life of food and kills insects and pathogens that contaminate food products. The end result is food ready-made for international trade, which is why transnational corporations and desperate governments have jumped on the bandwagon, claiming that food irradiation will end world hunger by safe-guarding surpluses and invigorating export economies. But why should the IAEA be solving world hunger, and just what does irradiation *really* do to food?

Irradiation exposes food to ionizing energy, either from gamma rays, accelerated electrons, or X-rays, which rip apart its molecular structure. The level of radiation used is the equivalent of up to one billion chest x-rays. Irradiation kills contaminating insects and pathogens, but in the process also creates new and unknown chemical by-products and destroys nutrients. Irradiation does not remove, but rather masks the filth caused by unhygienic agribusiness practices including factory farming, dirty slaughterhouses, and unregulated mega-farms. Not exactly a recipe for feeding the world.

Bad Science

The safety of irradiated foods remains hotly debated. No long-term studies have been conducted on the health effects of eating irradiated foods, nor on its effects at different percentages of a population’s diet. Numerous scientific studies have shown adverse effects in test animals fed irradiated food, including cancer, genetic mutations, stillbirths, organ malfunction, nutritional deficiencies, and other serious health problems.

A new class of chemicals called cyclobutanones, a by-product of irradiation not found naturally in any food, has been shown in recent studies to cause cellular and genetic damage in human and rat cells and promote the development of cancer in rats. The issue of cyclobutanones is so controversial that it has effectively held up recent attempts to expand food irradiation legislation at European and international levels.

Approvals in the U.S.A. for food irradiation should not assuage any fears over its safety. The U.S. Food and Drug Administration (FDA) based its approval for food irradiation on only seven scientific studies, which were subsequently shown to be inadequate by modern standards. Similar to the case of GMOs, food irradiation is being approved for public consumption in the U.S. without sufficient research or proof of its safety. Similarly, endorsements made by the World Health Organization (WHO) and the UN’s Food and Agriculture Organization (FAO) have been marred by the reclassification of studies, glaring omissions, and fuzzy politics.

That international organizations and transnational corporations are attempting to sell irradiated food as a solution to the hunger of the world’s poor is highly alarming in light of the many unresolved health concerns. And as an Indian scientist has framed it: **“In many developing countries, malnutrition is widely prevalent and there is evidence that malnutrition could adversely influence the toxicity of many drugs. In such situations, the question of food irradiation thus acquires a new dimension.”ⁱⁱ** The last thing the world’s starving millions need is food of dubious quality, safety, and nutritional value.

Truly Empty Calories

Irradiation depletes many of the vitamins and nutrients in food, thus robbing consumers of its health benefits. Irradiation can destroy between 2

and 95 percent of a food's vitamins and also destroys the chemical composition of proteins, fats, and carbohydratesⁱⁱⁱ. The depletion of nutrients is exacerbated by the extended shelf life of irradiated food, and further still by cooking, resulting in food virtually devoid of any nutritional value.

Again, this is hardly a recipe for ending world hunger. On the contrary, offering irradiated food to starving people is just another slap in the face. As one scientist has summed up: **“The nutritional erosion that would result from widespread irradiation of staple foods would most seriously affect those people in any country who cannot already make ideal food choices because of constraints on income.”**^{iv} The world's poor and hungry simply cannot afford to eat empty-calorie irradiated food.

Dumping “Aid”

The industrialized world has already established the practice of shipping genetically modified foods as aid to developing countries^v, and irradiated food won't be far behind. As foreseen in the 1980s, **“Irradiation may be used to extend the storage life of the developed world's mountains of surplus food, so that these nutritionally depleted stockpiles can be offloaded onto third world countries – adding insult to injury by calling it ‘aid’.”**^{vi} In fact, the extended shelf life of irradiated food will allow for two-way dumping: subsidized staples from the industrialized world that flood developing markets, and tropical fruits and year-round vegetables from cash crops in the South to fill the supermarkets of the North.

Moreover, the movement of irradiated foods across borders is now facilitated by the WTO, whose Agreement on Agriculture includes references to international food irradiation standards. It is thus conceivable that trade disputes could arise in the future over a country's unwillingness to import irradiated food.

Corporate Control

Irradiation is a highly industrialized process that depends on mass production and corporate consolidation in order to make profits soar. As a result,

irradiation throws the demands of peasant movements for agrarian reform and food sovereignty right out the door. Food irradiation requires the cultivation of mono-culture cash crops controlled by companies that can efficiently irradiate the harvests and cheaply ship this produce overseas. Such industrialized agribusiness harms the environment, ecological diversity, and local economies. Moreover, the presence of irradiation facilities brings the very real threat of nuclear accidents that could devastate local communities and vast areas of the environment.

Root Causes?

There is already more than enough food to feed the world, and irradiation will not solve the problem of distributing it to those who need it. Hunger is caused by misallocation of the world's resources, and poverty is a symptom of inappropriate social policies and economic greed. Selling expensive irradiation facilities to developing countries will not solve the problems of poverty or hunger. A practical and effective solution to hunger would entail policy reform coupled with economic and efficient tools for food storage and distribution, such as silos and trucks.

FAO out of Food Irradiation

The FAO and the WHO have sold out to the International Atomic Energy Agency in supporting the wholly counter-productive policy of food irradiation. All three of these international organizations have been complicit in the expansion and development of food irradiation around the world, with an increasing focus on developing countries. Food irradiation has no place in the sustainable development of the world's agriculture, no place in food sovereignty, and no place in the interests of the global population's health. If the FAO is serious about ending global hunger and making the world a better, healthier place for all, it must take a stand against food irradiation, once and for all.

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ⁱ Murray, David 1990 *Biology of Food Irradiation* Research Studies Press Ltd.: England, pg. 218

ⁱⁱ Bhaskaram, C. et al. “Effects of feeding irradiated wheat to malnourished children” in *The American*

Journal of Clinical Nutrition 28; February 1975, pp.130-135

ⁱⁱⁱ Murray, David 1990 *Biology of Food Irradiation*
Research Studies Press Ltd.: England, Chapter 4

^{iv} Ibid. pg. 198

^v See <http://www.foe.org/foodaid>

^{vi} Webb, Tony et al. 1987 *Food Irradiation: Who Wants It?* Thorsons Publishers: Wellingborough, Northhamptonshire pg.51