



22 March 2023

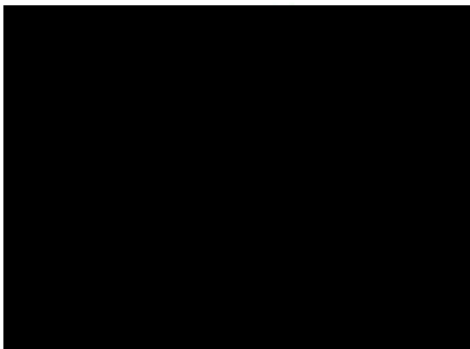
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Dear Sir/Madam

Attached are the comments that the New Zealand Food & Grocery Council wishes to present on the *Call for submissions – Application A1227 : Alpha-arabinofuranosidase from GM Trichoderma reesei as a processing aid.*

Yours sincerely





**Call for submissions – Application A1227:
Alpha-arabinofuranosidase from GM
Trichoderma reesei as a processing aid**

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

22 March 2023

NEW ZEALAND FOOD & GROCERY COUNCIL

1. The New Zealand Food & Grocery Council (**NZFGC**) welcomes the opportunity to comment on the *Call for submissions – Application A1227: Alpha-arabinofuranosidase from GM Trichoderma reesei as a processing aid*.
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. This Application, from Novozymes Australia Pty Ltd (19 May 2021) for the use of alpha-arabinofuranosidase from a GM strain of *Trichoderma reesei* (**T. reesei**) as a processing aid, is proposed for use in grain processing and potable alcohol production.
4. According to the applicant, the action of arabinofuranosidase in processing grains is a higher gluten and starch production, more efficient removal of trapped water from the fibre, resulting in reduced evaporation load leading to energy savings, smoother operations and increased plant capacity and overall reduced net grain cost. The action of arabinofuranosidase in potable alcohol production is claimed to result in higher solid concentration during mashing (energy efficiency), improved heat exchange, centrifugal separation and mass transfer in fermentation and increased fermentable sugars from beta glucan hydrolysis.

COMMENTS

5. Alpha-arabinofuranosidase derived from different source, GM *Aspergillus niger*, as an enzymatic processing aid, has been approved for use in Food Standards Code in Schedule 18, section S18—4 *Permitted enzymes (section 1.3.3—6)—Enzymes of microbial origin*. If approved, the current application would result in alpha-arabinofuranosidase from GM *T. reesei* being the first source listed in section S18—9 *Permitted processing aids – various technological purposes*. The reason for its listing in this area of Schedule 18 is, according to the Call for Submissions, because section S18—9 includes enzymes permitted for a specific technological purpose. The technological purpose of this enzyme would be as a processing aid in grain processing and for potable alcohol production.
6. The express permission for the enzyme to be used as a processing aid in Schedule 18 of the Code would also provide the permission for the enzyme's potential presence in the food for sale as a food produced using gene technology,

Assessment by FSANZ

7. FSANZ addressed health and safety concerns in its risk assessment noting that:
 - Alpha-arabinofuranosidase produced using *T. reesei* has a history of safe use in many countries and this particular product is approved for use in Denmark, Brazil and Mexico.
 - The production strain, *T. reesei*, is non-toxigenic and non-pathogenic and has been shown to be non-genotoxic
 - The final enzyme product is purified so that *T. reesei* is no longer present.
 - In any case, *T. reesei* is a commonly used production strain for enzymes which are already approved for use in the Food Standards Code (at least five)

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8. The choice of raw materials used in the fermentation process (the feed, the seed fermenter, the main fermenter and dosing) is given in the confidential parts of the application but in any case, the fermentation medium is not likely to be in the final enzyme product due to washing and filtration of the product thereby removing the need for allergen labelling.
 9. **Food Technology assessment** – FSANZ assesses the identity and purity of all additives and processing aids intended for use in the food supply. In this case, the substance is alpha-arabinofuranosidase. FSANZ verified its identity with the International Union of Biochemistry and Molecular Biology (IUBMB). IUBMB material is compiled at the University of London and makes recommendations on biochemical and organic nomenclature, symbols and terminology drawing on the expertise of global experts in the relevant field.
 10. FSANZ also noted that there were relevant identity and purity specifications for the enzyme in two of the primary sources of specifications listed in Schedule 3, namely the JECFA Combined Compendium of Food Additive Specifications and the United States Pharmacopeial Convention Food chemicals codex.
 11. FSANZ's conclusion was that the enzyme provided the consistency and production efficiency in manufacturing and processing of the target foods. It was therefore technologically justified in the form proposed for use in brewing, fats and oils processing, grain processing and potable alcohol production.
 12. In light of the risk assessment and noting that this product provides industry with choice, NZFGC supports amendment to the Food Standards Code as proposed by FSANZ to permit alpha-arabinofuranosidase from GM *T. reesei* to be used in the Australian and New Zealand food supply.