



Submission

“A1039 Low THC Hemp As A Food Submission”

Emailed to submissions@foodstandards.gov.au

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Consult Available

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1. Will the inclusion of a maximum level in the Code for hemp seed oil products be an issue for hemp seed oil products produced in or imported into New Zealand?

Hemp Seed Oil – HS Code: 1515.90.8010

The Regulations in Canada allow for 10ppm (mg/kg) for any derivative, this includes hulled hemp seed, hemp seed oil, powders/flours or toasted seed.

The proposed maximum level of oil extracted from the seed of *Cannabis sativa* is attainable. Any imports of hemp seed oil from Canada would be in compliance with this maximum level of 10 mg/kg (ppm). This level causes no harm to the public by consuming or applying hemp oil or other ingredients/foods in or onto ones body.

2. Are there other methods of distinguishing between the seeds of hemp and drug varieties of cannabis? Please provide evidence in support of these methods.

Both the seeds/grain of hemp and marijuana look similar due to the fact they are of the same plant species *Cannabis sativa*.

Raw whole hemp grain is allowable for sale to the public as a snack or food ingredient in the EU while in Canada whole hemp grain has to be rendered non-viable. Grain is what is harvested from a licensed farmer growing the pedigree level certified hemp seed. This grain is not to be cultivated and is only for processing under license or can be sold to another country that allows raw hemp grain. In Canada, for whole hemp seed to be sold as a snack, HS Code: 2008.19.9090, it must be rendered non-viable.

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Rendering the whole hemp seed (grain) non-viable prevents the chance of it sprouting, germinating or growing.

Allowable methods include but are not limited to: toasting or roasting by heat or steam. Canadian processors licensed to render whole seed non-viable typically use heat by toasting or roasting.

The current allowable methods tend to crack the hull a bit and bring out the toasted flavor. You can also salt or season whole toasted hemp seed which increases the naked eye and nose to distinguish raw from non-viable hemp seed.

Whole toasted hemp seeds are used in a range of baked goods, chips, gluten free nut butter, hemp milk, beer production, beverage, protein mixes, snack bars and coffee blends etc.

Please note that from before the time of purchasing of the certified hemp seed; the farmer is licensed, it travels to a licensed seed cleaner then to a licensed processing facility. Once the hemp derivatives are created and tested to be no greater than 10ppm the products are allowable for free trade and inclusion.

The USA does not allow raw Cannabis hemp seed however they do allow toasted whole hemp seed (grain).

The Ministerial Council should allow licensed hemp food processors to provide raw whole hemp seed as the EU does. However if that does not suit I would propose that the Canadian regulations be matched by allowing whole hemp seed (grain) to be rendered non-viable and allowable for sale as a snack, food or ingredient. Allowing this will assist in market demand diversification of the Australian and New Zealand hemp industry.

3. Are there other methods of rendering hemp seeds non-viable that will also result in the whole seed being distinguishable from the seeds of drug varieties of cannabis? Please provide evidence in support of these methods.

I would ask that the Council allow toasting, roasting, grinding (nut free butters), squeezing (hemp milk or beverages), seasoning, coatings or commercial scale sprouting for dehydrating be allowable methods to render whole hemp seed non-viable. Other methods would be allowable with permission and proof of rendering non viable.

All of the following except commercial scale sprouting for dehydrating are allowable methods of rendering whole hemp seed non-viable in Canada.

The Canadian Hemp Trade Alliance members, invested industry leaders and

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commercial scale processors have requested that the Canadian hemp regulations be amended to include sprouting for dehydration as a method to render non-viable. The request is under review.

4. Can you provide any evidence on whether hulled hemp seeds remain viable?

In Canada, hulled hemp seed HS Code 1207.99.0220 can be sold as they are rendered non-viable by the removing of the hull and breaking the reproductive parts of the seed.

Again, hulled hemp seed is created from certified production, in which the 'hemp grain' processed in to hulled hemp seed is not allowable for growing thus does not make it into the farm production. If you planted hulled hemp seed it will not germinate or grow.

Canada has tested hulled hemp seed to be non-viable. Other countries like the USA do not allow raw viable hemp seed (grain) but do allow toasted and hulled hemp seed because they are no longer viable.

