

## European Patent Office versus the EU

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Patents continue to be granted on natural genes and plants selected for breeding

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Authors: Anne-Charlotte Moy, Andreas Bauer-Pankus (Research), Johanna Eckhardt and Christoph Then

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[info@no-patents-on-seeds.org](mailto:info@no-patents-on-seeds.org)

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## Table of Contents

Summary	4
1. Introduction	5
2. The KWS patent on maize with improved digestibility	6
Precedent case under Rule 28 (2) IR	6
The EPO interpretation of the EU patent directive 98/44/EC is wrong	8
The violation of prohibitions in regard to plant varieties	9
Scope of the patent	10
3. Recent developments and their consequences	11
Patents granted under Rule 28 (2), IR, EPC	11
Existential problems for breeding companies with implications for agriculture	13
A representative survey shows: 80 percent say NO to patents on seeds	13
Figure 2: Response to the statements on average from all five countries	14
4. Possible solutions	17

## Summary

A precedent-setting decision on a KWS patent claiming conventionally bred maize with improved digestibility clearly demonstrates how the European Patent Office (EPO) is systematically circumventing existing prohibitions on the patenting of plant varieties and plants obtained from conventional breeding.

The KWS patent was the first patent granted after the Rule 28 (2), Implementing Regulations (IR), of the European Patent Convention (EPC) came into force. This Rule excludes patents on plants obtained from essentially biological processes (conventional breeding). The patent, which claims naturally occurring gene variants and their use in plant selection, was nevertheless granted by the EPO. It further claims plants selected through the use of the gene variants as inventions, and includes all maize plants with the described traits for silage production (animal feed).

*No Patents on Seeds* filed an opposition against the KWS patent, as patents on plants obtained from conventional breeding through crossing and selection are prohibited in Europe. However, the EPO rejected the opposition. It is a decision that clearly shows how the EPO is classifying naturally occurring genes as technical inventions. Even the plants selected using these genes are regarded as technical inventions. In result, the patent covers exactly what is excluded by the law.

To conceal the fact that the plants and their traits were simply selected from existing breeding populations, KWS also claims the rights to plants whose traits are ‘reproduced’ through the use of NGTs. However, in this instance such methods were not used and are not even necessary.

Further research suggests that this patent is not an isolated case. In fact, more and more patents are being granted on plants and natural gene variants that have not been obtained from new genetic engineering techniques, but are merely selected from existing populations. In 2025, around 40 additional patent applications with similar claims were published.

Despite many statements to the contrary, this development plainly shows that Rule 28 (2) of the Implementing Regulations (IR) of the European Patent Convention (EPC) does not effectively restrict patents on conventionally bred plants. The rule was introduced into the EPC in 2017 on the initiative of the EU. However, regardless of the express intent of the legislator, there is good reason to fear that hundreds of patents on conventionally bred plants and the use of naturally occurring gene variants will be filed and granted in the coming years.

Developments of this kind serve to hinder, or even block, access to biological diversity essential for breeding disease-resistant plants that can adapt to climate change. Small and medium-sized breeding companies will be negatively impacted the most, even if they do not intend to use any form of genetic engineering.

In 2024, the European Parliament called for a ban on these kinds of patents being granted and, at very least, a restriction on their scope as part of its position on the proposed regulation on plants obtained from new genetic engineering (or new genomic techniques, NGT).<sup>1</sup> The German Agriculture Ministers’ conference in March 2026 also supported these demands.<sup>2</sup> Moreover, recent representative opinion polls conducted in Germany, France, Italy, the Netherlands, and Poland show that the public also sees patents on seeds as a major problem. Around 80% of the public are rejecting such patents.

In fact, effective bans and restrictions in patent law are absolutely necessary: Significant negative impacts on plant breeding could result if respective patents are not banned or effectively restricted in future. These particular aspects are also emphasized in a report published by the European Commission in December 2025.

1 [https://www.europarl.europa.eu/doceo/document/TA-9-2024-0325\\_EN.html](https://www.europarl.europa.eu/doceo/document/TA-9-2024-0325_EN.html)

2 <https://www.agrarministerkonferenz.de/documents/endgueltiges-ergebnisprotokoll-amk-bad-reichenhall-2026.pdf>

However, the report also indicates that the Commission does not plan to take effective measures to ban or restrict patents of this kind. It is therefore crucial that the European Parliament does not abandon its 2024 position.

This is the backdrop against which we are presenting our proposed changes to patent law. Our proposed changes are consistent with both European Parliament demands and the existing legal framework. If these changes are not adopted, the proposed new EU regulation on the deregulation of NGT plants must be rejected.

## 1. Introduction

In the context of the future regulation of plants obtained from new genetic engineering (or new genomic techniques, NGTs)<sup>3</sup>, the patentability of plants and plant genetic resources has become a focal point of political attention. This report summarises the latest developments and explains why, in regard to NGT plants, patents on conventional breeding will increase dramatically if no effective measures are taken.

NGT techniques can also be used to replicate natural gene variants. If patents are granted on this basis, their scope will by no means be limited to plants obtained from NGTs. More precisely, they may extend to the use of plants that naturally contain respective gene variants in their genetic material.

Currently, an increasing number of patents are already being granted on plants and natural gene variants not obtained from new genetic engineering techniques - the plants and gene variants have simply been selected from existing populations. In addition, plants obtained from random mutagenesis are also being patented.

Such patents are primarily targeted at conventional breeding. This report shows that misinformation is being spread through frequently made statements declaring that natural genetic variants and plants obtained from conventional breeding cannot be patented.

