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## **Report Name:** Biotechnology and Other New Production Technologies Annual

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### **Report Highlights:**

Genetically-engineered (GE) products are highly politicized in Germany. Despite an openness to innovation, agricultural biotechnology faces significant challenges in Germany due to mixed societal and governmental attitudes. Regulatory frameworks, shaped by EU directives, heavily influence Germany's approach to biotechnology, including stringent approval processes and trade barriers. The newly formed coalition government, composed of the Christian Democratic Union (CDU) and Social Democratic Party (SPD), has yet to establish a unified position on New Genomic Techniques (NGTs), reflecting internal divisions within the governing parties. Recent studies indicate a gradual shift in public opinion, with some surveys showing increased acceptance of New Genomic Techniques, particularly among older demographics. However, other surveys highlight continued strong consumer demand for labeling and traceability of products derived from these techniques.

## **Executive Summary:**

Germany is the most populous and economically powerful country in the European Union (EU). It is influential in agricultural policy, both within the EU and globally. Germans are generally open to new technology and willing to innovate, but farming and especially agricultural biotechnology occupies a unique political space. German society is conflicted regarding agricultural biotechnology, and this is reflected in mixed government policies and messaging. For nearly a generation, German environmental and consumer activists have protested the use of biotechnology in agriculture – both in Germany and globally. Biotech test plots, which are used both as a research tool and are a required part of the EU regulatory approval process, were destroyed by vandals so often that test plots are no longer attempted in Germany today. Public rejection of GE crops has been widespread for decades and still prevails. Currently, trilogue talks between the European Commission, the European Parliament, and the Council of the EU are ongoing at the EU level regarding a potential exemption from current GE legislation for plants that have been engineered through New Genomic Techniques (NGT) without foreign DNA. Most likely due to the advanced stage of the trilogue talks, general discussion in Germany has shifted to scientific and legal analyses of proposed EU legislation for the liberalization of NGTs.

Sales under the German Food without Genetic Engineering Association (Verband Lebensmittel ohne Gentechnik; VLOG) label generated about \$ 20 billion<sup>1</sup> (EUR 17.1 billion) in Germany in 2024. According to VLOG, labeling of GE and NGTs is still an important topic for consumers. In a representative survey commissioned by VLOG, 79 percent of respondents said they favor the Minister of Agriculture, Nutrition and Regional Identity, Alois Rainer, advocating for the labelling of NGTs at the EU-level.

As long as NGTs are not deregulated within the EU, there is little prospect of developing a German market for GE crops or foods, other than the existing feed market for soybeans. Political, business, regulatory, and social barriers raise questions about the long-term competitiveness of the German agricultural biotechnology sector. Germany's new coalition government composed of the center-right Christian Democratic Union (CDU) as well as the center-left Social Democratic Party (SPD) have not released a joint position on NGTs. According to local sources, this is most likely due to differing views within the governing parties.

There are about 130 companies engaged in the breeding and marketing of agricultural and horticultural crops in Germany. Among them are the headquarters of world-class, international seed companies such as Bayer, BASF, and KWS. Corteva and Syngenta, the other major international players in the market, also have a strong footprint in Germany. These international companies are major suppliers of both GE and conventionally-bred seeds to markets outside of Europe. However, the companies have since moved research and development operations for GE crops to sites outside of the EU, for example to the United States. Bayer made this move in 2004 and completed the acquisition of Monsanto in June 2018. BASF followed Bayer in 2012 and KWS opened its U.S. biotech research center in 2015. This is a reaction to

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<sup>1</sup> <https://www.ohnegentechnik.org/artikel/ohne-gentechnik-produkte-fuer-ueber-17-milliarden-euro-verkauft>

negative attitudes toward biotech crops in Europe as well as non-existent consumer-oriented markets. Germany, nonetheless, remains a major buyer of GE products since it imports nearly six million metric tons of soybeans and soybean meal for animal feed annually.

For more information on EU policies and regulations please see [EU Agricultural Biotechnology Report](#).

