

**From:** [REDACTED]  
**To:** submissions [REDACTED]  
**Subject:** RE: Stop the new irradiation food proposal by the Queensland Government.

**From:** [REDACTED]  
**Sent:** Thursday, 10 December 2020 9:10 PM  
**To:** submissions <[submissions@foodstandards.gov.au](mailto:submissions@foodstandards.gov.au)>  
**Subject:** Stop the new irradiation food proposal by the Queensland Government.

Please say NO to the A1193 proposal by the Queensland Government to irradiate the Queensland fruits and vegetables... There is significant scientific research to prove this concept is dangerous to the health of Queenslanders. I am attaching the scientific data as part of my submission/objection.

I and my family strongly oppose this A1193 proposal

Submission

Comments re: Application A1092:

Irradiation of specific fruits: apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash

prepared by

[REDACTED]

Supported by  
Gene Ethics Friends of the Earth MADGE  
GM-Free Australia Alliance

Executive Summary

We recommend that FSANZ reject proposal A1092 on the following grounds:

- Irradiation of apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash would adversely affect the nutritional value and safety of significant components of the Australian and New Zealand food supplies.
- Combined with fruits and vegetables already approved for irradiation, this proposal would constitute a major reduction in the nutritional value and safety of the human food supply in both countries, yet A1092 is being assessed in isolation from its total dietary context.
- Irradiated pet food was responsible for the death and injury of a significant number of cats in Australia, leading to its ban. 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, no irradiated foods should be allowed to enter the human food supply.

- • The Queensland government has a clear conflict of interest by being both the applicant for A1092 and, as a member of the Legislative and Governance Forum on Food Regulation, being one of the final arbiters of the decision on its own application.
- • The nutritional and safety assessment process lacks scientific rigour, relying heavily on unpublished – non-peer-reviewed research submitted by the applicant.
- • The Legislative and Governance Forum on Food Regulation (the Forum) has been derelict in its duty to canvass all potential management, chemical and technical replacement options to follow the final phase-out of fruit fly insecticides. These chemicals have been under APVMA review since the mid-1990s because of their known toxicity to humans. A thorough process to review all fruit fly control options should precede any further approvals to irradiate fresh fruits and vegetables.
- • FSANZ also ignores the numerous alternatives to irradiation that exist for achieving the stated phytosanitary goals of A1092.
- • The Forum and FSANZ have been derelict in their duty to protect the public health and safety, by failing to facilitate the much earlier and more timely phase out of highly toxic dimethoate and fenthion in which fresh fruits and vegetables were dipped to control fruit fly larvae.
- • In its cost/benefit statement, FSANZ inflates the claimed benefits of approving A1092 while diminishing the impacts of the known hazards, risks and costs of irradiating apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash - impacts that the whole community will bear.
- • Labelling requirements are weak and there is no way to visually distinguish between irradiated and non-irradiated foods. Thus shoppers depend on the integrity and comprehensiveness of irradiation labelling.
- • As there is no simple, reliable and affordable test for irradiated foods, it is difficult for state and local authorities to monitor them in the marketplace and to enforce the labelling requirements.
- • Despite the assessment's claims that the public has the right to know and decide what foods to buy, the future labelling of all irradiated foods is not assured, as the Forum has commissioned FSANZ to

review (with the intention of terminating) all labelling requirements on irradiated food products. The "review" is expected to commence this year (2014).

- • Despite FSANZ' claim, there is no reliable and contemporary evidence that the Australian and New Zealand public are aware of, or will consent to, the widespread irradiation of the fresh fruit and vegetable supply;
- • No other countries (or states) expressly require the irradiation of apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash, so approval of A1092 cannot be claimed to be a mechanism for harmonization of trade regulations.

