



Unite the Union response to Defra consultation: the regulation of genetic technologies

Introduction: Unite and our membership in the food and agriculture supply chain

Unite is Britain and Ireland's biggest union, with around 1.4 million members. Hundreds of thousands of Unite members are in the food and agriculture supply chain. These include agricultural and horticultural workers; workers in the animal feedstuff industry; food and drink processing and manufacturing workers; retail workers; and workers in distribution and logistics.

Unite is affiliated to global union federations including the International Union of Foodworkers (IUF), of which EFFAT (European Federation of Food, Agricultural and Tourism Trade Unions) is its European organisation. Unite remains the only UK union with members in the agriculture sector, as well as in food processing. With our international sister unions, we are committed to sustainable agriculture based on agro-ecology.

As the only UK union with agricultural worker membership, Unite and our members have historically been well placed to develop policy on agriculture and rural issues. This includes health and safety of workers, in one of the most dangerous industries in the UK. As frontline workers exposed to chemicals our agricultural members have a longstanding commitment to sustainable agriculture; with our international sister unions, we are committed to the eradication of hazardous pesticides.

Our members throughout the food chain have also borne the brunt of when practices aimed at saving money have caused chaos. Our stock worker members were among the first to notice the arrival of the BSE crisis, which made infected cattle unpredictable to work with, leading to injuries amongst workers and successful claims for industrial injuries.

The BSE crisis in the 1990s was an example of how a short-term fix – adding cattle and sheep remains to cattle feed - turned into long-term disaster not just in agriculture but throughout the food chain including food processing. Within months the UK beef export trade had collapsed, and millions of carcasses were burning in pyres. Global bans on UK beef continued until 2019. Similar levels of disruption developed as a result of the 2013 'horsegate' scandal; 'By year's end, Tesco's annual profits had fallen by 52%. Consumer trust in large food manufacturers and retailers was at an all-time low: British consumer organisation 'Which?' reported that sixty percent of consumers had changed their shopping habits because of the scandal.' ¹

¹ <https://www.foodfraudadvisors.com/horsemeat-scandal-analysis/>

These wholly avoidable crises motivated by short-term financial gain led to millions of pounds in lost sales and contracts, and had a major impact on jobs and working conditions. The decisions behind these crises were motivated by short-term financial gain, but led to disastrous unintended consequences.

In Unite's view, Defra's proposal on gene editing has the scope to cause damage to consumer trust and engender chaos in the UK food and agriculture industry, threatening our members' livelihoods. It also has the potential to cause harm to the environment, despite the precautionary principle advocated by the European Union still underpinning the UK's relationship with our biggest trading partner.

General points about the consultation

The consultation breaches government consultation principles ² in a number of ways including:

B. Consultations should have a purpose

'Do not ask questions about issues on which you already have a final view'.

The government view on GE is clear from the wording of the consultation. It is positive on benefits, and there is little or no mention of the major potential environmental, political and economic harms.

The government has had a final view on GE for years:

Michael Gove, then Environment Secretary, gave a speech in December 2018 at a Country Land and Business Association conference, describing GE as 'giving Mother Nature a helping hand': "Even if there are individual lobby groups that express their legitimate concerns we will ensure those scientific tools are there for those who can improve productivity in a genuinely sustainable way. Gene editing allows us to give Mother Nature a helping hand, to accelerate the process of evolution in a way which can significantly increase yield and also reduce our reliance on chemicals and other input. There is a potential there for Britain and our scientists and our farmers to lead the way." ³

Secretary of State George Eustice gave a speech to the Oxford Farming Conference, launching the consultation in January 2021, where he said: 'we must use the tools that science provides to ensure that profitable food production and sustainable land management go hand in hand'. ⁴

In 2018 gene editing was debated in the House of Lords. Conservative peer Viscount Gardiner of Kimble, Parliamentary Under-Secretary of State, DEFRA, said of countries that allow GE: 'We agree that gene-edited plants, for instance, which could have been produced by traditional breeding do not need to be regulated as GMOS...There are all sorts of ways in which we can gain enormous benefits from GE...we think it is a force for good'. ⁵

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691383/Consultation_Principles__1_.pdf

³ https://www.farminguk.com/news/british-farmers-could-lead-the-way-on-gene-editing-after-brexit_50860.html

⁴ <https://www.gov.uk/government/speeches/environment-secretary-speech-on-gene-editing-consultation-oxford-farming-conference-2021>

