

**Comments from the Victorian Department of Health and the Victorian Department of Jobs, Precincts and Regions.**

**Due date of submission – 8 July 2022**

The Victorian Departments of Health and Jobs, Precincts and Regions (the departments) welcome the opportunity to respond to this application to amend the Australia New Zealand Food Standards Code (the Code).

Application A1239 - *Food derived from EPA and DHA producing and herbicide-tolerant canola line LBFLFK* is intended to permit the sale and use of food derived from a new food produced using gene technology (GM food): canola line LBFLFK. The applicant states that the purpose of LBFLFK is to provide a sustainable, land-based source of EPA and DHA to meet human consumption and reduce demand on aquaculture.

From the Food Standards Australia New Zealand (FSANZ) Assessment report it is understood that:

- Canola line LBFLFK (LBFLFK) has been genetically modified to produce two omega-3 long-chain polyunsaturated fatty acids (n-3 LC PUFA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in the seed, and for tolerance to imidazolinone herbicides.
- The genetic elements introduced to the canola, from microalgae, water moulds and moss, have been shown to be stably inherited across multiple generations.
- Australian and New Zealand consumers will potentially be exposed to food products imported from significant canola producing countries such as Canada and the United States, where the canola line is permitted in food and animal feeds.
- There is potential for foods produced using LBFLFK oil may make nutrition content or health claims related to the omega-3 or polyunsaturated fatty acid content. Any such claims would need to comply with the requirements of *Standard 1.2.7 Nutrition, Health and related claims* and its Schedule 4.
- FSANZ considers that:
  - whole canola seeds from this canola line contain novel protein and DNA and would be required to comply with the labelling requirements of the Code, specifically *Standard 1.5.2- Food produced using Gene Technology*, as would canola meal that is produced from these seeds.
  - oils derived from the seeds are highly refined and would be unlikely to have novel DNA or protein but, as they have been shown to be nutritionally different to non-GM canola, would also require labels that comply with Standard 1.5.2.
- FSANZ is proposing to prohibit the use of oil from LBFLFK in infant formula products. This is because safety data in infant populations was not provided by the applicant nor assessed by FSANZ, and LBFLFK would not comply with the compositional requirements set out in Standard 2.9.1 and Schedule 29.
- The genetic modification involving the introduction of DNA in LBFLFK canola demonstrated two intact, stable copies of the intended T-DNA insert at two loci within the canola genome and the newly expressed proteins in LBFLFK canola demonstrated that there are no associated safety concerns.

With regard to the nutritional composition of LBFLFK, the departments note that fatty acids in both LBFLFK oil and fish oil are predominantly in the form of triglycerides, and it is on this basis FSANZ assumes the bioavailability of EPA and DHA is similar for the two sources. We also note that emerging evidence suggest other novel plant sources of n-3 LC-PUFA such as microalgae may be bioequivalent to fish oil (1).

However, given absorption and uptake of n-3 LC-PUFA is influenced by multiple factors, including total fat content and the presence of inhibitory substances of foods (2), we believe it is important to evaluate the availability in LBFLFK oil in more depth. This will ensure consumers are not misled about the nutritional quality of foods containing LBFLFK oil, particularly where nutrition and health claims about EPA, DHA and omega-3 are made.

On the basis of the information above and FSANZ's conclusion that there are no public health and safety issues associated the application, the departments support the progression of *Application 1239- Food derived from EPA and DHA producing and herbicide-tolerant canola line LBFLFK*

- (1) Lane, K.E., Wilson, M., Hellon, T.G. and Davies, I.G., 2021. Bioavailability and conversion of plant based sources of omega-3 fatty acids—a scoping review to update supplementation options for vegetarians and vegans. *Critical Reviews in Food Science and Nutrition*, pp.1-16.
- (2) Punia, S., Sandhu, K.S., Siroha, A.K. and Dhull, S.B., 2019. Omega 3-metabolism, absorption, bioavailability and health benefits—A review. *PharmaNutrition*, 10, p.100162.