



15 March 2024

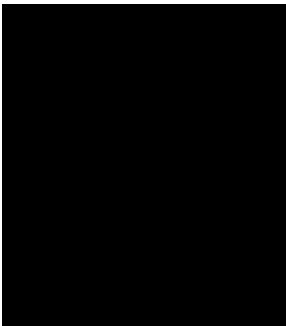
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Tēnā koe

Attached are the comments that the New Zealand Food and Grocery Council wishes to present on the *Call for Submissions – Application A1261 Irradiation – increase in maximum energy level*.

Ngā mihi nui



Chief Executive





**Call for submissions – Application A1261
Irradiation – increase in maximum energy
level.**

**Submission by the New Zealand Food and Grocery
Council**

15 March 2024

NEW ZEALAND FOOD AND GROCERY COUNCIL

1. The New Zealand Food and Grocery Council (**NZFGC**) welcomes the opportunity to comment on the *Call for Submissions – Application A1261 Irradiation – increase in maximum energy level*.
2. NZFGC represents the major manufacturers and suppliers of food, beverage and grocery products in New Zealand. This sector generates over \$40 billion in the New Zealand domestic retail food, beverage and grocery products market, and over \$34 billion in export revenue from exports to 195 countries – representing 65% of total good and services exports. Food and beverage manufacturing is the largest manufacturing sector in New Zealand, representing 45% of total manufacturing income. Our members directly or indirectly employ more than 493,000 people – one in five of the workforce.

THE APPLICATION

3. Steritech Pty Ltd (Steritech) as sought to have the Australia New Zealand Food Standards Code (**the Food Standards Code**) amended to increase the maximum energy level for machines generating X-rays used to irradiate food, from 5 megaelectronvolts (MeV) to 7.5 MeV, provided the X-ray target of the machine source is made of tantalum or gold.
4. Permission to irradiate at a higher energy level will allow Steritech to increase their processing capacity, without resulting in a change to the absorbed dose of irradiation in foods, with no anticipated changes to food composition. Using a higher dose is also expected to be more sustainable (less dependent on radioactive sources, storage and disposal), and more efficient at generating 40-50% more x-rays, therefore more economic.

COMMENTS

Assessment by FSANZ

5. FSANZ addressed use, health and safety concerns in its risk assessment covering:
 - The technological justification for increasing the maximum energy of X-rays permitted to irradiate food from 5 MeV to 7.5 MeV.
 - How irradiation using X-rays of 7.5 MeV compare to other permitted forms of irradiating food – including advantages and disadvantages.
 - Whether it is justified that the metal converter (also called X-ray target) used for irradiation at the maximum energy of 7.5 MeV be prescribed as only tantalum or gold.
 - Whether increasing the maximum energy of X-rays permitted to irradiate food from 5 MeV to 7.5 MeV produces any changes in the treated food, such as any increase in radioactivity.
 - Whether increasing the maximum energy of X-rays permitted to irradiate food from 5 MeV to 7.5 MeV produces any unsafe components in the irradiated food compared to other permitted forms of irradiation to treat food, and if so, whether these changes raise any safety concerns for the consumption of the treated food.
6. FSANZ considers that increasing the maximum energy of X-rays permitted to irradiate food from 5 MeV to 7.5 MeV, provided the X-ray converter (or X-ray target) is made from the metals tantalum or gold, is technically justified.
7. Increases in the efficiency of X-ray generation increase the treatment efficiency and rate of throughput of irradiating food for both phytosanitary treatment to control pests and sanitary treatment for food safety and quality purposes. NZFGC therefore supports the

fact that this is advantageous to both the supplier of the food to be irradiated and the irradiating plant.

8. FSANZ's assessment also concluded that the induced radioactivity in food associated with irradiation at 7.5 MeV X-rays is much less than the natural occurring radioactivity in non-irradiated food and even less than the natural levels of background radiation consumers are exposed to from non-food sources.
9. Because it is the dose of the irradiation that is important for any compositional or nutritional changes to the treated food, not the energy source of the incident radiation, and this application does not propose to change the irradiation dose, there are no expected changes to the food composition or nutritional impacts.
10. In addition, toxicity and genotoxicity studies with foods irradiated with 7.5 MeV X-rays using doses higher than those approved in the Code also found no evidence of adverse effects.
11. Many other countries permit foods to be irradiated foods irradiated with 7.5 MeV X-rays, as set out in the Call for Submissions document.
12. NZFGC therefore agrees with FSANZ's conclusion that there are no public health and safety concerns associated with the consumption of food irradiated with 7.5 MeV X-rays at the approved dose levels when using tantalum or gold as the X-ray target.