



Genetic Technology (Precision Breeding) Bill - a backward step for animal welfare

Reducing animal use and suffering by advocating on their behalf

Key issues to note:

- ★ The Genetic Technology (Precision Breeding) Bill is due to have its Second Reading on 14th June.
- ★ Its provisions would allow the release and marketing of 'precision bred', or genome edited, plants - and eventually animals - in England. The RSPCA is incredibly concerned at this and believes it could be a serious backwards step for animal welfare and public trust unless there are robust controls in place.
- ★ We fundamentally oppose the use of technologies that could perpetuate farming practices which cause avoidable suffering. However, where genome editing is deemed necessary, it should only be used where no other less invasive alternatives are feasible.
- ★ Permissible purposes of GE need to be defined, incorporating understanding of, and respect for, public opinion.
- ★ The Bill, as drafted, raises a number of questions that we believe need answers to properly understand its full impact on animals.
- ★ Approval in England would have consequences in the devolved nations as it would mean food from GE animals could not be stopped from being sold in Scotland and Wales; although Northern Ireland would still follow the EU approach.

What is 'precision breeding'?

The Bill defines 'precision breeding' as the application of modern biotechnology to 'edit' the genome (complete set of DNA) of a plant or animal. The most commonly used technique is CRISPR-Cas9, which involves using a segment of genetic material to 'guide' a molecule that can 'cut' the DNA at the desired location.

The gene editing that would potentially be permitted does not involve adding genetic material from a different species (transgenesis); the Bill stipulates that the precision bred organism's genome 'could have resulted from traditional processes or natural transformation' (e.g. spontaneous mutation, or sexual or *in vitro* fertilisation). The edit should also be passed on when the organism reproduces.

What are the animal welfare and ethical concerns?

Humans have been modifying animals for millennia, through selective breeding, surgical mutilations and administering drugs and hormones. But genome editing (GE) enables instant, substantial and multiple changes to genetic material. It involves potentially painful and distressing procedures for the founder animals, including routine invasive procedures. And, as with 'traditional' processes, the progeny could suffer because of the physical effects of the genome edit, for example if this has been done to significantly increase yields of meat or milk. Such extremes are already a welfare concern for some farm animals, such as fast growing meat chickens who may be unable to support their own body weight or suffer from heart conditions.

Directly editing animals' DNA also raises ethical concerns for many people, and there are likely to be different views around the acceptability of GE; not only in itself, but also for different purposes such as higher yields, improved nutritional value, animal welfare and disease resistance or resilience. There is a risk that gene editing could be used to create animals who can tolerate poor husbandry or veterinary care, rather than improving practices to meet animal's needs. Informed public dialogue about GE is ongoing, but not yet complete, and there are legitimate public concerns around animal integrity and 'naturalness'. It is therefore essential that people understand how these technologies will be used and are able to have their views heard and respected.

For further information or if you have any questions please contact: politicalaffairs@rspca.org.uk

What would the Genetic Technology (Precision Breeding) Bill allow?

Currently, editing the genomes of animals in the UK is regulated by the Animals (Scientific Procedures) Act 1986 (ASPA) and the Genetically Modified Organisms (Contained Use) Regulations 2014. Gene editing is subject to strict rules on authorisation, release, use in feed and food and labelling. These essential rules ensure a high level of protection of human life and health, animal health and welfare, environment and consumer interests in relation to genetically modified food and feed.

The main aim of the Bill is to reduce the perceived regulatory burden and financial barriers for breeders to use this technology for both plants and animals. It does this by removing such organisms from the Genetically Modified Organism (GMO) regulatory regime, introducing two new regimes for regulating the release of GE organisms, and the marketing of products made from them.

The Government has stated that the marketing of GE animals will only be allowed once a regulatory system has been set up to safeguard animal welfare, which is likely to take 3-5 years¹. The Government notes that further stakeholder engagement and consultation will be needed to set up an animal-specific regulatory process² and we agree that this will be essential.

The Bill introduces a process whereby the person producing the GE animal has to show they do not expect animal health or welfare to be adversely affected, and that they have assessed the risks, with an explanation of how they have done this (clause 11(3)). A welfare advisory body will assess each application, judging whether reasonable steps have been taken to identify risks and pay regard to these. But the Secretary of State will hold the power to overrule the body if they have taken a negative view and can permit the authorisation of the GE animal (clauses 11-13). The Food Safety Authority (FSA) will have the power to authorise the marketing of any GE food or product and does not have to take into account any negative views from the Committee (clause 26(6)). The Government agrees the FSA process will be a “light touch” approach³.

What about devolution?

Although this proposal would eventually allow products from GE animals to be marketed in England only, legislation⁴ stops the Governments in Scotland and Wales from prohibiting GE food being sold in those countries. The Governments in Wales and Scotland continue to be against GE products and have complained that they were not consulted on the Bill which was given to them the day before it was published⁵. EU rules would continue to apply in Northern Ireland which define GE organisms as GMOs.

What does the general public think?

