

SUBMISSION IN RESPONSE TO: Application A1163 Food Irradiation definition of herbs and spices

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Submission re **Application A1163** Food Irradiation definition of herbs and spices

Food Irradiation Watch opposes the irradiation of food and other consumer products, such as therapeutic goods, pet food and animal feed, that are ingested but are not regulated as food under the Food Standards Code. Our concerns are linked to the environmental, health and social impacts of the food irradiation industry, which, in Australia, is a commercial nuclear industry exposing products to ionising gamma radiation from radioactive Cobalt-60, diminishing the vitamin and nutrient content of some products, altering their molecular structures with known health impacts to at least some animals, and exposing the community and environment to the safety and health risks entailed in mining, transporting, using and storing radioactive materials.

Despite our opposition to food irradiation, Food Irradiation Watch supports the proposed amendments to the Food Standards Code as an attempt to ensure uniform interpretation and enforcement of irradiated herbs and spices.

We agree with the applicant, Sapro Australia, that there is/has been a lack of clarity around the definition of approved products. It is our understanding the industry may be taking advantage of this lack of clarity to either not declare, or not label, irradiated products. Our support for the proposed amendments does not signify support for irradiation, but rather a desire to see all irradiated products clearly identifiable through a rigorous labelling regimen.

To that effect, we would like to see both labelling regulations and enforcement improved, and further clarification within the Code to ensure that products that are not approved for irradiation are not irradiated.

We agree that the intention of the original approval for the irradiation of herbs, spices and herbal infusions, was generally understood to be a blanket or generic approval for the irradiation of all herbs and spices, whether or not they were/are listed in Schedule 22. Accordingly, we have had concerns about the breadth of the interpretation as lack of clarity may lead to the irradiation of items not approved for irradiation.

Grey areas abound. Some products, such as garlic or onions, may not be regulatorily defined as an herb or spice when fresh, but may be used as such when dried – or even considered as such by the public.

Irradiation is not approved for fresh bulb vegetables, such as garlic and onion, or other vegetables that may fall in to a seasoning mix. Irradiation is approved for flowers. Dried flowers can be used in herbal teas – regulated as food and as therapeutic goods depending on how they are described. Herb pots are commonly sold in stores. Further clarification is needed, for example, to explain whether whole plant irradiation be permitted if the purpose of the plant is its use as an herb or spice.

Also, some spices, such as salt, are not plant-based. Minerals do not seem to fit in to the regulatory definition of spice. Other products which may be used as or regularly perceived as spices/herbs – such as chicken salt – may contain animal products. Interestingly, in Schedule 22, definitions of herbs and spices also indicate percentage of plant exposure to pesticides. While this may be useful for determining maximum residue limits, it seems to also imply that an herb or spice is something exposed to pesticides. For example, Schedule 22 states “Herbs are fully exposed to pesticides applied during the growing season.” We would prefer wording to “**may be**” fully exposed to pesticides as many growers do not engage in these practices.

It is our opinion that adding the words “but not limited to” improves the understanding of the intention. However, in order to ensure that herbs and spices is an inclusive term, encompassing those products that are generally considered to be such, we would prefer that the explanation or the Code include the words: *“This will be an inclusive definition. That is, the terms ‘herb’ and ‘spice’ are to be given their ordinary and commonly understood meaning. Plant material which falls within that meaning may be irradiated in accordance with section 1.5.3–4. For the purposes of the irradiation permission, a herb may also fall within either the general description in Schedule 22 of what is a herb or be listed as a commodity in the commodity list provided for herbs in that Schedule (and similarly for a spice),”* or something to that effect, as per the FSANZ’s explanation in the Call for Submissions. FSANZ, 6 June 2019 [82-19] Call for submissions – Application A1163 Food Irradiation definition of herbs and spices p 8.)

While not the focus of this application, it behoves us to emphasise that we do not agree with FSANZ’s conclusions that “there was an established need to irradiate these foods and that there were no public health and safety issues associated with their consumption when irradiated up to a maximum dose of 1 kGy.” (FSANZ, 6 June 2019 [82-19] Call for submissions – Application A1163 Food Irradiation definition of herbs and spices p 6.)

We understand this as a positioning statement rather than a fact. Numerous scientific reports question the safety of irradiated food and suggest that the percentage of irradiated food in one’s diet is a determining factor. Some of our concerns are below.