# CHAPTER 1: PLANT BIOTECHNOLOGY

## PART A: PRODUCTION AND TRADE

- a. **RESEARCH AND PRODUCT DEVELOPMENT:** German seed companies such as Bayer Crop Science, BASF, and KWS develop GE plants or crops. However, as multinational companies they have moved production sites outside of Europe to the United States and other countries such as Brazil, Argentina, South Africa, India, China, and Japan. Other multinational companies like Corteva and Syngenta are also present in Germany. In Germany, funding for research is likely to remain low without significant liberalization of GE-policy at the EU-level.
- b. **COMMERCIAL PRODUCTION:** There is no commercial production of GE crops in Germany. Additionally, GE seeds are not produced in Germany for sale abroad. However, German seed companies including Bayer CropScience, BASF, and KWS supply biotech seeds to farmers worldwide from production sites in the United States and elsewhere. In the United States, Bayer and BASF moved research to North Carolina, while KWS opened a research center in Missouri. Bayer acquired Monsanto and its U.S. facilities in June 2018.
- c. **EXPORTS:** There is no commercial production of GE crops in Germany. Germany does not export GE crops to the United States or other countries.
- d. **IMPORTS:** Germany is a major livestock producer and is dependent upon imported soy as a feed protein source. Germany imported over 6.1 million metric tons (MMT) of soybeans and soybean meal in 2024, nearly all of it produced from GE varieties. Soybean imports totaled 3.6 MMT in 2024. It is estimated that about two-thirds of this amount came from the United States, either directly or channeled through the Netherlands. U.S. soybean exports decreased by about 11 percent year-on-year in 2024, totaling about \$1.1 billion. Since 2011, soybeans have been the top U.S. agricultural export to Germany.<sup>2</sup> Germany also imported nearly 2.5 MMT of soybean meal in 2024. Traditionally Germany has sourced most of its soybean meal from Argentina and Brazil.
- e. **FOOD AID:** Germany supports assistance provided by the European Union, which is the second biggest donor to the United Nations World Food Programme (WFP), after the United States. In 2025, Germany contributed 255 million Euros.<sup>3</sup> The Federal Ministry for Economic Cooperation and Development (BMZ) spends about 2 billion Euros a year on food security, agriculture and rural development.<sup>4</sup> Germany usually provides monetary assistance as opposed to in-kind assistance.

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<sup>2</sup> <https://fas.usda.gov/regions/germany>

<sup>3</sup> <https://www.wfp.org/funding/2025>

<sup>4</sup> [Sonderinitiative Transformation der Agrar- und Ernährungssysteme | BMZ](#)

f. **TRADE BARRIERS:** EU policies and legislation create GE-related trade barriers that negatively impact U.S. exports. For more information on EU policies and regulation please see the [EU Agricultural Biotechnology Report](#).

## PART B: POLICY

a. **REGULATORY FRAMEWORK:** Within the EU, GE crops and their products are authorized on a case-by-case basis for uses as defined by the applicant. Member States carry out initial risk assessments for the cultivation of GE crops and for food and feed imports. After weighing available information at the EU level, Member States take a majority vote to approve or deny the authorization for imports or to cultivate the GE variety throughout the EU. Currently, about 100 GE plant varieties are approved for import into the EU.<sup>5</sup> However, only one GE plant variety (maize MON810) may be cultivated in the EU. In Germany, no GE plants have been cultivated since 2013 for commercial or research purposes.<sup>6</sup>

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<sup>5</sup> <https://webgate.ec.europa.eu/dyna2/gm-register/>

<sup>6</sup> [https://zag.bvl.bund.de/standortregister/index.jsf;jsessionid=P4KcEMOR2Hn4ngB8tTt2D2-N\\_-TGGaEzNrVJxlTu.s-9200m?dswid=6051&dsrid=777](https://zag.bvl.bund.de/standortregister/index.jsf;jsessionid=P4KcEMOR2Hn4ngB8tTt2D2-N_-TGGaEzNrVJxlTu.s-9200m?dswid=6051&dsrid=777)

**i. Table of legal terms**

<b>Legal Term (in official language)</b>	<b>Legal Term (in English)</b>	<b>Laws and Regulations where term is used</b>	<b>Legal Definition (in English)</b>
Gentechnisch veränderte Organismen (GVO)	Genetically Modified Organisms (GMO)	<ul style="list-style-type: none"> <li>• Gentechnikgesetz (GenTG)</li> <li>• Gesetz zur Durchführung der Verordnungen der Europäischen Gemeinschaft oder der Europäischen Union auf dem Gebiet der Gentechnik und über die Kennzeichnung ohne Anwendung gentechnischer Verfahren hergestellter Lebensmittel</li> </ul>	An organism, other than a human being, whose genetic material has been altered in a manner not occurring under natural conditions by cross-breeding or natural recombination; a genetically modified organism also means an organism resulting from cross-breeding or natural recombination between genetically modified organisms or with one or more genetically modified organisms, or from other means of propagation of a genetically modified organism, provided that the genetic material of the organism has characteristics attributable to genetic engineering operations. (§ 3 Nr. 3 GenTG)

**ii. Responsible government ministries and their role in the regulation of GE plants**

The Federal Office of Consumer Protection and Food Safety (known by its German abbreviation BVL) is the German authority responsible for regulating agricultural GE products. The BVL is an autonomous part of the Federal Ministry of Agriculture, Food and Regional Identity (BMLEH), previously the Ministry of Agriculture and Food (BMEL).

