

EU research on risks and detection methods related to new GM plants

Letter from 28 MEPs to EU Commissioners Mariya Gabriel (Innovation, Research, Culture, Education and Youth) and Stella Kyriakides (Health and Food Safety)

What do the MEPs want?

The MEPs are asking that the EU funds dedicated research into the potential risks and analytical detection of genetically modified organisms (GMOs) engineered with new genetic engineering technology, such as CRISPR/Cas.

Why is this relevant?

The European Commission is planning to set up new EU legislation for certain plants engineered with new GM technology such as gene editing ("[targeted mutagenesis and cisgenesis](#)"). It wants to present a legislative proposal in the "[second quarter 2023](#)".

These GM plants are currently regulated under the EU' GMO legislation. The European Court of Justice has warned that their exclusion from the EU's GMO legislation would "[compromise](#)" their objective of avoiding adverse effects on human health and the environment and "[fail to respect the precautionary principle](#)".

In its [inception impact assessment](#), the Commission argues that "plants obtained by targeted mutagenesis and cisgenesis can have the same risk profile as plants produced with conventional breeding". It also says that "it will be difficult or impossible to differentiate [certain plants obtained by targeted mutagenesis or cisgenesis] from plants from conventional breeding", and that "applicants might not be able to provide a specific detection method required for a marketing authorisation under the GMO legislation".

The MEPs argue that "only a comprehensive research agenda on genetic engineering will allow the EU to develop well-informed policies in that regard".

How much money do the EU and its Member States spend on research on new GM technology?

The EU and its Member States are spending considerable amounts of money on research into new GM technology and products. The Commission uses the term "new genomic techniques" or "NGT".

According to the European Commission,

- the **European Union** spent 685.5 million EUR on "bioeconomy-oriented research" related to "new genomic techniques", including [271 million EUR for plant biotechnology research](#), between 2007 and 2020;
- **EU Member States** reported a spending of [356 million EUR on "NGT" research](#) over five years.

What kind of research has been done so far?

Most of the funding has gone into the development of these technologies and their applications in farming, healthcare and industry. According to the Commission, [only 1.6% of the 356 million EUR](#) spent by **EU Member States** went to research into “detection methods, risk assessment and monitoring”.

Several MEPs have requested information from the Commission on how much the **European Union** has spent on research into [detection methods](#) and [potential risks](#). The Commission’s responses show the EU has **not invested in dedicated research in either area**.

See our analyses of the Commission’s responses to the question on [risk research](#) and on [detection research](#).

What research has the EU supported until now?

The Commission explains that, between 2007 and 2020, the EU spent **271 million EUR** on plant biotechnology research, supporting **78 research projects** in this area. The [Commission explains](#) that: “Projects focused primarily on increasing plant growth and crop yields, and on resistance to biotic and abiotic stresses.”

Some projects have also dealt with “public communication strategies and methodologies ... and regulatory and risk assessment aspects”. This includes for example:

- **COST Action PlantEd** - the [objective](#) of this 2019-2023 project is to “assess the full innovation potential and impact of plant genome editing”. This includes “contribution to the ongoing discourse on the regulatory frameworks in the EU and other relevant countries”. PlantEd is clearly undertaking lobbying activities - for example, it has [contributed](#) to the Commission’s consultation on the Farm-to-Fork Strategy, highlighting genetic engineering successes and potentials related to the Strategy’s objectives.
- **CropBooster-P** - this 2018-2021 project [aimed to](#) “develop the blueprints for the crop varieties of the future”. Whilst nothing in the project’s presentation indicates that GM technology is part of that, the [news section](#) makes it fairly clear that this is the case. It highlights for example a publication, developed by scientists involved in the CropBooster-P project, about “[four contrasting scenarios for the future of biotechnology](#)”.

The European seed industry association, Euroseeds, participates in both Horizon 2020 projects, as stated on its website [here](#) and [here](#).

What research is the EU going to support in 2021-2022?

The [Horizon Work Programme for 2021-2022](#) in the area of ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’ lists a call on “New genomic techniques (NGT): understanding benefits and risks – focus on bio-based innovation” with a total indicative budget of **5 million EUR**.

The call focuses on advancing GM technology, assessing regulatory bottlenecks and improving relevant production processes. Although it mentions an “improved understanding of the benefits and risks of new genomic techniques”, the more detailed description (points a to f, page 326) makes no reference to research on risks. It also does not mention analytical detection methods or traceability strategies that would help EU Member States enforce EU GMO law.

The Commission’s main concern appears to be a perceived “need to enable major advances in the life sciences and biotechnology, in new genomic techniques, such as gene/genome editing”.

Other calls in the [Horizon Work Programme for 2021-2022](#) in the area of ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’ refer to the traceability of food products but make no reference to GMOs or ‘new genomic techniques’.