



24 March 2020

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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 A1185: Alpha-amylase from GM Aspergillus niger as a processing aid (enzyme)*.

Yours sincerely

Katherine Rich  
**Chief Executive**



***Call for submissions: Application A1185:  
Alpha-amylase from GM Aspergillus niger  
as a processing aid (enzyme)***

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

**24 March 2020**

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## NEW ZEALAND FOOD & GROCERY COUNCIL

1. The New Zealand Food & Grocery Council (“NZFGC”) welcomes the opportunity to comment on the *Call for submissions – Application A1185: Alpha-amylase from GM Aspergillus niger as a processing aid (enzyme)*.
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.

### COMMENTS

1. This Application is from Novozymes Australia Pty Ltd for the use of alpha-amylase from a genetically modified strain of *Aspergillus niger* as a processing aid in starch processing and the production of alcohol.
2. One function of alpha-amylase is to breakdown starch polysaccharides to form maltose, glucose and dextrans. The claimed benefit of the enzyme is the efficiency of the starch breakdown, especially to dextrans. For alcohol production, the benefit is that the enzyme results in higher ethanol yields, fast fermentation and efficient production of fermentable sugars.
3. Alpha-amylase as an enzymatic processing aid for use in malted cereals is already approved for use in Food Standards Code in Schedule 18, section S18—4 Permitted enzymes, from eight different microbial sources which have all been subject to separate approvals:
  - *Aspergillus niger*
  - *Aspergillus oryzae*
  - *Bacillus amyloquefaciens*
  - *Bacillus licheniformis*
  - *Bacillus licheniformis* containing the gene for alpha-amylase isolated from *Geobacillus stearothermophilus*
  - *Bacillus subtilis*
  - *Bacillus subtilis* containing the gene for alpha-amylase isolated from *Geobacillus stearothermophilus*
  - *Geobacillus stearothermophilus*
4. The current application would be the ninth source and should appear as *Aspergillus niger* containing the gene for alpha-amylase isolated from *Rhizomucor pusillus*
5. FSANZ addressed health and safety concerns in its risk assessment noting that:
  - Alpha-amylase produced using *A. niger* has a history of safe use in many countries and this particular product is approved for use in Denmark, France and Mexico.
  - The production strain, *A. niger*, is non-toxigenic and non-pathogenic and has been shown to be non-genotoxic
  - The final enzyme product is purified so that *A. niger* is no longer present
  - In any case, *A. niger* is a commonly used production strain for enzymes which are already approved for use in the Food Standards Code

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- Soy and possibly wheat are used in the fermentation medium for enzyme preparation but are not likely to be in the final enzyme product due to washing and filtration of the product thereby removing the need for allergen labelling.
6. 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-amylase from GM *A. niger* (donor *Rhizomucor pusillus*) to be used in the Australian and New Zealand food supply.
  7. We note the draft amendment to Schedule 18 refers to an insertion in the Schedule to subsection S18—9(3) to add “ $\alpha$ -Amylase (EC 3.2.1.1) sourced from *Aspergillus niger* containing the  $\alpha$ -Amylase gene from *Rhizomucor pusillus*”. We would have expected the amendment to the Food Standards Code to have also included an amendment to Schedule 18, subsection 18—4 Permitted enzymes, to provide an entry for this enzyme along the lines of: *Aspergillus niger* containing the gene for  $\alpha$ -Amylase isolated from *Rhizomucor pusillus*”.