I would like to make a submission on the consultation paper **Food derived using new breeding techniques.**

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This is a personal submission.

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?

Should there be any exceptions to this general principle?

I personally feel that food with “New” DNA* should not need to be captured for premarket safety approval as long as the new DNA is from a GRAS organism. I would make an exception for DNA from Non GRAS organisms.

*As a geneticist, a molecular breeder and molecular biologist I am challenged with the concept of “New” DNA. When you breed you introduce new DNA, DNA within an organism is always changing, and one may argue that evolutionary all DNA is related across organisms, so what is “New”?

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

If yes, should that exclusion be conditional on specific criteria and what should those criteria be?

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

Null segregants should be excluded from preassessment. Mendel taught us long ago that you only inherit half of parental DNA. If your parents are transgenic (heterozygous) then only half the offspring are transgenic. There should be no exclusions from this, but maybe a specific criteria that they should have a genome sequence to show not remnant transgenic DNA has been inherited should be stipulated (and doable).

NB. If you include Null Segregants then you need to include ALL new bred varieties for consistency – they are the same.

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?

If yes, would this apply to all derived food products or are there likely to be some foods that carry a greater risk and therefore warrant pre-market safety assessment and approval?

Gene editing produces the same mutation as random mutagenesis. This technology should be treated in the same way. Random mutations happen all the time; you cannot regulate something that you cannot measure.

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?

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

I am more concerned with the “chemical” modification of foods than with the genetic modification of food, through pesticide or herbicide residues. (This is probably outside the scope of the document.)

Changing DNA methylation with a CRISPR technology is using a natural way of modulating gene expression and therefore should not be regulated.

Do you think a process-based definition is appropriate as a trigger for pre-market approval in the case of NBTs? If no, what other approaches could be used?

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

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

No, food should be assessed on what it is, rather than the process that made it. A completely harmless GM product can be made or a very toxic one. The way it is made does not make it dangerous, it is **what** is done, that does.

If you have a Null Segregant or Gene edited food product, this cannot be currently tested. We rely on the honesty of the people marketing it. I can imagine some people from some countries not honouring this process.

Are there other issues not mentioned in this paper, that FSANZ should also consider, either as part of this Review or any subsequent Proposal to amend the Code?

No.

I welcome this paper to address the archaic rules around these technologies

Your submission should include:

- the title of the Consultation paper you are commenting on
- your name and contact details including: position, address, telephone number, fax and email address
- for organisations, the level at which the submission was authorised.

Your submission may have greater impact if it:

- comments on the specific issues raised and responds to the questions in the paper
- provides as much supporting evidence as possible.

Your submission should:

- be simple, clear and concise
- be supported by relevant, reputable and current data where possible
- use appropriate and specific case examples
- include a brief summary, especially if the submission is lengthy.

Lodging a submission

FSANZ prefers that you lodge your submission by email to NBTConsultSubmissions@foodstandards.gov.au

Many submissions are received that raise issues and concerns which FSANZ does not have responsibility for and cannot address. In this case, these issues should be raised with the relevant Commonwealth agency, State, Territory or New Zealand Governments. If in doubt, email NBTConsultInfoRequest@foodstandards.gov.au.