



Berlin, 17th January 2023

Position Paper

of the professional associations of the agricultural, horticultural and food industries on the future regulation of new genomic techniques in agriculture

Ladies and Gentlemen,

Food security in times of crises and conflicts, climate change, protection of environment and biodiversity, and all the while struggling to remain competitive: Germany and Europe and their agriculture do face big challenges. Appropriate innovative instruments in plant production and plant breeding are crucial to step up to the challenges. A means that can help to tackle them are the new genomic techniques (NGTs), best known of which are the "gene scissors" CRISPR/Cas.

However, the 2018 ruling of the European Court of Justice, based on an outdated genetic engineering law, has assimilated products generated with these methods across the board to genetically engineered organisms (GMOs). This decision makes it practically impossible to use NGTs in the EU or in Germany; it is an impediment to any responsible use of these techniques for a sustainable food production in the sense of the European Green Deal.

Major parts of agriculture, horticulture and/or the food sector have repeatedly pointed out that this classification runs counter to current scientific knowledge. There are methodological and molecular differences between genetically engineered organisms (GMOs) that result from transplanting genes from other species on the one side, and plants created by means of punctual mutations induced by NGTs on the other side. The latter mutations are of a kind that cannot be distinguished from natural mutations. The EU legislation defines GMOs based on the introduction of genes of other species into a plant organism, but also includes NGTs, which can forgo the use of genetic material of other species. The resulting plant characteristics could also have occurred in nature, without human interference¹.

The undersigned professional associations therefore welcome the initiative of the European Commission to create an up-to-date legal framework. In this process, it should be taken into account from the outset that regulatory differences can lead to international trade barriers and make it more difficult for the European agricultural sector to continue the socially and politically desired change towards more sustainability in the sense of the farm-to-fork strategy. Future EU regulation must be based on the latest scientific findings and at the same time take into account the ecological and economic potential of these methods.

NGTs offer chances to face climate change as well as to promote sustainability and biodiversity in agriculture:

- We need to enhance the resilience of our crops and ornamental plants as well as of trees and shrubs against drought and flooding, soil salinisation, against heat and cold, diseases and pests, if we are to minimize climate change induced crop failures and the vulnerability of our agricultural systems to the increasingly volatile cultivation conditions. Improved nutrient efficiency is also a must. These challenges can only be met when leveraging innovation, including in plant breeding methods, since the traditional methods of breeding a new plant variety currently takes between 10 and 15 years. NGT can shorten this development cycle and reduce costs.
- This also presents opportunities for more sustainable crop cultivation and more efficient use of fertilizers and plant protection methods, in conformance with the objectives of the farm-to-fork strategy. Both are assumed by the majority of society. The earlier the new methods can be used, the quicker their potential can be leveraged. The question of whether or not innovation created by means of NGTs will actually have an impact on agriculture depends to a large part on the issue of access to these methods in the light of intellectual property. This issue should be broadly discussed with all stakeholders.
- In addition, NGTs can enhance natural genetic diversity and thereby increase our choice in plant varieties.
- NGTs also offer the opportunity to provide plant varieties for a better supply in renewable raw materials, hence bio-based resources for industrial production in a bio-economy. This will support the transition from an economy mostly based on fossil resources to one based on renewable resources and will help to deliver on the UN sustainability goals.

¹ This has been demonstrated in 2019 by the European Network of GMO laboratories in its report "*Detection of food and feed plant products obtained by new mutagenesis techniques*" (<https://bit.ly/3waaRMq>).

- On a global scale, NGTs have already been used to create an abundance of market-oriented applications of crops and ornamentals for the sectors like food, agriculture and horticulture with new improved traits². In Germany, too, 55 plant breeding companies have joined hands in a co-operative research project named PILTON (Tolerance of wheat against fungal diseases by means of New Breeding Methods³). The aim is to use NGTs to create wheat plants with permanently improved resistance against multiple fungal diseases as well as to evaluate the achieved reduction of plant protection products.

Also to be considered are the consequences for food supply, science and the economy if we fail to adapt the out-dated genetic engineering legislation of the EU:

- For the above-mentioned reasons, many third countries, including important trading partners of the EU, have adapted their legislation and exempted plants developed with NGTs from their GMO legislation, provided no DNA of other species has been inserted, in order to enable a quicker implementation in agricultural practice. In doing so, these countries follow the scientific evidence. In the trade and the logistics of bulk goods (commodity trade), crops from many different cultivation areas are bound to be mixed and mingled, particularly in the trade and logistics of bulk goods (commodity trade), especially in the case of commodities such as wheat, oilseed rape, maize or soy bean. Even today, we can no longer discern which of these products imported from third countries NGTs have been used or not. If we want to avoid a disruption of international trade relations, secure European access to supply markets and avert excessive price increases for agricultural raw materials, the regulations governing agricultural products in different regions of the world need to be mutually compatible. However, neither the commodity trade nor the monitoring authorities can comply with the zero-tolerance requirement established by the current GMO legislation, since the origins of a genetic modification cannot be determined with legal certainty⁴ and since the above-mentioned bulk transport features of commodity logistics inherently preclude any chance for traceability and labelling.
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² Julius Kühn Institute, German Ministry for Food and Agriculture (2020): 2. Update of the overview on crops and ornamental plants developed by means of new molecular-biological techniques for the food, agricultural and horticultural sectors – market-oriented applications (version 20.03.2020).