⁵ <https://hansard.parliament.uk/Lords/2018-03-06/debates/4CC1DC99-3218-4567-9AD4-89DDE4DFD3AC/AgricultureGeneEditing>

In July 2020 peers from all parties tried to get passed Amendment 275, which would allow GE, to the then Agriculture Bill. (It was noted by Baroness Bakewell that: ‘The fact that this amendment was not introduced in the other place leads me to believe that it has something of the back door about it and is not the way to proceed’.) Lord Gardiner of Kimble once again made clear the UK government’s position on GE: ‘Our position was, and is still, that if the products of gene editing could have been produced naturally or by using traditional breeding methods, they should not be regulated as GMOs’.⁶

DEFRA speakers reinforce the fact that the government’s mind is made up. A DEFRA spokesperson quoted in a July 2020 article that: ‘...organisms produced by modern mutagenesis techniques (such as gene editing) should not be subject to genetic modification regulation if the changes to their DNA could have occurred naturally or through traditional breeding methods....the government recognises the opportunities precision breeding techniques could bring for farmers and the environment and remains committed to science-based policy and regulation of precision breeding techniques, such as gene editing’.⁷

DEFRA chief scientific adviser Professor Gideon Henderson was quoted in the press as follows, two days before DEFRA’s consultation was to close: “There is a mindset that we would like to change the law on this – that tendency to go ahead is there. And everything I have heard so far from diverse stakeholder groups taking in the breadth of the views suggests that there is pretty general support for it.... We won’t sit on our hands on this, it will get fairly rapid attention... There is a desire to move quite quickly on post EU regulatory reforms in general”.⁸

C. Consultations should be informative

‘Give enough information to ensure that those consulted understand the issues and can give informed responses. Include validated impact assessments of the costs and benefits of the options being considered when possible; this might be required where proposals have an impact on business or the voluntary sector.’

There is little information in the consultation, and what information there is, is skewed in favour of GE. There are no references.

The consultation contains no impact assessments. There is no impact assessment on the economic cost. There is no Environmental Impact Assessment. This is despite the potential disastrous economic impact on trade with the EU, and environmental impact.

Critically, the proposals on GE represent divergence from the TCA. The consequences of this are extremely serious, ranging from a potential collapse of the food, drink and agriculture trade between the UK and EU, to increased tensions around the Northern Ireland protocol, together with the risks to environment, animal welfare and human health. There is no mention of any of these issues in the consultation.

⁶ <https://hansard.parliament.uk/lords/2020-07-28/debates/47D6DD2A-6DB4-440A-A881-51AAA8FEC4F4/AgricultureBill>

⁷ <https://www.euractiv.com/section/agriculture-food/news/uk-gene-editing-amendment-withdrawn-but-government-commits-to-consultation/>

⁸ <https://inews.co.uk/news/science/government-looks-poised-to-lift-ban-on-gene-editing-agriculture-915011>

Section 2

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?

Yes – they should continue to be regulated as a GMO

Unite's view of the government's proposals is that:

- **It is a recipe for economic chaos in the UK food supply chain and threatens the jobs and livelihoods of thousands of UK workers;**
- **It will lead to political chaos within the UK and with our closest trading partner for food and agriculture, the EU; and increase tensions around the Northern Ireland protocol;**
- **It will add to the environmental crisis, because of the unpredictable technology, and distracts from the need for urgent and sustainable change in the face of the global climate emergency.**

The 2021 Defra consultation on gene editing

In 2018 the European Court of Justice ruled that 'gene edited organisms should be regarded as the same as genetically-modified organisms, whether or not they could be produced by traditional breeding methods'⁹. As such they continue to fall under the 2001 GMO legislation. The ECJ said the exclusion of new GMOs from the regulations would go against the purpose of the legislation and fail to respect the precautionary principle enshrined in the EU's treaties. An EU review of gene editing is due to report in April 2021.¹⁰ In the UK post-Brexit transition period, the position is that this ruling is part of retained EU law.

Defra acknowledges this in the consultation document. But Defra along with the UK government and the proponents of GE have not acknowledged that the proposals on GE will represent divergence and all the consequences of this for the UK.

The EU review of GE

The EU review of gene editing is due to report by 30 April 2021. In theory the EU could permit GE, removing some of the potential tensions around the UK government's proposals.

