



ONG INDÉPENDANTE ET SANS BUT LUCRATIF QUI AGIT EXCLUSIVEMENT GRÂCE AUX DONS DES CITOYENS POUR LA PROTECTION DES ABEILLES DOMESTIQUES ET SAUVAGES, ET UNE AGRICULTURE RESPECTUEUSE DE TOUTS LES POLLINISATEURS.

GMOS DEVELOPED USING NEW GENOMIC TECHNIQUES: FRANCE MUST DEFEND THE CURRENT REGULATORY FRAMEWORK AND REINFORCE ENVIRONMENTAL RISK ASSESSMENT

→ **Summary** : New-generation genetically modified organisms (GMOs) produced using new genomic techniques (NGTs) pose the same risks to pollinators and the environment as their older-generation, transgenic counterparts. Their potential to genetically contaminate surrounding plants and crops, as well as honey and other beehive products, effectively makes it impossible for NGT-based agriculture to coexist with organic farming practices that respect living organisms. Plants derived from new biotechnologies must therefore be held to the same strict obligations as old-generation GMOs, governed by Directive 2001/18/EC, and must undergo a more rigorous health and environmental risk assessment to guarantee real protection for pollinating insects and ecosystems.

FROM OLD-GENERATION GMOS TO NEW GENOME-EDITING TECHNIQUES: THE AGRICULTURAL MODEL IS ONE AND THE SAME, AND IT IS DESTRUCTIVE TO LIVING ORGANISMS

GMOs are regulated in the European Union by Directive 2001/18, which requires that they comply with strict traceability and labelling requirements, as well as health and environmental risk assessments. Until now, this law and the "safeguard clauses" available to Member States to unilaterally prohibit GMO cultivation on their soil have protected European agriculture from a massive, uncontrolled spread of transgenic organisms into food and the environment.

Nevertheless, agrochemical lobbies have succeeded in convincing the European authorities to exempt GM plants derived from new genome-editing techniques (NGTs) from these obligations. Indeed, the draft regulation presented by the European Commission on July 5, 2023¹ envisages an exemption from authorization, risk assessment, traceability, and labelling requirements. Furthermore, it would eliminate the safeguard clauses that have enabled several countries, including France, to ban GMOs on their territory.

This proposed law will result in the perpetuation and expansion of an intensive agricultural model chiefly responsible for the collapse of pollinators and biodiversity, despite the existence of other, proven technical solutions to ensure food sovereignty for France and Europe while also protecting the environment².

PROVEN RISKS FOR POLLINATORS AND THE ENVIRONMENT

Earlier transgenic GMOs are one of the direct causes of pollinator decline³. They lead to an increase in the use of insecticides, or generate their own, and they deplete wild floral resources by

¹ [Proposal for a regulation](#) of the European Parliament and of the Council on plants obtained by certain new genomic techniques and their food and feed, and amending Regulation (EU) 2017/625. (2023). European Commission.

² [Réussir la transition agro-écologique en Europe](#) (Making a success of Europe's agro-ecological transition). (2014). IDDRI.

³ [Assessment Report on Pollinators, Pollination and Food Production](#). (2016). IPBES secretariat.

promoting the use of herbicides. Scientific studies on the effects of GMOs on bees and wild pollinators also highlight a number of direct effects: acute and chronic mortality⁴, growth stunting⁵, reduced food consumption⁶, reduced colony learning capacity⁷ and reduced population abundance, primarily due to the decline in plants of interest⁸.

New-generation GMOs potentially present the same dangers for pollinators as their predecessors. Indeed, the few studies on the impact of new GMOs on bees and ecosystems point to alarming effects, such as unintended mutations that alter the plant's attractiveness to pollinators⁹, changes in nutritional intake that can cause serious deficiencies in bees¹⁰, and excessive changes and cumulative pressure on ecosystems, which may be unable to adapt¹¹.

And yet, the extent of these new GMOs' potential impacts on pollinators, biodiversity, and ecosystems remains largely unknown to date, due to the limited number of independent scientific studies devoted to the subject. The risk assessment exemption provided for in the new European regulation thus poses unacceptable risks to pollinators and the environment. Instead, this risk assessment should be reinforced and updated to encompass all the possible impacts of these new GMOs on ecosystems.

INEVITABLE CONTAMINATION OF OUR FOOD SUPPLY

As is the case with transgenic GMOs, the genetic modifications introduced by new GMOs cannot be contained. Organisms within the same ecosystem can pass on certain genes to others, particularly those modified in the laboratory¹². This "gene flow" phenomenon occurs, for example, through the pollination activity of bees¹³, which can carry pollen from genetically modified flowers over several kilometres¹⁴, thereby contaminating surrounding crops as well as wild flowers.

