

**OF&G response to the UK government's
public consultation on the regulation of genetic technologies**



Organic Farmers & Growers CIC (OF&G) is the largest certifier of organic land in the United Kingdom.

Founded forty years ago as a marketing cooperative for organic farmers OF&G went on to become the first body to receive government approval for an organic inspection and certification scheme in the UK.

This document is our response to the UK government's consultation on the regulation of genetic technologies. We consent to this response being made public.

As an Organic Control Body our role is to ensure that the Organic standards¹ are carried out on organic farms and in food businesses across the UK, and to offer support and guidance for businesses who are making the switch to organic.

We certify the complete food supply chain from primary production, feed and seed to processed product including storage, warehousing, distribution and retail.

From our offices just outside Shrewsbury in Shropshire, we provide services to organic businesses across Great Britain and Northern Ireland, the Isle of Man and the Channel Islands.

¹ Organic standards; Retained Regulation (EC) No. 834/2007, (EC) No. 889/2008, (EC) No. 1235/2008 and Organic Products Regulation 2009.

Section 2 – Part 1: the regulation of GMOs which could have been developed using traditional breeding methods

This part of this consultation addresses the regulation of GMOs produced by gene editing (GE), or other genetic technologies, but which could have been developed using traditional breeding methods.

Currently, organisms developed using genetic technologies such as GE are regulated as genetically modified organisms (GMOs) even if their genetic change(s) could have been produced through traditional breeding.

Do you agree with this?

Traditional breeding is a concept that has brought about a range of definitions. Traditional would be seen by many as either in-field or in greenhouse cross-fertilisation. Some breeding techniques are highly invasive and are not traditional.

We believe that genome editing is both invasive and disruptive and therefore cannot be equated to a traditional method of seed breeding.

OF&G is an active member of the English Organic Forum and IFOAM International and IFOAM Organics Europe and we support full alignment with the international organic movement's position that genome editing is a genetic engineering technology and its process and products are Genetically Modified Organisms as defined by the EU Directive on GMOs (Directive 2001/18).

Consequently, we believe that all gene editing should be regulated as GMOs, in accord with the European Court of Justice Ruling of July 2018. This is consistent with scientific concepts and terminology and international treaties including the Cartagena Protocol.

We recognise gene editing is a developing technology which is now more available since recent advances in genome sequencing and may have a role to play in future farming and food systems. We also recognise that some farmers may wish to use the products of gene editing and some consumers may be willing to purchase gene edited products.

We therefore agree with the long-established UK and EU policy that different approaches to agriculture (in particular organic, non-GM conventional and GM conventional) should coexist and thereby enable farmers to choose which approach they wish to follow and give consumers the choice of buying products from the farming system they wish to support.

Furthermore, we firmly believe that such co-existence should be equitable and that the organic approach and market should not be undermined, threatened or unfavourably treated in any way; including in the areas of government financial support, R&D funding, supply chain integrity and development, market integrity, policy, public education and messaging.

To this end, we hold that any future revision to regulations in the UK should ensure that:

- all forms of gene editing are subject to robust regulation and risk assessments over and above basic health and environment regulations;
- all aspects and stages of gene editing processes and products in the supply chain should be transparent, monitored and clearly labelled;
- that the regulatory system should be broad based in goals and structures encompassing citizen involvement, transparency, ethical considerations and societal goods and services.

We consider that the organic sector has successfully developed on the basis of an unusually high level of trust between organic farmers, growers and consumers and we will be robust in protecting this relationship.

Therefore, we are strongly opposed to any attempt to redefine any form of gene editing as non-GMO as we believe this will constitute an existential threat to the integrity of organic farming, organic products, both domestic and global markets and the relationship between organic farmers and consumers.

Any redefining of genome-editing as non-GMO would also put the renegotiation of the current organic equivalency agreement embedded in the UK/EU TCA by December 2023 in serious doubt due to this significant divergence.

Section 2 – Part 2: Do organisms produced by GE or other genetic technologies pose a similar, lesser or greater risk of harm to human health or the environment compared with their traditionally bred counterparts as a result of how they were produced?

There is an acute lack of robust independent research to support claims that gene-edited GMOs perform better than conventionally bred plant varieties. Nor that they are demonstrating advantages such as reducing costs to farmers and reducing impacts on the environment².

GMOs have in fact been seen by leading experts as having failed to lift yields and failed to improve situations on farm³.

The increased likelihood of extreme weather events is believed to be the result of human effected changes to the climate⁴. This has led to repeated flooding of farmland and is likely

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http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAAST_D.pdf

³ <https://www.fwi.co.uk/arable/farmer-focus-herbicide-resistance-adds-to-woes>

⁴ <https://www.metoffice.gov.uk/research/climate/understanding-climate/uk-extreme-events-heavy-rainfall-and-floods>

to further weaken our ability to produce food while we continue to encourage farmers on a course of ever greater intensification of our primary production systems.