We call on FSANZ to adopt option 2 and reject A1092 which seeks permission to irradiate apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash. The grounds for our recommendation are:

- o ☐ the safety and nutritional integrity of irradiated foods is not established;
- o ☐ the application and the assessment are flawed in the ways we discussed above;
- o ☐ the technological need for this irradiation has not been established;
- o ☐ irradiation is not the only effective option for fruit fly control that exists or is used now;
- o ☐ the assessment has no cost/benefit analysis of other phytosanitary measures;
- o ☐ FSANZ must ensure a whole systems approach is used that would guarantee - or at least make accessible – other approaches to quarantine solutions;
- o ☐ A1092 offers no credible benefits to Australians or New Zealanders;
- o ☐ if A1092 were approved, the Australian and New Zealand public would be unfairly and

unnecessarily exposed to further risks, costs and hazards;

- o ☐ exporting apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash may expose local growers to greater competition from imported produce, further reducing or wiping out local production;
- o ☐ if further fresh foods were approved, only full, honest irradiated food labelling would support public confidence in the wholesomeness of Australian foods and the integrity of the food industry itself.

As a matter of urgency, and in the public interest, we call on FSANZ to:

- o ☐ Decline approval for the irradiation of apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash
- o ☐ Refuse any further irradiation approvals and to
- o ☐ Cancel all previous irradiation approvals.

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## 2. Introduction

FSANZ's Food Regulation Review Process has a clear, legislated mandate to protect public health and safety. This mandate is also reflected in the UN Codex Alimentarius, where protection of public health and safety is paramount, and issues of free trade and food promotion are also secondary.

FSANZ consideration and approval of Application A1038 to allow the irradiation of persimmons and A1069 for the irradiation of tomatoes and capsicums revealed serious shortcomings in the process of safety assurance. The major areas of our concern we raised in our submissions related to the lack of objective standards for safety and risk assessment, the processes used to determine these, and the quality of dietary modelling used to predict likely consumption patterns. Our legitimate concerns and representations were ignored.

Similar flaws are apparent in FSANZ's assessment of Application A1092, which combined with irradiated tomatoes and capsicums represents quantum leap in risk to public health because of the much large per capita intake of the proposed fruits by the Australian and New Zealand public.

We therefore recommend that Application A1092 be rejected on the basis that:

1. Public health and safety has not been adequately demonstrated by the scientific data available and

therefore cannot be guaranteed

2. The technical data that the nuclear industry and the Queensland Government submitted are an

inadequate basis for a robust assessment

3. Claims for commercial and economic benefits from approving A1092 are erroneous and

unsubstantiated

4. Claims for consumer acceptance of irradiated foods are biased and unsubstantiated.

We also recommend that the appropriate, precautionary public health response to official advocacy for

irradiation technology and its sterilized products is to:

☐ Initiate a moratorium on the irradiation of all foods in Australia and New Zealand, and the importation of irradiated food products, until independent and competent experts have fully explored the aetiology of the toxic effects observed in cats that ate irradiated animal feed

☐ Maintain this moratorium until the demonstrated increase in allergenicity associated with irradiation has been specifically and experimentally discounted in apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash and other food approved for irradiation

☐ Overhaul FSANZ assessment protocols used to evaluate the safety of irradiated foods, to incorporate these new understandings of potential toxicity in mammalian species (Specifically, leukoencephalomyelopathy and allergenicity)

□ Place the onus for addressing these safety concerns on the applicant government, and the nuclear and horticultural industries which utilize food irradiation.

Though labelling is not the subject of Application A1092 per se, the promise of labelling is used to suggest that shoppers will have their right to know met and will have the option of avoiding irradiated food if they so choose. The assessment fails, however to inform the public, that the requirement for mandatory labelling for irradiated food is soon to be reviewed – with the clear bias towards its removal.

In correspondence to Senator Nick Xenophon, Health Minister Fiona Nash has stated that the purpose of the review of mandatory labelling is to “assess whether there are better ways to communicate the safety and benefits of irradiated food to consumers.”

In correspondence with Food Irradiation Watch, Victorian Minister for Agriculture and Food Safety Peter Walsh stated

"The review [of mandatory labelling requirements] has been requested to assess whether this is a more effective approach to communicate the safety and benefits of irradiation to consumers. The FoFR noted that improving consumer confidence in irradiation will reduce disincentives for increased uptake and broader application of the technology by industry." (Dec 18, 2013)

A plan to increase “uptake” is not an acceptable rationale for the removal labelling in a democracy – particularly one in which the market is meant to be based on informed consent of consumers. Irradiation labelling, in fact, needs to be more stringent and more tightly monitored and controlled. The current labelling regime is inadequate as it leaves a majority of irradiated foods either unlabelled or deceptively labelled. For instance, irradiated apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash will not require individual labelling.