This natural and uncontrollable phenomenon makes it impossible for intensive, GMO-inclusive agriculture to coexist with organic farming. The forced contamination of non-GMO crops would annihilate the efforts of organic farmers, or of those practising agro-ecological methods that respect pollinators and ecosystem balances. These two models represent the most promising approaches today to halt the extinction of pollinators and biodiversity caused by the massive use of

⁴ Zangerl et al. (2001). [Effects of exposure to event 176 *Bacillus thuringiensis* corn pollen on monarch and black swallowtail caterpillars under field conditions](#). Proceedings of the National Academy of Sciences of the United States of America, 98(21), 11908-11912.

⁵ Stanley-Horn et al. (2001). [Assessing the impact of Cry1Ab-expressing corn pollen on monarch butterfly larvae in field studies](#). Proceedings of the National Academy of Sciences of the United States of America, 98(21), 11931-11936.

⁶ Losey et al. (1999). [Transgenic pollen harms monarch larvae](#). Nature, 399(6733), 214.

⁷ R. Ramirez-Romero et al. (2008) [Does Cry1Ab protein affect learning performances of the honey bee *Apis mellifera* L. \(Hymenoptera, Apidae\)?](#), Ecotoxicology and Environmental Safety, Volume 70, Issue 2, 2008, Pages 327-333, ISSN 0147-6513.

⁸ Bohan et al. (2005). [Effects on weed and invertebrate abundance and diversity of herbicide management in genetically modified herbicide-tolerant winter-sown oilseed rape](#). Proceedings of The Royal Society B : Biological Sciences, 272(1562), 463-474.

⁹ Tyagi et al. (2020). [Genome Editing for Resistance to Insect Pests : An Emerging Tool for Crop Improvement](#). ACS Omega, 5(33), 20674-20683.

¹⁰ Kwall, K. (2021). [Genome-edited *Camelina sativa* with a unique fatty acid content and its potential impact on ecosystems](#). Environmental Sciences Europe, 33(1).

¹¹ [New genomic techniques \(NGTs\) – agriculture, food production and crucial regulatory issues](#). (2022). TestBiotech.

¹² Mohr et al. (2007). [Field study results on the probability and risk of a horizontal gene transfer from transgenic herbicide-resistant oilseed rape pollen to gut bacteria of bees](#). Applied Microbiology and Biotechnology, 75(3), 573-582.

¹³ Fragoso et al. (2023). [Differential ability of three bee species to move genes via pollen](#). PLOS ONE, 18(4), e0271780.

¹⁴ Pasquet, et al. (2008). [Long-distance pollen flow assessment through evaluation of pollinator foraging range suggests transgene escape distances](#). Proceedings of the National Academy of Sciences of the United States of America, 105(36), 13456-13461.

chemical pesticides.

The presence of new GMOs in the field would also spell the end of organic and GMO-free honey. As an integral component of honey under European Directive 2014/63, pollen can genetically contaminate honey from a hive if it bears traces of genetic modification. Given that their bees gather pollen over a radius of several kilometres, beekeepers cannot be sure that the crops accessed by their hives are entirely GMO-free, or that they have not been contaminated by GMO crops cultivated further away.

NO PUBLIC CONSENT

By exempting some new GMOs from labelling and traceability requirements, and by allowing uncontrolled contamination of crops and honey by these same GMOs, the European Commission's proposed new regulation will de facto deprive European consumers of the freedom to choose GMO-free food.

And yet, this major shift in the rules governing European consumers' right to information is being negotiated in the absence of any public debate, and through a process in which the voices of civil society representatives opposed to this deregulation have been obscured in favour of those of the defenders of the agro-industrial system¹⁵. Nonetheless, a majority of citizens have come out in favour of explicit labelling of these new GMOs¹⁶.

In November 2022, a petition signed by 420,000 European constituents was presented to the European Commission's representatives at the European Parliament¹⁷. These voices, calling for strict regulation of all old- and new-generation GMOs in Europe, must be heard and heeded.

RECOMMENDATIONS

In light of the risks posed by these new GMOs to pollinators and ecosystems, and in order to avoid genetic contamination that would spell the end of organic farming that respects living organisms in Europe, POLLINIS and the 1.2 million citizens it represents firmly believe that the French government must maintain its historic stance against genetically modified organisms, and:

- > demand that all new-generation GMOs comply with current regulations on genetically modified organisms (Directive 2001/18/EC) and, accordingly, reject the European Commission's proposal;
- > continue to apply the national safeguard clause currently in force for transgenic GMOs to GMOs derived from new genome-editing techniques;
- > at the European level, defend the need to update and reinforce the risk assessment on all GMOs on the environment, and in particular on non-target arthropods such as pollinating insects.

¹⁵ [European Commission's biased road to deregulation of new GMOs](#). (2022). POLLINIS.

¹⁶ [Sondage - Les Français et les \(nouveaux\) OGMs](#). (2022). Greenpeace

¹⁷ [Nouveaux OGM : 420 000 signatures contre la dérégulation](#). (2023). POLLINIS

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