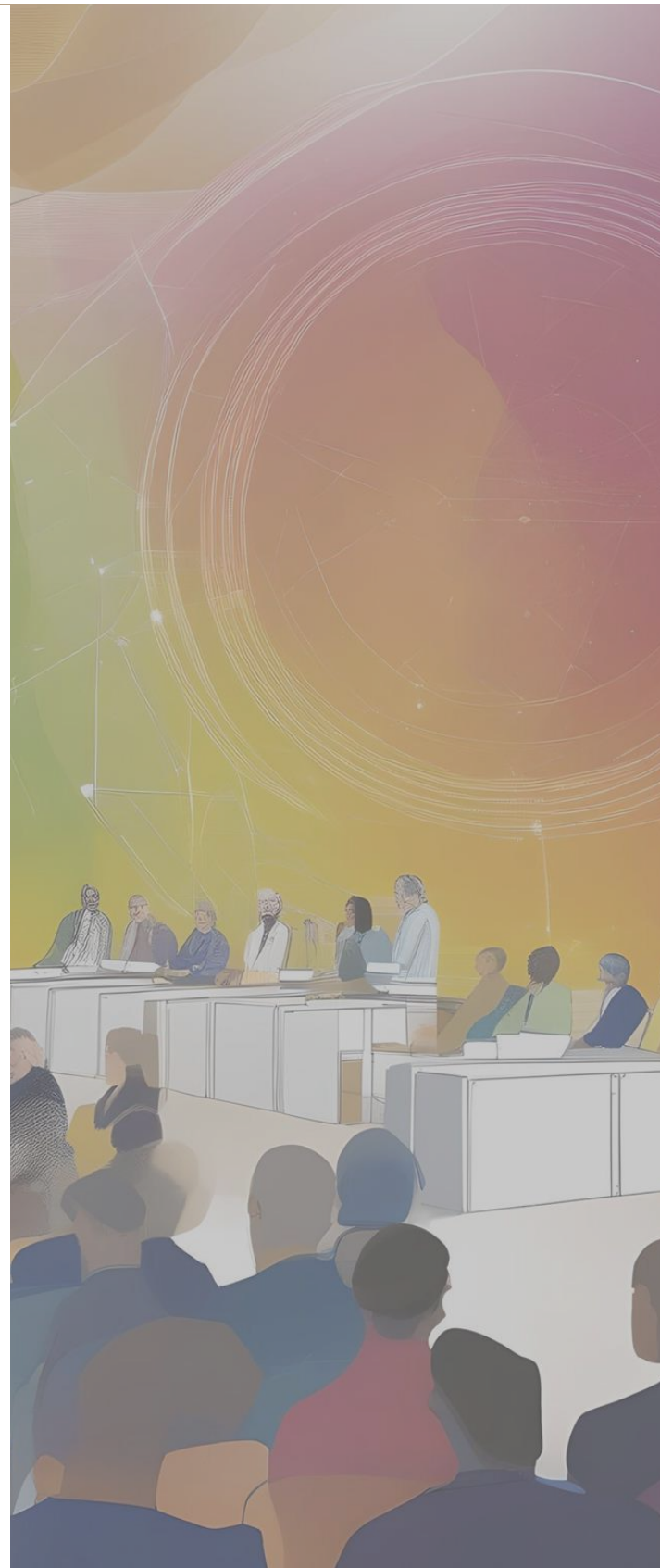


CITIZEN JURY ON NEW GENOMIC TECHNIQUES

FINAL REPORT

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Schloss Thurnau



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Introduction

Between 26-28 January 2024, a citizen jury was convened at the Schloss Thurnau in Upper Franconia, Germany to deliberate about new genomic techniques (NGTs) used in agriculture and food/feed production, ahead of the vote of the European Parliament and the Council of the European Union on the European Commission's proposal for a regulation on plants obtained by certain NGTs and their food and feed.

24 jury members were selected based on stratification criteria, with the primary consideration being discursive representation on the topic of NGTs. The jury's selection aimed at striking gender balance and further demographic criteria. Nearly half of the jury members fell within the age group of 18-24, reflecting the importance of youth perspectives in decision-making, especially on the issue of NGTs as they will be impacted most by decisions made today. Similarly, the second largest contingent, comprising almost half as well, represented the age group of 25-34. The remaining jury positions were filled by individuals from older age categories, ensuring a comprehensive range of experiences and viewpoints. The jury members represented a diverse range of fields of study, including medicine, literature, life sciences, law, mathematics, and others.

