

GM Freeze response to Food Standards Agency (FSA) and Food Standards Scotland (FSS) consultation on applications eight genetically modified organisms (GMOs) for food and feed uses and the change of authorisation holder for fifty-one authorise GMOs



Submitted by email to RPconsultations@food.gov.uk

6 December 2022

1. Introduction

- 1.1. This response is submitted by Liz O'Neill on behalf of GM Freeze, a non-profit organisation based in England but operating across the UK. The response is not confidential and will be published at www.gmfreeze.org.
- 1.2. 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. Our member organisations include large NGOs, scientists, farmers, retailers and grassroots campaign groups.
- 1.3. We are aware of many misconceptions around the role of single-issue campaigns and we would like to stress that we exist because we are needed. GM Freeze member organisations and the thousands of individuals who support and follow our work tell us that they find it difficult to follow issues around the use of genetic engineering in food and farming in detail. They ask us to keep up with the technical and political developments on their behalf and share what we learn in language that they can understand. We experience significant hostility from politicians, journalists and those working in various fields of genetic engineering, with our single-issue focus presented as a reason to discount and diminish our contribution to healthy debate. We trust that this attitude will not prevail in the analysis of responses to this consultation and look forward to continuing a respectful dialogue with FSA and FSS, as a key stakeholder on this issue.

2. Concerns about the safety of the products / events

- 2.1. Seven of the GMOs under consideration (RP1133, RP1138, RP1179, RP1180, RP1184, RP1205 and RP1263) feature herbicide tolerance traits but the potential health impacts of consuming the weed killer-friendly crops have not been properly assessed. The quantities of linked herbicides sprayed on the field trial test samples used in EFSA risk assessments do not reflect the quantities likely to be used in the commercial cultivation of these crops.

Contact address: 80 Cyprus Street, Stretford, Manchester, M32 8BE
Tel: 0845 217 8992 **Email:** Liz@gmfreeze.org **Web:** www.gmfreeze.org
Twitter: @GMFreeze **Facebook:** /GMFreezeUK

Registered office: GM Freeze, c/o Slade & Cooper Ltd, Beehive Mill, Jersey St, Ancoats, Manchester, M4 6JG

- 2.2.** These GMOs will be grown in territories where public protections against toxic chemicals are less robust than here in the UK. We must, therefore, protect UK food standards by testing the potential impacts of herbicide residues when the linked chemicals are sprayed on the GM plants at the maximum levels which the GMOs can withstand. Such assessments should fully investigate the risks and potential health impacts of different commercially available formulations, rather than focusing only on the main active ingredient. As has been shown for glyphosate¹ the inclusion of adjuvants and other ingredients in commercially traded formulations can significantly increase toxicity.
- 2.3.** Similarly, the safety of the GMOs cannot be properly assessed until there has been a detailed examination of the effects of mixed herbicide residues. The toxicity of chemical cocktails is not simply the sum of its parts² and the long-term effects of consuming GMOs grown under herbicide-dependant cultivation regimes has not been adequately considered. The applications should be refused until evidence can be provided that the long-term consumption of these crops, combined with the various herbicides with which they will be sprayed, will not affect the immune system, endocrine system or gut microbiome of humans, farmed animals or wildlife.
- 2.4.** Two of the GMOs under consideration (RP1134 and RP1135) feature glufosinate tolerance genes as selectable markers. Whatever the original purpose ascribed to these traits, crops that can withstand heavy spraying with weed killers are likely to receive such treatment in the field. They should, therefore, also be fully assessed as described in the points above.
- 2.5.** Six of the GMOs under consideration (RP1133, RP1134, RP1179, RP1180, RP1184 and RP1205) produce Bt insect toxins. At least seven different Cry proteins are produced across the range of GMOs under consideration and some of these have not been tested in detail for their possible effects on human health. Many of these insecticide proteins are expressed together in multi-stacked events and the impact of this toxic cocktail has not been properly analysed.
- 2.6.** The GMOs under consideration feature multiple stacked traits, with many combining both insect-killing and weed killer-friendly traits. However, the safety data considered by FSA and FSS focuses largely on the individual impacts of each trait, rather than assessing the various combinations that approval would cover. GMO traits are not simple “building blocks” and a stacked trait GMO is more than the sum of its parts as both the inserted genes and the phenotypic traits their insertion may induce can interact in unexpected ways³. Plant composition and gene expression can also be influenced by the stacking process itself. The combinatorial effects of all possible sub-combinations should be examined and assessed for toxicity, allergenicity and adjuvanticity, with results made available for independent scrutiny, all before approval is considered.
- 2.7.** From what we can see, no “omics” analysis has been carried out on material from the GM plants to investigate the potential for unexpected gene products or changes to metabolic pathways. Without this sort of analysis, it is impossible to know whether or not the genetic engineering process has had unintended effects.

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3. Concerns about the impacts of authorising the individual GMOs

- 3.1.** Under the heading “Other legitimate factors: Environmental” the consultation documents simply state that the applications relate to food and feed use, leaving the reader to conclude that this somehow makes their environmental impact irrelevant. We find this cavalier approach to be completely unacceptable.
- 3.2.** As noted above, the GMOs under consideration have all been engineered to produce insecticide toxins; to withstand repeated spraying with weed killers; or (in most cases) both. These traits support unsustainable farming practices and, as pests evolve, are driving an agrochemical arms race. None of the crops is authorised for cultivation in the UK and the regimes under which they will be grown do not meet our standards for environmental protection. Authorising the import of these crops amounts to exporting environmental harm, a practice that is both irresponsible and unethical.
- 3.3.** For further consideration of the environmental, health, economic and societal impacts of weed killer-linked herbicide tolerant GM crops, we recommend the in-depth report published by GeneWatch UK in August, 2022, *Time for the end of GM/GE herbicide tolerant crops?*⁴
- 3.4.** RP1180 features the NBPII neomycin phosphotransferase gene that confers resistance to the kanamycin family of antibiotics. This has been included as a selectable marker gene but should not be permitted in commercial cultivation because outcrossing could contribute to the rise of antibiotic resistant infections. Kanamycin is listed as an essential medicine for priority diseases by the United Nations World Health Organisation (WHO)⁵ and concern about the future of therapeutic antibiotics is only growing among learned organisations such as the European Medicines Agency⁶. The UK government’s 20-year vision to prevent further antimicrobial resistance identifies tackling this problem a “global priority”. Playing our part in addressing the global threat includes not providing a market for crops featuring antibiotic resistance genes.

