From: Jonathon Singleton [mailto:photoniqueer@gmail.com]
Sent: Tuesday, 10 April 2018 2:31 PM
To: NBT Consult Submissions <NBTConsultSubmissions@foodstandards.gov.au>
Subject: Public Comment and submission re: Food derived using new breeding techniques - review

Re: Food derived using new breeding techniques - review

Regarding: "FSANZ seeking input from the community on whether food derived using new breeding techniques (NBTs) should be captured for pre-market approval under the Code, and whether the definitions for 'food produced using gene technology' and 'gene technology' should be changed to improve clarity."

Public Comment and submission by Jon Singleton (citizen),

20c York avenue, Bentley, Perth, WA, 6102

photoniqueer@gmail.com

10 April, 2018

Hello,

I believe all new techniques used to produce food should be regulated.

I ask for everything to be regulated including: gene editing, CRISPR, GM rootstock grafting, cisgenesis, intragenesis RNA interference and null segregants.

Why? Because the research simply hasn't been done to show there are no unintended consequences and that these foods or techniques are safe for commercial use. They are required to be regulated under the Gene Technology Act 2000. This defines gene technology as "any technique for the modification of genes or other genetic material".

Other countries have taken a more vigilant approach, with New Zealand last year announcing it will regulate organisms derived from these gene editing techniques as GMOs.
A significant policy issue -- in both Australia and New Zealand -- is for our governments to ensure domestic and export market perceptions are not needlessly shaken by out-for-profit experimenters "measuring their human egos and playing around" with new, untested technology.

A benchmark for Australian government to follow would be the New Zealand government's pragmatic and precautionary decision regarding their April 2016 clarification of GMO regulations -- what is and what is not a genetically modified organism.

Press Release https://www.beehive.govt.nz/release/gmo-regulations-clarified-0

Former New Zealand Environment Minister Dr Nick Smith wrote, "The rationale for our cautious approach is that New Zealand is an exporter of billions of dollars of food products and we need to be mindful of market perceptions as well as the science."

Regarding Consultation Paper Questions @

http://www.foodstandards.gov.au/consumer/gmfood/Documents/Consultation%20paper%20-%20Food%20derived%20using%20new%20breeding%20techniques.pdf

3.1.1 Questions - Genome contains new DNA

Do you agree, as a general principle, that food derived from organisms containing new pieces of DNA should be captured for pre-market safety assessment and approval?

YES. All new genetic modification techniques should be assessed for safety before being allowed in our food. They should also be labelled for consumer choice. This includes gene editing, GM rootstock grafting, cisgenesis, intragenesis RNA interference and null segregants.

Should there be any exceptions to this general principle?

NO

3.1.2 Questions - Genome unchanged by gene technology

Should food from null segregant organisms be excluded from pre-assessment and approval?

NO

If no, what are your specific safety concerns for food derived from null segregants?

The assumption that there have been no unintended genetic changes needs to be tested before products derived from these techniques are allowed in our food. Hence the need for a full safety assessment.

3.1.3 Questions - Genome changed but no new DNA

Are foods from genome edited organisms likely to be the same in terms of risk to foods derived using chemical or radiation mutagenesis? If no, how are they different?

NO. While chemical and radiation mutagenesis can increase the rate of random DNA point mutations, gene editing techniques cause DNA double strand breaks and can be used sequentially to make dramatic differences to DNA. They are also prone to additional unexpected mutations. They therefore carry a greater risk and warrant pre-market safety assessment and approval.

3.2 Questions - Other techniques

Are you aware of other techniques not currently addressed by this paper which have the potential to be used in the future for the development of food products?

RNA interference which can result in DNA methylation and gene silencing and has the potential to be used in the future for the development of food products. It poses unique risks such as gene silencing in non-target species that need to be assessed before it is allowed in food. Products produced using RNA interference should also be labelled as genetically modified for consumer choice.

Should food derived from other techniques, such as DNA methylation, be subject to pre-market safety assessment and approval?

Yes. DNA methylation is quite clearly a genetic modification technique and can result in heritable genetic changes. It therefore needs to be assessed for safety before being used in our food.

3.3 Questions - Regulatory Trigger

Do you think a process-based definition is appropriate as a trigger for pre-market approval in the case of NBTs?

YES - genetically modified organisms pose unique risks and a process based trigger is appropriate for assessing these risks.

If yes, how could a process-based approach be applied to NBTs?

All genetic modification techniques should be assessed for safety and these new GM techniques are quite clearly genetic modification techniques under the Gene Technology Act - which until recently Standard 1.5.2 referred to.

The Gene Technology Act 2000 defines gene technology as "any technique for the modification of genes or other genetic material". This clearly includes all new GM techniques including RNA interference.

Are there any aspects of the current definitions that should be retained or remain applicable?

Standard 1.5.2 defines "food produced using gene technology" as "a food which has been derived or developed from an organism which has been modified by gene technology." It states that "gene technology means recombinant DNA techniques that alter the heritable genetic material of living cells or organisms."

This definition clearly includes gene editing techniques. The intent of the Gene Technology Act and Standard 1.5.2 was to capture all new GM techniques. Since RNA interference can also "alter the heritable genetic material of living cells or organisms" through DNA methylation the definition of gene technology in Standard 1.5.2 would be better changed to "gene technology means in-vitro techniques that alter the heritable genetic material of living cells or organisms" for clarity.

Thank you for your consideration,

Jon Singleton