We cannot understand why the UK government has not waited until the EU – which remains our biggest market despite the post-Brexit collapse in trade – concluded its review. The Scottish and Welsh agriculture ministers challenged the UK government on this point,¹¹ which was also pre-empted by Baroness Young in the Lords debate on Amendment 275 to the Agriculture Bill in July 2020.¹²

⁹as above

¹⁰ Unite's European trade union colleagues suggest there may be a delay in report's timing due to Covid-19.

¹¹ <https://www.thescottishfarmer.co.uk/news/19011159.georges-gene-britain/>

¹² <https://hansard.parliament.uk/lords/2020-07-28/debates/47D6DD2A-6DB4-440A-A881-51AA8FEC4F4/AgricultureBill>: a perfectly good EU review of the whole issue of gene editing of crops and animals is under way and due to be published next April, so why are we rushing to make an amendment to the Bill that would jump the gun? Can we not wait to see what that review reveals? Rushing to deregulate gene editing, as some wish to do, to bring us into alignment with the US risks us pursuing the US market, which will always be a smaller, specialist market for UK food products, and risk our not being able to continue to do business with our major existing EU markets, depending on what they decide. Therefore, why not wait to see what the EU decides to do after April 2021?

There is a range of views within the EU on GE. The EU's Farm To Fork strategy has a declared goal of the reduction of pesticides, which may mean the Commission will look favourably on GE as a way to reach this goal. The French government is in favour of changes to the EU legislation (influenced entirely by the agro-industrial lobbies).

However, this is not supported by the French trade union movement, and Unite's counterparts in EFFAT inform us that the wider European trade union movement is against any change, because of the potential adverse effects on human health and the environment. The Greens/EFA group in the European Parliament are also highlighting that consumers are strongly against this technology and will not want to buy GM food or animal feed. Martin Häusling, agriculture spokesman for the Greens/EFA in the European Parliament said: 'Consumer studies have demonstrated again and again that consumers do not want GM-food and feed. The UK will, therefore, lose a big market for its gene-manipulated products'.¹³

Were the EU review to favour a relaxation of the legislation on GE, it should be assumed that there will be massive resistance from consumers, citizens, the labour movement and the environmental movement. Therefore, if the UK government decides to allow GE, it would be many years, if at all, before the UK was aligned with the EU.

The actions of the UK government risk making the UK the 'Singapore of Europe' – low tax, weak regulations, poor workers' and consumer rights.

The UK-EU Trade and Cooperation Agreement (TCA) and divergence

The 2018 ECJ ruling means that new GMOs created with gene editing cannot be marketed in the EU unless they have received an EU authorisation.

The precautionary principle is the EU hazard-based assessment based on the potential for serious harm to be caused to the environment or human health even if the science is not clear. Other countries – such as the US and Australia – use the risk-based principle, introducing bans only when harm has been caused. This difference in principles is key when identifying why the UK government has moved ahead on GE so rapidly after Brexit with the aim of aligning the UK with the US for future trade deals (before Trump's defeat) and the CPTPP, which include countries that are permitting GE.

The UK's biggest trading partner for food and agriculture by far is the EU:

- 30 % of our food production goes to the EU;
- last year this represented £14.2 billion out of a total of 23.6 billion exported;
- Figure masks high percentages in some parts of the sector, e.g. 82% of our beef exports go to the EU, and the majority of our lamb exports.

The UK's current position on gene editing is part of retained EU law. The EU-UK Trade and Cooperation Agreement includes the principle of non-regression, with clauses on rights and standards. If England diverges from the current EU position on gene editing, this would constitute a divergence from existing standards and very possibly a regression from them. From a customs perspective, should this be viewed as having an impact on product standards and safety it is highly likely to be seen a distortion of existing trading arrangements. Any such move would require specific EU authorisation and it is highly questionable whether such authorisation would be granted.

¹³ <https://www.thenational.scot/news/19159129.fears-frankensteins-food-may-flood-scotland-post-brexit-consultation-ends/>

But it is more likely that in such a situation the EU could refuse to accept goods from England (and as explained below, Scotland and Wales) with gene-edited content, as this would be an SPS – Sanitary and Phytosanitary – issue and not a customs issue, and therefore lead to an outright ban.

For all UK members in the agri-food chain, which is still dealing with the pandemic and the disruption of Brexit, this is a massive threat. Every part of the supply chain could be affected:

- GE crops used in feed for animals would affect the meat and dairy industry;
- GE crops used in manufacturing of final products, whether food or drink, would affect the food and drink manufacturing industry;
- GE content in any agricultural products that are in the supply chain normally exported to the EU for use in food manufacturing there would also be affected.