At best, scientific opinion around the safety of food irradiation remains divided. There is little data to support any claim that irradiation has been proven safe as no long term studies of the human consumption of irradiated foods have been conducted. FSANZ concedes that irradiation induces both vitamin and nutritional depletion, and changes to chemical make up in treated foods. These invisible impacts occur on top of any changes/depletion due to storage, cooking, and processing of these foods.

Despite FSANZ’s support and proponents’ claims, irradiation has not been proven safe, as no long-term studies of consumption of an irradiated diet have been conducted. Indeed, SD1 states clearly “consumption data are not available.” (A115 Application for the Irradiation of Blueberries and Raspberries, SD1 page3)

“The USA is the second greatest user of food irradiation by volume after China. 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.” (SD1 page3)

Safety cannot be “presumed.” With “no consumption data available” a scientific statement as to the safe consumption is –let alone the safe consumption for 30 years – is unprovable – and unacceptable.

The whole approach to scientific substantiation in this proposal is concerning, especially with regard to its over-generalisation of the very meagre 'safety' studies to date and the consequent misrepresentation of the potential impact of this expansion of irradiated foods on nutrition and public health. Some of our concerns elaborated further below are:

- The paucity of published accounts of the effects of irradiation on the integrity of folate. The proposal states that only impacts on vitamin C and beta-carotene are relevant. The applicant should provide DIRECT, PUBLISHED and PEER-REVIEWED evidence that folate integrity is maintained.
- The failure to address the food component category collectively known as flavonoids. These various compounds are found almost exclusively in vegetables and fruits and have been linked to risk reduction/prevention of a range of cancers and coronary heart disease.
- The failure to address new research indicating that irradiation has the potential to modify the tertiary structure of proteins, representing the risk of generating allergenic epitopes.

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.

These cases of harm to animals are clear evidence that irradiation may also have negative health impacts on humans. The European Food Safety Authority has stated that an impact on humans cannot be ruled out. As no robust scientific evidence has ruled out this possibility all irradiated foods should be excluded from the human food supply immediately.

Irradiation produces free radicals in food and has been linked to health problems such as nutritional deficiencies, immune system disorders, and genetic damage.

We are gravely concerned about FSANZ’s role as “promoter” and adjudicator on this technology. This is expressed through statements about the process that are indefensible as well as duplicitous. “No food technology has ever been as extensively studied with respect to food safety as food irradiation.” (A115 Executive Summary pg 3) The public expects a certain modicum of neutrality when presented with material to which it is invited to respond. FSANZ’s review of A115 frequently dismisses research indicating the diminishing of vitamin or nutrient content in food or suggesting that they are on par with other food processing techniques – despite the fact that, if approved, these foods will be irradiated and then subjected to storage, cold treatment, cooking and other processing.

The Australian Department of Agriculture is more frank in its admission that irradiation can have undesirable impact on food quality.

“It is now well established that irradiation does affect certain vitamins and other nutrients and does produce peroxides and other radiolytic by-products, some of which may be toxic and/or carcinogenic, and that these effects are dose related.”

“The available scientific evidence supports the use of irradiation as a biosecurity treatment for pet food only in exceptional circumstances. It is not supported for those products likely to be consumed as a significant proportion of an animal’s diet (e.g. kibble).” –

<http://www.agriculture.gov.au/.../questions-and-answers>

Furthermore, a justification for irradiation does not indicate a need for it. The use of irradiation as a “phytosanitary” measure enables corporations to transport and trade food at the expense of the public health, a cost that we all bear. Globally, approval of irradiation for phytosanitary purposes is the exception –not the norm. Irradiation is not a substitute for a holistic fruit fly management plan and promotion of irradiation as an “alternative” to chemical use is disingenuous. Irradiation is a post-harvest “treatment” that it will be used on top conjunction with other chemicals/pesticides in “conventional” agricultural mass production. While some producers may choose to irradiate, a technological “need” for irradiating food does not exist.

Food Irradiation Watch would like to see clear and un-biased labelling of all irradiated products, food, therapeutic good and animal feed. Current regulations do not prescribe labelling statements nor do they require individual labelling of bulk irradiated products, such as fruit. We call on FSANZ to ensure that all irradiated products are clearly and individually labelled, where reasonable.

In line with this, we support the additional words as proposed by FSANZ to ensure that all herbs and spices are understood to be permitted to be irradiated – and therefore require labelling - and we call on FSANZ to further clarify whether items perceived as herbs and spices though identified under other categories in the code, such as onions, garlic, herb pots, etc. will be approved for irradiation and how this will be regulated.