The use of gene-editing technologies has come under increasing scrutiny in the EU over the past few years, following the 2018 European Court of Justice ruling that gene-edited organisms should fall, in principle, under the EU’s GMO directive.

The European Commission is set to publish a widely-anticipated study on new genomic techniques at the end of April, which aims to clarify the EU’s position on the technology in light of the ruling.

Ahead of its publication, EURACTIV took a look at the latest developments related to the technology.
Gene editing requires 'wide and inclusive' societal debate, says ethics group

MEP: Labelling of gene-edited foodstuffs is impossible
Gene editing requires ‘wide and inclusive’ societal debate, says ethics group

By Natasha Foote | EURACTIV.com

There is a need for a wide societal debate, including ethical reflection, over new gene-editing techniques, according to a new report from an advisory body for the European Commission, which was welcomed by industry players but accused of missing the mark by environmental campaign groups.

The opinion, released on 19 March by the European group on ethics in science and new technologies (EGE), an independent advisory body to the European Commission, explored the applications of new gene-editing techniques in humans, animals and plants.

It comes following a formal request by the European Commission to examine the ethical issues surrounding novel genome editing techniques across all areas of application.

“As with any groundbreaking technology, high hopes are matched by far-reaching fears,” the opinion reads, highlighting that the issue “urgently requires ethical reflection, debate, and assessment in order to shape the application of the technology and development governance in a way that is in accordance with the fundamental rights and freedoms”.

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Rather than focusing on whether the technology is safe enough for use, the opinion aims instead to “draw attention to the importance of nuancing and resisting this framing”.

“What is needed instead is a consideration of the complete decision problem; to take sound, well-reasoned decisions; to look at both the pros and the cons; indeed to consider not just the risks and costs but also the possible benefits, in the widest sense, and the distribution thereof,” it states.

MORE COOPERATION NEEDED

As well as highlighting the need for a wider and more inclusive approach to the debate on new genomic techniques, the report also stressed the need for more cooperative international efforts.

This includes “joint monitoring and learning with regard to both regulatory and scientific developments, and for international engagement towards global governance,” it said.

“The debate should be based on democratic principles, take into account present and future generations and include local and European perspectives,” the opinion reads.

The use of gene-editing technologies has come under increasing scrutiny in the EU over the past few years, following the 2018 European Court of Justice ruling that gene-edited organisms should fall, in principle, under the EU’s GMO directive.

This ruling was widely welcomed by campaign groups and environmentalists, who warn of the wide-ranging ramifications from the use of such a technology, including corporate control of seeds and environmental concerns.

However, proponents argue that gene editing is a sorely needed innovation that would help Europe’s agricultural sector meet the ambitious green objectives set out in the bloc’s flagship food policy, the Farm to Fork strategy, as well as help the EU’s health sector address some of the most devastating genetic diseases.

Its publication comes ahead of a widely-anticipated study on new genomic techniques by the Commission, due at the end of April, which aims to clarify the EU’s position on the technology in light of the 2018 ruling.

Europe’s largest biotech association, EuropaBio, welcomed the report, saying that they “strongly support” the group’s call to apply genome editing on the basis of “appropriate and proportionate control, with core values of diversity, respect and responsibility.”

“Genome editing in key applications is a promising next step in research towards beneficial uses in medicine, agriculture and the bioeconomy aimed at addressing some of society’s grand challenges,” they emphasised.

However, other stakeholders were more critical of the opinion.

Green MEP Martin Häusling highlighted that although the report asks “many good questions and makes many useful observations,” the report falls short of adequately addressing them.

“The report appears to take it for granted that all these questions are answered satisfactorily,” he said.

He pointed out, for example, that the opinion highlights that “those who are using the technology must ensure that they are monitoring for unpredicted and unintended events, and act upon them accordingly and without delay”.

“But can the companies involved be trusted to do that? How do we get them to apply these precautions?” he queried.

Likewise, Testbiotech, a non-profit organisation focusing on the independent impact assessment of genetically engineered organisms, criticised the report for presenting conclusions “without sufficient scientific backing”.

“The potential benefits are disproportionately emphasised in comparison to the risks that can be justified from the scientific evidence,” the association said.
Labelling foodstuffs as gene-edited products is simply not possible as the genetic improvements brought about by the new breeding technologies (NBTs) are not identifiable, according to the Italian MEP Herbert Dorfmann.

The lawmaker, who is the agriculture coordinator of Christian-democrat Europe’s People Party (EPP), told EURACTIV in an interview that he is frequently in contact with researchers and scientific experts on the matter who maintain that it is not possible to differentiate between genetically modified organisms (GMOs) and NBTs.

The term NBTs describes a number of scientific methods used to alter genomes with the aim to genetically engineer certain traits into plants, such as drought tolerance and pest resistance.

Crucially, unlike traditional GMOs, which typically transfers genes between species, NBTs induce changes within the same species.

As such, Dorfmann said that experts maintain that it is impossible to differentiate whether a modification of a plant is done in the laboratory with NBTs or with conventional breeding techniques that have been used for decades, which induces changes into the genome via techniques such as ionisation.

“In my opinion, labelling is simply
not possible and [without regulating gene editing] we will have plants, seeds that will come from outside Europe, where we don’t know which technology of genetic improvement was applied,” he said.

His comments come on the back of a study released by the Greens group at the European Parliament this week that found that the vast majority (86%) of respondents that have heard of GM crops want food containing genetically modified plants to be labelled as GMOs.

DEBATE ON GENE EDITING

The EGE’s report also concluded that there is a need for a wide societal debate based on democratic principles, Dorfmann is more sceptical about raising awareness on this technology, as it is difficult for consumers to evaluate it.

“Not all consumers have studied biology at university. It is like GMOs: if you ask consumers if they want GMOs, they answer no, but if you ask them what GMOs are, perhaps one in 10 would know,” he said.

The Green report found that only 40% of participants had heard of these techniques, and very few would say they know a little or more about them.

For the Italian MEP, while consumers are very open to new technologies when it comes to cars, mobile phones, and the medical sector, they tend to be suspicious about innovations in food.

“In Italy, for sure, NBTs is a major debate, while in other countries it might seem less intense,” he said, adding that Germany is showing some interest too.

He mentioned the PILTON, a joint research project with more than 50 German breeding companies discussing the potential of NBTs and the associated questions of access and use.

“It has become clear throughout Europe that one of the ways of meeting the challenges of reducing pesticide products is to have more resistant plants through genetic improvement,” he said.

Those opposed to the NBTs say that there is too much hype on this technology while more focus is need on lower hanging fruit, such as water-saving technologies.

While Dorfmann acknowledged that there are currently very few plants created using these techniques available, he added that the technology is still promising.

“If we want such a significant reduction as described in Farm to Fork strategy (F2F), we need speed, and classic genetic improvement does not work at these rates,” he said.

UK PUSH

On the other side of the Channel, the UK is now moving to potentially open its doors to gene-editing after leaving the EU.

Asked what effect could have on the agricultural relationship with the UK, Dorfmann said that this push will put further pressure on the EU to finally regulate this issue.

“We have a European regulation that is 20 years older than these CRISPR/Cas9 technologies,” he said, adding that the EU cannot continue to simply turn a blind eye.

“The fact that the UK, a very important partner when it comes to food products, is introducing this technology and bring products to the European market while we are not making NBTs available to our farmers, seems to me to be madness,” he concluded.