In terms of trade for our members in the food manufacturing and supply chain sectors the level playing field is on both sides key to ensure the future of the industry in the UK.

Devolved nations

Agriculture is a devolved responsibility. The Defra consultation is for England only. Under the Internal Markets Act, were England to change its position on gene editing, Scotland and Wales would be forced to change also, regardless of their own farm, food, environment, or public health policies goals.

Scotland and Wales have indicated that they would adhere to EU policy. There would then be an issue of food supply chains that cross borders within the UK. But the EU could also classify goods from Scotland and Wales as from the UK, or there would be potential for complications on origin of ingredients. Imposition of gene editing legislation originating in England would lead to political issues on the reality and foundations of devolution for Scotland and Wales.

In January 2021, Welsh Minister of Environment, Energy and Rural Affairs Lesley Griffiths said: “Currently there is considerable debate in the scientific community regarding the safety of gene edited plants and animals. In Wales, we will maintain our precautionary approach to genetic modification and this includes the gene editing techniques. Our position, as always, will depend on the science and the impacts of the actions that we take today, on Wales’ future generations.”¹⁴

The Scottish Government view was expressed by agriculture minister Ben Macpherson, shortly before DEFRA’s consultation was to close: “Scotland’s policy on the cultivation of GM crops has not changed – we will be maintaining Scotland’s GM-free crop status, in line with our commitment to stay aligned to EU regulations and standards, and have made our views known to UK Ministers. The UK Government’s consultation highlights the fundamental threat to devolution and Scotland’s interests introduced by the Internal Market Act.”¹⁵

The UK government is therefore on a collision course with the devolved nations on GE. If it decides to proceed with GE in England, and lets the devolved governments set their own position, there remains three key issues:

- the EU will class produce from Scotland and Wales as ‘UK’ and therefore affected by bans or other measures, or at the very least risk major complications on origin of ingredients, with

¹⁴ <https://media.service.gov.wales/news/statement-from-lesley-griffiths-on-genetic-editing>

¹⁵ <https://www.thenational.scot/news/19159129.fears-frankenstein-food-may-flood-scotland-post-brexit-consultation-ends/>

additional paperwork and costs for producers from the devolved nations to prove their goods are GE-free;

- the food supply chain that crosses the borders with England will be affected by the differing positions, affecting jobs, retail supplies, and consumers; and
- as was noted in the House of Lords debate, GE crops grown on the borders with Scotland and Wales would eventually be growing there, undermining the two countries' positions and affected the status of their produce.

If the UK government deploys the Internal Market Act and impose the pro-GE position on the devolved nations, this will exacerbate existing internal political tensions over devolution, devolved responsibilities (such as agriculture), and the massive loss of trade for Scotland and Wales. Once again, the jobs and livelihoods of Unite members in the food, drink and agriculture sector in all three countries are being disregarded.

Northern Ireland

Our trade union colleagues in Northern Ireland, the only part of the UK with a land border with the EU, and the Republic are clear about the gravity of the potential impact of the UK government's proposals on GE. These represent a divergence from the TCA, and with that very real fears around the Northern Ireland protocol.

England's change in policy would introduce fresh tensions into trade between Great Britain and Northern Ireland. Northern Ireland's supplies of food have already been affected post-Brexit due to the changes in regimes adding to delays and shortages.

Imposing legislation on gene editing would be likely to result in the hardening of the border in terms of food and drink trade. It would be an immediate breach of the Northern Ireland protocol. The significance of this in relation to future US-UK trade deals cannot be overstated, given President Biden's clear and determined position with regard to Northern Ireland and the Good Friday Agreement. Finally, imposition of GE would be likely to mean a renegotiation of the UK-EU trade deal.

However, on the basis that an imposition of GE on Northern Ireland would be unlikely for the reasons above, there would still be issues on food security in Northern Ireland because it is still part of the single market and has the shared land border with Ireland, and thus the requirement to respect the EU's position on GE.

The Ulster Farmers' Union acknowledges this real politik,¹⁶ but there has been little to no consideration of the immense political tensions and high stakes by the UK government or the proponents of GE.

Threat to jobs from relocation out of UK

Trade deals with the US and with countries as part of the CPTPP are not a replacement in terms of volume of trade with the EU. There may be potential, but if a UK decision on GE closes the EU market, there would be a timelag before new markets opened up. UK businesses are unlikely to 'wait and see', and will just move production to sites within the EU where their market is.

