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SUBMISSION: Application A1193 – irradiation as a phytosanitary measure for all fresh fruit and vegetables

11<sup>th</sup> December, 2020

To whom it may concern,

I am writing today to express my concern & object to the proposal that is currently in place by the Queensland Government to permit the irradiation of all fruits & vegetables that leave the state. As a consumer of many fresh foods produced in Queensland & transported to Victoria, I see that there are risks involved for offering these foods to my family for consumption should this proposal go ahead.

I offer my concerns in dot point below for your consideration.

- Studies have been conducted that show food that has been irradiated & fed to animals (we are technically animals too yes) provoked genome instability raising serious concerns regarding oncogenic potential of irradiated consumables. I am concerned that if we are to eat these foods that the risk of cancer will increase. 1)
- Will foods that have been produced organically & certified for organic consumers be required to have irradiation prior to transport to other states? If so, this will mean that organic producers will lose their hard-earnt organic status, as no organic certifier will allow food irradiation as a treatment for organic foods.
- Nutrition: Irradiation DOES deplete the vitamin and nutritional content of food. FSANZ says generally that the decrease is no more than with cooking. I do NOT expect our fresh fruit to be "pre-cooked" or for our cooked veggies to lose double the amount of nutrients.
- Radiation Exposure to radiation changes the composition of the food producing "radiolytic products" including free radicals, various hydrocarbons, formaldehyde, amines, furan and 2-alkylcyclobutanones (2-ACBs) (FSANZ A1092)." (A1193, SD1 p 15) I am of the undersanidng that some of these may be harmful. "Furan is carcinogenic to rats and mice, and is classified by IARC as possibly carcinogenic to human beings. 2). 2-ACBs have been linked to DNA damage in humans and cancer in rats. FSANZ does not deny that radiolytic products may be harmful; FSANZ (CFS

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A1193, p 2) states that: ***"Radiolytic compounds generated through food irradiation are not produced at levels that are likely to result in harm."***

Can these levels change? "There is no guarantee that FSANZ will not approve an increase in the permitted radiation exposure levels. Already, some foods, herbs, spices and plants for herbal infusions are approved at much higher levels. The CODEX general standard, which FSANZ refers to expand permits, allows irradiation up to 10kGy, significantly more than the 1kGy requested in this application." 3)

- Irradiating of all fruit and vegetables will adversely affect the nutritional value and safety of significant areas of the Australian and New Zealand food supply. While irradiation uptake is currently low, it is clear that Australians are increasing the amount of plant-based foods in their diets. A blanket approval for all fruit and vegetables could lead to the irradiation of a large part of certain communities' diets. [2019 figures from research company Roy Morgan](#) show that almost 2.5 million Australians or 12.1 per cent of the population now have diets where almost all the food is vegetarian. 4)
- The nutritional and safety assessment fails to include research that questions the safety of irradiated foods and does not present evidence of the safety of a largely irradiated diet. Safety cannot be presumed.
- Where is the systematic data collection or published research to support the claim of safe consumption? Only relatively small amounts of a few foods have been irradiated and eaten, for various lengths of time, and no long-term studies have been conducted on human consumption of irradiated foods. Indeed, FSANZ (A1069, SD1 p. 3) admits that: ***"No consumption data are available, but the amounts sold into the retail trade are known approximately. As the foods have been retailed for several years in a few thousand retail outlets (Eustace & Bruhn 2006), it may be presumed that retailers are actually selling most of the product."***
- FSANZ makes the great error of asserting that a lack of evidence of harm is the same as evidence of safety. To suggest that food irradiation has been proven safe - without any kind of surveillance system - is scientifically indefensible.
- I was shocked to read that irradiated pet food was responsible for the death and injury of a significant number of cats in Australia, leading to its ban. FSANZ has failed to even mention this or include relevant research in its assessment of A1193. "In 2008-9, 87 Australian cats died or were paralysed after consuming irradiated cat food. Ataxia and paralysis in cats in Australia associated with exposure to an imported gamma-irradiated commercial dry pet food. *Australian Veterinary Journal* **87**, 349-351.) FSANZ's initial response (See for example FSANZ (2011) Application A1038 irradiation of persimmons approval report, p. 9) was to exclude the research from its assessments because it had already concluded that the illness was cat specific, despite a lack of solid scientific evidence for this claim." 5)
- Can we fully explore the mechanisms of these adverse health impacts before we consider offering these foods into our food supply?

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- Will you consider some alternatives for food irradiation, such as pest-free zones, physical disinfestation and organic agriculture?

*(Taken from the Friends of the Earth website)*

"Examples include:

***Delayed ripening:*** Many fruits such as bananas and papaya can be picked at a green stage when they are not hosts for fruit flies. They will ripen at the market.

***Whole of systems approach:*** This requires an orchard management system that involves fruit fly baits, traps, removal of all fallen and over-ripe fruit, as well as having a harvest maturity index from fruits.

***Non-chemical de-contamination methods include:*** heat/steam vapour treatment, cold treatment, exclusion zones, modified atmospheres and vacuum packs. For example:

- *Australia exports steam vapour treated mangos to Japan as that country does not permit irradiated or chemically treated fruits. Australia sends chemically treated or irradiated mangos to our domestic markets and irradiated mangos to New Zealand.*
- *New Zealand accepts steam vapour treated papayas from several Pacific countries but not from Australia. Australian papayas sent to Victoria and South Australia are treated with chemicals and can be irradiated (Leu, Andre, OFA newsletter, Organic Update, 31/1/12)."*

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- Australia has a growing organics industry which should be considered & consulted at times like this. Irradiation is a tool of large agribusiness and will be used on top of, not instead of, chemical treatments. So far, there has been little research into the interaction of radiation on pesticides and GMOs.
- Shoppers depend on the integrity and comprehensiveness of irradiation labelling. Where is the reliable and affordable test for irradiated foods? How will state and local authorities monitor them in the marketplace and enforce the labelling requirements? How will FSANZ or state authorities monitor the labelling of irradiated food as well as the food purchased and then used in commercial kitchens, restaurants, juice bars, etc?
- A1193 cannot be claimed to be a mechanism for aligning Australia with overseas regulations or practices. The EU, for example, only permits the irradiation of herbs and spices. Japan only permits the irradiation of potatoes. Despite international agreements stating that they may, many other countries do not have blanket approvals for all fruit and vegetables.
- The applicant being the Queensland Government has a clear & obvious conflict of interest in this application. This casts substantial doubt on, and undermines consumer confidence in, the ability of FSANZ to protect the public health of all Australians.
- I am gravely concerned that the Queensland government has attempted to fast-track A1193 and that FSANZ has changed the dates of public consultation without clear notification to the public. My understanding of the purpose of the Food Standards Act is to ensure public health protection via, amongst other things, "an affective, transparent and accountable regulatory framework, within which the food industry can work efficiently." Public notice requirements are intended to promote accountability and transparency in the regulatory framework.

- 1) <https://www.medsci.org/v15p0274.htm>
- 2) (Seok et al. 2013) (A1193, SD1 p 19
- 3) [https://www.foe.org.au/a1193\\_faq](https://www.foe.org.au/a1193_faq)
- 4) <https://www.news.com.au/lifestyle/health/diet/more-australians-taking-up-vegan-and-vegetarian-diet/news-story/0676836c8695a0e53c24aac4d47d9106>
- 5) (Child, G, Foster, DJ, Fougere, BJ, Milan, JM, Rozmanec, M. (2009).

Yours Faithfully,

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