We call on policy-makers to amend Food Standard 1.5.3 to require irradiated is all labelled as such and that non-packaged irradiated foods such as fruit and vegetables are individually labelled. Labelling must include the words "irradiated" or "treated with radiation" or “treated with irradiation”.

Our call for strict labelling is made in the public interest, to satisfy everyone’s right to know that foods were made or processed using technologies specified in Food Standard 1.5. This does not signify our support for food irradiation.

The scientific evidence on irradiated foods is, at best, divided and unresolved in its conclusions on their safety. New research and real-life experience in Australia suggests that irradiation can have serious health impacts, at the very least on domestic animals. The precautionary principle should, therefore, be rigorously applied. No monitoring or long-term studies have been conducted on the human consumption of irradiated foods yet a clear health impact has been demonstrated in cats in Australia.

The onus is on the irradiation industry to prove food irradiation safe. This Queensland Government application and FSANZ assessment fail this test.

### 3. Overview of Concerns

On August 28, 2014, Food Standards Australia New Zealand (FSANZ) announced a six week public consultation for Application A1092, an application made by the Queensland government for approval to irradiate apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash.

Herbs, spices, herbal infusions and nine tropical fruits, persimmons, tomatoes and capsicums had been approved for irradiation in Australia and New Zealand. Pet foods, medicinal goods, and seeds and grains for animal consumption may also be irradiated. These are not classified as “food” under Australian law as they fall under different regulations and require no labelling.

We oppose the irradiation of apples, apricots, cherries, honeydew melons, nectarines, peaches, plums, rockmelons, strawberries, table grapes, zucchinis and scallopinis (summer squashes).

- • We have unresolved concerns about the wholesomeness of irradiated food as well as the environmental and social impacts of irradiating our food, especially our fresh fruit and vegetable supply.
- • We are alarmed at apparent regulatory bias expressed through the lack of scientific rigour applied to FSANZ's assessment of irradiated food.
- • We do not believe that the applicant has proven there is a technical need for the approval of irradiation of these fruits.
- • We question the benefit of irradiation as a market access tool for producers and we believe that any perceived benefits for consumers are outweighed by the costs.
- • We have further concerns that despite constant re-iteration throughout FSANZ draft approval that irradiated food is labelled, FSANZ' document fails to mention that it will conduct a "review" of mandatory irradiation labelling this year – with the Ministerial Forum's explicit intention of removing the mandatory labelling requirements.

While acknowledging in its assessments and fact sheets that irradiation may deplete vitamin and nutritional content, FSANZ has so far justified irradiation approvals on the basis that the approved foods made up a minimal part of the Australian and New Zealand diet.

But that will dramatically change if irradiated apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash are approved as these foods along with tomatoes and capsicums are regularly consumed as a core part of the diet by many members of the Australian and New Zealand public.

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." (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 safeconsumption 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:

- o 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.
- o 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. This application provides NO evidence that flavonoids are not modified when exposed to irradiation.
- o 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. FSANZ and the applicant have still not adequately addressed this concern in either the application or the various responses.
- o FSANZ has not adequately dealt with the misinterpretation of the results of dietary intake studies.

Finally, and of most concern, is the process by which the application and all the issues it raises are being considered. The applicant is the Queensland Government, which also participates as a member of the Forum in the health and safety assessment of the application. This clear conflict of interest casts substantial doubt on the Forum's and FSANZ capacity to protect the public health of all Australians and New Zealanders. This uncertainty undermines consumer confidence.

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.

FSANZ has suggested that the impact of irradiated food on cats was species-specific, however FSANZ now acknowledges that the US Food and Drug Administration (FDA) is also investigating the possibility that consumption of irradiated food led to the serious consequences for dogs. Species-specificity is an assumption made by FSANZ – not a scientific fact. Research indicating potential neurological impacts on cats, was produced prior to the irradiation of cat food for the Australian market. Despite known risks, regulators allowed irradiation to take place, recommending irradiation as a quarantine measure. It was irresponsible for the regulators to promote irradiation in light of the known risks – a similar situation involving other animals, including humans, cannot be ruled out.