¹⁶ <https://www.ufuni.org/news/gene-editing>

The food, drink and agriculture sector in the UK has been dealing with the global pandemic, on top of years of Brexit uncertainty, and the introduction of fresh uncertainty due to these proposals only adds to concerns about job losses.

A Unite senior rep at a biscuit manufacturers, making major household brands for UK and export markets, and own brand for UK retailers, said: 'We've discussed Defra's gene editing plan with management and they are baffled as to why the government is doing this now. The UK food chain has been dealing with the pandemic on top of Brexit.

'In our production process how can we differentiate between GE and non-GE flour? Additional costs from a switch to GE would be rejected by retailers, leaving our business to shoulder the cost. We make big-name brands for export to the EU. But as a global company, my employer has factories across Europe. If the EU decides it will keep its position on GE, then the company could move production for its European site to the continent to keep it GE-free. Who knows what would happen to our UK sites? Thousands of people work for the company and its supply chain across the UK. The government's plan for GE is a grave threat to the jobs of those people, many of them Unite members, and to their families' livelihoods.'

There is the potential for massive disruption in food, drink and agriculture, an industry which has already been hard hit by Brexit and by the pandemic, and major losses of jobs.

Environmental concerns

In our 2015 'Plough to Plate' document Unite outlined our commitment to a safe, healthy food system for people and planet – a system that values workers' rights, animal welfare, consumer safety, and our future environment.

There are multiple environmental concerns about gene editing. Gene editing technology has the potential to cause further disruption to our already fragile biodiversity. Despite its backers' claims, it is imprecise with unpredictable results.

Unpredictable outcomes

The Wellcome Sanger Institute called into question the predictability of outcomes of gene editing in a 2018 report, the latest of many alerts over the technology.¹⁷ Friends of the Earth's December 2020 report gives detail of 'off-target effects' amongst other risks; unintended results which 'would be practically impossible to achieve using older techniques':¹⁸

'Multiple studies have shown that gene editing can unintentionally change genes with DNA sequences that are similar to the gene that was originally targeted for modification - known as 'off-target effects'. Because cell DNA repair mechanisms play an important part in the process, and because these mechanisms involve a certain amount of randomness, it is impossible to reliably predict the exact outcome even in the targeted gene(s). The ability to simultaneously change multiple genes with similar sequences (whether intentionally or unintentionally) represents one of the biggest novelties with these techniques and poses new challenges for assessing the risks as it can result in patterns of genetic change that are highly unlikely to arise naturally (i.e. by random mutation). Such results would be practically impossible to achieve using older techniques.'¹⁹

¹⁷<https://www.genengnews.com/insights/another-crispr-calamity-u-k-team-reports-crispr-induced-gene-rearrangements/>

¹⁸ <https://friendsoftheearth.eu/wp-content/uploads/2021/01/Generation-Unknown-English.pdf>

¹⁹ <https://friendsoftheearth.eu/wp-content/uploads/2021/01/Generation-Unknown-English.pdf>

Jonathan Latham and Independent Science News disputed three ‘myths’ about gene editing: current GE technologies are not error prone; precision equals control; DNA functions are modular and changes are predictable. ²⁰

Disruption to biodiversity:

GE backers argue that it could wipe out viruses in key crops, such as sugar beet, bananas, and cocoa. Many of these crops are grown as monocultures, such as in plantations, often of one variety. For example, around 95% of bananas grown for export globally are the Cavendish banana variety, now vulnerable to the TR4 virus.²¹ It was introduced to replace an earlier dominant global variety grown in monocultures, which had become susceptible to virus.

GE proponents argue that the technology could wipe out viruses in key crops such as bananas. However, this ignores the risks of GE and also ignores the many ways in which such viruses could be addressed in less harmful ways, such as increasing the numbers of varieties grown, reducing monocultures, and using agroecology methods.

The chief agricultural officer at Mars said: “Because we have broken up the ecology of so many places, biodiversity has been disrupted. [Pathogens] that sat benign for 500 or 1000 years are now looking for new hosts”.²² This, in his view, was an argument for using gene editing to confront new pathogens. To us, it’s an argument to stop disruption and start valuing biodiversity as a solution.