In addition to age diversity, the jury's composition also reflected a broad geographical spectrum. While the majority of the jury members were German nationals, some jurors also came from neighbouring countries such as Austria and Italy. Furthermore, recognizing the global impact of the NGTs and the impact of the prospective EU regulation on all people in the EU market, irrespective of their nationalities, the jury also comprised jurors from two non-EU countries, Nigeria and Japan. The jury members were selected from approximately 700 people who filled in a survey distributed to all Bavarian universities and Hochschulen, which included demographic questions and questions regarding participants' opinions on NGTs.

The central focus of the jury's deliberation was a question aimed at leading an informed and structured discussion surrounding the needs, purposes, conditions, and impacts of NGTs. Over the course of three days, the jury engaged in intensive dialogue, drawing upon a diverse range of perspectives and expertise provided by 6 expert and 2 stakeholder witnesses. The witnesses represented diverse points of view regarding the applications of NGTs. The jury's discussions were guided by a commitment to fostering understanding, addressing concerns, and exploring potential answers to the remit question. The table deliberations took place in German and English, while the plenary was held in the English language. The observations, assessments and recommendations were written in English by the members of the jury.

This report serves as a policy brief with all observations, assessments, and recommendations agreed by the jury with a minimum of 75 percent of the jurors' votes. This report aims to provide policymakers, stakeholders, and the public with perspectives and considerations surrounding the use of NGTs in agriculture and food/feed production, as articulated by the members of the jury. There are 18 final recommendations produced by the jury. Through thoughtful analysis and dialogue, the jury sought to contribute to informed decision-making processes.

The citizen jury took place with the contribution of the Deutsche Forschungsgemeinschaft (DFG), the Oberfrankenstiftung and the funds of the Bundesamt für Verbraucherschutz und Lebensmittelsicherheit under the auspices of the Innovate Food Law DFG project.

Remit Question

Preamble: Although mutation breeding (involving chemicals and radiation) has been practiced since the 1930s, the public debate on GMOs began in the late 1970s, primarily centred around ethical rather than scientific issues. A proposal for a new EU regulation on plants produced by new genomic techniques (targeted mutagenesis and cisgenesis, involving editing genes without bringing in genes from different species) is now being debated by EU lawmakers. This may transform a more than 25-year-old regulatory regime concerning genetically modified organisms (produced notably via transgenesis, involving crossing the boundaries between different species) in the EU which is currently also applied to new genomic techniques.

What are the needs and desired purposes regarding the application of new genomic techniques in plant breeding? Under what conditions should they be used, and for which objectives and intended impacts?

OBSERVATIONS

1

We observe increased land use, reduction of biodiversity, soil degradation, decreased fertility and consequent increased use of fertilizers. All these issues from the agricultural sector contribute to problems like climate change. Due to the climate crisis/change, we face enormous challenges and a very limited time frame to take action. The current agricultural system in the EU is unsustainable in an ecological and social way. These issues lead to the need of being more sustainable. On a global scale, we need to include environmental sustainable aspects, as social sustainability cannot exist without it. NGTs are one way to achieve this goal. They have an enormous potential to solve problems we currently face. Due to the changed climate conditions, NGTs provide a way to produce more resistant varieties. NGTs can be one of many important tools in providing plant varieties that require less plant protection products, can withstand extreme climate and still provide better yield. This potential justifies the exploration of the application of NGTs; while uncertainties regarding their risk remain, (as is always the case), they may even be lower in case of NGTs.

2

Implications for biodiversity are an important factor to consider when it comes to NGTs. Biodiversity is crucial for healthy ecosystems and should be preserved. Production systems like the organic can be important to maintain/supply biodiversity. Currently, most of the market demand is met by conventional production methods which further the issues mentioned above.

3

Right now, there are many different challenges regarding food security, not only at a national level but also on European and global bases. In Europe, food has been mainly considered a safe good. As the current crisis like the war in Ukraine has shown us in a singular example, this assumption is not something we can naturally rely on; rather we are highly dependent on other countries.

4

The fear and stigma that have arisen in the public concerning GMO-labelled food products should be avoided. The consumer has the right to information about the origin of the food they consume as well as the production process. Transparency is key to ensure trust, cooperation and acceptance of people. The current state of sharing information about the recent discussions about NGTs to average EU citizens has two main issues regarding transparency: The information density is too high for an average EU citizen, and the information, especially concerning the law-making process, is not easily accessible. This could lead to the following issues: If the EU is not giving out relevant data itself, the data could be misinterpreted, misused ignored or falsified. If the EU is not communicating that there are ways to access information, citizens keep staying uninformed. If the EU is not publishing easily accessible and unbiased relevant information, private companies or other institutions could lead the narrative in a certain way.