Unless they are banned or restricted in future, patents of this kind could have serious consequences for the plant breeding industry, in particular for small and medium sized breeding companies (SMEs), resulting in a decline of available crop varieties and rising seed prices. We will see a significant acceleration of the ongoing concentration process in plant breeding, leading to even more dependence on large corporations.

The report contains an analysis of a precedent case, i.e. the KWS patent on maize, and its legal implications. Other research conducted on patents granted in 2025 suggests that this patent is not an isolated case. We further discuss the consequences for plant breeding, agriculture and food production, and include a representative survey conducted in several EU countries showing that the general public overwhelmingly opposes the patenting of seeds.

In addition, the report sets out proposals for solutions to the above problems - which the European Parliament could adopt as early as spring 2026. If these changes in patent law are not adopted, the planned new EU regulation on the deregulation of NGT plants must be rejected.

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3 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023PC0411>

2. The KWS patent on maize with improved digestibility

## 2. The KWS patent on maize with improved digestibility

In November 2025, the EPO rejected an opposition filed against a patent held by KWS on maize with improved digestibility (EP3560330<sup>4</sup>). The patent claims naturally occurring gene variants and their use in the selection of plants, whereby selected plants are also claimed as inventions. The patent also covers all maize plants with the described characteristics for the production of silage (animal feed).

The naturally occurring genes were actually discovered in existing breeding lines and varieties produced by KWS. The DNA-sequences were analysed with state of the art technology that allows gene variants to be used as ‘marker genes’ to select desirable plants.

The following steps were carried out to produce the patented plants:

1. Selection of plants with increased digestibility from existing populations;
2. Identification of underlying natural gene variants;
3. Selection of plants for further breeding with the sequenced gene variants.

Technical intervention into the genetic material of the plants does not occur at any stage of the process; no additional genes were inserted and no plant genes were modified. Rather, the plants are obtained from traditional plant breeding through crossing and selection. This process can be supported by marker genes, which is a fairly common technical tool. In summary, the plants do not exhibit any new traits; they are instead simply selected from existing plant populations.

The patent claims even extend to plants with the respective gene variants if these are reproduced through random mutagenesis or NGTs. However, none of these methods are actually necessary for breeding the plants.

### Precedent case under Rule 28 (2) IR

This patent set a precedent: it was the first patent to be granted under the new Rule 28 (2)<sup>5</sup> of the Implementing Regulations (IR) of the European Patent Convention (EPC). This rule was incorporated into the EPC in 2017 on the initiative of the EU. It prohibits patents on plants and animals obtained from “*essentially biological processes*”. The rule is an additional clarification of Article 53(b) of the EPC, according to which “*essentially biological processes*” for the breeding of plants or animals are not patentable. Accordingly, neither the conventional breeding processes nor the resulting plants (or animals) may be patented.

The KWS patent was one of the first to be granted under this new rule. Despite the new rule being applied, the patent nevertheless claims naturally occurring gene variants and their use in plant selection. The plants selected by this method are also claimed as inventions.

For this reason, *No Patents on Seeds!* filed an opposition against the patent. However, the EPO rejected the opposition. The reasoning indicates that the EPO classifies naturally occurring genes and plants as technical inventions: if genes of interest for breeding are discovered in existing breeding populations and their DNA sequences are subsequently analysed, the EPO considers this to be a technical invention. Plants inheriting these genetic variants in their genome are selected accordingly, are also considered to be patentable technical inventions.

In fact, the patented plants are indistinguishable from the non-patented ones:

- › not patentable according to Rule 28 (2) AO: Plants resulting from crossbreeding and selection that carry the genes for the desired trait in their genetic makeup because they were selected for the trait “better digestibility”;

4 More info about the patent: <https://www.no-patents-on-seeds.org/en/maize>

5 <https://www.epo.org/en/legal/epc/2016/r28.html>

2. The KWS patent on maize with improved digestibility

- patentable according to current practice of EPO: plants resulting from crossbreeding and selection that carry the genes for the desired trait in their genetic makeup because they were selected by using these genes as markers.

These plants are indistinguishable in every respect. In no case was a gene technically added or altered. The plants are identical, yet one is patented and the other is not.

As a result, breeding with these plants falls within the scope of the patent, even though they are obtained from conventional breeding. This legal absurdity completely nullifies the effect of the prohibition under Rule 28 (2) IR. The so-called “disclaimer” inserted into the claims to prevent the patenting of conventionally bred plants serves merely as a cover-up.

