

George Seymour
PO Box 5632
Hervey Bay QLD 4655
George.seymour2009@gmail.com

31 August 2009

Standards Management Officer
Food Standards Australia New Zealand
PO Box 7186
Canberra ACT 2619

Via Email: submissions@foodstandards.gov.au

Dear Sir/Madam,

RE: SUBMISSION – PROPOSAL P1004
PRIMARY PRODUCTION & PROCESSING STANDARD FOR SEED SPROUTS

Thank you for the opportunity to comment on the First Assessment Report for Proposal P1004.

As stated in the executive summary, contaminated seed sprouts present an unacceptable health risk to consumers. This risk - in particular outbreaks of salmonella and e.coli in alfalfa sprouts and mung bean sprouts - threatens consumer confidence in the industry.

The inherent risks arising from the nature of raw sprouts, the decentralised nature of the industry and the apparent lack of widespread adherence to the industry association's guidelines for safe production highlight the need for harm minimisation measures.

Of the risk management options put forward for discussion, options 1 and 2, self regulation and status quo, are not suitable in the present circumstances. Rather, food regulatory measures, as per option 3, are required to minimise adverse health risks associated with the consumption of seed sprouts. Coverage of such measures would need to run through the full supply chain; a through-chain approach including both seed production and sprout production.

The implementation of measures aimed solely at either the seed harvesting side or the sprout production side would be insufficient to bring about the objective of harm minimisation.

Seed Production

Outbreak investigations have indicated that the microorganisms found on sprouts likely originate from the seeds in most cases.¹ Preventative measures implemented at the farm should form a central component of any regulatory action to achieve harm minimisation.

Land Usage

The potential for unacceptably high levels of harmful substances in or on seeds at the time of harvest requires attention. The possibility of seed harvesting sites being utilised for grazing animals, with their associated wastes, is of concern to some consumers who then consume the sprouts from those seeds raw. Similarly, the use of manure as a fertiliser poses unacceptable risks.

The Canadian Code of Practice for the Hygienic Production of Sprouted Seeds provides:

Whenever possible, potential sources of contamination from the environment should be identified. In particular, primary production should not be carried out in areas where the presence of potentially harmful substances would lead to an unacceptable level of such substances in or on seeds after harvest.

Where possible seed producers should evaluate the previous uses of the sites (indoor and outdoor) as well as adjoining sites in order to identify potential microbial, chemical and physical hazards. The potential for other types of contamination (e.g., from agricultural chemicals, hazardous wastes, etc.) should also be considered.

To the extent possible, steps should be taken to prevent the access of farm and wild animals to the sites to avoid potential faecal contamination of the soil and the risk of contaminating crop. Runoff or wind contamination from intensive livestock operations and flooding by contaminated water sources should also be considered.²

Australian consumers would be well served by a similar, though more directive, provision in the Standard.

Separation from Seeds Meant for Animal Feed

The Standard should ensure that seed production for human consumption is distinctly separated from seed production for animal feed.

Seeds being used for sprout production must come from conditions acceptable for the growth of human foods. This will require strict demarcation between the vast majority of seeds destined for agricultural use and the relatively small amount used for human food.

Sprouting Operations

¹ Canadian Food Inspection Agency, *Code of Practice for the Hygienic Production of Sprouted Seeds* (2007), <<http://www.inspection.gc.ca/english/fssa/frefra/safsal/sprointe.shtml>>, at s1.

² Ibid at s3.

Beyond ensuring that sprout production is conducted in sanitary conditions, the Standard should include specific measures including seed disinfection and testing of spent irrigation water.

Antimicrobial Treatment of Seeds

Seed disinfection practices using up to 20,000 parts per million calcium hypochlorite are common. A level as determined by the science should be required in the Standard.

Research is being conducted into alternatives and it may be that a safer, more environmentally friendly substitute can be found.³ Were it deemed necessary to proscribe specific treatment with calcium hypochlorite, there should be some recognition that other antimicrobial treatments will be considered as and when new data supports them.

This could be an alternative chemical treatment such as acidified sodium chlorite⁴ or other processes such as applying hot and chilled water in turn or an equal mix of lime juice and vinegar.⁵

The Testing of Spent Irrigation Water

Spent irrigation water that has flowed through seeds at the sprouting stage is a good indicator of the types of microorganisms in the sprouts themselves.⁶ Similar to s8.8 of the Canadian Code of Practice, a representative sample from each production lot or batch should be analysed for microbial pathogens of concern.

Recalls and Trace-backs

In order to minimise potential health risks, through-chain measures must be in place to ensure that upon outbreaks, trace-backs can be swiftly and seamlessly made allowing recalls to be rapidly instigated for the withdrawal of contaminated seeds and sprouts from the market. To be effective, the trace-back mechanism must obviously be implemented at the seed production phase and flow through to the sprout producers and distributors.

Ease of trace-back would necessitate minimisation of mixed batches.

³ See for example: United States Department of Agriculture, *Research Project: Intervention Technologies for Enhancing the Safety and Security of Fresh and Minimally Processed Produce and Solid Plant-Derived Foods* (2009) < http://www.ars.usda.gov/research/projects/projects.htm?ACCN_NO=409637>.

⁴ Liao, C. 2009. *Acidified sodium chlorite as an alternative to chlorine for elimination of Salmonella on alfalfa seeds*. *Journal of Food Science*. 74(4):M159-164.

⁵ Science Daily, *Hot Solution To Bean Sprout Safety*, 2 April 2009, <<http://www.sciencedaily.com/releases/2009/04/090401200435.htm>>.

⁶ U.S. Food and Drug Administration, *Guidance for Industry: Sampling and Microbial Testing of Spent Irrigation Water During Sprout Production*, (1999), <<http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/ProduceandPlantProducts/ucm120244.htm>>.

The primary objective for FSANZ in developing measures for seed sprouts is the protection of public health and safety.⁷ With this in mind, it is submitted that regulatory measures should be implemented that require relevant hygienic agricultural and processing practices including the abovementioned steps.

Yours faithfully,



George Seymour

⁷ Food Standards Australia New Zealand Act 1999 (Cth) s18(1)(a).