



Genetic Technology (Precision Breeding) Bill Briefing for Committee Stage in the House of Lords 10 December 2022

Friends of the Earth (England Wales and Northern Ireland) exists to create a just world where people and nature thrive.

The Soil Association is the charity that digs deeper to transform the way we eat, farm and care for the natural environment.

GM Freeze is the UK umbrella campaign for a responsible, fair and sustainable food system, focused on concerns around the use of genetic engineering in food and farming.

All three organisations have deep and varied concerns about the Genetic Technology Bill, including:

- The bill does not provide the traceability and independent safety checks that all forms of genetic modification – including what the bill calls “precision breeding” – need to protect our food, our farms and the natural environment. The process by which a genetic change occurs has a huge influence on what can go wrong and all genetic engineering techniques can result in errors. The genome is more like an ecosystem than a code-book and even very small changes such as point mutations that can have far-reaching impacts.
- The bill allows the insertion of “foreign” genes and sequences that override natural controls over a precision bred organism’s own genes.
- The bill removes our right to choose, ignoring citizens’ consistently expressed desire for robust regulation and clear labelling of all genetically engineered foods.
- The bill will create significant divergence between England and all three devolved nations of the UK, as well as with the European Union and many other territories. It is likely to disrupt trade and could constitute a breach of the non-regression clauses of the UK/EU Trade and Cooperation Agreement.
- The bill falls far short of fulfilling the Government’s stated commitment to protecting animal welfare, and risks further entrenching a system of intensive food production which has detrimental consequences for biodiversity.
- The bill text is poorly drafted and introduces significant legal ambiguity. Key elements of the regulatory regime are left for secondary legislation, and there are few checks or balances to ensure that risks are mitigated and prevent the regression of environmental or safety standards.

We are asking peers to support, among others, Amendment 61 to require labelling and Amendments 14, 21 and 59 to improve assessments.

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Why we support [Amendment 61](#), proposed by Baroness Bennett of Manor Castle, to require labelling of food and feed produced from precision bred organisms.

Responses to [Defra's 2021 Consultation on the Regulation of Genetic Technologies¹](#) demonstrated clear support for maintaining safety checks and labelling of all genetically engineered organisms in the food chain. This is consistent with research studies that repeatedly find that consumers want robust regulation of all forms of genetic engineering and clear labelling at the point of purchase:

- The Food Standards Agency's (FSA) *Consumer perceptions of genome edited food* study, [published in July 2021²](#) found that *"Consumers wanted transparent labelling, and reassurance about the thoroughness of regulation and safety assessments, if genome edited foods reach the UK market."* This finding applied even when consumers felt it would be appropriate to regulate what the study described as "GE food" separately from GM food, in which case *"Most consumers felt labelling should always inform the consumer of the presence of GE ingredients"*.
- In the [first phase of the FSA's ongoing social research project](#) 77% of those questioned said *"it would be important when buying a food item to know that it had been precision bred"*. A majority of these (45% of total respondents) felt it was *"very important"* to have this knowledge before purchase.³
- The recently published Nuffield Council on Bioethics, BBSRC and Sciencewise [public dialogue on genome editing and farmed animals](#) found that consumers *"wanted products from genome edited animals to be labelled as such"*⁴.

Amendment 61 will ensure that consumers have access to the information they clearly value, at the point of purchase. End-product labelling will also assist with the traceability that is essential to maintaining organic standards and avoiding disruption to trade both within the UK (where the bill will create divergence between England and the devolved nations) and with our closest neighbours in the European Union.

Amendment 62, proposed by Baroness Hayman of Ullock, would also require labelling of food and feed produced from precision bred organisms. However, we are concerned that Amendment 62 allows the impact of labelling to be diluted by incorporating a wide range of claims, rather than giving consumers the straightforward labelling that they have consistently indicated they want to see.