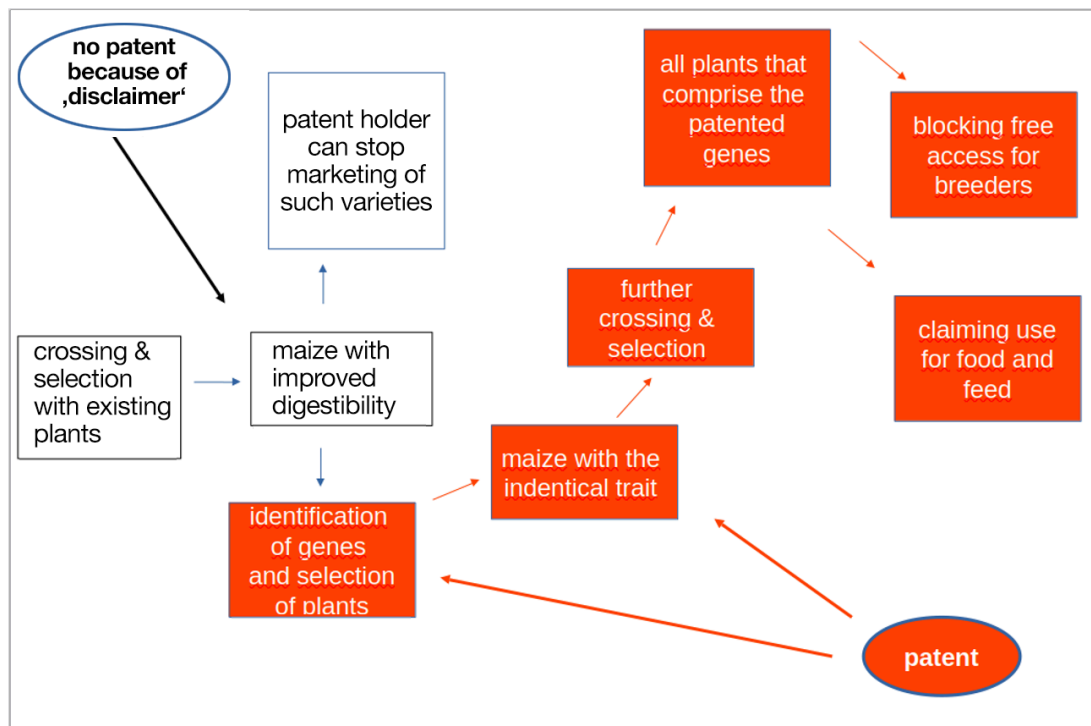


Figure 1: The EPO application of Rule 28 (2) in the case of maize plants with improved digestibility results in plants with identical characteristics being both patentable and excluded from patent protection at the same time. As a result, the prohibitions under Article 28 (2) become practically meaningless.

Presumably to obscure the fact that the plants and their traits were simply selected from existing breeding populations, KWS also claims patent rights to plants whose traits were ‘reproduced’ through the use of new genetic engineering techniques. However, these methods were not in fact used nor are they even necessary to achieve the desired traits.

As a result, the EPO has rendered the prohibition in Rule 28 (2) IR almost completely redundant and ignored the purpose of the EU legislation. This must provide the impetus for EU policymakers to ensure that the existing prohibitions are actually enforced.

2. The KWS patent on maize with improved digestibility

## **The EPO interpretation of the EU patent directive 98/44/EC is wrong**

Article 53(b)<sup>6</sup> of the European Patent Convention (EPC) prohibits patents on plant varieties and processes resulting from conventional breeding. In 1995, this provision in the EPC was interpreted as a general exclusion of plant varieties from patentability (Decision T356/93).

However, the adoption of the EU Patent Directive “Legal Protection of Biotechnological Inventions, 98/44/EC”<sup>7</sup> in 1998, meant that Europe would for the first time allow patents to be granted on genetically modified plants. Directive 98/44/EC was subsequently incorporated into the Implementing Regulations to the EPC.

Even though the prohibitions in Article 53(b) remained in force, the legislators introduced certain exceptions to this prohibition. Article 3(2) of Directive 98/44/EC reads:

*“Biological material which is isolated from its natural environment or produced by means of a technical process may be the subject of an invention even if it previously occurred in nature.”*

Article 4, para 1 and 2 of Directive 98/44/EC reads:

*“1. The following shall not be patentable:*

*(a) plant and animal varieties;*

*(b) essentially biological processes for the production of plants or animals.*

*2. Inventions which concern plants or animals shall be patentable if the technical feasibility of the invention is not confined to a particular plant or animal variety.”*

In order to assess their impact, these exceptions to the prohibitions in Article 53 (b) must be viewed within their historical and technical context. The sole aim in adopting Directive 98/44/EC was to pave the way for patents on genetically engineered plants. Patents on conventional plant breeding were never permitted.

There are many documents that clearly demonstrate the intent behind the introduction of the Patent Directive 98/44/EC. In addition to the text of the directive itself, there is the original proposal from the European Commission put forward in 1989. Added to this is the text of the second European Commission proposal issued in 1995, which was subsequently adopted by the EU in 1998 with amended wording. Decision G1/98 of the Enlarged Board of Appeal of the EPO also clearly points in this direction<sup>8</sup>.

Furthermore, a 2012 resolution of the European Parliament states:<sup>9</sup>

*“4. Calls on the EPO also to exclude from patenting products derived from conventional breeding and all conventional breeding methods, including SMART breeding (precision breeding) and breeding material used for conventional breeding;”*

As does a Commission notice from 2016:<sup>10</sup>

*“the Commission takes the view that the EU legislator’s intention when adopting Directive 98/44 /EC was to exclude from patentability products (plants/animals and plant/animal parts) that are obtained by means of essentially biological processes.”*

<sup>6</sup> <https://www.epo.org/en/legal/epc/2016/a53.html>

<sup>7</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998L0044&from=EN>

<sup>8</sup> These documents are fully listed in a report of *No Patents on Seeds!*:  
<https://www.no-patents-on-seeds.org/en/report-2025>

<sup>9</sup> [https://www.europarl.europa.eu/doceo/document/TA-7-2012-0202\\_EN.html](https://www.europarl.europa.eu/doceo/document/TA-7-2012-0202_EN.html)

<sup>10</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOC\\_2016\\_411\\_R\\_0003](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOC_2016_411_R_0003)

Furthermore, the Commission states:

*“The trigger point for ensuring the patentability of either a plant or an animal is the technical process, such as for instance the insertion of a gene into a genome. Essentially biological processes are not of a technical nature and therefore, according to the position taken by the legislator, they cannot be covered by a patent.”*

All of these documents show that (with regard to plants and animals) the historical, legal and technical background of the Directive is closely linked to the—at the time—new methods of genetic engineering. The exceptions to the prohibition under Article 53(b) must be interpreted in accordance with this legislative intent and patents must be limited to methods of genetic engineering. It follows that the KWS plants are not patentable, even independently of Rule 28 (2) IR.