5. Are you aware of any studies reflecting the effect of consumption of hemp foods on the results of saliva THC tests?

I am not aware of any such studies conducted in peer review journals or otherwise documented.

I am aware of an industry leader in Australia that consumed hemp foods and hemp seed oil then conducted a self road side saliva test. The result showed no trace visible. The video is available on You Tube:

<http://www.youtube.com/watch?v=cTVAq8JXL4Q&feature=youtu.be>

In Canada to date, human clinical consumption trials of hemp seed products are limited. No update and synthesis of THC in the human body studies have been conducted. Consumption of hemp seed products historically (1998- present) have not caused any problems. Hemp products have been revered and tested to be not only nutritional but a functional food for humans and animals.

I have provided links to 6 different hemp peer reviewed papers. More can be provided upon request.

1. In Vitro Antioxidant Properties of Hemp Seed (*Cannabis sativa* L.) Protein Hydrolysate Fractions
2. Kinetics of Enzyme Inhibition and Antihypertensive Effects of Hemp Seed (*Cannabis sativa* L.) Protein Hydrolysates
3. The cardiac and haemostatic effects of dietary hempseed

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4. A Comparison of Fish Oil, Flaxseed Oil and Hempseed Oil Supplementation on Selected Parameters of Cardiovascular Health in Healthy Volunteers
5. Dietary hempseed reduces platelet aggregation
6. Distinctive effects of plant protein sources on renal disease progression and associated cardiac hypertrophy in experimental kidney disease.

1.

<http://www.springerlink.com/content/c634035nr5880n01/>

In Vitro Antioxidant Properties of Hemp Seed (*Cannabis sativa* L.) Protein Hydrolysate Fractions

[Journal of the American Oil Chemists' Society](#) [Volume 88, Number 3](#), 381-389, DOI: 10.1007/s11746-010-1686-7 [Abraham T. Girgih](#), [Chibuike C. Udenigwe](#) and [Rotimi E. Aluko](#)

2.

<http://www.springerlink.com/content/e721665247457402/>

Kinetics of Enzyme Inhibition and Antihypertensive Effects of Hemp Seed (*Cannabis sativa* L.) Protein Hydrolysates

[Journal of the American Oil Chemists' Society](#)
[Volume 88, Number 11](#), 1767-1774, DOI: 10.1007/s11746-011-1841-9
[Abraham T. Girgih](#), [Chibuike C. Udenigwe](#), [Huan Li](#), [Abayomi P. Adebisi](#) and [Rotimi E. Aluko](#)

3.

<http://www.nutritionandmetabolism.com/content/7/1/32>

The Cardiac and haemostatic effects of dietary hempseed

Delfin Rodriguez-Leyva^{1,2} and Grant N Pierce^{1*}

Nutrition & Metabolism 2010, 7:32 doi:10.1186/1743-7075-7-32

4.

<http://www.jacn.org/content/27/1/51.full>

A Comparison of Fish Oil, Flaxseed Oil and Hempseed Oil Supplementation on Selected Parameters of Cardiovascular Health in Healthy Volunteers
J Am Coll Nutr February 2008 27:51-58

Nalini Kaul, Renee Kreml, J. Alejandro Austria, Melanie N. Richard, Andrea L. Edel, Elena Dibrov, Satoru Hirono, Marjorie E. Zettler, and Grant N. Pierce

5.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1538-7836.2007.02327.x/pdf>

Dietary hempseed reduces platelet aggregation

Richard MN, Ganguly R, Steigerwald SN, Al-Khalifa A, Pierce GN. Dietary hempseed reduces platelet aggregation. *J Thromb Haemost* 2007; 5: 424-5.

[Journal of Thrombosis and Haemostasis Volume 5, Issue 2](#), Article first published online: 22 JAN 2007

6.

<http://onlinelibrary.wiley.com/doi/10.1002/mnfr.201000558/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+4+Feb+from+10-12+GMT+for+monthly+maintenance>

Distinctive effects of plant protein sources on renal disease progression and associated cardiac hypertrophy in experimental kidney disease.

