ACTION BRIEFING (updated) – 3 July 2020

The UK Agriculture Bill 2019-20
Lords Committee Stage

Amendment 275 to deregulate genome editing

Lord Cameron of Dillington, Lord Krebs, Baroness Hayman and Lord Rooker have tabled an amendment to the Agriculture Bill, under the heading "Agricultural research" (see page 4, below). GM Freeze, Beyond GM and GMWatch all oppose this amendment, which seeks to exempt a range of genome editing techniques from regulation in England. This briefing outlines our concerns based on both the text of the amendment and the context in which it has been brought forward[1].

Summary of key concerns

- The amendment allows the Secretary of State to change the definition of a genetically modified organism (GMO) and deregulate a wide range of genome editing techniques without further parliamentary scrutiny.

- Genome editing changes an organism's DNA in the lab. Deregulation would allow organisms created with techniques that have no history of safe use to be released into the environment and included in our food without risk assessments, impact monitoring, traceability or consumer labelling.

- The amendment would reduce democratic accountability on a hotly debated issue. Public opinion is sceptical about the use of genetic engineering in food and farming. Consumers place a high value on the opportunity to make informed choices through labelling and research shows that UK citizens support regulation to protect high food standards. If passed, this amendment would give the Secretary of State the power to override all of these concerns.

- Changing the UK's definition of a GMO could significantly impact trade with the European Union (EU), because UK farmers and food producers would not be able to meet EU requirements on traceability and labelling of genome-edited organisms.

- Agriculture is a devolved competency and the amendment only applies to England. This could lead to different GM regulations operating in different parts of the UK, with significant impacts on our food and farming industries.

Genome editing produces GMOs

The definition of a GMO is clear in UK law and is in line with the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. It is derived from EU Directive 2001/18/EC and was recently tested by the European Court of Justice (ECJ). The ECJ conducted an in-depth review of the most up to date scientific evidence before ruling[2] that genome editing has no history of safe use, poses similar risks to older GM techniques, and is covered by the directive. As GMOs, genome-edited organisms and products are subject to risk assessments, impact monitoring, traceability and consumer labelling. The widely publicised purpose of plans to amend the UK definition of a GMO is to exempt genome editing from regulation[3].

Genome editing must be regulated

Genome editing has no history of safe use. It is a form of genetic modification that changes an organism's genetic code in the lab by inserting, deleting or amending DNA (nucleic acid) sequences in a variety of ways. Intended changes may appear to mimic what happens in nature, but the process of genome editing involves complex manipulations that are prone to errors, including inaccurate edits and unintended effects of planned edits. As the intention of deregulating these new techniques is to hasten the arrival of novel traits, there is also a significant risk of unintended consequences when these altered organisms are consumed and released into the environment.

Considering food crops, a recent study concluded that genome editing of rice "may not be as precise as expected" after finding a wide range of undesirable and unintended changes.[4] Such changes could lead to the creation of unexpected toxins or allergens. In the case of animals, the body of evidence so far suggests that unintended consequences can have profound effects on the animals themselves and on the wider environment. For example, it was recently discovered by chance that genome-edited "hornless" cattle contained antibiotic resistance genes used in the editing process[5]

Regulation that considers the potential impacts of the genome editing process, as well as the intended and unintended effects of the desired trait, is an essential safeguard, not a ban. Without such regulation genome-edited organisms would be released on our farms and in our food with no risk assessment, monitoring, traceability or consumer labelling.

The amendment does not allow for appropriate scrutiny or consultation

The amendment, if passed, would pave the way for the Secretary of State for the Environment, Food and Rural Affairs to alter a separate piece of legislation (the Environmental Protection Act) without further parliamentary scrutiny. This would shift power from Parliament to Government and reduce democratic accountability on a sensitive and hotly debated issue.

The amendment includes a sub-heading "Agricultural Research" but its purpose is to open the door to deregulating a wide range of genetic engineering techniques. Any change in the definition of a GMO via this amendment would apply to all agricultural uses, so passing this amendment would start the process of removing all safeguards on the use of genome editing on our farms and in our food.

The amendment requires public consultation but does not mandate the scope or terms of reference for any such consultation. The current framing of statutory public consultations relating to GM actively excludes consideration of both the social and ethical concerns which motivate much opposition to GMOs and the potential of more holistic approaches to agricultural innovation. Meanwhile, the conduct of public debate around GM sidelines the valid concerns of individuals who are unable to express themselves with scientific accuracy[6]. A consultation on this basis would not only overlook legitimate socioeconomic concerns, it would fail to discover what citizen stakeholders really think about genome editing in the food chain.