In conclusion, the EPO interprets the EU Directive in a manner that ignores the original intention of the EU legislator, even including the guidelines for interpretation of Directive 98/44/EC. This must become a strong motivation for policymakers to now actually enforce the existing prohibitions.

### **The violation of prohibitions in regard to plant varieties**

Article 53(b) was incorporated into patent law to avoid overlaps between plant variety protection law and patent law. It therefore prohibits patents on “*plant varieties*” and “*essentially biological processes for breeding*.” The reason: plant variety protection is also a form of intellectual property; it protects the commercialisation of new varieties developed by breeding companies. However, unlike patent protection, plant variety protection allows for the free use of varieties to breed and market other varieties. This so-called “breeder’s exemption”, helps breeders to build upon existing varieties, and thus continually add to the diversity of new plant varieties. The “breeder’s exemption” is therefore regarded as a driver of innovation in the plant breeding sector.

However, genetically engineered plants are treated differently because genetic engineering techniques can be used to technically isolate and process genetic material, and thus make it available for introduction into the genome of plants. Such technically modified genetic material cannot be protected under plant variety protection. Therefore, and only under this condition, plant material is eligible for patent protection (see also Decision G1/98 of the Enlarged Board of Appeal of the EPO). This was one of the main reasons for opening up patent law to plants through EU Directive 98/44/EC.

However, this gap in intellectual property law does not exist in relation to conventional (classical) breeding, as none of the genetic material is isolated from its natural environment, i.e. the plant genome, during the breeding process. Rather, as in the case of KWS maize, the existence of corresponding breeding lines (which in patent law are considered non-patentable varieties) is a necessary prerequisite. In the production of the plants and the transfer of traits, the claimed traits are always integrated into the respective genetic backgrounds - either into the genetic background of the parental line, or into a cross between the parental line and the recipient line, or into a recipient line. The reproducibility of the ‘invention’ also depends on this prerequisite, namely the deposit of the relevant breeding lines.

Unlike genetically engineered plants in which genetic material is isolated from its environment, technically processed and made available for introduction into the plant genome through technical means, there is no such loophole in plant variety protection. The plants claimed in the KWS patent are selected solely from existing breeding populations and could therefore be adequately protected under plant variety protection.

2. The KWS patent on maize with improved digestibility

The exceptions to the prohibitions on patenting plant varieties therefore do not apply to:

- genetic material that has not been isolated from its environment, specifically modified by technical means, or made available for introduction into the genome of plants through technical processes;
- breeding characteristics or plants that are also eligible for plant variety protection (such as the KWS maize) and whose further use in breeding does not result in gaps in protection that go beyond what is customary or intended under plant variety protection.

Consequently, granting the patent violates the prohibition on the patenting of “*plant varieties*” under Article 53(b) of the EPC.

Policymakers must now prevent the breeders’ exemption in plant variety protection from being completely undermined by EPO practice.

### **Scope of the patent**

Since the patent defines naturally occurring gene variants—and thus selected plants—as technical inventions, subsequent uses of the plants (or corresponding plant varieties) for further breeding also fall within the scope of the patent. This follows from the wording of the EU Patent Directive and the provisions derived thereof regarding the scope of patents.

Article 8 (1) of the EU Patent Directive 98/44/EC reads:

*“The protection conferred by a patent on a biological material possessing specific characteristics as a result of the invention shall extend to any biological material derived from that biological material through propagation or multiplication in an identical or divergent form and possessing those same characteristics.”*

And Article 9 states:

*“The protection conferred by a patent on a product containing or consisting of genetic information shall extend to all material, (...), in which the product is incorporated and in which the genetic information is contained and performs its function.”*

Given these circumstances, patents granted on plant genetic material incorporated in conventionally bred varieties render the rules of plant variety protection ineffective, which, through the breeder’s exemption, allows the free use of varieties available on the market. If newly-bred conventional plant varieties exhibit the patented characteristics, their use in further breeding is subject to the consent of KWS.

Policymakers must now prevent the provisions of Articles 8 and 9 from being extended to conventional breeding through a misinterpretation of EU Directive 98/44/EC.

### 3. Recent developments and their consequences

Recent decisions by the European Patent Office (EPO) show that the patent on KWS maize is by no means an isolated case. Rather, this case is representative of a strategy employed by the industry and the EPO examination practice, whereby existing prohibitions on the patenting of conventional breeding can be easily circumvented through patenting the natural genetic resources needed for breeding. Companies are patenting gene variants of interest discovered in existing breeding populations, or even in the wild ancestral species of currently grown crop plants, as technical inventions. This means that the use of these plants for further breeding also falls within the scope of the patents.

The existing prohibitions on the patenting of seeds are insufficient to stop the monopolisation of natural genetic resources. Therefore, despite the prohibition on the patenting of plants obtained through “essentially biological processes” (Rule 28 (2), IR, see above), naturally occurring plant genes continue to be patented as inventions.