Aukema, H. M., Gauthier, J., Roy, M., Jia, Y., Li, H. and Aluko, R. E. (2011),

Molecular Nutrition & Food Research, 55: 1044–1051. doi: 10.1002/mnfr.201000558

I have been working with hemp foods since 1998 and no person has ever won a claim that Hemp foods/ingredients ever caused a failure of a saliva blood or urine test.

If hemp foods were to have caused a failed drug test the industry would still not be alive today. Hemp is consumed by many people in the health, fitness, law enforcement, military, and medical industries/professions daily with no problems or adverse effects.

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9. Can you provide information on the type of saliva tests that are available, including sensitivity of the tests?

No

10. What salvia THC test are currently in use in Australia and New Zealand? For these test, what levels of detection of THC are currently used? Can you provide information on the methodology of these test and the cost of conducting these tests?

I would suggest that Symbion Laverty Pathology. I am advised that they conduct testing in Australia.

11. Can you provide any additional data on other THC testing methodologies that are used in Australia and new Zealand (for example urine and blood)?

I do not know

12. Which analytical laboratories currently conduct confirmation THC testing, for example for blood tests? How much do these test cost

Again, I would suggest that Symbion Laverty Pathology. I am advised that they conduct testing in Australia.

13. Do you have data to indicate the levels of THC in current hemp food products? Is it likely that hemp foods could be produced to comply with lower maximum levels of THC?

In Canada, hemp foods/ingredients are allowable at 10 mg/kg (ppm). All foods produced in Canada and sold from Canada meet this regulation.

I worked at the largest bulk hemp food and ingredient processor in Canada and sold product around the world. Every batch tested in compliance with regulations.

With the level of detection and methodology for the testing for THC-delta9 quantification being greatest limitation I professionally feel that 10 mg/kg (ppm) has proven itself to be a maintainable and safe measure for hemp derivatives. By proper maintenance of the pedigree seed production this level is consistently obtainable.

14. Would additional processing costs be incurred in order to achieve lower THC levels in hemp foods?

Yes, additional cost would be incurred by breeders, pedigree seed producers, license cultivation farmers, processors, customer and end users.

The main burden would fall upon the plant breeders that would have to develop lines then cultivars that produce grain that is at an even lower level. Breeding programs can take many years and millions of dollars to develop these line and cultivars. During this time the industry will hurt greatly.

Professionally, I do not know of any other processing aid that would retain food quality and be chemical free that would remove or lower THC.

Again, historically hemp foods/ingredients have not caused any problems with THC levels.

15. FSANZ seeks advise on the number of hemp license and hemp businesses in Australia and New Zealand to better calibrate the market potential.

There is innumerable different hemp based, hemp invested or part of the hemp value chain companies in Australia and New Zealand. These companies range from cosmetic, fashion, fibre and food processors, online magazine, designers, construction, farm suppliers, seed breeders, seed growers, farmers, sales representatives, distributors, brokers, logistics, distribution chains, warehousing, transportation, certification, bottlers, box and packaging manufactures, co-packers, custom blenders, beer and beverage manufactures, internet providers, tradeshow, tourism, home based business, injection moulders, commercial scale business, pet food manufactures, international trade, website/graphic design, governmental office/staff, crop samplers and all those that would benefit by these companies/organizations conducting hemp businesses. This is a short list of the potential value chain.

There is an ongoing collaboration between the University of Brisbane and The Composite Innovation Center, Canada to increase knowledge of fibre based composites and relationship amongst other fibres. Other research, in areas of plant, food or economic sciences could be conducted likewise.

FSANZ seeks advise on other cost items that might influence the analysis

The benefits considerably outweigh any cost that may be incurred as proven in Canada and the EU.

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16. FSANZ seeks advise on possible entry barriers to hemp food market

At this time the market is ready for hemp. The barriers beyond the approval of hemp as a food/ingredient have been removed. Companies are ready to start R & D. Right now the ban on hemp foods is the only major barrier. Breeding programs are already developed, fibre processing is developed and the AU/NZ industry already has the processing equipment required to process hemp foods/ingredients. AU/NZ hemp based companies are already selling AU/NZ hemp products to the global market.

Please contact me if you have any remaining questions.

I am available on a consultancy basis.

Yours Sincerely,

A handwritten signature in blue ink that reads "Anndrea M. Hermann". The signature is written in a cursive, flowing style.

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