The December 2020 report by Friends of the Earth observes: ‘As Europe’s farming sector faces up to the combined challenges of climate change, biodiversity loss and an increasingly globalised market, a new generation of GMOs is being portrayed as a magical solution. Some have suggested that these new genetically modified crops, animals and microbes should be exempt from GMO safety legislation, introduced to protect consumers and the environment from the risks posed by GMOs. This paper argues that these new forms of genetic modification (including techniques such as gene editing) will not make the farming system more resilient to extreme weather, reduce biodiversity loss, or result in healthier food and fairer incomes for farmers, and because of the risks they pose, must be controlled by the existing laws. It also asks key questions as to who will benefit from this new generation of GMOs, who does the technology empower, who does it disempower and who owns it? It also argues for support for genuine solutions that will benefit farmers, consumers and nature in our crisis-engulfed world.

Framing

In the consultation, but also in pro-GE arguments by its backers, the argument in favour of gene editing is being framed as being ‘pro-science’ – terms such as ‘science-based’, ‘following the science’ in favour of gene editing suggest that sceptics must be anti-science, unscientific, or non-scientific.

This is not the case. Firstly, the scientific community includes many who are challenging the science that is arguing in favour of gene editing. Secondly, the consultation has a narrow definition of science, meaning genetics and biotechnology. In our view there are other disciplines to be brought to the discussion on gene editing – social and political sciences, economics, political economy and global justice. From this point of view, allowing gene editing in England takes no account of the

²⁰ <https://theecologist.org/2016/apr/25/crispr-and-three-myths-precise-genome-editing>

²¹ <https://www.ft.com/content/74fb67b8-2933-11e9-a5ab-ff8ef2b976c7>

²² <https://www.ft.com/content/74fb67b8-2933-11e9-a5ab-ff8ef2b976c7>

economic impact on the food and agriculture industry, or the impact on jobs, or on public perception and trust.

The framing of the consultation around following the science is a smokescreen for what the proposal is – an ideology-led promotion of deregulation, at any cost. Professor Tim Lang has noted: ‘But [GE] poses big questions: Who uses it? Who owns it? Who defines where the public interest lies? Does Defra’s consultation nudge the UK onto a slippery slope to what could become no-holds-barred GM? If so, this would signal that the UK is breaking away from the EU’s Precautionary Principle’.²³

Parliamentary process

In July 2020 the Lords amendment to the Agriculture Bill to enable gene editing was withdrawn. The APPG on Science and Technology in Agriculture chair, Julian Sturdy, had emailed the Secretary of State on 7 May 2020²⁴ to call for the minister’s ‘urgent support’ for this amendment to the Agriculture Bill, to exempt GE from the scope of GM regulation.

The group ‘shares the UK government’s fundamental disagreement with the July 2018 CJEU ruling classifying newer forms of mutagenesis as GMOs. The EU position is out of step with how these techniques are regulated in other parts of the world, such as the US, Argentina, Brazil, Australia and Japan’. It adds that the EU position is ‘at odds with the independent expert advice provided to the UK government by ACRE’.²⁵ Agri-tech has links with ACRE board members and pays for the APPG secretariat.²⁶

In our view, the Parliamentary process around gene editing has been controlled by business interests via Parliamentarians. It is unclear what the ACRE board is independent of, but its members have close professional links with key players with interests in biotechnology and in gene editing. Agritech interests also pay for the secretariat for the APPG.

Front Foot Communications Ltd provides the secretariat, and is paid between £16,501 and £18,000 a year for this by the following industry players: the Agricultural Biotechnology Council; Agricultural Industries Confederation; British Society of Plant Breeders; Crop Protection Association; Maltsters Association of Great Britain; National Association of British and Irish Millers; National Farmers Union; National Institute of Agricultural Botany.²⁷

Food sovereignty

GE proponents claim this technology can help feed the world and the UK government is using these arguments in its discourse. In our view, the lack of access to food is linked to inequality and power imbalances and GE backers are motivated by profit not philanthropism. A 2018 report identified the top 10 companies focussing on gene developing or gene editing technologies, or both, with two attracting £100m or more in six months.²⁸

²³ <https://www.spectator.co.uk/writer/tim-lang>

²⁴ <http://www.appg-agscience.org.uk/linkedfiles/JS%20letter%20to%20George%20Eustice%207May20.pdf?LMCL=XmffJm>