#### Patents granted under Rule 28 (2), IR, EPC

Examples of patents on naturally occurring genes that were granted under Rule 28 (2) IR, claiming the use of conventionally bred plants include spinach (EP3975697), tomatoes (EP3720272, EP3911147) and lettuce (EP3797582). For example, Bayer claims natural gene variants intended to confer resistance to certain aphids on lettuce in patent EP3797582, which was granted in December 2025. In February 2026, the EPO granted patent EP3720272 to the Dutch company Rijk Zwaan for the traditional breeding of tomatoes with resistance to a plant virus (TBRFV). The gene variants conferring resistance to the pathogen were discovered in wild tomatoes originating from countries such as Peru. Under EU law, patents on genes can only be granted if they are isolated from their natural environment through genetic engineering (see above). The current cases are summarised in Table 1.

Under patent law, the scope of patents on genes also extends to all plants bred using the patented genes (Article 9 of the EU Patent Directive 98/44, see above). This also affects plants obtained from subsequent crossbreeding. Current EPO practice does not directly patent the plants, but it allows claims on natural gene variants that extend to the plants.

The EPO practice of allowing these patents to be granted is thus systematically undermining the effect of Rule 28 (2) of the Implementing Regulations. Companies are taking note and are increasingly filing patent applications to claim naturally occurring gene variants and selected plants. As a recent study shows, claims relating to naturally occurring gene variants can be found in nearly all current patent applications concerning conventional plant breeding.

This practice (as was also applied to KWS maize) is derived from the chemical industry or genetic engineering: if a substance that already exists in nature is synthesized or isolated through technical processes, it can be patented as an invention.

However, what may be practicable in the world of chemical inventions or genetic engineering is unacceptable in the context of traditional plant breeding: Here, the specific prohibitions under Article 53 (b) and Rule 28 (2) must be observed. In traditional plant breeding, genes are not isolated or synthesized. If genes from traditionally bred plants are patented, their use is inseparably linked to the plants that naturally carry these genes.

## 3. Recent developments and their consequences

Table 1: Overview of patents granted on food plants under Rule 28 (2) IR, claiming plants from crossing and selection

Number, Company, date of grant	Content of the patent description	Content of the claims
EP3560330 KWS 15.06.2022	Maize with improved digestibility was obtained through crossing and selection from existing breeding populations. Natural gene variants were used as a tool for the selection of plants ('marker genes').	The patent claims native gene variants and their use in selection of the plants. The selected plants are also claimed as inventions. The usage of the plants for feed production (silage) is also included.  A so-called disclaimer, added under Rule 28 (2) to exclude plants obtained from classical breeding, does not have any significant effect on content or scope of the patent claims.
EP3911147 Enza Zaden 16.07.2025	Tomatoes with resistance to a plant virus (TBRFV). The plants are obtained from crossings and selection with a wild tomato species.	Claims cover the gene variants, their usage for selection and methods of selection.  The scope of the patent covers the usage of the plants for further breeding.
EP3975697 Bejo Zaden 24.09.2025	Spinach with resistance to downy mildew. The plants are obtained from crossings and selection with a wild spinach species.	Claims cover the gene variants, their usage for selection and methods of selection.
EP3797582 Seminis 17.12.2025	Lettuce with resistance to aphids. The plants are obtained from crossings and selection with a related species.	Claims cover the gene variants, their usage for selection and methods of selection.  The scope of the patent covers the usage of the plants for further breeding.
EP3720272 Rijk Zwaan 11.02.2026	Tomatoes with resistance to a plant virus (TBRFV). The plants are obtained from crossings and selection with a wild tomato species.	Patent claims cover the process used for production of the plants. As a result, all plants obtained from the process are covered by the scope of the patent.  In addition, the gene variants, their usage for selection and methods of selection are claimed.
EP3797582 Enza Zaden 18.02.2026	Lettuce with resistance to downy mildew. The plants are obtained from crossings and selection with a related species.	Claims cover the lettuce with resistance to downy mildew. A so-called disclaimer, added under Rule 28 (2) to exclude plants obtained from classical breeding, does not have a significant effect on the content or scope of the patent claims.  The reason: the relevant natural gene variants are claimed as inventions. The scope of the patent covers all plants in which the genetic information is inherited and performs its function (Art 9 of the Directive 98/44/EC)  In addition, plants obtained from random mutagenesis are patented.

## Existential problems for breeding companies with implications for agriculture

Patents on plants with natural characteristics pose an existential threat in particular to small and medium-sized (SME) traditional breeding companies. These patents result significantly higher costs and legal uncertainty. In effect, they create monopolies on the use of the claimed genetic resources. Access is frequently only possible through licensing agreements and high-cost fees. There are reports of fees exceeding €100,000 for access to patented genetic material and 5% of the revenue generated from the newly bred plant varieties.

