

13 September 2017

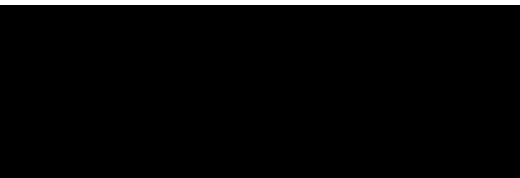
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Dear Sir/Madam

Attached are the comments that the New Zealand Food & Grocery Council wishes to present on ***Call for submissions – Application A1138 Food derived from Provitamin A Rice Line GR2E.***

Yours sincerely



Katherine Rich
Chief Executive



***Call for submissions – Application A1138
Food derived from Provitamin A Rice Line
GR2E***

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

2017

NEW ZEALAND FOOD & GROCERY COUNCIL

1. The New Zealand Food & Grocery Council (“NZFGC”) welcomes the opportunity to comment on the *Call for submissions – Application A1138 Food derived from Provitamin A Rice Line GR2E*.
2. NZFGC represents the major manufacturers and suppliers of food, beverage and grocery products in New Zealand. This sector generates over \$34 billion in the New Zealand domestic retail food, beverage and grocery products market, and over \$31 billion in export revenue from exports to 195 countries – some 72% of total merchandise exports. Food and beverage manufacturing is the largest manufacturing sector in New Zealand, representing 44% of total manufacturing income. Our members directly or indirectly employ more than 400,000 people – one in five of the workforce.

THE APPLICATION

3. The International Rice Research Institute has made application to FSANZ for food from a new genetically modified (GM) rice (*Oryza sativa*) line, GR2E. The modification causes the rice to produce beta (β)-carotene (the main form of vitamin A) and two other lesser known vitamin A forms. This has been achieved through the expression of two proteins from encoding by genes from corn and a bacterium *Panatoea ananatis*. The collective name ‘Golden Rice’ has been used to describe a number of versions of rice containing two proteins used in the genetic modification (not necessarily from the same genes as used in GR2E). GR2E also contains a marker gene expressing a protein derived from an *E coli* strain that has been assessed several times by FSANZ.

OVERARCHING COMMENTS

4. NZFGC supports amendment to the *Australia New Zealand Food Standards Code* (the Food Standards Code) to include food from a new genetically modified (GM) rice (*Oryza sativa*) line, GR2E. This is based on our consideration of the FSANZ conclusions that there are no potential public health and safety concerns and no nutritional risk to the Australian and New Zealand population.
5. We are aware that research on ‘golden rice’ has been undertaken over the past three decades but initially faced strong opposition when it first appeared in the late 1990s. The work of the International Rice Research Institute, and its status as an independent, non-profit, institute dedicated to reducing poverty and hunger through rice science lends a new perspective to the development of a beta (β)-carotene enriched rice, the GR2E rice, and its further progress.
6. While the humanitarian issues promoted by the International Rice Research Institute have not influenced either the FSANZ decision (based on science) nor NZFGC’s support (consideration of the science), we consider it important to support the International Rice Research Institute’s humanitarian efforts in this area of the food supply noting that the humanitarian impact that this rice might deliver are immense.

DETAILED COMMENTS

The Applicant

7. The International Rice Research Institute is an independent, non-profit, research and educational institute dedicated to reducing poverty and hunger through rice science, improving the health and welfare of rice farmers and consumers, and protecting the rice-growing environment for future generations. The applicant is not intending that the GR2E be grown in Australia or New Zealand (in any case that would be outside the food

regime's remit – but growing has occurred in the Philippines for research purposes) but rather to protect from inadvertent inclusion in milled rice exported to Australia or New Zealand.

Safety assessment

8. FSANZ conducted a safety assessment of the application covering the characterisation of the transferred gene sequences, their origin, function and stability in the rice genome; the changes at the level of DNA and protein in the whole food; compositional analyses and evaluation of intended and unintended changes.
9. GR2E expresses three novel proteins and the analyses of all three proteins identified in various components/growing stages showed very low concentrations of proteins. The concentrations were so low that their specific characterisation has not been possible. As well, compositional comparisons with conventional rice had been undertaken and except for β -carotene, the grain in GR2E was equivalent to conventional rice.
10. FSANZ concluded that food derived from GR2E was as safe for human consumption as food derived from conventional rice cultivars and that there were therefore no potential public health and safety concerns. This was based on the data provided in the Application and other available information.

Nutrition risk assessment

11. FSANZ undertook a nutrition risk assessment as a means of assessing the impacts of micro and macronutrient intakes by the population. For GR2E, an assessment of current intakes of β -carotene provided the starting point for assessment. FSANZ was particularly interested to assess the prospect of hypervitaminosis A. Hypervitaminosis A is a toxic effect from consuming excessive β -carotene and affects bone metabolism and the metabolism of other fat-soluble vitamins.
12. Vegetables, fruits and cereals are the major food categories contributing to the dietary intake of β -carotene in Australia and New Zealand. The intake rate is in the range of 1-5 mg/day in Australia and New Zealand. FSANZ modelled a replacement of all rice in Australia and New Zealand with GR2E and found that, even in this extreme case, estimated intakes of β -carotene by Australian and New Zealand population groups would be equivalent to the amount of β -carotene from approximately 1 teaspoon or less of carrot juice. As a result, FSANZ concluded that GR2E rice consumption would not present a nutritional risk to the Australian and New Zealand population.

Labelling

13. Clearly food derived from GR2E would be required to be labelled as 'genetically modified' if it: contains novel DNA or novel protein. Rice from GR2E would meet this threshold and would need to be labelled. FSANZ also considered rice bran oil from GR2E but concluded that in such a highly refined product, novel DNA or novel protein would not be expected to be found and labelling would therefore not be required.

Conclusion

14. In light of there being no potential public health and safety concerns and no nutritional risk to the Australian and New Zealand population, NZFGC supports the proposed amendment to the Food Standards Code.
15. While the humanitarian issues promoted by the International Rice Research Institute have not influenced either the FSANZ decision (based on science) nor NZFGC's support (consideration of the science), we consider it important to support the International Rice Research Institute's humanitarian efforts in this area of the food supply.

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16. This recognises that deficiencies in micronutrients such as vitamin A can cause significant and irreparable damage to the body including blindness, growth stunting, mental retardation, learning disabilities, low work capacity, and at times premature death and that measures that address such deficiencies with no potential adverse effects are worthy of support.