Why we support Amendments 14 and 21, proposed by Lord Winston and Amendment 59, proposed by Baroness Bennett of Manor Castle, to improve assessments

The bill will create a new class of genetically modified organism (GMO), the "precision bred organism". This is defined in the bill [Part 1, 1 (2) (c)] as a product of genetic engineering in which the genetic changes made in the laboratory could – theoretically – have instead occurred as a result of "traditional processes" or natural transformation. This wording is chosen to sound reassuring but it is meaningless, especially as no limit is given for the period of time or number of generations over which such a hypothetical event "could have" occurred.

The process by which a genetic change occurs has a huge influence on what can go wrong. New methods are more targeted than first generation GMOs, but [all genetic engineering techniques are prone to errors⁵](#) and neither precision nor accuracy can be assumed. The genome functions more like an ecosystem than a codebook so small changes – even those that amend just one base pair in the DNA sequence – can have far-reaching, even catastrophic, impacts.

Genome editing is often favourably compared with the random mutagenesis techniques that are exempted from genetic modification regulations, but this is disingenuous. The invasive power of new genetic engineering techniques means they can [access and amend parts of the genome that are protected from naturally occurring, or induced, mutations](#).⁶

The bill proposes significant discretion for the developers of genetically engineered organisms, allowing them to, effectively, check their own homework. This is not adequate as developers have a significant financial interest in the release and uptake of their patented inventions. Instead, we need to retain independent safety checks to ensure that the only genetic changes that have occurred are those that were planned *and* that these changes have only resulted in the intended outcomes.

[Amendment 14](#) would significantly improve the bill by ensuring the important technical factors are assessed. Without it, a genetically engineered organism could be designated as “precision bred” even though its genome has been changed in ways that would never occur naturally. We recognise that Lord Winston intends this to be a probing amendment but we urge Members to take it forward as a key public protection.

[Amendment 21](#) would require genome sequencing – a basic check to ensure that the only genetic changes that have occurred are those that were intended.

[Amendment 59](#) would require that the risks associated with both the process of genetic engineering (which can disrupt the organism’s genome and cells in unexpected ways) and any unintended genetic changes are considered before allowing a precision bred organism into the food chain.

Amending the bill re: exogenous genetic material

Debate on the Genetic Technology Bill has revealed significant confusion among Parliamentarians (including Ministers) about the role of exogenous genetic material (“foreign DNA”) in “precision breeding”. Amendment 11, proposed by Baroness Bennett of Manor Castle proposes that exogenous genetic material may not be used in the process of creating a precision bred organism. Recognising that MPs found a similar amendment to be too restrictive we would welcome an opportunity to support peers in proposing alternatives that nonetheless address concerns that the bill, as drafted, would allow the insertion into the target organism’s genome of “foreign DNA” that can control and influence the expression of a wide range of genes with complex, and often unexpected, results.

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¹ Defra Summary of responses to a consultation on the regulation of genetic technologies, September 2021
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021309/genetic-technologies-regulation-summary-of-responses.pdf

² <https://www.food.gov.uk/research/behaviour-and-perception/consumer-perceptions-of-genome-edited-food>

³ <https://www.food.gov.uk/sites/default/files/media/document/FSA.FSS-Precision%20Breeding%20Report%20.pdf>

⁴ Public Dialogue on genome editing and farmed animals, October 2022, Executive Summary, downloaded from <https://www.nuffieldbioethics.org/publications/public-dialogue-on-genome-editing-and-farmed-animals-2>

⁵ <https://ensser.org/publications/ngmt-statement> European Network of Scientists for Social and Environmental Responsibility Statement on New Genetic Modification Techniques, 2017

⁶ <https://www.testbiotech.org/en/node/2901> or see short article “Nature protects key parts of the genome” on page 2 of this GM Freeze newsletter: <https://www.gmfreeze.org/wp-content/uploads/2022/04/GMF-Thin-Ice-Issue-61-REFERENCED.pdf>