The Government consultation found 88% of individuals and 64% of businesses are opposed to relaxing the law on GMOs to allow the marketing of products from GE animals and no supermarket is at present willing to sell GE products⁶. So the Government is pushing ahead on approving the use and marketing of GE animals and products without support from the public or retailers.

The Government's Impact Assessment acknowledges a gloomy note: “*the primary external factor that could affect the success of this intervention is the lack of uptake of the technology, due to consumer rejection or trade concerns. As shown in recent polling activity, many consumers are concerned about the potential impacts of genetic technology, especially due to ethical concerns, such as animal welfare issues*”⁷. With such uncertainty we do not understand why the Government has pushed ahead with this policy.

What is the RSPCA's position and concerns?

The RSPCA has serious animal welfare and ethical concerns regarding the genome editing of farm animals. We believe that it should only be employed as a last resort, for restricted purposes, and where no other, less invasive, alternatives are feasible.

¹ Impact Assessment, para 23, p.15

² Impact Assessment, para 13, p.13

³ Impact Assessment, para 24, p.16

⁴ s5 United Kingdom Internal Market Act 2020

⁵ <https://record.assembly.wales/Plenary/12844?lang=en-GB#A72289>

⁶ <https://www.newscientist.com/article/2321600-no-uk-supermarket-is-willing-to-say-it-will-stock-gene-edited-food/#xzz7UDojrOzw>

⁷ Impact Assessment, para 177, p.56

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In our view, *GE to increase yields is unacceptable and should never be permitted*. Many farm animals are already pushed towards, or beyond, their physiological limits, and 12% of all meat and animal products produced globally is lost every year⁸. There is no justification for pushing farm animals even further.

'Animal welfare' applications should also be viewed with extreme caution. *GE should never be used to address welfare problems that could be solved by investing money and stockperson resources*. For example, tail biting in pigs is usually the result of the animals experiencing stress due to poor housing, such as lack of bedding and enrichment or high stocking densities. Research has shown that tail biting can be reduced through improving pig husbandry, so using GE to create tailless pigs, thereby allowing poor practice to continue, must not be permitted. However, GE to prevent male chicks from developing, preventing countless animals from being slaughtered every year, could be justifiable, as viable alternatives to end this practice are limited.

GE to create disease resistant, or resilient, animals should be thoroughly scrutinised in every case. Some animal diseases cause significant suffering and cannot be prevented through good husbandry and veterinary surveillance, and it may be justifiable to use GE in such cases. However, using GE to produce animals who have greater resistance to diseases which could be better prevented through improved management should not be allowed.

There are a number of specific areas and issues the RSPCA believes are worth raising at Second Reading to try and better understand the Government's rationale and motivation for this Bill, and in particular with regard to animals:

1. **Permissible purposes:** There is nowhere in the Bill that sets out permissible purposes of GE. A regulatory process must reassure the public that there will be proper scrutiny and safeguards in place. Who will decide what are 'legitimate and justifiable' purposes for using GE, and by what process?
2. **Regulation:** The RSPCA believes that the creation of GE farm animals should still be regulated by the ASPA, as now. How do the proposals in this Bill relate to the ASPA; what will the mechanism be for tracing animals and strains as they pass from the ASPA to the Genetic Technology (Precision Breeding) Act?
3. **Criteria for assessment:** The criteria for assessing whether there is any impact on animal health or welfare will be critical in protecting animal health and welfare (clause 11). The criteria should be robust and evidence-based. An expert working group should be established, to develop guidance on the criteria and on minimum standards for the housing, husbandry, care and welfare assessment of GE animals. Group members should include a range of stakeholders including animal behaviour and welfare scientists.
4. **Public opinion:** The Government is completely ignoring the lack of public support for this technology and its application. This is further compounded by the lack of requirement for labelling of any products that have been produced as a result of GE; people will not know what they are buying or eating.
5. **Labelling:** The RSPCA believes any products should be honestly labelled if they contain GE animals or products. They should not use misleading euphemisms such as 'precision breeding' (as is the case with the Bill) or 'smart breeding' or indeed 'achieving the same changes as traditional breeding' or 'targeted' as the Government has previously set out.
6. **Animal Welfare Advisory Body:** The animal welfare advisory body (clause 11(6)) will also be critical. However, the Bill allows this to be either a new body created specially for this purpose, or it permits the function to be an 'add-on remit' for a body already in existence. The welfare advisory body should be adequately resourced and include animal behaviour and welfare scientists, expertise in ethical review, and an independent/lay person.
7. **Devolution:** The Government has ignored the fact that the devolved nations of Wales and Scotland are opposed to this development and do not want to have products produced as a result of GE forced upon them to sell.
8. **Transparency:** The Precision Breeding Register (clause 18) must have information that is meaningful and transparent, including the outcome of the risk assessments in clause (11). Clause 18(2) and (3) could dilute the information available and have an impact on animal health and welfare.

⁸ <https://www.fao.org/state-of-food-agriculture/2019/en/>