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.”

“Irradiation destroys and disrupts vitamins, proteins, essential fatty acids and other nutrients in food – sometimes significantly. It can destroy up to 80 percent of vitamin A in eggs and 48 percent of beta-carotene in orange juice.”

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

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 under revised Standard 1.5.3 to deal with post- irradiation contamination and is inadequately monitored.



Application A1092 suggests that irradiation is necessary to kill fruit fly larvae, in particular Queensland fruit fly, to enable increased trade of apples, apricots, cherries, nectarines, peaches, plums, honeydew, rockmelon, strawberries, table grapes, zucchini and squash grown in areas that are potentially fruit fly infested.

This 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. This is important to note in A1092 as several of the proposed fruits are not grown – or not grown in significant quantities – in Queensland. It can be presumed, therefore, that this Application is to facilitate the importation of irradiated produce from overseas or interstate.

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.

Providing shoppers with nutritionally depleted and potentially harmful foods to protect and expand interstate or overseas trade is unacceptable.

Aware that members of the public see irradiation as a “high risk, low benefit” technology, FSANZ repeatedly seeks to legitimise the process by stating that a technological “purpose” for irradiating food has been established. In fact, a technological “need” for irradiating food does not exist. The many other alternatives for fruit fly treatment must be thoroughly explored before resorting to irradiation but this process has not been undertaken.

### 3. Flawed Assessment and Regulatory Bias

Australians and New Zealanders expect our food regulator to be scrupulous, stringent and non-biased in its assessment of new foods under Standard 1.5. Research shows that the public have faith in the government to look after public interest. FSANZ is also expected to adhere to internationally recognised standards of peer-review for the science it relies upon when making decisions and present relevant science with honesty and integrity.

But in this case FSANZ has let the public down by basing its assessment on evidence tainted with a pro-irradiation bias- relying on research conducted by the applicant for its main assessment of nutritional impacts of irradiation, and concluding that based on previous information presented by the applicant no further dietary assessment should be required.

Earlier this year, FSANZ published a report “Nutritional impact of phytosanitary irradiation of fruits and vegetables (February 2014). This report is primarily a literature review which draws heavily for current validation on unpublished research conducted by the proponent of this application.

FSANZ bases much of its assessment of this Application on the findings of the above report, non-independent – non-peer-reviewed investigations and its previous assessment of Application A1069 for the irradiation of tomatoes and capsicums. That assessment was also based on unpublished research that the applicant submitted. The standards set for scientific rigour are well below what the scientific community would expect from our regulator: at least peer-reviewed by independent experts.

FSANZ is mandated to ensure that new food processing and treatment systems and processes are safe. So we expect FSANZ to reject this application until the scientific basis for the applicant’s claims has survived the rigours of academic and scientific peer scrutiny.

### Detailed Comments re Safety, Dietary Modelling and Consumer Preference

The public is asked to assume the risks of irradiation for the benefit of a few minor operators who want to trade freely in fruits and vegetables. This application places the health and safety of millions of citizens below the interests of the Queensland Government and its backers, even though they have many other options for managing fruit fly.

For instance, while treatments may vary according to desired outcome, some of the alternatives currently in use include:

- Cold storage
- Cold treatment
- Heat/steam, vapour treatment
- Hot water dips
- Atmospheric control with oxygen, carbon dioxide or nitrogen
- Physical disinfestation, i.e. cleaning or washing
- Hygienic and safe production management practices
- Pest exclusion zones
- Early harvesting
- Organic production and handling methodologies

#### 5a. Dietary Modelling

FSANZ's approval of earlier applications (herbs, spices, tropical fruits, persimmons) were justified partly on the basis of the relatively low intake per capita of these foods. But the present application and the recent approval of tomatoes and capsicums represents a quantum leap in the risk to Australian and New Zealand public health, given the very high levels of intake of these foods. Dietary modelling indicates that the inclusion of these 12 fruits in the already excessive list of allowable foods is a substantial increase in what amounts to an experiment on the effects of intake of irradiated food on a national population.

#### 5b. Safety Assessment

We are highly concerned that the issues we raised about FSANZ's general approach to safety assessment and dietary modelling in previous assessments (A1038 – Persimmons and A1069 – Tomatoes and Capsicums) have been either ignored or trivialised in this latest assessment.

