

Genetic engineering and new genomic techniques

Law, Austria's special path and the open dispute

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Abstract

In 2026 the European Union divided plants obtained by new genomic techniques into two categories. Category 1 plants will in future be considered equivalent to conventionally bred plants; only their seed is labelled. Austria voted against. Since the GMO popular initiative (Volksbegehren) of 1997 it has followed its own path with cultivation bans and a limit value of 0.1 per cent for seed. This paper sets out the terms, the legal framework, the detection limits and the arguments of both sides, and asks what the reorganisation means for conservation. It supplements P10, section 3.3, and P03.

1. Terms

1.1 Three ways of altering a genome

Classical genetic engineering (transgenesis) inserts into a plant genetic material that comes from another species not crossable with it. The result is a genetically modified organism (GMO) within the meaning of Directive 2001/18/EC.

Mutagenesis produces changes in the genome without inserting foreign genetic material. Conventional mutagenesis works in an undirected way, for example with radiation or chemicals, and has been used in breeding for decades.

New genomic techniques (NGT) alter the genome in a targeted way at a specific site. The European Commission distinguishes targeted mutagenesis, which produces mutations without inserting genetic material from another species, and cisgenesis, which introduces genetic material from a crossable plant.

1.2 The two categories of the regulation

Regulation (EU) 2026/1388 divides NGT plants into two categories. **Category 1** comprises plants whose modifications lie within the limits set out in Annex I to the regulation; they are considered equivalent to conventionally bred plants. Plants with herbicide tolerance or an insecticidal trait are excluded from category 1. **Category 2** comprises all other NGT plants; they remain under genetic engineering law. The criteria in Annex I are not reproduced in detail here; they are politically contested (section 3.3).

2. The Union's legal framework

2.1 Genetic engineering law

Legal act	Content	Review status in the data layer
Directive 2001/18/EC	Authorisation of the release and placing on the market of GMOs; cell fusion in conventionally crossable plants is exempted (Annex I B)	partially verified
Regulation (EC) No 1829/2003	Authorisation of genetically modified food and feed; labelling threshold of 0.9 per cent for adventitious or technically unavoidable presence	partially verified
Regulation (EC) No 1830/2003	Traceability and labelling along the supply chain	partially verified
Directive (EU) 2015/412	Member States may restrict or prohibit the cultivation of authorised GMOs (opt-out)	partially verified

2.2 The 2018 judgment

In its judgment of 25 July 2018 in Case C-528/16, the Court of Justice of the European Union ruled that organisms obtained by mutagenesis are GMOs. Only conventional methods with a long safety record are exempt from the obligations of genetic engineering law. New methods of targeted mutagenesis thus fell under the full body of genetic engineering law; the NGT regulation is the legislator's response to this.

2.3 Regulation (EU) 2026/1388

The European Parliament adopted the regulation on 17 June 2026. It was published in the Official Journal on 26 June 2026, entered into force on 16 July 2026 and applies, after a transition period, from July 2028. Until then NGT plants remain subject to genetic engineering law (P10, section 3.3). Four points are essential for seed and conservation:

1. **Labelling.** Category 1 plants and products are not labelled, with the exception of seed and other reproductive material. Seed bears the indication “Category 1 NGT”.
2. **Organic farming.** NGT plants of both categories are prohibited in organic farming.
3. **Category 2.** It remains under genetic engineering law; Member States may prohibit its cultivation and adopt coexistence measures.
4. **Patents.** The regulation contains no substantive provision. Whoever has the status as a category 1 plant verified must declare existing and pending patents; these are published in a publicly accessible database, and licensing terms may be stated voluntarily. An expert group monitors the effects, and the Commission presents a study on the consequences of patents within one year (P10).

2.4 Overview

Category	Authorisation	Labelling	Organic farming	Austria
GMO (classical genetic engineering)	authorisation under Directive 2001/18/EC and Regulation (EC) 1829/2003 with risk assessment	labelling and traceability (Regulations 1829/2003, 1830/2003); seed “genetically modified”	prohibited	cultivation prohibited (framework act 2015, provincial acts); seed GMO-free, limit value of 0.1 per cent

Category	Authorisation	Labelling	Organic farming	Austria
NGT category 2	remains under genetic engineering law	as for GMOs	prohibited	national cultivation ban possible under the regulation
NGT category 1	after verification of status, treated like conventional breeding; from July 2028	seed and reproductive material only ("Category 1 NGT")	prohibited	no opt-out provided; relationship to the Seed GMO Ordinance open

The "Austria" column for category 1 is an assessment by this strand; whether the Seed GMO Ordinance is to be applied to category 1 seed from 2028 is not answered here.

3. Austria's special path

3.1 Origin

The GMO popular initiative (Volksbegehren) of 1997 obtained 1,225,790 valid signatures, 21.23 per cent of those entitled to vote. It demanded no release of GMOs, no food from the gene laboratory and no patents on life. In the same year ARGE Gentechnik-frei (Austrian GMO-free association) was founded; in 1998 the Codex guideline "Gentechnik-freie Produktion" (GMO-free production) followed in the Austrian Food Codex, the basis of the label "Ohne Gentechnik hergestellt" (produced without genetic engineering), also for seed. According to ARGE (declared interest: association), it was the world's first such standard; more than 6,800 products bear the label.

