The EU debate on 'new genomic techniques' - facts, players and positions

The Greens/EFA report '**Behind the smokescreen**' shows that a large number of scientists advocating for GMO deregulation have vested interests in the commercialisation of GM seed.[1]

This backgrounder explains the facts, players and positions in the EU debate on the regulation of GMOs engineering with new genetic engineering techniques.

Genetic modification by another name

Genetic engineering technology has evolved since the introduction of the first genetically modified (GM) crops more than 20 years ago. A set of new GM techniques has emerged that scientists collectively call "**gene editing**". Gene editing allows genetic engineers to modify existing genes rather than adding genes from other species – a hallmark of first generation GM technology (though gene editing can be and is also used to add genes from other species). The most-used gene editing tool is the **CRISPR-Cas** "gene scissors".

Most patent applications for agricultural crops engineered with gene editing have been filed by Corteva (former DowDupont) and Bayer.[2] These companies claim that gene editing does not produce GM organisms (GMOs). They initially used the term "**new breeding techniques**" to describe gene editing and other more recent GM techniques and methods.[3] They now use the term "**plant breeding innovation**".[4] In the UK, and increasingly in the EU as well, the term "**precision breeding**" is used,[5] and the EU Council of Ministers introduced the term "**novel genomic techniques**",[6] which the Commission subsequently turned into "**new genomic techniques**".[7]

The techniques covered by these terms are all **GM techniques** resulting in GM organisms (GMOs). All other names serve but one purpose - to hide the fact that we are talking about GMOs and to exclude these GMOs from any existing GMO regulations.

---

[1] Robinson, C., 2022, Behind the smokescreen. Vested interests of EU scientists lobbying for GMO deregulation

[2] Testbiotech, 2021, New GE and food plants: The disruptive impact of patents on breeders, food production and society

[3] New Breeding Techniques (NBT) Platform, New Breeding Techniques for Plants

[4] Euroseeds, Plant Breeding Innovation

[5] UK Parliament, Genetic Technology (Precision Breeding) Bill

[6] EU Council of Ministers, 2019, Council Decision (EU) 2019/1904 of 8 November 2019

[7] European Commission, EC study on new genomic techniques

Well-rehearsed lobby claims

Seed producers claim that gene editing produces DNA changes that "could also **occur in nature**", and that gene-edited crops are "**safe**" and "necessary" to achieve the EU's **green goals**. They also say existing EU regulations cannot be enforced for these crops because they are too **difficult to track down** in the food chain. These claims are incorrect and misleading.[8]

Similar claims have been made by scientist organisations like the European Plant Science Organisation (EPSO), the European Academy of Sciences and Humanities (ALLEA) and the EU Network for Sustainable Agriculture through Genome Editing (EU-SAGE). Annex I of our new report sets out why their claims **do not reflect the scientific evidence**.

It is worth noting that the companies and scientists promoting gene editing as "natural" and "safe" also support **older-style GM technology and products**.

Hypothetical products with hypothetical benefits

The GM crops that the industry wants excluded from the EU GMO legislation are practically nonexistent outside laboratories and test plots. So far, there are just **three commercial GM crops** engineered with gene editing. They are a herbicide-tolerant rapeseed, and a soybean and tomato with altered composition, making them supposedly healthier to eat. These crops have been commercialised at a small scale in the US and Canada, and in Japan. Hardier crop plants that can help us reduce pesticide use, or face hot and dry summers, have not reached a commercial stage anywhere, even in countries with lax GMO regulations.

For the seed industry and its affiliated scientists, this may well be the best moment to weaken EU GMO legislation. They have promised traits they may never be able to deliver, such as drought tolerance or greater resistance against fungal diseases.

EU plans for GMO deregulation

In **spring 2023**, the European Commission will present a legislative proposal on "plants produced by certain new genomic techniques".[9] The proposal will then go to the European Parliament and the EU's 27 agriculture ministers who can amend it before it becomes legislation.

The Commission's aim is to exclude GM plants that have **no 'foreign DNA'** intentionally added to their genome from the EU GMO legislation. For these GM plants, the EU would abolish key requirements of the current EU GMO legislation: GMO risk assessment, traceability and labelling.

It is unclear to what extent new, **softer requirements** would be introduced. The Commission is currently assessing a number of (unpublished) policy scenarios. Under some of these

[8] Robinson, C., 2021, Gene editing myths and reality. A guide through the smokescreen
[9] European Commission, 2022, State of the Union 2022, Letter of Intent

scenarios, certain GM seeds could escape any specific regulations, and be treated like any other commercial seeds.[10] GMO developers are particularly keen to abolish **traceability and labelling** so that farmers, food producers, retailers and consumers are no longer able to avoid these GM crops.

The introduction of a new, light-touch regulatory regime would allow the EU to circumvent a landmark ruling by the **Court of Justice of the EU** (CJEU). In 2018, the Court confirmed that gene-edited organisms must be regulated under the EU's GMO regulations, since gene editing cannot be said to have a "long safety record". According to the Court, their exclusion from the EU's GMO directive "would compromise the objective of protection pursued by the directive and would fail to respect the precautionary principle".[11] The Court will further clarify its interpretation of the GMO directive before the end of the year.[12]

Opposition to EU GMO deregulation

Environmental groups,[13] **consumers**,[14] **small farmers**,[15] the **organic industry**[16] and a number of **food retailers**[17] support the CJEU ruling. They want EU GMO regulations to be fully applied to ensure safety and respect the right of farmers and consumers to choose what they plant and eat. They say the EU must develop analytical methods to back up existing traceability schemes in order to enforce its GMO legislation.