4. Other factors that should be considered

- 4.1.** We note the recognition in the consultation details of widespread consumer concern about the use of genetic engineering in the food chain, noted in the documents as “a general tendency towards unfavourable attitudes when considering the use of GM technology in food production.” Indeed, it is clear from multiple and varied research studies that UK consumers do not want GMOs in the food chain. The FSS survey in October 2020⁷ found that genetically engineered food was a top issue of concern (second only to chlorinated chicken which had been in the news for months ahead of the survey) and that only one in ten was likely to buy GM food, even if it was significantly cheaper. Another 2020 study conducted by the National Centre for Social Research⁸ found that 59% of people wish to maintain restrictions on genetically engineered crops. A 2021 survey by the UK’s National Economic and Social Research Council⁹ found that 64% of those who took part were opposed to the cultivation of genetically engineered food.

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- 4.2.** The consultation documents go on to state that “GM labelling requirements allow consumers to make an informed choice whether to purchase foods that contain or are produced from GMOs”. However, as recognised in the very next sentence, “[c]urrent legislation does not require labelling of food products derived from animals fed with feed containing GMOs.” If authorised for food and feed use in the UK, the GMOs under consideration will very largely be used as commercial animal feed. The GM-fed meat, eggs, dairy products and fish that they are used to produce will not be labelled, denying consumers the right to exercise freedom of choice about an issue on which many have deep and enduring concerns.
- 4.3.** The GM crops being considered for release into the UK food chain are all patented. GM Freeze holds, as a core value¹⁰ that “genetic resources are a public good and should not be controlled by any individual, group or company”. The patenting of GM crops gives large multinational corporations disproportionate control over the food chain and prevents the kind of seed saving and sharing that supports the development of a resilient, genetically diverse and locally adapted seed supply.

5. Comments on the change of authorisation holder details

As noted under 4.3, above, the application of patents on the GMOs under consideration is of significant ethical and practical concern. Although the change of authorisation holder details will not change the exact nature of the GMOs permitted in the UK food chain, we challenge the assertion, in the consultation documents, that such “administrative” changes do not present any risks. The risk to our food security and, more fundamentally, to food sovereignty around the world, is greatly increased by further consolidation of the GMO market.

6. Other feedback

- 6.1.** We are concerned that neither FSA nor FSS appear to have taken appropriate steps to encourage public submissions to this consultation process. We note that both FSA and FSS have added consumers to category descriptions for those likely to have an interest and are pleased to see this improvement on the process undertaken with the first set of post-Brexit GMO food and feed approvals earlier this year. However, as far as we can see, neither organisation has run a news story about the consultations on their website and, as a result, individuals who have signed up to receive news alerts will not have been informed about this opportunity to express their views.
- 6.2.** Linking to point 6.1, above, we cannot identify any organisations on either list of interested parties that has the capacity to reach a wide range of consumers and support their engagement with the process. This gap highlights the vital role of organisations like our own (see 1.3, above) but it is nevertheless unacceptable to assume that adding a small and poorly-resourced umbrella group to your list of interested parties will ensure that you hear from the consumers, farmers, food producers and others who have a view on the role of GMOs in the food chain.

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- 6.3.** It is equally concerning to note the lists of interested parties published by FSA and FSS. FSA's list is extremely brief, while FSS's is significantly more extensive but, of course, focuses on Scotland. This raises questions about how similar parties in England, Wales and Northern Ireland have been engaged.
- 6.4.** Finally, neither FSA nor FSS include organic certifiers, representatives or, as far as we can interpret, businesses, in their respective lists of interested parties. The prohibition of GMOs in the organic food chain means that all of these groups have a clear interest in the authorisation and circulation of GMOs, particularly via commodity crops.

References

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- ² Soil Association and Pesticides Action Network – The Cocktail Effect: https://issuu.com/pan-uk/docs/the_cocktail_effect_-_report?fr=sODM1NzExOTMxNQ
- ³ <https://bmcpplantbiol.biomedcentral.com/articles/10.1186/s12870-014-0346-8>
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- ⁴ Full report - <http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/ht-report-fin.pdf> executive summary - <http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/ht-report-summary-fin.pdf>
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- ⁶ European Medicines Agency 2018. Antimicrobial resistance.
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- ⁷ <https://www.foodstandards.gov.scot/publications-and-research/publications/survey-of-food-concerns-in-relation-to-brexit-wave-1>
- ⁸ <https://natcen.ac.uk/news-media/press-releases/2020/october/after-four-years-of-brexit,-british-social-attitudes-reveals-voters%E2%80%99-hopes-and-fears-for-life-outside-the-eu>
- ⁹ https://whatukthinks.org/eu/wp-content/uploads/2020/12/WUKT-EU_Initial-Deliberation-Findings-Paper_v5.pdf
- ¹⁰ GM Freeze: our values <https://www.gmfreeze.org/our-values/>

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