

Written question on risk research

https://www.europarl.europa.eu/doceo/document/E-9-2021-003643_EN.html

Question for written answer E-003643/2021
to the Commission

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▶ **Subject: New genomic techniques: research on the risks of new technologies to the environment and health**

The MEPs' question

In its study on new genomic techniques (NGTs) such as CRISPR-Cas technologies, the Commission gave an overview of research and innovation funding for NGT-related projects under the Seventh Framework (2007-2014) and Horizon 2020 (2014-2020) programmes. Of all NGT-related funding, EUR 685.5 million were spent on agri-food and other bioeconomy research. Applied research seems to be the mainstay here, with 39.5 % of funding going into plant biotechnology research, 27.5 % into synthetic biology research, 20 % into micro-organisms research, and 13 % into animal-related research.

The Commission mentioned that some projects addressed regulatory and risk assessment aspects, but did not specify the amount of funding dedicated to these aspects. Research on the risks of new technologies to the environment and health is paramount to enable an informed policy discussion, and therefore must receive adequate public funding.

1. What amount of funding was distributed for research on the risks of NGTs to the environment and health between 2007 and 2020?
2. What are the main results of the research projects that dealt with the risks of NGTs to the environment and health?
3. Does the Horizon Europe programme include any dedicated budget lines to fund research on the risks of NGTs to the environment and health?

Answer by Ms Gabriel

on behalf of the European Commission

EU research and innovation (R&I) funding mentioned in the study¹ on the status of New Genomic Techniques (NGT) summarises relevant projects under the 7th Framework Programme (FP7) and Horizon 2020², for EUR 3.2 billion, covering 1021 projects. Most of these dealt with technological development applicable to multiple sectors. The analysis indicates that these two projects explicitly

¹ [EC study on new genomic techniques \(europa.eu\)](#)

² Up to June 2020

claimed to have included aspects of NGT environmental and or health risk assessment: MIAMi³ (on plant-derived therapeutics) and BIGWHEAT⁴ (on boosting wheat yields). It could be, however, that environmental and health risk assessment have been addressed in some additional projects as a dedicated task or work package, but this level of detail is difficult to extract with the existing knowledge extraction tools. Further information in relation to the FP7 and Horizon 2020 projects examined in the study and via which the metrics were derived, may be extracted via the Horizon Dashboard⁵. Furthermore, project outcomes can be obtained via the CORDIS portal⁶.

Horizon Europe does not include a dedicated budget line to fund research on the risks of NGTs to the environment and health. However, Horizon Europe funding foresees one relevant topic⁷ on NGTs entitled ‘understanding benefits and risks’ – focus on bio-based innovation⁸, with a budget of EUR 5 million, within the *Food, Bioeconomy, Nature, Agriculture and Environment* Cluster.

Moreover, the *Health* cluster Destination 5⁹ ‘Unlocking the full potential of new tools, technologies and digital solutions for a healthy society’ supports research to manage benefits and risks of new technologies, paying due consideration to aspects of safety, effectiveness, and sustainability (environmental, fiscal, socio-economic).

What does the Commission’s answer mean?

The Commission does not specify the level of funding for research into potential risks of NGTs to the environment and health. It also does not mention any results of EU research projects that dealt with the risks of NGTs to the environment and health.

Instead, it points to two past projects that should have included “aspects of NGT environmental and or health risk assessment”, MIAMi (on plant-derived therapeutics) and BIGWHEAT (on boosting wheat yields).

However, these projects did not focus on the risks of GMOs developed with NGTs. Where the lists of scientific outputs is available, it shows that no research into potential risks was carried out.

- **MIAMi**

The project aimed to develop tools and methodologies to elucidate the complexity of the biosynthetic pathways in plants and optimise their production in microorganisms. The list of publications resulting from this project does not include any outputs on potential risks to consumers or the environment.¹⁰

³ <https://cordis.europa.eu/project/id/814645> - funded under the Industrial leadership in enabling and industrial technologies – Biotechnology challenge

⁴ <https://cordis.europa.eu/project/id/672990> - funded under the SME instrument

⁵ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard>

⁶ <https://cordis.europa.eu/projects/en>

⁷ Under the Destination ‘Clean environment and zero pollution’

⁸ [Search Funding & Tenders \(europa.eu\)](https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search;callCode=HORIZON-HLT-H-2021-TOOL-06;freeTextSearchKeyword=:matchWholeText=true;typeCodes=0,1,2;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=null;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState)

⁹

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search;callCode=HORIZON-HLT-H-2021-TOOL-06;freeTextSearchKeyword=:matchWholeText=true;typeCodes=0,1,2;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=null;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState>

¹⁰ <https://cordis.europa.eu/project/id/814645/results>

- **BIGWHEAT**

The project aimed to increase genetic diversity in wheat through “desirable novel gene recombinants” in order to “overcome the problem of stagnating yields which pestered the production over the last 20 years”. Apparently, it was unrelated to GM technology. There is no list of publications available.¹¹ The “reporting” page does not include any mention of risks.¹²

In response to the third question on Horizon Europe, the Commission points to a call for proposals within the *Food, Bioeconomy, Nature, Agriculture and Environment* Cluster that mentions “risks” in its title (*‘New genomic techniques (NGT): understanding benefits and risks – focus on bio-based innovation’*).

However, whilst this call is supposed to contribute to an “improved understanding of the benefits and risks of new genomic techniques applied for plants and/or animals and microorganisms and consequences for human health and the environment”, 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”. In that sense, the Commission specifies that “proposals should”:

- Advance new genomic techniques in bio-based innovation.
- Develop future scenarios taking into account different environmental, social and economic drivers, to assess potential critical impacts and bottlenecks with respect to the EU and international governance frameworks.
- Develop new approaches to design innovative aspects of the production process, screening procedures, molecular tools and digital applications.
- Outline the necessary scale-up production processes for novel bio-based innovations in order to reach a critical mass for a given application, to achieve economies of scale etc
- Ensure transparent and inclusive engagement of all actors, including industry and SMEs, scientific community, regulatory institutions, and broader civil society, to ensure necessary impact.¹³

The Commission also points to the *Health* cluster of the Horizon Europe programme. A look at the 2021-2022 work programme reveals that research under this cluster is limited to the health sector and unrelated to GM plants.¹⁴

Conclusion

Since 2007, the EU has not financed any dedicated research into the potential risks of new GM technologies to the environment and health. The latest calls for proposals show that there are no plans to remedy this.

¹¹ <https://cordis.europa.eu/project/id/672990/results>

¹² <https://cordis.europa.eu/project/id/672990/reporting>

¹³

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-9-food-bioeconomy-natural-resources-agriculture-and-environment_horizon-2021-2022_en.pdf

¹⁴

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-4-health_horizon-2021-2022_en.pdf