³ <https://pilton.bdp-online.de/?lang=en>

⁴ This is what the European Network of GMO Laboratories has tried to highlight in its Position „Evaluation of the scientific publication „A Real-Time Quantitative PCR Method Specific for Detection and Quantification of the First Commercialized Genome-Edited Plant” as regards would-be identification procedures (<https://bit.ly/3jHjvgE>). The Federal Agency for Consumer Protection and Food Safety (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit - BVL) has also cast doubt on the alleged general suitability of the method presented in September 2020 (<https://bit.ly/3nWZzHR>) for the detection of NGTs.

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- There are multiple studies, e. g. the impact assessment of the University of Kiel⁵ that shows that the measures proposed by the EU-Commission in the framework of the Farm-to-Fork and the Biodiversity strategies of the European Green Deal, if fully transposed, would result in a major reduction of the agricultural production in the EU. This means for many agricultural products that the EU would become a net importer where it had been a net exporter. The self-sufficiency rate would be diminished, despite the fact that the territories of the EU offer excellent conditions for food production, both in qualitative and quantitative terms. It is therefore imperative to increase crop production efficiency, including with the help of NGT.
- The result of inappropriately high regulatory burdens unfounded in science for using NGTs will be that highly qualified scientists will continue to emigrate to countries where the conditions for the development and use of these methods are better. Germany and the EU would further disconnect from international development and lose important know-how that we need for finding solutions to global challenges. The competitiveness of Germany and the EU as a suitable place for (agro-)economic and scientific activities needs to be reinforced by an adequate regulatory basis. These regulations should take into account the scientific expertise of independent advisory institutions as e. g. the European Food Security Agency (EFSA) or the National Academy of Sciences Leopoldina.

The safety risks NGTs pose for humans, nature and the environment needs to be assessed in the light of scientific evidence:

- Regarding the risk assessment, the undersigned associations refer to the expertise of independent German and European scientific institutions. Therefore, we follow the recommendations of the National Academy of Sciences Leopoldina, according to which a responsible attitude towards technology-induced developments is supposed to be one that weighs positive and negative effects against each other; these should be closely monitored in order to enable corrective interventions if needed. According to them, the precautionary principle should not be applied when based on merely speculative risks. Rather, the precautionary principle should be applied based on scientific evidence⁶.

⁵ Henning, Christian et al. (2021): *“Economical and ecological effects of the Green Deal in Agriculture. A simulation study on the effects of the F2F strategy on production, trade, revenues and environment based on the CAPRI model”*. Online available under: <https://bit.ly/3BOXr9X>

⁶ National Academy of Sciences Leopoldina, German Research Society (Deutsche Forschungsgemeinschaft), Union of the German Academies of Sciences - 2019): *„Towards a scientifically justified, differentiated regulation of genome edited plants in the EU (2019)”*. Online available under: <https://www.leopoldina.org/en/publications/detailview/publication/towards-a-scientifically-justified-differentiated-regulation-of-genome-edited-plants-in-the-eu-2019/>

- The current scientific state of affairs in relation to the risk assessment of NGTs used without the insertion of genes of other species is unequivocal. According to EFSA, no new risks have been identified in genomic modifications induced by means of when compared to those of conventional breeding⁷.

We see a clear need for education and communication on the issue of future regulation of NGTs. While the majority of German society is opposed to classical genetic engineering that inserts genes of other species, a representative opinion poll of the German agricultural, horticultural and food industries shows that the majority of the consumers are far less critical of biotechnological methods when no such material has been inserted. Acceptance of NGTs also increases whenever the respondents are aware of the chances they offer for the development of climate-smart plants as well as for a more sustainable agriculture brought about by economies in the use of fertilizers and plant protection products.

For the reasons stated above, we repeat our demand for a timely adaptation of the European regulations on genetic engineering so as to reflect the current state of affairs in science, and in a form that is open for future developments. We request that in the 20th legislative period, the German government, in coordination with its European partners, gives its support both to this process on EU level and to a science-based and to an unprejudiced political and societal discourse that also takes into account the recommendations of the "Zukunftskommission Landwirtschaft" (Commission on Future Agriculture) – ZKL as regards the application of NGTs.

German Plant Breeders' Association (BDP)

Federation of German Wholesale, Foreign Trade and Services (BGA)

German Biotechnology Industry Organization (BIO)

Federation of German Food and Drink Industries (BVE)

German Association of Producer Organizations Fruit and Vegetable (BVEO)

CIOFORA Germany

DER AGRARHANDEL (DAH) (*derived in 2022 from the merger of the Federal Association of Agricultural Traders and the The Grain Traders Association of the Hamburg Exchange*) / *member of the Grain Club (alliance of associations)*

German Farmers Association (DBV)

German Fruit Trade Association (DFHV)

German Raiffeisen Federation (DRV) / Grain Club

German Feed Association (DVT)

German Association of Wholesale Traders in Oils, Fats and Oil Raw Materials (Grofor) / Grain Club

OVID Association of the Oilseed Crushing and Oil Refining Industry in Germany (OVID) / Grain Club

The Union for the Promotion of Oil and Protein Plants (UFOP)

Union of the German Potato Industry (UNIKA)

Association of the German Fruit Juice Industry (VdF)

German Cereal Processing, Milling and Starch Industries' Association (VGMS)

German Association of Sugar Industry (VdZ)

⁷ EFSA (2020): „Applicability of the EFSA Opinion on site-directed nucleases type 3 for the safety assessment of plants developed using site-directed nucleases type 1 and 2 and oligonucleotide-directed mutagenesis”. In: EFSA Journal 2020;18(11):6299. Online available under: <https://bit.ly/3nzuf1D>

German Economic Association of Sugar (WVZ)
Central Horticultural Association (ZVG)