Small and medium breeding companies are often unable to afford either expensive licensing fees or the costs for patent attorneys. They are therefore often forced to abandon breeding. This problem is highlighted in a report recently published by the European Commission titled „*Supporting innovation in the EU bioeconomy through intellectual property protection. Challenges and opportunities for agricultural biotechnology: final Report*“.<sup>11</sup>

The analysis of the problems is very clear in this report. The negative consequences for small and medium-sized breeding businesses, e.g. the deterrent effect of granting patents, are repeatedly emphasized. Increasing market concentration is also an issue in this respect: *“For many breeders - especially SMEs - the growing complexity of patent landscapes raises the cost of freedom-to-operate analyses and may prevent them from using certain genetic material to avoid patent infringement risks. Licensing is essential for facilitating access to patented traits and technologies. Yet, it is resource-intensive and could potentially even become prohibitive when a variety contains multiple stacked patents. Typically, larger firms can manage these costs better, while smaller breeders risk exclusion. Over time, such a scenario could lead to an accelerated market concentration. For farmers, these developments could translate in higher seed prices. Over time, there is a possible narrowing of organic and GM-free seed options as well as patent-free plant reproductive material, which leads to higher search costs for those breeders.”* (page 17)

However, the solutions presented in the study mentioned are mostly unsuitable to address these problems. The study proposes increasing transparency to identify patents or to facilitate the granting of compulsory licenses. Yet even then, patents retain their deterrent effect due to the cost of (multiple) licence agreements and the associated dependencies. The analysis of the problems is clearly disproportionate to the proposed solutions.

If these kinds of patents are not banned or effectively restricted in the future, there is a risk that they will have a significant negative impact on both plant breeding and agriculture. In a situation where there is less competition and choice for seed suppliers, then prices for patented seeds will rise, while the diversity of available varieties is likely to decline.

## A representative survey shows: 80 percent say NO to patents on seeds

In 2026, *No Patents on Seeds!* commissioned a representative survey in five EU member states: France, Germany, Italy, the Netherlands and Poland. According to the survey, approximately 80 percent of respondents oppose patents on living organisms such as plants or animals. More than 70 percent oppose patents on naturally occurring genes. The strongest opposition to such patents was recorded in Poland and Germany, followed by France and Italy.

More than 90 percent agreed with the statement that diversity in plant breeding and food production is crucial. An equal number of respondents believe that environmental protection must be a top priority when it comes to patents on genetically modified plants and their market approval. The highest levels of agreement were recorded in Poland and Italy, followed by Germany and France.

<sup>11</sup> <https://op.europa.eu/en/publication-detail/-/publication/76cc6cd6-d4ab-11f0-8da2-01aa75ed71a1/language-en>