The FSANZ position of "no toxicological hazards" is incorrect, since it makes no reference to new evidence of an allergenic effect from low doses of irradiation. This allergenicity is due to the protein, rather than lipid, content of the food, which undermines FSANZ's contention that the low lipid content of fruits makes toxicity unlikely.

For example, there is a paucity of published accounts of the effects of irradiation on the integrity of folate. The proposal states that only the integrity of vitamin C and beta-carotene are relevant. Scurvy and vitamin A xerophthalmia are extremely rare in Australia, so the sole focus on vitamins C and A are spurious. Folate is relevant to nutrition in Australia, as inadequate folate intake has prevalent consequences such as neural tube defect, despite the fortification of the bread supply with folate.

For example, zucchini contains 17 micrograms per hundred grams of folate. The EAR for young women is 320 micrograms per day. Despite widespread fortification of cereal products, the preferred sources of folate are vegetables and fruits. Any potential deterioration of folate in these foods would represent a significant public health risk. The applicant should provide DIRECT, PUBLISHED and PEER-REVIEWED evidence that folate integrity is maintained.

Another example is 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/prevention of a range of cancers and coronary heart disease. Flavonoids are complex organic molecules, and thus potentially radio labile. Apples are a major source of quercetin in the Australian diet. Cherries are one of the few foods that contain peonidin and likewise strawberries are an important source of anthocyanidins. This application provides NO evidence that flavonoids are not modified when exposed to irradiation.

We previously have raised the concern that whilst high irradiation will obliterate food proteins, at the lower dosages proposed, irradiation has the potential to modify the tertiary structure of proteins presenting the risk of generating allergenic epitopes. A recent study has shown that smaller irradiation dosages (~1 Gy) can render protein more allergenic than either non-irradiated protein, or protein irradiated at a higher dosage. It has been speculated that this effect may be due to increased exposure of conformational and linear epitopes resulting from the formation of partially unfolded and aggregated species in response to irradiation. Prevalence of allergies to vegetables and fruits are low, but not insignificant, and most likely due to reactions to glycoprotein food components. FSANZ and the applicant have still not adequately addressed this concern in either the application or the various responses. We also have previously identified serious misinterpretation of dietary intake studies which FSANZ has not adequately addressed.

FSANZ has belatedly acknowledged the feline pathogenic model for toxigenicity related to consumption of irradiated food despite providing no insight into the exact mechanisms involved in this toxic effect. To arrive at the conclusion that these effects are indeed cat-specific, other animal models would need to have been tested. It is incumbent upon FSANZ to present these data to substantiate their conclusions). Until the specific mechanisms of toxicity are elucidated, it is irresponsible to declare these observations “not relevant” to humans. A pertinent analogy is that thalidomide is not teratogenic in rodents, but is devastating for humans in utero. On this basis, it is remarkable, and indeed irresponsible, that FSANZ categorically deems this model to be irrelevant to human health.

Contrary to FSANZ’s implications, irradiated food is not “chemical free” since irradiation causes the accumulation of radiolytic compounds, such as alkylcyclobutanones, to levels not seen in untreated food.

There are at least five radiolytic biomarkers available to test for irradiated food (namely n-pentadecane, 1-hexadecene, 1,7-hexadecadiene, n-heptadecane and 8-heptadecene). The chemical changes to meat in response to irradiation are detectable, repeatable and specific.

Claims that no significant change to fruit occurs due to irradiation are also misleading. Delayed ripening – an acknowledged and sometimes sought-after outcome of irradiation - is indicative of major, biologically significant compositional change. Claims that macronutrient content are unaffected is also incorrect and misleading. Irradiation causes substantial documented changes to both proteins and lipids.

#### 5c. International precedents

FSANZ justifies approving the application - in part “by virtue of consistency with other international regulations on irradiated food”. This is misleading. While some countries have general approvals for fruits and vegetables, the 12 fruits specified in A1092 do not generally require irradiation of for any purpose.

In a search on the IAEA irradiation authorisation database “Irradiated Food Authorization (IFA) Database (IFA)” of the proposed 12 fruits, only strawberries came up as specifically listed for irradiation in a few instances. None of the others were listed specifically for any country.

