



3 May 2011

Project Officer Application A1041  
Food Standards Australia New Zealand  
PO Box 10559  
The Terrace  
WELLINGTON 6036

FS350-117-1041

Dear Sir/Madam

## **Application A1041 – Food derived from SDA soybean line MON87769 - 2nd Assessment Report**

Thank you for the opportunity to comment on the second assessment report for this application. The Ministry of Agriculture and Forestry (MAF) has the following comments to make.

### Comments on the Nutrition Assessment

MAF agrees with the conclusions of the 2<sup>nd</sup> Nutrition Assessment that the production of eicosapentaenoic acid (EPA) is metabolically possible, and that stearidonic acid (SDA) soybean oil is as safe as oil derived from conventional soy bean varieties already in the food supply. The stated purpose and objectives of the Nutrition Assessment was helpful in reviewing the 2<sup>nd</sup> Assessment, and it is considered that an explicit statement of these objectives in future Nutrition Assessments will help to inform comments.

MAF has the following comments to make:

- The paper by Burdge (1) is referenced incorrectly, and should say it was published in 2006 not 2010 in the reference list.
- The papers by Burdge in 2006 (1,2) state that studies “*strongly support*” the pathway that includes the  $\Delta 6$  desaturase, and that the “*consensus pathway for the conversion of docosapentaenoic (DPA) to docosahexaenoic acid (DHA) is as follows: DPA is elongated to 24:5n-3 which is desaturated at the  $\Delta 6$ -position by the action of  $\Delta 6$  desaturase activity to form 24:6n-3*”. The  $\Delta 6$  desaturase pathway is used in the Human Nutrition textbook (3) and recently published papers to demonstrate the omega-3 metabolism pathway in humans.
- FSANZ could reconsider its statement in section 5.3 of the 2<sup>nd</sup> Assessment report: “*Compared with EPA-rich oil, higher levels of consumption of SDA-rich oil would be required to achieve similar tissue concentrations of EPA and DHA (as indicated by the omega 3 index)*”. This is because, in our view, it does not appear as though increased levels of DHA will be reached by consuming more of either SDA or EPA rich oils. The omega three index is improved by the increase in EPA tissue concentrations.



**Ministry of Agriculture and Forestry**  
Te Manatū Ahuwhenua, Ngāherehere  
Pastoral House, 25 The Terrace, PO Box 2526, Wellington, 6140, New Zealand  
Telephone: 0800 00 83 33, Web: [www.maf.govt.nz](http://www.maf.govt.nz)



### Comments on Labelling

MAF appreciates the extra consideration FSANZ has given to labelling of SDA soybean oil, when used in food. The SDA soybean oil will only be able to be described as 'genetically modified soybean oil', or words of similar meaning. The term 'SDA' cannot be used in any part of the labelling of the oil, as in MAF's view, this constitutes an omega-3 nutrition claim.

Currently the evidence of the conversion rate of SDA to EPA within a food is unknown, with levels varying by 17 – 33% depending on the form of SDA within supplemented capsules (4-6). It is therefore difficult to determine the level of SDA that would equate to the levels of  $\alpha$ -linolenic acid (ALA), EPA or DHA currently permitted for an omega-3 fatty acid claim in the Food Standards Code. As such, MAF supports the FSANZ view that a mandatory declaration of SDA content may imply that the food contributes a nutritionally significant amount and may mislead consumers. This is made clear for mandatory labelling in the FSANZ 2<sup>nd</sup> Assessment Report. However, FSANZ's view on voluntary permissions is not clear. For example, section 6 of the 2<sup>nd</sup> Assessment Report states that: "*FSANZ considers that the general labeling requirements for GM, in addition to voluntary claims permissions, will provide consumers with adequate information to enable an informed choice*".

Our understanding is that a voluntary SDA claim anywhere on the label (including the ingredient list and the NIP) would not be permitted under the current regulation of Nutrition Claims within the Food Standard Code. MAF considers that this is an important point that needs to be explicit in the Approval Report.

Yours sincerely

Jenny Reid  
**Manager Food Safety**  
**Science, Information & Risk Directorate**

- (1) Burdge GC. Metabolism of  $\alpha$ -linolenic acid in humans. *Prostaglandins, Leukotrienes and Essential Fatty Acids* 2006;75:161-168.
- (2) Burdge GC, Calder PC. Dietary  $\alpha$ -linolenic acid and health-related outcomes: a metabolic perspective. *Nutrition research reviews* 2006;19(01):26-52.
- (3) Mann J, Truswell AS. *Essentials of Human Nutrition*. Second ed. Oxford: Oxford University Press; 2002.
- (4) Harris WS, Lemke SL, Hansen SN, Goldstein DA, DiRienzo MA, Su H, et al. Stearidonic acid-enriched soybean oil increased the omega-3 index, an emerging cardiovascular risk marker. *Lipids* 2008;43(9):805-811.
- (5) James MJ, Ursin VM, Cleland LG. Metabolism of stearidonic acid in human subjects: comparison with the metabolism of other n-3 fatty acids. *Am J Clin Nutr* 2003;77(5):1140-1145.
- (6) Lemke SL, Vicini JL, Su H, Goldstein DA, Nemeth MA, Krul ES, et al. Dietary intake of stearidonic acid-enriched soybean oil increases the omega-3 index: randomized, double-blind clinical study of efficacy and safety. *American Journal of Clinical Nutrition* 2010;92:766-775.