3. Recent developments and their consequences

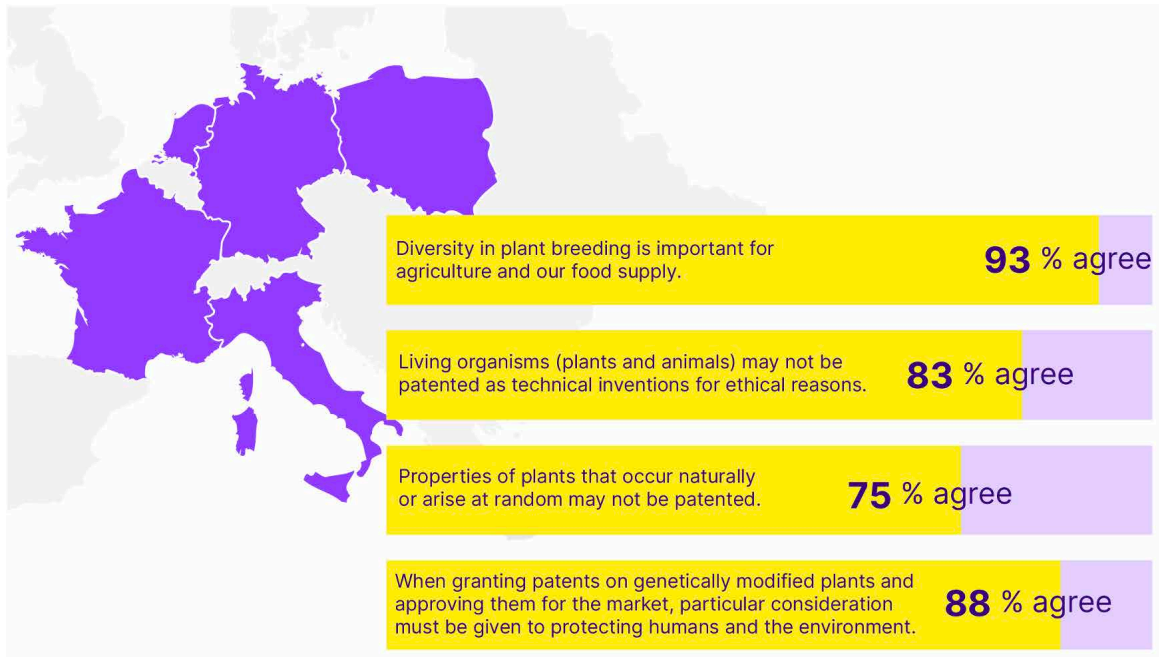
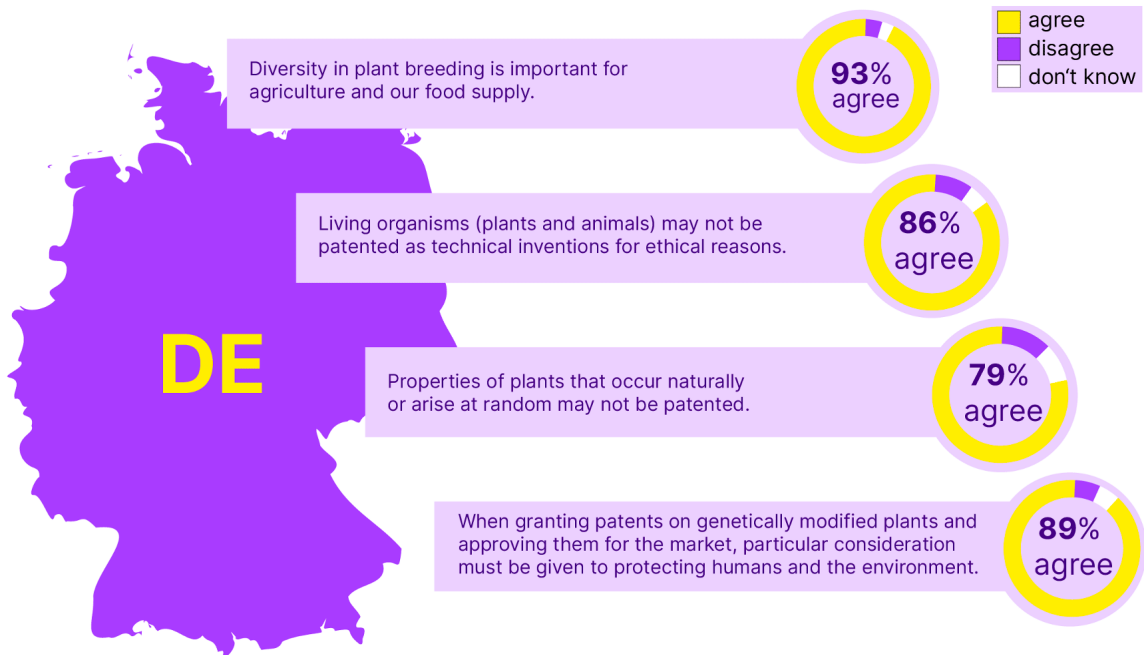
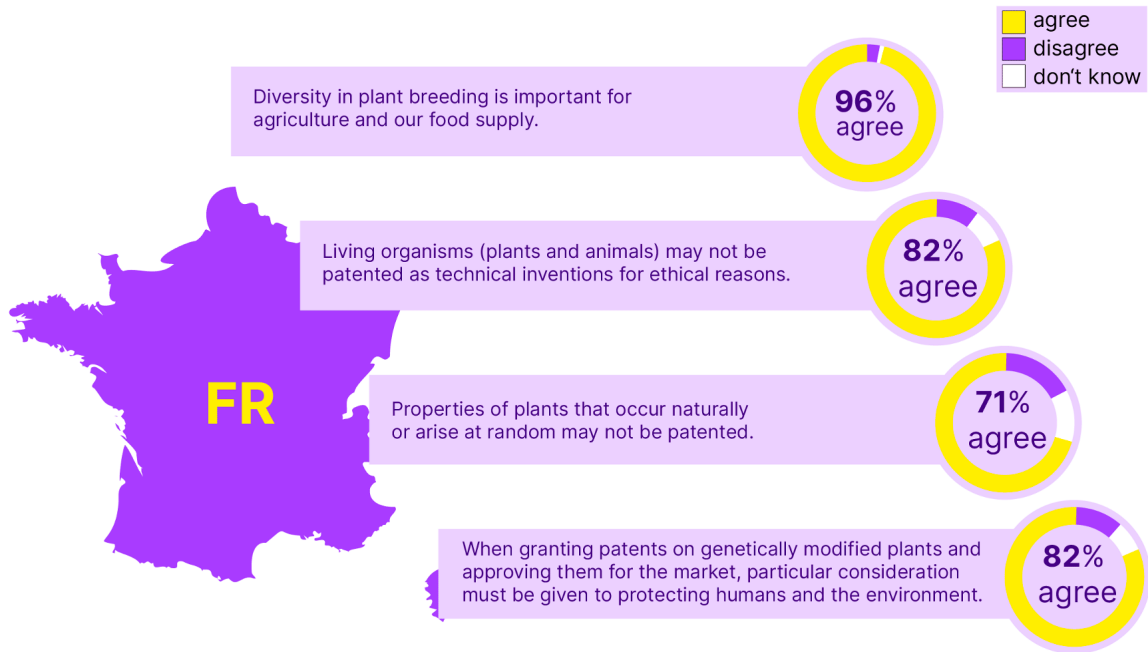


