

INT-STD-01-001_19 ON THE INTERPRETATION OF GENETICALLY MODIFIED ORGANISM (GMO) DEFINITION

Background

The FSC is consulting on whether the FSC interpretation of their GMO policy (definition of GMO): *Are trees whose genome has been edited using CRISPR-based technologies falling under the FSC definition of ‘Genetically Modified Organism’?*

FSC definition: ***Genetically modified organism: An organism in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination.***

FSC interpretation is:

Yes, the definition of Genetically Modified Organism covers also organisms in which the genetic material has been altered using modern, CRISPR-based gene editing technologies. The definition’s element of “altered in a way that does not occur naturally” is understood to refer both to the resulting genome change as well as to the process to induce it, hence any genetic engineering technology falls within the scope of the GMO definition.

Submitter details:

New Zealand Forest Owners Association is the representative body for forest growers in New Zealand and is a non certified FSC Member of the economic chamber in the Oceania region. We consent to our submission being made public and we are happy to be contacted about our submission. We are grateful for the opportunity to provide feedback and we welcome any opportunities for further discussion.

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Consultation Feedback Sought

Q1. Do you agree with the draft interpretation?

NO

Q2. If you answered ‘No’ to Q1, please provide your comments or suggestions.

Trees modified using CRISPR-based gene editing approaches that do not introduce “foreign” DNA, specifically Site-Directed Nuclease (SDN)- 1 (knock-out mutations) and SDN-2 (point mutations), do not, and should not, in our view, fall under the Forest Stewardship Council’s (FSC) definition of genetically modified organisms (GMOs).

These approaches produce small, targeted changes to native DNA that mimic naturally occurring mutations or outcomes achievable through conventional breeding. They should be considered modern breeding techniques capable of generating changes that can “*occur naturally by mating and/or natural recombination*” but with one key difference: they are much more precise.

We respectfully recommend that SDN-1 and SDN-2 gene edition techniques be explicitly excluded from the GMO definition, consistent with the exclusion of mutagenesis, noting that mutagenesis generates random uncontrolled mutations while these gene editing techniques are targeted, precise and predictable. This would bring the FSC’s GMO definition into alignment with a growing number of international regulatory bodies that have acknowledged the significant advances in genetic technology and the extensive body of scientific evidence supporting low risk and high potential benefits of these approaches (Buchholzer and Frommer 2023, European Commission 2023, Salt 2023, New Zealand Parliament 2024, Office of the Gene Technology Regulator 2025).

References

- 1) Buchholzer, M. and W. B. Frommer (2023). "An increasing number of countries regulate genome editing in crops." *New Phytologist* **237**(1).
- 2) European Commission (2023). Proposal for a Regulation of the European Parliament and of the Council on plants obtained by certain new genomic techniques and their food and feed, and amending Regulation (EU) 2017/625. Brussels, Belgium, European Commission: COM(2023) 2411, pp. 2016–2024.
- 3) New Zealand Parliament (2024). Gene Technology Bill (Bill No. 110-1).
- 4) Office of the Gene Technology Regulator (2025). Overview – Status of Organisms Modified Using Gene Editing and Other New Technologies. Canberra, Australia, Australian Government, Department of Health.
- 5) Salt, D. E. (2023). "GMO or non-GMO? That is the question." *New Phytologist* **237**(1).

Q3. Please provide any additional comments or suggestions, if you have them.

We note that the FSC GMO definition and associated policy - FSC INTERPRETATION ON GMOS (GENETICALLY MODIFIED ORGANISMS), FSC-POL-30-602 (2000), was developed over 25 years ago. While it may have been appropriate at that time, genetic and modern breeding technologies and their application have evolved significantly, as has the body of scientific evidence supporting their safe and beneficial application.

We believe that the current definition and policy are outdated and are no longer fit for purpose given the current state of knowledge, nor the safe opportunities these technologies present to mitigate environmental risks (such as wilding spread) while maintaining or enhancing economic sustainability in production forestry.

We strongly recommend that FSC review and update both the GMO definition and policy to ensure they do not remain static barriers to the responsible development and application of safe, non-transgenic breeding technologies.

We strongly recommend that FSC review and update both the GMO definition and policy to ensure they recognise the differences between the old technologies that insert or replace DNA sequences and the new technologies that mimic processes where the changes would occur in either natural situations (e.g. natural mutations) or via selection in tree breeding programs. Grouping the old and new technologies is not appropriate and provides a barrier to the responsible development and application of safe, next-generation breeding technologies.