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**Submission to Food Standards Australia - New Zealand Regarding the Irradiation of Specific Fruits & Vegetables:** [Application A1092] Irradiation of Apple, apricot, cherry, nectarine, peach, plum, honeydew, rockmelon, scallopin, strawberry, table grape and zucchini (courgette).

#### About AUSVEG

AUSVEG is the National Peak Industry Body representing the interests of Australian vegetable and potato growers. We represent growers around Australia and assist them by ensuring the National Vegetable Levy and the National Potato Levy are invested in research and development (R&D) that best meets the needs of the industry.

AUSVEG also makes representations on behalf of vegetable and potato growers to ensure their interests and concerns are effectively communicated to all levels of government, in the public sphere, and throughout relevant areas of the private sector.

AUSVEG executes its brief by delivering national projects in the areas of communication and the environment, as well as by providing leadership for our sector on a range of key issues.

#### Queries

For more information regarding this submission please contact AUSVEG Manager Industry Development and Communications and Manager Government and Parliamentary Relations, [REDACTED]

Yours sincerely

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Chief Executive Officer

**Background:**

The Australian vegetable industry is multifaceted, encapsulating businesses that are geographically dispersed, comprised of people from varying ethnic and cultural backgrounds, and supplying a variety of products to meet domestic and overseas consumer demand. Vegetable production, processing, and retailing are important industries to the Australian economy and society. The industry contributes, in economic and societal terms, to all Australian states and territories and is particularly important to regional economies.

Vegetables are grown in all states and territories of Australia. The Australian vegetable industry supplies most of the fresh vegetables that are consumed in Australia and also contributes products to the processed vegetable sector, which are either sold domestically or exported. While many vegetable crops are produced on a seasonal basis, diverse climatic conditions across Australia ensure that these products can be supplied all year round.

In 2008-09, zucchini and butter squash were grown on more than 2000 Ha of land, accounting for more than 23,000 tonnes of vegetable production and generating a gross value of production equivalent to more than \$65 million. Queensland is Australia's largest vegetable producer by state in terms of value, and the forecast 2012-13 value for vegetables sold in Queensland alone was more than \$1 billion.

Identifying alternative treatments for export produce, such as irradiation, is a high priority for Australian horticulture, particularly as an increasing range of chemical treatments become unavailable. Irradiation of food has occurred overseas for some time now, and recently the treatment has become cost-effective in Australia.

Food irradiation is approved in more than 50 countries and by global authorities such as the World Health Organisation and the Food and Agriculture Organisation. In Australia, FSANZ has approved irradiation for the treatment of herbs, spices, certain teas, tomatoes, capsicums and 10 tropical fruits, including mangos, papayas and lychees. Consequently, irradiation is now a recognised fruit fly treatment under regulations covering the sale of fruit in Australia.

The International Plant Protection Convention (IPPC), Codex Alimentarius and quarantine agencies in Australia, New Zealand and the USA, endorse irradiation as a legitimate phytosanitary treatment.

## Hypothetical Economic Impact

Irradiation is a valuable method of pest disinfestation that can facilitate trade and market access, particularly to New Zealand, where Australia already has a booming export business of mangoes treated with irradiation. China, USA, New Zealand, Taiwan, Malaysia, Thailand, and Vietnam have been identified as having a high strategic priority for using irradiation as a phytosanitary treatment for market access. Markets with known access requirements include:

- **New Zealand:** The Ministry of Primary industries approved access for irradiated mangoes in 2004, papaya/paw paw in 2006, litchi/lychee in 2008, and tomatoes and capsicum in 2013.
- **Malaysia:** Malaysia has approved irradiation as a treatment for mangoes.
- **United States:** The United States Department of Agriculture approved access for irradiated mangoes and litchi/lychee in September 2013.

The approval of irradiation treatment for zucchini could lead to increased trade opportunities and increased markets available to Queensland growers. This comes at a time where access to interstate and international markets is vital to the ongoing economic viability of both the state of Queensland and Queensland's vegetable industry.

Postharvest options other than radiation do exist, for example heat treatments and cold disinfestation, fumigants and new insecticides, although many of these are unsuitable for use in the fresh market due to potential phytotoxicity and quality issues, as well as costs or the time frame needed to gain approval from quarantine authorities.

Additionally, many of the currently used fumigants are being phased out following review by the Australian Pesticides and Veterinary Medicines Authority (APVMA).

**Risk Assessment:**

FSANZ has previously assessed the technological need, safety and nutrient profile of various irradiated tropical fruits, persimmons, tomatoes and capsicums. These assessments were conducted in 2002, 2011, and 2013, respectively. FSANZ concluded that there was an established need to irradiate tropical fruits, persimmons and tomatoes and capsicums and that there were no public health and safety issues associated with their consumption when irradiated up to a maximum dose of 1 kGy.

In 1980, the Codex Alimentarius Commission (a joint body of the WHO and the Food and Agriculture Organisation of the UN), found an overall average dose of 10kGy “presents no toxicological hazard” and “introduces no special nutritional or microbiological problems”. In 1997, the WHO, FAO and IAEA found that there is no scientific basis to limit absorbed doses to 10kGy. Irradiation cannot increase the normal radioactivity level of food, regardless of how long the food is exposed to radiation, or how much of an energy dose is absorbed.

There are negligible risks to public health and safety associated with the consumption of the specified fruits and vegetables which have been irradiated up to a maximum dose of 1 kGy.

**Conclusion:**

It is our opinion that, based upon the potential economic incentives associated with adopting irradiation treatment for export zucchini, combined with the negligible health and safety risks of recommended dosages, permission to irradiate zucchini (courgette) for phytosanitary purposes at a recommended dosage of 1kGy should be granted.