5

We have observed a malfunctioning communication between scientists, decisionmakers and the public. While information about GMOs/NGTs exists, and some organisations have tried to summarize data, that does not immediately mean accessibility and neutrality in opinions.

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- 6 In contrast to other parts of the world, the EU follows a no-patent policy for already existing and newly developed seeds. We observe that patents would damage the existing plant variety rights.
 - 7 The current GMO regulation makes it very difficult to stay competitive on a global scale. Processes are taking very long. Only large companies can afford lengthy approval procedures as well as costs (e. g. legal costs).
 - 8 The EU has a certain standard of products that is ensured by the precautionary principle. One can never have full certainty regarding safety. There is also a risk of non-action to consider.
 - 9 As the EU includes a big variety of cultures and historical backgrounds and comprises countries of varying sizes, it is important to consider rights and well-being of minorities and vulnerable groups in decision making. This would prevent food colonialism based on Western food.

ASSESSMENT

1

Conventional production puts strains on the environment, e.g. via use of fungicides, fertilizers, extensive monocultures, and water usage. These problems call for product improvement to satisfy consumers and market (industry) needs, while striving to ensure sustainability. NGTs can enhance plant characteristics, lead to increased yields and improved ability of plants to resist biotic and abiotic stresses, improve resources utilization, improved quality and nutrition, efficient land use, while minimizing risks. NGTs should not only be used to treat symptoms but also to address the roots of the problem. A combination of NGTs with more sustainable principles like organic production rotating crops system, without pesticides, fertilizers, and herbicides, could be one option.

2

We need to aim for sovereignty in our food supply instead of further relying on dependencies, as they will only increase due to climate change, e.g. making it impossible to grow crops in areas where it is still possible to do so at the moment. We believe that NGTs should be used as one of the tools to ensure food security and equal distribution of food, but not as a single solution for the problem.

3

There is a need to take further steps, e.g. using resources in a more sustainable way and reducing food waste. Since good nutritional diet includes a good variety of food sources and is based on solid knowledge, here we would like to emphasize the importance of good education towards nutrition and also NGTs.

5

A diverse variety of companies and institutions exist in the EU and take part in the breeding process – leading to a broad variety of newly developed seeds. We think that the existing plant variety protection system is beneficial for both the market and the stakeholders, e.g. NGOs, universities.

6

We are convinced that one should consider that the delay and neglect of legislation concerning NGTs could generate new risks, not only opportunity costs, and deepen already existing dependencies. In this matter, no action is an action. This bears the risk of being left behind. As a global player, the EU must be competitive. This can be achieved by using NGTs and other innovative technologies (e.g. artificial intelligence, nanotechnology). A combination of these technologies will lead to the successful development of new seeds and plants.

7

We understand that NGTs are just another tool in the toolbox of breeding, additionally to conventional breeding methods like inducing mutations via radiation and chemical treatments. As we can differentiate NGTs, we need to differentiate their legal status. NGTs can be seen the same

way as conventional breeding methods (mutagenesis) and need to be distinguished from GMOs and, in consequence, have their own regulation.

8

We are aware that market adaptation and development need financial incentives. Nevertheless, it is important that the aim of NGTs addresses current and incoming challenges instead of only focusing on profit and further monopolisation of the food market in favour of enriching global players.

RECOMMENDATIONS

I. Regulatory framework

(1) The regulatory framework should facilitate the improvement of products. The new legislation must allow research to proceed faster than previous GMO regulations and should be minimally obstructive to the research process while still protecting consumers and food safety. This entails ensuring easier access to innovative techniques by establishing an innovation friendly NGT regulation that is not as restrictive as the current GMO regulation. Legislation of good quality must be implemented quickly.

(2) We recommend following the proposal of the EU Commission regarding NGT1s, i.e. mere registration. Plant varieties produced with NGTs 2 should be approved by regulatory authorities, only if they lead to improvements, e.g. increased yield, resistance to biotic and abiotic threats, more efficient use of soil resources, aesthetics of plant, etc. The burden of proof lies within the companies (seed breeders). Regulatory authorities must then conduct a risk analysis and must weigh up risks and benefits the improvement brings when making a decision regarding the approval. Risk assessment should be conducted by a responsible institution considering the opinion of a council of interdisciplinary and independent experts while also considering the practicality and time intensity of the process, following standardized risk assessment procedures. We recommend having a group of independent experts on the topic of biodiversity when it comes to the application of new products. The experts' assessment should be taken into serious consideration and weighed carefully against the expected benefits of NGTs.

