

**Submitter:**

Dr Zahra Champion

CEO NZBIO- Representing NZBIO Members

Contact: 021899732

Email: [ceo@nzbio.org.nz](mailto:ceo@nzbio.org.nz)

## **NBT Consultation Paper – comments to the Food Standards Australia New Zealand (FSANZ) Consultation Paper on Food Derived Using New Breeding Techniques, and the consideration of the definitions in the Australia New Zealand Food Standards Code for ‘food produced using gene technology’ and ‘gene technology’.**

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FSANZ is 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.

### **NZBIO Biotechnology Industry Body**

NZBIO is a vibrant member-based organisation focused on growing New Zealand’s prosperous bioeconomy. NZBIO members are from research organisations, small to medium business, angel groups, venture capital, corporates and service providers. These members come from the agritech, healthtech, industrial, environmental and foodtech sectors.

New Zealand has the capacity and capability to encourage a growing interest in the application of biotechnology to a range of areas – new diagnostics, vaccines and therapeutics, improved crops and livestock, cleaner and more efficient industries.

NZBIO members commonality is they have a strong science and research at their heart, or they are closely associated with research institutions or organisations. NZBIO encourages scientific collaboration both nationally and internationally to create partnerships driving innovation, competitiveness and sustainability that add value to our New Zealand export market

NZBIO is focused on creating an enabling environment for its members, (government departments, established industry, venture capital, academics, researchers, private sector entrepreneurs and the broader public) and to remove barriers and encourage collaboration.

### **Summary:**

The New Zealand economy is based on the primary sector. Improved plant varieties and animal genetics will keep New Zealand’s primary industries competitive and improve productivity, while sustainably staying within environmental limits. Farmable land in New Zealand is limited, so we need to get greater productivity from what we have, and improving crops and animals is critical.

Due to these new breeding technologies The Food Standards Australian New Zealand Act 1991 (FSANZ Act) is no longer fit for purpose. Since the Act’s drafting the understanding of genetically modified organisms (GMOs) has grown, and new technologies have been developed that were not envisaged by the original drafters.

### **Questions:**

#### ***3.1.1 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?***

As the questions stand NZBIO **disagrees** with the question, that all that food derived from organisms containing new pieces of DNA should be captured for pre-market safety assessment and approval.

The question is coming from the wrong angle all questions regarding new breeding technologies should be about risk. NZBIO agrees that:

- Assumption that food derived from organisms containing 'new' pieces of DNA has a greater risk than food derived from organisms developed using 'conventional' breeding methods is inherently flawed eg. the final food product might be safer than conventional breeding or there may be an adverse characteristic.

**Future focus of assessing food safety risks should be on the final characteristics of the food derived from the new plant variety and not the breeding process used to produce that variety.**

### ***3.1.2 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?***

The question is: "is there sufficient justification (based on risk) to require pre-market assessment or approval for food obtained from null segregants", this risk based assessment has not been consistent, way of assessing all categories. Therefore, this question should be used consistently across all new plant breeding technologies eg a risk-based decision tree.

However, answering this question, NZBIO strongly recommends that **food derived from null segregant organisms should be excluded** from pre-assessment and approval.

### ***3.1.3 Are foods from genome edited organisms likely to be the same in terms of risk to foods derived using chemical or radiation mutagenesis?***

***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?***

NZBIO believes that foods from genome edited organisms are likely to be the same in terms of risk to foods derived using chemical or radiation mutagenesis, however,

- In food from gene edited organisms, genetic change (i.e. insertions, deletions or substitutions) may be safer than chemical or radiation mutagenesis which is not regulated, as the edit is incorporated in a predictable manner, which would not warrant pre-market safety assessment and approval.
- there will be instances when food derived from gene edited organisms (i.e. insertions, deletions or substitutions) may have a food safety risk which would warrants pre-market safety assessment and approval.

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

No but science and technology is evolving at an exponential rate rather than a linear pace and is disrupting almost every industry in every country.

There are technologies that haven't even been invented or used on a great scale yet, so it is future proofing the Act, by:

- 1) Either future proofing by the terminology used to encompass these unknown new innovative technologies' through focusing on risk on techniques/technologies
- 2) And or having processes that enable policy to act in an agile fashion to accommodate new innovative technologies.

### ***3.3 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?***

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

NZBIO submits that the current process-based definitions are no longer fit for purpose and no longer deliver appropriate risk-based outcomes in terms of what foods are captured for pre-market safety assessment.

### ***3.4 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?***

Consistency with regards to terminology, definitions and regulation of new technologies across local and central government agencies/policies, in New Zealand and Australia.

## ***Conclusion***

The risks generated by a new trait being created in a species are dependent more on the trait itself and less on the method of creation. In cases where the product of NBT is indistinguishable from conventional breeding technologies, then risk assessment based only on trait (outcome) is the only logical way to proceed in assuring food safety. When new or changed genetic information is introduced and maintained in a species, then assessment of food safety should be based on risk, taking all scientific knowledge and precedent into account.