²⁵ ACRE – Advisory Committee on Releases to the Environment. ACRE is an advisory non-departmental public body, sponsored by Defra. There are eight members of the ACRE board, most of whom have interests (non-commercial or commercial) with agro-tech companies including Syngenta, Bayer, Dow DuPont, and Pfizer. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/953376/acre-members-interests.pdf

²⁶ <https://publications.parliament.uk/pa/cm/cmllparty/200224/science-and-technology-in-agriculture.htm>

²⁷ <https://publications.parliament.uk/pa/cm/cmllparty/200224/science-and-technology-in-agriculture.htm>

²⁸ <https://www.genengnews.com/a-lists/top-10-companies-leveraging-gene-editing/>

	Public companies <i>2017 revenues</i>		Private companies <i>Total capital raised</i>	
1	Horizon Discovery Group	£36.5m (\$46.532m)	Precision BioSciences	\$135.65m
2	CRISPR Therapeutics	\$40.997m	Pairwise Plants (Monsanto)	\$125m
3	Sangamo Therapeutics	\$36.567m	Beam Therapeutics	\$87m
4	Intellia Therapeutics	\$26.117m	Inscripta	\$84.5m
5	Editas Medicine	\$13.728m	Inari Agriculture	\$55m

Source: www.genengnews.com

Of these firms, Pairwise Plants gives an indication of the real direction of travel for gene editing in agriculture. Monsanto is the main investor in Pairwise Plants, which is: ‘an agricultural startup created to develop novel genome-editing tools leveraging the natural genetic diversity of plants’.²⁹ Monsanto is a by-word for the control of supply chains – in this case, food and agriculture – by a few powerful global companies. Through its GM crops engineered to resist its weedkiller, Roundup, Monsanto locked farmers into dependency on the company. Monsanto and other global players now involved in gene editing are doing so to increase profits and payouts for investors, to the potential detriment of the global environment and population.

Law firm Allen Overy said: ‘Where such transformative technology is at stake, questions of access, control, inventorship and ownership are never far behind, and CRISPR [a key GE technology] is no exception. Major patent office disputes are currently underway on both sides of the Atlantic, the outcome of which could have huge implications for the future direction of the technology and significant economic interests in play’.³⁰

Friends of the Earth note that: ‘Some scientists and scientific organisations have been particularly vocal in demanding that the new generation of GMOs should not be regulated in the same way as existing GMOs because they argue this will allow innovation and research in Europe. But investigations have shown that global biotech corporations are behind this argument, providing guidance on how biotech and other plant breeding companies should talk about new GMOs. Lobbyists representing cereal, potato, sugar beet and other producers have argued in letters to the authorities the application of existing GMO law to the new generation of technologies would be a major threat to their economic interests, to innovation in Europe, and to the European farming sector, or that it will be impossible to guarantee that their production chains are free of new GMOs’.³¹

Regulation and testing

Testing for gene-edited organisms is problematic, and the lack of enforceability of GMO regulation is recognized by a growing number of countries like the US, several South American countries,

²⁹ <https://www.genengnews.com/a-lists/top-10-companies-leveraging-gene-editing/>

³⁰ <https://www.allenoverly.com/en-gb/global/news-and-insights/crispr/key-players-in-crispr>

³¹ <https://friendsoftheearth.eu/wp-content/uploads/2021/01/Generation-Unknown-English.pdf>

Australia, and Japan, such that these countries do not include gene-edited organisms in their GMO controls.³²

The UK government has stressed that a future GE regime in the UK would be highly regulated. But with no reliable testing for GE content and the technical difficulties of enforcement, even if the political will were there, make this a hollow claim.

Added to this is the UK's weak enforcement of current regulatory regimes governing a wide range of issues, from water quality to health and safety at work to environmental health to labour rights, all of which have regulatory frameworks but less and less efficacy. More than a decade of austerity and budget cuts mean enforcement agencies have little capacity, coupled with 'light touch' political ideology.