Figure 2: Response to the statements on average from all five countries



3. Recent developments and their consequences



## 3. Recent developments and their consequences

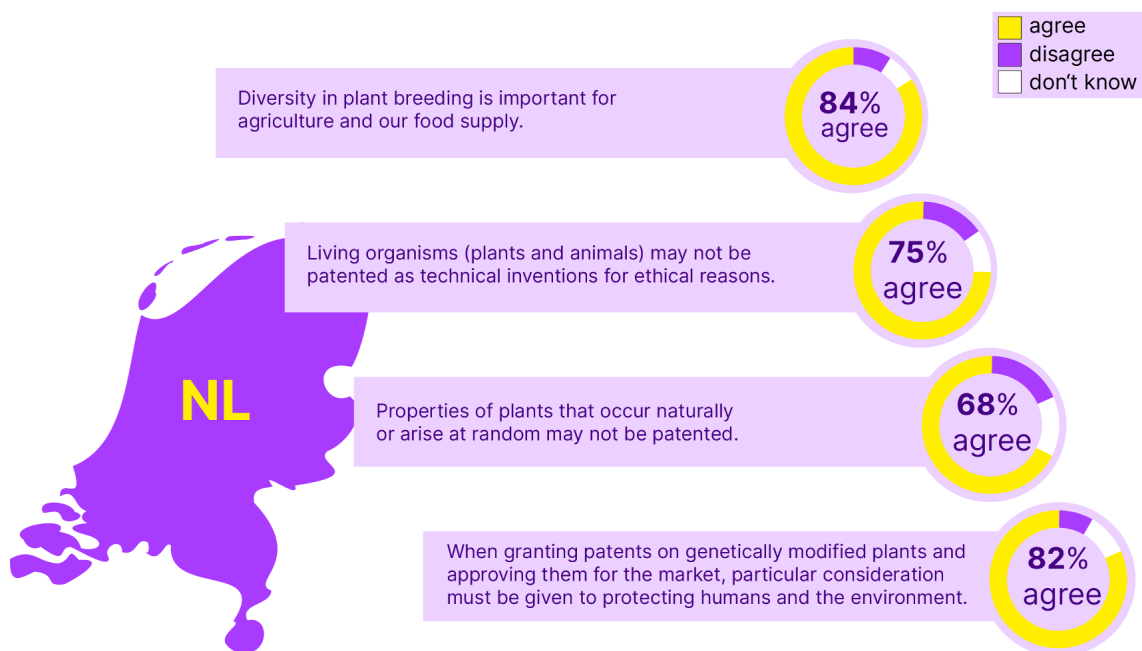


Figure 3: Consent to the statements per country

According to the opinion research institute, Civey, which conducted the survey, similar opinions emerged from across all five countries: *“Overall, the results across all countries paint a consistent picture: The public generally supports innovation in plant breeding but expects clear ethical boundaries and high standards of protection. Patents on natural traits are viewed critically, while a particularly responsible approach is demanded when it comes to genetic engineering developments.”*<sup>12</sup>

The ongoing debate over the future regulation of NGT plants was the reason for conducting this opinion poll. In 2024, the European Parliament, called for significant restrictions on patents for plants and genetic resources. However, a compromise text issued by the Council and the European Parliament stated that all NGT plants could be patented, including naturally occurring genes. This would have a significant impact on traditional plant breeding.

The international coalition of *No Patents on Seeds!* is therefore calling on the EU to take responsibility and stop patents on seeds, including giving diversity in plant breeding and the protection of the public goods much higher priority.

<sup>12</sup> <https://www.no-patents-on-seeds.org/en/survey>

## 4. Possible solutions

*No Patents on Seeds!* supports proposals developed in consultation with other organisations which aim to amend EU Patent Directive 98/44. There are several approaches that can be taken;

1. Clarifying the definition of “essentially biological processes”
2. Introducing specific prohibitions
3. Defining patentable technical inventions
4. The inclusion of a full breeder’s exemption.

All these solutions would allow usage of the plant material for other breeders without licensing contract and prevent the patent holders to extend the scope of the patent to the use of the harvest for agricultural purposes. Table 2 provides an overview of the various proposed formulations. These are not mutually exclusive; rather, when combined, they can actually create greater legal certainty.

Table 2: Proposals for amending the EU Patent Directive 98/44/EC

Definition of “essentially biological processes”
<p>Article 2 (2) is amended by</p> <p>“2. A process for breeding of plants or animals is essentially biological, if it consists entirely of conventional breeding techniques such as crossing, selection, or the use of randomly or naturally occurring genetic variations.”</p>
Effective prohibitions for patents on conventional breeding and natural genetic resources
<p>Article 4 (1) is amended by:</p> <p>“1. <i>The following shall not be patentable:</i></p> <p>(a) <i>plant and animal varieties,</i></p> <p>(b) <i>plant material and parts thereof, as well as genetic information contained therein, which have been obtained by non-targeted mutagenesis.</i></p> <p>(c) <i>essentially biological processes for the production of plants or animals as well as plants or animals exclusively obtained by means of an essentially biological process and the genetic information contained therein.</i>”</p> <p>(d) <i>the use of naturally occurring gene variants for screening and selecting of plant and animal varieties.</i></p> <p>(e) <i>plant material and parts thereof, as well as genetic information contained therein which have been obtained just by selection from existing breeding material.</i></p> <p>(f) <i>plant material and parts thereof, as well as genetic information contained therein which have been obtained by targeted mutagenesis if the result is not going beyond what was previously available for breeding.</i>”</p>



## 4. Possible solutions

**Definition of patentable technical inventions in plant breeding**

Article 4 (2) is amended by:

*„Inventions which concern plants or animals or their genetic material shall only be patentable if the genetic material is changed directly and in a targeted way, and to an extent previously not available for breeding, and if the technical feasibility of the invention is not confined to a particular plant or animal variety.”*

**Introduction of a full breeders exemption**

Article 11 para. 4 (new)

*“By way of derogation from Articles 8 and 9, the protection conferred by a patent on a biological material possessing specific characteristics as a result of the invention shall not extend to*

- a) biological material possessing the same characteristics that is obtained independently of the patented biological material and from essentially biological processes,*
- b) biological material obtained from such independently obtained material through propagation or multiplication, or on biological material obtained through patented processes of selection.*
- c) the use of that biological material for the purposes of*
  - (i) breeding, discovering and developing of a new plant variety for food and agriculture and*
  - (ii) the multiplication, offering and placing on the market of that new plant variety, and*
  - (iii) using that new plant variety for any purpose in food and agriculture.”*

The proposals for changes to patent law listed in Table 2 are conform with the European Parliament demands and the legal framework. If these changes are not adopted, the EU Parliament should reject the planned deregulation of NGT plants. If patents on seeds are not banned, or effectively restricted, there will be dramatic consequences for plant breeding and agriculture in Europe.