The amendment does not respect public opinion and would restrict consumer choice

Public opinion is broadly sceptical of GM, with a majority of Conservative voters supporting an outright ban on GM crops.[7] Consumers place a high value on the opportunity to make an informed choice about the presence of GM ingredients and the use of GM animal feed[8] but changing the definition of a GMO to exempt genome-edited crops from regulation, traceability and consumer labelling would deny them this opportunity. Research also indicates that consumers strongly favour retaining UK food standards, even if this comes at the expense of a trade deal with the United States (US),[9] and that younger "Leave" voters think that the UK should either keep or increase EU regulations and standards. [10]

The amendment would create a barrier to trade

EU GMO regulations require that genome-edited seeds, crops, food, feed and ingredients are subject to risk assessment, approvals, traceability and consumer labelling. If England were to exempt genome-edited GMOs from regulation, our farmers and food producers would be unable to meet those requirements and would lose access to key markets. Beyond the EU, the regulation of newer genetic engineering techniques is far from settled, with a wide range of approaches being debated. For example, while the US has deregulated one class of genome editing techniques in plants, it is proposing much tougher regulation of genome-edited animals.

The amendment could cause disruption between the nations of the UK

The amendment only applies to England. GM is a key area of divergence in agricultural policy between Westminster and the UK's three devolved nations,[11] so it cannot be assumed that Scotland, Wales and Northern Ireland will follow England's lead in deregulating genome editing techniques. The adoption of a new definition of GMO in England could significantly disrupt business for the thousands of farmers, producers and retailers that operate across the UK's national boundaries as a matter of daily routine.

NOTE: Further relevant amendments to the Agriculture Bill may be tabled between the time of writing and the House of Lords Committee Stage. If that happens, we will endeavour to issue an updated briefing. However, the main points in this briefing apply to any attempt to deregulate genome editing techniques in food and farming.

For more information on the amendment and how you can take action to oppose it, contact:

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Amendment 275 text

LORD CAMERON OF DILLINGTON
LORD KREBS, BARONESS HAYMAN, LORD ROOKER

After Clause 42
Insert the following new Clause—

"Agricultural research
(1) The Secretary of State may by regulations modify the definitions contained in Part VI of the Environmental Protection Act 1990 in relation to products of breeding techniques for agricultural purposes where nucleic acid changes could have occurred naturally or through traditional breeding methods.

(2) Regulations under subsection (1) may only be made after the Secretary of State has held a public consultation on any proposed modifications to the definitions.

(3) Regulations under subsection (1) may only be made in relation to England.

(4) Regulations under subsection (1) are subject to the affirmative resolution procedure."

Member's explanatory statement *To enable the Secretary of State to make changes to the Environmental Protection Act 1990, as it applies in England, in relation to breeding techniques after the UK leaves the EU. This would allow for regulation of new precision breeding techniques compatible with international definitions*.

References

[1] Julian Study's letter to the Secretary of State and supportive statements from various GMO research establishments, the British Society of Plant Breeders (BSPB) and the National Farmers Union (NFU).

[2] Case C-529/16 (Confédération paysanne and Others), referred to the ECJ in 2016 and ruled in July 2018 https://www.gmfreeze.org/press-releases/4966/

[3] http://appg-agscience.org.uk/news.html - several items listed in the side bar under Group News

[4] https://www.gmwatch.org/en/news/latest-news/19429-crispr-edited-rice-shows-wide-range-of-unintended-mutations

[5]https://www.gmwatch.org/en/news/archive/2019/19096-fda-finds-unexpected-antibiotic-resistance-genes-in-gene-edited-dehorned-cattle

[6] https://www.gmfreeze.org/publications/science-communication-inquiry/

[7] . https://brightblue.org.uk/wp-content/uploads/2017/04/Green-conservatives-polling-report-Final.pdf

[8] https://www.gmfreeze.org/press-releases/two-thirds-want-gm-to-be-kept-off-their-plates-new-opinion-poll/

[9] https://www.ippr.org/news-and-media/press-releases/public-willing-to-sacrifice-us-trade-deal-to-protect-food-safety

[10] Ipsos MORI poll for Unchecked UK https://www.unchecked.uk/research/attitudes-of-younger-leave-voters-regulation-deregulation/

[11] https://ec.europa.eu/food/plant/gmo/authorisation/cultivation/geographical_scope_en