Baroness Young raised the issue of lack of capacity in the Lords, with reference to the hollowing out of Natural England's science base and therefore its unsuitability for any role in GE regulation; and the Food Standards Agency, which is being mentioned in connection with a potential role in the regulation of GE, suffered a 51% cut in funding between 2009 and 2019, and lost a quarter of its staff.³³

Global threat

In the US, the Worldwide Threat Assessment of the US Intelligence Community, given to the Senate Select Committee on Intelligence by the Director of National Intelligence, ranks gene editing with other biotechnology as a global threat: "Rapid advances in biotechnology, including gene editing, synthetic biology, and neuroscience, are likely to present new economic, military, ethical, and regulatory challenges worldwide as governments struggle to keep pace. These technologies hold great promise for advances in precision medicine, agriculture, and manufacturing, but they also introduce risks, such as the potential for adversaries to develop novel biological warfare agents, threaten food security, and enhance or degrade human performance".³⁴ In 2016 the then Director of National Intelligence added gene editing to a list of six more familiar threats posed by 'weapons of mass destruction and proliferation'.³⁵ The threat assessment report for that year warned: 'Given the broad distribution, low cost, and accelerated pace of development of this dual-use technology, its deliberate or unintentional misuse might lead to far-reaching economic and national security implications'.³⁶ Gene editing was the only biotechnology in the report's list.

Some of the discussion about gene editing has focused on how accessible it is, suggesting a democratisation of the science as indicated by increasing numbers of scientific papers, many thousands of labs, and hundreds of thousands of geneticists engaged in gene editing.³⁷ But this very accessibility is one of the threats presented by this technology, as identified by the US global threat assessments. In addition, even if the access to gene editing is currently relatively accessible, this will not remain the case over time. Billions of dollars are being invested in the technology by private and public companies globally, and ultimately market control and consolidation are the rewards for investors, which runs counter to the democratisation argument.

³² <https://www.labiotech.eu/in-depth/gene-editing-food-europe/>

³³ <https://www.foodsafetynews.com/2020/10/budget-and-staff-cuts-impacting-enforcement-in-uk/>

³⁴ <https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf>

³⁵ <https://www.technologyreview.com/2016/02/09/71575/top-us-intelligence-official-calls-gene-editing-a-wmd-threat/>

³⁶ <https://www.technologyreview.com/2016/02/09/71575/top-us-intelligence-official-calls-gene-editing-a-wmd-threat/>

³⁷ <https://www.nationalgeographic.com/environment/article/food-technology-gene-editing>

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Key points

1) If the UK allows GE, this runs a very serious risk of de-aligning the UK from existing EU rules, therefore potentially excluding ourselves from the EU market with the obvious dire consequences for jobs.

2) If the UK government does make a decision before the EU outcome (and if the EU do decide to maintain their current position on GE) Unite will be asking for Government modelling and projections of new markets in comparison with the loss of the EU market, and for their strategy for dealing with the effects of such a decision on Northern Ireland.

3) The UK Government cannot take a position on this issue in isolation from the wider political situation and context of what is going on at the moment on Brexit. There is the context of the Northern Ireland situation in particular, with the UK refusal to go ahead with the completion of the EU customs controls and the legal action actually taking place by the EU against the UK government in breaking international law on the Northern Ireland protocol. In this context, a major divergence on food standards will likely be seen by the EU as a political move and they will respond accordingly.

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?

[Greater]

Please provide evidence to support your response including details of the genetic technology, the specific risks and why they do or do not differ.

There are potential harms from GE of animals and plants, and the GE of both disrupt the environment.

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?

Yes

Please provide evidence to support your response and expand on what these non-safety issues are
In addition to the evidence provided in response to Question 1, we would add:

Animal welfare

Gene editing animals may involve cloning, inflicting severe or lasting pain on animals. Cloned animals suffer birth defects, and GE raises other ethical and welfare concerns.

³⁸ <https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf>

Moreover, as with the issues of GE and crops, GE in livestock is a short-term fix, with its own inherent risks. The focus should be on addressing the root causes of disease and animal welfare issues that are the result of intensive production and over-crowding.

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? Please provide evidence to support your response [open response]

As we have alluded to in our response, there needs to be consideration of a much wider range of criteria than the technical and scientific narrow focus preferred by government and business.

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

- 1. 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

The regulatory framework is not independent, not transparent, and has no citizen involvement, conducted through advisory bodies, and the Food Standards Agency, which as mentioned above has limited capacity.

2.

Where you have answered no (existing, non-GMO legislation is insufficient to deal with organisms produced by genetic technologies), please describe what additional regulatory or non-regulatory measures you think are required to address this insufficiency, including any changes you think need to be made to existing non-GMO legislation.

As we have explained in our response, there are major political, environmental, economic and social consequences for any decisions around GM and GE. The government is acting only in the short-term interests of a narrow range of businesses.

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For further information please contact:

Bridget Henderson
Research officer, Unite the Union
Bridget.henderson@unitetheunion.org