Submission on A1193 Irradiation of all fresh fruit and vegetables

From: A Consumer of Fresh Fruit and Vegetables in Queensland
(My name and contact details are supplied in the accompanying email)

This submission is in opposition to A1193 on the following grounds:

- Adverse nutritional impacts
- Health safety concerns
- Proposed labeling failures
- Valid safer alternatives

Adverse Nutritional Impacts

Irradiation of fresh fruits and vegetables adversely affects the nutritional value of foods subjected to this process. Suggestions that this is a non-issue due to low individual values, does not take into consideration the total dietary context and long term accumulative effects.

A choice that many Australian families make is to not use a microwave due to its denaturing effect on food. As stated on the FSANZ website, 'When food is irradiated, it's exposed to ionising radiation, either from gamma rays or a high-energy electron beam or x-rays. These rays are similar to microwaves, and pass through the food just like in a microwave…'. This choice to have unadulterated food should not be removed from people who have made a conscientious decision to prioritise the health of their families through the food they consume.

In addition, while the levels of Vitamin C and Vitamin A have been investigated in relation to irradiation of fruits and vegetables, there is no satisfactory evidence that folate integrity is maintained in fresh fruits and vegetables subjected to irradiation. Until there is published peer-reviewed evidence that folate is not adversely affected, humans should not be subjected to experimental science that could plausibly seriously affect in utero development, for example increasing neural tube defects, especially as the preferred source of folate is fruits and vegetables.

As someone who manages life-threatening allergies, and has had to administer life-saving treatment several times, an extreme concern is that irradiation has the potential to modify the tertiary structure of proteins, representing the risk of generating allergenic epitopes. Until adequate and conclusive research has been completed to rule out this potential, irradiation should not be used as a processing option for mainstream foods consumed by an increasingly allergenic population.

Exposing food to ionizing radiation disrupts its molecular make-up, producing free-radicals and potentially other toxic chemicals such as benzene and formaldehyde. Ionising radiation also creates new chemicals called "radiolytic products", some of which do not usually occur naturally in food. The impacts of these have not been adequately studied. One, 2-ACBs, has recently been found "to promote the cancer-development process in rats, cause genetic damage in rats and cause genetic and cellular damage in human and rat cells."

As a consumer who makes 100% of the choice in how our income is used to purchase food, it is not an acceptable option to be faced with being supplied with nutritionally deficient and structurally compromised 'fresh' fruit and vegetables. Particularly as the safety and nutritional integrity of irradiated foods is not established.

Further to concerns about the wholesomeness of irradiated food, is prioritizing the social welfare of consumers. Many people in the general public are not aware of the already excessive list of allowable foods being processed using irradiation. As it is not well-known, understood or an accepted practice they are subsequently not aware of their participation in what amounts to an experiment on the impacts on the human body of introducing wide-scale irradiated foods to the Australian fresh fruit and vegetable supply. Surveys have shown that even when educated, public opinion is negative towards the practice of irradiation and it is not a preferred treatment. For example, market research was conducted for an article that appeared in The Land, "The survey results showed that even when informed, irradiation was not the preferred treatment method among consumers."

Further Health Safety Concerns

Irradiated pet food was responsible for the death and injury of a significant number of cats in Australia, leading to its ban. Between 2008 and 2009, approximately 100 Australian cats developed neurological disorders which led to their paralysis and, in some cases, death. The cause was identified as the consumption of irradiated cat food imported from Canada. As a result, irradiated cat food is now banned in Australia. The European Food Safety Authority has stated that an impact on humans cannot be ruled out. As no vigorous scientific evidence has ruled out this possibility all irradiated foods should be excluded from the human food supply immediately. Until the mechanisms of these adverse health impacts are fully explored and understood, and negative impacts on humans and other species are absolutely ruled out, irradiated foods should be fully excluded from the human diet.

Another concern is the risk of irradiation being used to mask poor production practices and breach of standards. Irradiation can kill most bacteria in food, but it does not remove the faeces, urine, pus and vomit that often contaminate meat or the pests, faeces, or other matter that may contaminate herbs, spices, or fruit and vegetables. Re-irradiation is also permitted to deal with postirradiation contamination and is inadequately monitored.

Proposed Labelling Failures

As a consumer I am neither comfortable nor confident in the intended labelling system. As there is no way to visually distinguish between irradiated and non-irradiated foods, nor to reliably and affordably test for the difference, labelling is of the utmost importance. Current labelling requirements are severely lacking in their comprehensiveness and leave shoppers at the mercy of the integrity of a wide variety of handlers throughout the farm to shelf process. The indistinguishable nature of this process also means it is very difficult for authorities to monitor or enforce labelling in the marketplace. Therefore, despite claims the public has the right know and decide what foods to buy, the appropriate labelling of irradiated foods cannot be satisfactorily assured. This has a high potential to impact upon public confidence and the perception of the integrity of Australia's food industry by everyday consumers.

Valid Safer Alternatives

As there are so many concerns about this process, it has to be wondered if there are other alternatives to achieve the same ends as irradiation. The answer is that other effective options for pest control already exist and are used. For example, some alternatives in current use include cold storage, cold treatment, heat/steam treatment, hot water dips, atmospheric control with oxygen, carbon dioxide or nitrogen, physical disinfestation, i.e. cleaning or washing, pest exclusion zones, early harvesting, organic production and handling methodologies. The array of options available is preferred for their proven ability to manage infestations, their safety in regards to human consumption, and their ability to maintain the nutritional integrity of foods.

Due to the concerns outlined above I oppose A1193 and wish to have my consumer concerns considered. I request that A1193 be declined approval, and that all previous irradiation approvals be cancelled.