Many **Europeans** are unaware of new GM techniques like CRISPR-Cas. In early 2021, 60% of Europeans had never heard about gene editing techniques. Of those who had heard about them, 68% wanted food produced with these techniques to be labelled as GM.[18] More than **300,000 people** have now signed a petition against GMO deregulation carried by several environmental, farmer and organic sector groups.[19]

Scientist dispute

The fact that molecular biologists and plant scientists have promoted new GM technology as "precise" and "natural" has allowed the industry to frame the debate as "**science vs ideology**", and to claim ownership of "**science-based policies**".

[10] GMWatch, 2022, EU Commission's secret policy scenarios show full GMO deregulation on the cards
[11] Court of Justice of the EU, 2018, Press release, Judgment in Case C-528/16
[12] Court of Justice of the EU, Case information C-688/2, Confédération paysanne and others
[13] Friends of the Earth Europe, 2021, Generation unknown: exposing the truth behind the new generation of GMOs
[14] BEUC, 2020, The Farm to Fork Strategy: the consumer view
[15] European Coordination Via Campesina, 2017, Stop new GMOs!
[16] IFOAM Organics Europe, 2021, Civil society, farmers and business organizations: Vice-President Timmermans, don't deregulate GM crops & animals
[17] Aldi Hungary et al, 2021, Retailers Resolution
[18] Greens/EFA, 2021, Opinion poll on the labelling of GM crops
[19] Slowfood, Sign to Keep New GMOs Strictly Regulated

In addition to **EPSO**, **ALLEA** and **EU-SAGE**, several academies of science (e.g. German Leopoldina, Flemish KVAB) have issued statements promoting GMO deregulation. The European Academies Science Advisory Council (**EASAC**) has endorsed a similar statement by the German academy of sciences, **Leopoldina**.[20] Our report shows that many scientists involved in EPSO, ALLEA and EU-SAGE have strong **links with the seed industry** and hold **patents or patent applications** in genetic engineering. The German NGO Testbiotech has revealed that this is also true for the authors of the Leopoldina statement.[21] According to Testbiotech, the authorship of experts with vested interests in reports such as those published by ALLEA and Leopoldina "has the potential to damage the credibility, reliability and general role of science".[22]

Other scientists have publicly opposed GMO deregulation. The European Network of Scientists for Social and Environmental Responsibility (**ENSSER)** has warned that gene editing "can create unpredicted and unintended effects" and that its exclusion from GMO regulations would "place an unacceptable risk onto public health, the environment and trade".[23] The scientists involved in ENSSER are **independent of the seed industry**.

In a report commissioned by the Greens/EFA, ENSSER has shown that the EASAC-endorsed Leopoldina statement is based on a selection of scientific evidence and fails to reflect the findings of many relevant studies.[24] More recently, a group of scientists and policy experts have voiced **opposition to the term** "**precision breeding**". Their sign-on statement now has over 80 names.[25]

Concerted lobby effort

Corporate Europe Observatory has documented the concerted lobby effort by the seed industry and its affiliated scientists. In its 2021 report titled '**Derailing EU rules on new GMOs',** CEO uncovered various new tactics used by GM developers since the CJEU ruling of 2018 to prepare the ground for GMO deregulation.[26] The report shows how scientists and research organisations took over the lobby effort from corporations like Bayer, Corteva, Syngenta and BASF, whose pesticide business had greatly damaged their reputation.

That lobby effort continues. EPSO keeps organising meetings with 'like-minded' officials from national ministries. EU-SAGE and the Czech member organisation of ALLEA are organising a high-profile conference on gene editing in Prague on 13-14 October 2022 with speakers from EU-SAGE, the Czech academy of sciences and seed industry group Euroseeds.

---

[20] EASAC, 2020, The regulation of genome-edited plants in the European Union
[21] Testbiotech, 2020, Testbiotech comment on the Statement „Towards a scientifically justified, differentiated regulation of genome edited plants in the EU"
[22] Testbiotech, 2021, New GE and food plants: The disruptive impact of patents on breeders, food production and society
[23] ENSSER, 2017, Products of new GM techniques should be strictly regulated as GMOs
[24] ENSSER/CSS, 2021, Genome edited plants in the EU. A scientific critique of the Leopoldina and EASAC statements
[25] Antoniou., M., et al, 2022, Gene editing is not "precision breeding" and the term is misleading
[26] Corporate Europe Observatory, 2021, Derailing EU rules on new GMOs

Greens/EFA position

The Greens/EFA Group in the European Parliament considers GM technology a costly and potentially dangerous distraction from the real advances needed to make our farming system more sustainable. The EU should not look to agricultural corporations like Corteva and Bayer for advice on how to 'green' the farming sector, or advice on how to regulate their products. It should look instead to agroecological and organic farmers and scientists supporting their approaches.

The planned deregulation of certain GMOs is not the way forward.[27] Instead, we demand the full implementation of the 2018 CJEU ruling across the EU.

- Scientists and scientist organisations should always disclose any vested interests in the commercialisation of GMOs when participating in discussions on EU GMO policy.
- Decision makers should take note of these vested interests, and consider them alongside the positions taken by their interlocutors.
- Independent scientists without such interests should always be represented in the debate.
- The EU should support research on the detection and potential risks of gene-edited organisms. It should ensure this research is carried out by scientists without vested interests in the commercialisation of gene-edited products.

[27] Häusling et al, 2021, EU GMO rules are under attack- and with them our food, our health and our environment; 2022, Greens/EFA contribution to the public consultation on new GM techniques