(3) Companies must provide the necessary data, as required by the regulatory authorities. It should also be possible to make use of previous decisions if there is a substantial overlap (proven by the applicant) in order to prevent unnecessary time delays. The authorization process for a trait that was already authorized for a related crop should be shortened. In order to achieve equal opportunities, the rules and costs for field trials are to be harmonized across the EU to ensure easy access.

(4) It should be considered that NGTs used in conventional ways could have a negative impact on the environment.

(5) The future regulation must reflect the precautionary principle, in order to maintain high safety and quality standards. This will ensure that the EU stays competitive on the global market.

(6) The principle of precaution should only take effect in case of scientific evidence for risks and not be weaponized for politically motivated causes.

II. Labeling and traceability

(7) For the sake of clarity and transparency, the use of NGTs and other genetic modifications should be traceable, and therefore assessable, and consumer empowerment should be provided to the general public.

(8) The use of NGTs should be mentioned in the ingredient list in a separate way to that of GMOs.

(9) We recommend a standardized system to ensure ideal transparency. Food and diet as a part of cultural heritage should be respected by empowering local farmers to have free choice on the breeding methods of their crops, which can be bred organically, conventionally or with the usage of NGT. Additionally, they should have the freedom to choose between traditional, local or newly developed and imported crops. Farmers/producers should have easy access to information on the methods used for seed production in order to be able to make informed decisions on their way of farming.

III. Distribution of benefits

(10) Since food security and equal distribution do not only concern Europe but are global issues, and NGTs are already in use due to challenges in traceability and global seed trade, it is crucial to be part of the development in order to act globally responsibly. Additionally, there should be an effort to open discussions with non-EU countries regarding social and ethical standards.

(11) There should be guidance on the use of NGTs regarding social inequalities. We advocate for a system which provides inclusive and equal accessibility of NGTs regardless of the size of the entity and its nature (public, private) and regardless of whether it comes from EU or a third country. The EU can facilitate this through regulations.

(12) The EU should continue with the no-patent policy regarding NGTs and an open-source-like approach with utmost transparency.

IV. Provision of information and education

(13) We ask for an unbiased collection of scientific evidence concerning NGTs. The lack of

(14) We recommend the use of unbiased public communication campaigns, e.g. via social media,

<p>communication between scientists and the consumer can be improved by the role of a mediator. This role requires both insight into NGTs as well as the public mind to ensure an adequate explanation of complex topics. The mediator should be employed by a neutral public institution to prevent doubt and provide citizens with necessary information. Furthermore, s/he should be a communication channel between the government and citizens but also a neutral informant about when and where (new) information is available.</p>	<p>for spreading information about the law-making process, scientific research results about NGTs along with an ongoing monitoring of the usage of NGTs. We further recommend to provide synopsis or short summaries of legal texts.</p>
<p>(15) We recommend that governments strongly support projects at schools and education facilities to educate on NGTs/GMOs. Those projects should include experts and academic researchers that have different opinions on the topic that enable students to form an individual opinion. An interdisciplinary evaluation concluded by scientists of different academic/expert fields (natural sciences, humanistic, political and cultural studies, e.g.) should form the basis for a proper education. The focus lies on a fair and representative distribution of opinions that reflect the current state of scientific discussion about NGTs. This must provide an open space for discussion and opinion forming. The EU should advise countries to add education on genome editing practices to their school curricula.</p>	<p>(16) We advocate for active citizen participation through diverse workshops, so that citizens' concerns, questions, feedback are appreciated and taken into account. We recommend surveys on public opinions, public gatherings, and increased use of citizen juries of a diverse cast. We must ensure that public opinions are heard and considered. Especially young people should be encouraged to take part in these events for they are those who will experience the outcome of these decisions.</p>

V. Systems' considerations

<p>(17) NGTs should be combined with a structural change in the agricultural system towards a more ecological agriculture. The current subsidy system should be revised to a system that incentivizes a more ecological agriculture and redirects the subsidies. This should also consider the true cost accounting of certain agricultural activities, when distributing the subsidies. True cost accounting means, that the cost of environmental impact, social impact and costs caused by health implications are also considered. This approach should provide more subsidies and support to a more ecological, social and sustainable system.</p>
<p>(18) The best agricultural methods available should be used to combat any negative impacts on the environment that conventional agriculture may have, whether with NGTs or traditional alternatives.</p>

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