The science shows that this situation coupled with continued increase in dietary related illness and under nutrition⁵ must be addressed by multiple approaches with integrated strategies that are demonstrably proven today.

In this context we believe that genetic editing is unproven and therefore does not in itself represent a significant opportunity to address the current climate, environmental and health crisis we face.

The fact is that simply placing our future productivity and health on unproven genome editing while ignoring proven strategies and social welfare policies does represent a greater risk of harm to human health and the environment.

Section 2 – Part 3: Are there any non-safety issues to consider (e.g. impacts on trade, consumer choice, intellectual property, regulatory, animal welfare or others), if organisms produced by GE or other genetic technologies, which could have been produced naturally or through traditional breeding methods, were not regulated as GMOs?

Intellectual Property Rights are of huge importance in the food system and we would encourage an industry and a public debate on corporate control within our food systems.

Although some CRISPR laboratory work begins in SME's and start-ups the trends we have seen show that larger businesses will partner with these smaller companies and this often leads to take-overs by larger corporate entities⁶.

Consolidation in the food industry also increases job losses, reduces consumer choice, and as a result global biodiversity and the variety and independence in our food chain are at risk⁷.

And here we would emphasise the fact that analysis of the evidence clearly shows the current intensification of agricultural practices is resulting in the unsustainable degradation of soils which severely weakens human food security⁸.

Many agree now that business as usual is not a responsible position if we want to prevent the continued erosion of our natural assets to the point of no return.

⁵ <https://www.thelancet.com/commissions/global-syndemic>

⁶ <https://www.independent.co.uk/news/business/news/uk-food-industry-overseas-firms-takeovers-mergers-sector-a8358516.html>

⁷ <https://www.foodnavigator.com/Article/2017/11/06/Food-sector-consolidation-threatens-food-security>

⁸ <https://www.sciencedirect.com/science/article/pii/S0160412019315855>

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Despite a well-intended approach, driven by a profit and loss method of accounting, it's unintentionally led to serious negative consequences to the environment, while not actually improving farm incomes.

Although yields did initially increase between the 1960's to 1980's through the use of 'modern' farming chemistry, this came at a huge cost to the natural environment and yields have since largely plateaued⁹.

And, nutritional value has actually decreased. In fact, it was recently reported that we now need to eat twice as many calories to receive the same nutritional content, which among other things, is driving the obesity crisis¹⁰.

We are all clear-eyed now that farmers' quest to become efficient and productive in its current definition, evidently is not working and objectives must change.

In principle, if you can produce two things from the land where you once produced one thing, you're doing a good job. But the question is, at what cost, and at what gain?

Factoring in non-cash outcomes in the context of the environment, such as soil carbon content, biodiversity and agricultural landscapes, resilience to flooding and rural vitality, is essential to prompt the system shift required to address the challenges we face.

There's a misconception that we need to produce more food to feed the growing world population, which is anticipated to be 9.7bn by 2050.

The reality is this call to increase food production by 2050 only applies if we continue to prioritise the growing population of livestock and automobiles (via biofuel) over hungry people.

Around a third of the food we produce is currently lost or wasted so if policies were directed to avoid waste and encourage balanced dietary choices with meat and non-meat foods, we could feed 9.7bn now¹¹.

The real challenge then is how we continue to do this in a way that protects and enhances our increasingly frail and dysfunctional environment.

Professor Sir Partha Dasgupta has described this problem with great clarity in his final report commissioned by HM Treasury and published on GOV.UK¹² –

Modern agriculture has driven a great deal of environmental decline.

⁹ <https://www.eitfood.eu/blog/post/can-regenerative-agriculture-replace-conventional-farming>

¹⁰ <https://www.nytimes.com/2015/09/15/science/a-decline-in-the-nutritional-value-of-crops.html>

¹¹ <https://www.nature.com/articles/s41467-017-01410-w.pdf>

¹²

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957292/Dasgupta_Review_-_Abridged_Version.pdf

Even though monoculture systems have raised food production, they have diminished biodiversity.

Shifting cultivation and crop rotations (they increase soil fertility and reduce pests) have been standard practice in sustainable land management. Today that should be supplemented by the offer of greater incentives to farmers to adopt practices that support biodiversity and ecosystem services.

Agri-environment schemes and Payments for Ecosystems Services (PES) are obvious candidates for further development.

But even where such schemes hold great potential, their success depends on their design and scale of funding.

The professor explains –

Relatedly, GDP does not include the depreciation of assets, for example the degradation of the natural environment (we should remember that 'G' in GDP stands for gross output of final goods and services, not output net of depreciation of assets).