3.2 Legal basis

The Austrian path rests on federal and provincial law:

- The **Genetic Engineering Cultivation Ban Framework Act** (Gentechnik-Anbauverbots-Rahmengesetz), Federal Law Gazette I No. 93/2015, transposes the opt-out directive. It establishes a coordination council of the federal government and the provinces and pursues the goal of an Austria free of GMO cultivation; cultivation bans are issued by the provinces or, where there are nationwide grounds, by the federal government by ordinance.
- The **provincial genetic engineering precaution acts** regulate the cultivation of GMOs in all federal provinces.
- The **Seed GMO Ordinance**, Federal Law Gazette II No. 478/2001, requires GMO-free seed. For unintentional contamination a limit value of 0.1 per cent applies, which in practice corresponds to the detection limit.

No GMOs are cultivated in Austria. Imports, above all soya for feed, are permitted and subject to labelling (information from ARGE Gentechnik-frei, declared interest: association).

The Federal Constitutional Act on Sustainability, Federal Law Gazette I No. 111/2013, contains no provision on genetic engineering; freedom from genetic engineering is not anchored in constitutional law.

3.3 The 2026 vote and the announced action

In the Council on 21 April 2026, Austria voted against the NGT regulation together with Croatia, Hungary, Romania, Slovenia and Slovakia. In its statement for the minutes it criticised the lack of risk assessment, the lack of labelling for consumers and the scientific basis of the criteria in Annex I. On 2 September 2026 Slovakia announced an action for annulment before the Court of Justice. Whether Austria will bring an action or join one is not known as of the date of this paper.

4. Detectability

In March 2019 the European Network of GMO Laboratories (ENGL) stated: known genome edits are detectable if the sequence is known and a validated method and reference material are available. Unknown modifications cannot be reliably identified, and for point mutations it is usually not possible to prove that a particular technique produced them.

A test published in 2020 identifies a particular herbicide-tolerant oilseed rape line. It was funded, among others, by Greenpeace and ARGE Gentechnik-frei, that is, by parties to the dispute. The criticism is that the test detects the mutation, not the technique; the manufacturer declared that the mutation had arisen spontaneously. Where a result can also arise naturally, the burden of distinction is therefore borne by the labelling of the seed, not by analysis.

5. The dispute

The positions are arguments of their authors, not findings of this strand.

In favour. The Council of the European Union stresses that NGT enable targeted modifications and produce improved varieties faster, including varieties that better withstand drought, floods and other consequences of climate change; the labelling of seed allows NGT-free supply chains. The European Commission further cites a reduced need for fertilisers and plant protection products and better resistance to pests and diseases. Category 1 plants could also arise conventionally. Declared interest: the Council and the Commission are the authors of the rules. For classical GM varieties, a meta-analysis of 147 studies (Klümper and Qaim 2014) found 37 per cent lower pesticide use, above all for insect-resistant varieties; this concerns transgenesis, not NGT, and the effect over time is contested in the literature (P17).

Critical. The Austrian statement for the minutes and the European Coordination Via Campesina (ECVC, a farmers' organisation) object: category 1 is authorised without risk assessment and without labelling for consumers, which weakens the precautionary principle and freedom of choice. Patents could, via untraceable traits, also extend to conventionally bred plants. Coexistence for organic farming and GMO-free production would become more expensive. In addition, there is the concern that patents reinforce concentration in breeding (P17). Declared interest: Austria was an outvoted Member State in the Council; ECVC represents small farmers.

Whether the labelling of seed sustains separate supply chains, and whether the disclosure of patents limits their effect, remains empirically open until after 2028. The position of this strand is set out in S01.

6. Consequences for conservation and seed diversity

6.1 Contamination of stocks

Conservation requires multiplication, and multiplication of cross-pollinating species requires isolation distances (P05, P14). If category 1 seed is cultivated from 2028, outcrossing into conservation stocks cannot be ruled out, and according to section 4 it often cannot be detected afterwards. For Austria it remains open how the limit value of 0.1 per cent applies to category 1.

6.2 Labelling in collections

The labelling of category 1 reproductive material replaces the missing analysis, but it is effective only if the indication is carried forward with the material. It follows that:

1. Record origin and labelling at every intake. In collection management the indication “Category 1 NGT” or “genetically modified” belongs to the passport data (P11).
2. When regenerating in the field, document the cultivation situation in the surroundings, as far as it is known.
3. Secure evidence that a trait was already present in a landrace. Passport data and variety descriptions thereby become prior art against patents (P10, section 3.4).

6.3 Tools

The **Seed Compass** lists GMO varieties and category 1 NGT plants as separate seed types with their legal status and labelling; for conservation both are classified as “unsuitable” (classification from P15, not a measured value). The **Legal Register (Normenregister)** lists all legal acts named here with their status, review status and reference to the papers.

Limits of this paper

The paper does not replace legal advice; the legal position is that of 24 September 2026. The information on Union genetic engineering law is recorded as partially verified. The criteria in Annex I to Regulation (EU) 2026/1388 are not presented in detail; the implementing acts of the transition period up to 2028 are outstanding. Their relationship to Austrian provincial law and to the Seed GMO Ordinance is open. The positions in section 5 are a selection; statements by breeding companies have not been separately evaluated. The Commission's statement on fertilisers and plant protection products was checked at the source on 24 September 2026.

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