FSANZ also cites the Codex revised standard on irradiated food (2003) in support of their proposed approval. However, this Codex document predates the emergence of well-documented, but little understood, serious toxic effects of the consumption of irradiated food.

#### 5d. Review of consumer attitudes: Consumer rejection of irradiated food.

Both industry and governments know that irradiation is highly unpopular with Australians and New Zealanders and that synthetic chemicals have fallen out of favour too. So many people will find a problem with the unpleasant “choice” this application purports to offer: irradiation or organophosphates.

Appendix B also comments on Australian’s rejection of irradiated foods. Recent surveys, industry reports and even media from irradiation supporters acknowledge consumer opposition or concern about the technology and point to a need for marketing strategies to gain public acceptance if the irradiated food industry is to grow. Unfortunately for the consumer, the industry sees clear and accurate labelling as a threat to, rather than a marketing strategy for, irradiated food.

Research commissioned by irradiation supporters themselves reveals little public awareness about irradiation and consumer hesitation to support it. An overview of some of the issues brought up by recent tomato and capsicum approvals appeared in *The Land*. It clearly articulates retailer concerns about consumer perception of irradiation- Woolworth’s basically states that identifying products as irradiated will be a death-knell to their purchase. The article reveals market research in to inaccurate or deceptive statements such as “cold sterilisation” which would make irradiation more palatable to the consumer. Ultimately, “The survey results showed that even when informed, irradiation was not the preferred treatment method among consumers. “Some of the key points follow:

“In the eyes of the public

Perhaps the biggest battle facing the further implementation of fresh produce irradiation is public awareness.

Retailers have expressed concern over public resistance to the very term irradiation” and a consumer backlash against them.

Woolworths declared it is not willing to “go it alone” on the introduction of irradiated produce to the public.

When questioned about the company’s position at the Horticulture Australia Limited (HAL) November 2012 Forum in Sydney, Paul Harker, head of produce, Woolworths said the industry needed a united voice on the subject before it proceeds.

“It’s going to be an extremely emotional product and we are not going to stand alone trying to convince Australian consumers that there is nothing wrong with irradiation,” Mr Harker said. “We’ve communicated that back to industry and we said unless there is a concerted campaign that is led not only by the people peddling irradiation as an alternative, but unless the government and everyone else is involved in actually talking to the customer about it, the last thing I am going to do is plonk it on my shelf because I can tell you that fresh produce sales will die. People won’t shop there.” (our emphasis)

An Aldi spokesperson said the supermarket chain had nothing to say about the topic. Fairfax Agricultural Media contacted Coles for comment but received no reply.

Last year, Ausveg commissioned a Klein Partnership research study into consumer attitudes toward irradiated produce.

The research found that just over half (56 per cent) of respondents were aware of methods used to control insect pests on fruit and vegetables.

A total of 81pc of respondents said they were aware that chemical spraying and dipping was used as a treatment method.

Just over a third (33pc) were aware of irradiation.

The survey results showed that even when informed, irradiation was not the preferred treatment method among consumers.

Although grounded in concerns over public health, the act of suspending dimethoate and fenthion increased public suspicion over what chemicals are still being used.

The Klein Partnership research found wariness of the products increased in survey subjects when told the names of the chemicals.

In response to other treatment methods, methyl bromide received some negative reactions when labeled as such, while cold disinfestation was found to be the “least intimidating” method with some saying it sounded similar to refrigeration.

The survey found 88pc of respondents would accept cold disinfestation as a treatment method, while 42pc said they would accept irradiation.

“Interpretively, for irradiation to be successful, it would require significant investment in public education,” the report said.

Murray Lynch, CEO of the sole irradiation business currently in Australia, Steritech, said generally, consumers are not as welcoming of the application new technologies to food production as they are in other areas.

“Consistent with this attitude, consumers can tend to be uncertain and wary of food irradiation when first introduced to the technology,” he said.

“This is usually due to questions about product safety and quality derived from the mistaken association of the technology with radioactivity.

“Nonetheless, where there are clear benefits to them as consumers – particularly in terms of food safety, quality and price – people tend to be positive towards food irradiation.

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Best Regards,

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[Redacted contact information]