Therefore, 'building back greener' must be a priority and science and economics such as those in the HM Treasury report from the Dasgupta review do need to be heeded to avoid repeating past mistakes without any lessons learned.

Additionally, we would like to see an increased level of government support for organic, with its proven delivery and market recognition, so that there is a clearer recognition of the multiple benefits delivered simultaneously within a scheme that is defined in law and maintained through a process of annual inspection and verification.

We are calling for more government and private funding for research into organic, whole food system methodologies and we believe that these should be considered before embracing unproven technologies.

In answer to the question then, there are a myriad of issues as highlighted above arising from a policy that continues to advance the current 'status quo'. GE/GMO is simply substituting certain inputs (although we are unclear as to which and by how much).

It fails to fundamentally address the depth and breadth of the environmental, dietary, climate and rural viability challenges we currently face. It is not market led but it is led by existing farm-input agri-business providers, whose chemistry over the last 70 years has demonstrably failed at all levels and who are now reaching for a substitute to perpetuate this failure.

Our food quality is poorer, our environment is in crisis, our diets are causing massive harm to our own and to planetary health, soils are continuing to be degraded and our crops remain susceptible to drought, flood, pests and diseases.

Section 2 – Part 4:

What criteria should be used to determine whether an organism produced by gene editing or another genetic technology, could have been produced by traditional breeding or not?

It is critically important to define the terms 'traditional breeding' and 'gene editing'.

In order to ensure ongoing environmental and human health monitoring, as well as farmer and consumer choice, criteria enabling transparency at all levels through to product labelling should be developed.

We would strongly recommend that work in the arena of the manipulation of genetic material including gene editing should be done only under a robust and fully transparent regulatory framework in order to ensure that safeguards are in place.

OF&G believe that strong regulation in food systems is essential. Our experience of adhering to a strong regulatory framework comes from the audits we administer for our licensees and from our own annual audit undertaken by the United Kingdom Accreditation Service.

We would, therefore, see no reason why others should not have to comply with an equally stringent set of standards to protect integrity in food supply chains.

This will protect food producers, the science community and the environment by making clear guidelines and safeguards that are proven to foster a responsible approach to both the scientific and commercial aspects to food safety and environmental protection.

Section 3 – Part 2: Questions on broad reform of legislation governing organisms produced using genetic technologies

There are a number of existing, non-GM regulations that control the use of organisms and/or products derived from them. The GMO legislation applies additional controls when the organism or product has been developed using particular technologies.

Do you think existing, non-GM legislation is sufficient to deal with all organisms irrespective of the way that they were produced or is additional legislation needed?

NO – non-GM regulations are not sufficient to control the use of organisms created using genetic engineering techniques, including gene editing. Organisms created by genetic engineering are novel, patentable organisms created using an 'inventive step' that does not occur in nature. As such they require separate, additional regulation and monitoring.

The question also asks respondents to indicate whether non-GM regulations are sufficient to control the use of genetically engineered organisms in the following sectors: a) cultivation of crop plants, b) breeding farmed animals, c) human food, d) animal feed, e) human and veterinary medicines, f) other sectors/activities.

NO – we do not believe that non-GM regulations are sufficient to regulate these areas – each area requires separate, additional regulation and monitoring.

We would also add that, in all cases, the current regulatory framework for genetically engineered crops and foods lacks independence, transparency and citizen engagement.

Question 2 – Where you have answered no, please describe what additional regulatory or non-regulatory measures you think are required, including any changes you think need to be made to existing non-GMO legislation. Please explain how any additional measures should be triggered.

Existing GM regulations should be kept and extended to include social and ethical considerations.

Citizens should have a meaningful role to play in deciding what is, and is not, allowed. We also need further consultation on issues of coexistence for farmers and growers not using GM technologies, including liability for any damage and contamination resulting from GM use, as we will need legislation and other mechanisms to cover these issues adequately.

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With science showing that climate and ecological crises are having profoundly negative effects on the systems that support food production banking on unproven techniques cannot be considered a responsible approach.

When the government's consultation was announced OF&G called for more funding for research in organic whole system methodologies before any move to embrace unproven technologies.

Farmers face huge challenges from increasingly erratic weather patterns and a diminishing biological diversity in our countryside. And they still must be economically viable to be able to manage land and produce consistent quantities of good quality food.

We want all parts of the food system to adhere to the same level of stringent regulation that our licensees achieve year-on-year. We want to see full support for established farming systems and fail safes in place for all systems to enable a truly sustainable growth.

We do not believe that human food systems of the future can continue to fight with nature as they have for preceding decades.

We look forward to working with colleagues across food and farming sectors and across government and non-governmental bodies to engage all the experience and insight built over time with diligent and responsible innovative experimentation and practice.