Germany does not independently approve GE products; approvals are made via the EU approval process. In this process, applications for GE approval can be submitted to the competent authority in any given member state. If a company decides to apply in Germany, it must file the application with BVL, who then passes the notification of a GE approval

request and the notification dossier to the European Food Safety Authority (EFSA). After checking the completeness and quality of the data supplied in the dossier, EFSA evaluates the trait's risk potential. At this stage, all member states may submit comments. In Germany, BVL prepares national comments in consultation with the Federal Agency for Nature Conservation (BfN) and the Robert Koch Institute (RKI). In addition, the BVL obtains comments from the Federal Institute for Risk Assessment (BfR) and the Julius Kühn Institute (JKI). EFSA takes the national comments submitted by the member states into consideration and issues its safety opinion.

BVL also evaluates the safety of biotech crops that are used in contained systems (i.e., for research or industrial production), and issues environmental release permits and conducts environmental monitoring. BVL does this under the authority of Germany's *Genetic Engineering Act*, which implements EU guidelines. While primary responsibility for GE policy in Germany rests with BMLEH, the ministries for Economic Affairs and Energy (BMWE), Health (BMG), Education and Research (BMBF), and Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN) are also involved in the opinion and decision-making process and need to approve Germany's voting position in EU committees and councils.

### iii. **Biosafety Committee and its Role**

BVL hosts the Central Committee for Biological Safety (Zentrale Kommission für Biologische Sicherheit, ZKBS<sup>7</sup>), which examines and assesses applications for approval of biotechnology facilities on safety-relevant questions of genetic engineering and for the classification of microorganisms as donor and recipient organisms for genetic engineering. It examines applications for approval of a release and placing on the market of GE organisms and prepares responses and opinions as well as the procedures for decision-making on the applications.

The ZKBS consists of 20 independent members with a designated deputy for each member. The members are divided into two groups a) experts in the field of microbiology, cellular biology, virology, genetics, plant breeding, hygiene, ecology, toxicology, and safety technology; and b) competent persons of a social interest group (labor unions, occupational safety and health, economy, agriculture, environmental protection, nature conservation, consumer protection, research, and funding organizations). The members of the ZKBS and their deputies are appointed for a duration of three years by the BMLEH in agreement with the following ministries: BMBF, BMWE, Labor and Social Affairs (BMAS), BMG, and BMUKN.

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<sup>7</sup> <https://zkbs-online.de/en/>

iv. **Political factors that may influence regulatory decisions**

As the largest EU Member State, Germany plays a significant role in the regulatory acceptance of GE crops in Europe. This includes voting at the EU level on approvals; transferring and incorporating EU laws into German legislation; establishing liability for GE ‘contamination’ (the inadvertent comingling of unapproved GE products with conventional products); and enforcement. Germany has also exerted its influence in the politics of biotechnology when it abstains from voting because a quorum of countries is necessary for legislation to pass in the EU. Abstention was a regular occurrence under the past government coalition composed of the Greens, Social Democrats (SPD) and the Liberal Democrats, as the parties did not reach a consensus regarding the liberalization of NGTs. After snap elections in February 2025, the German government is currently composed of a coalition between the center-right Christian Democratic Union (CDU) and center-left SPD.

Decision-making around GE crops is highly politicized. While the CDU and their Bavarian sister party (CSU) are historically less opposed to the liberalization of NGTs, the SPD is split within their own party on their stance towards NGTs.

At the German State and Federal Agricultural Minister Conference in March 2025, a regular biannual meeting that serves to coordinate matters around agriculture and consumer protection, 11 of 16 German federal states urged the newly forming federal government coalition to speak out against a labelling requirement of NGTs at the EU-level. These 11 German federal states also called for the liberalization of NGTs in organic farming and allowing organic producer associations to make the final decision on implementation. All states agreed on rejecting patents for NGT varieties. The largest organic association in Germany (Bund Ökologische Lebensmittelwirtschaft) vehemently rejects the proposal to allow NGTs in organic farming.<sup>8</sup>

v. **Regulatory distinction between GE plant products containing DNA in the final form of the product and those that do not**

This is regulated at the EU level, please refer to the respective section in the EU report.

vi. **Regulatory distinction between GE plant products considered living versus non-living**

This is regulated at the EU level, please refer to the respective section in the EU report.

vii. **Distinctions between regulatory treatment of the approval for food, feed, processing and environmental release**

EU regulations provide a detailed approval process for GE products. Requirements differ depending on whether the GE products are intended for import, distribution, processing, or cultivation in the EU. For details, please refer to the EU report.

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<sup>8</sup> <https://www.boelw.de/presse/meldungen/artikel/boelw-zur-agrarministerkonferenz-bio-auch-in-zukunft-ohne-gentechnik/>.

### viii. Pertinent pending legislations or regulations

The EU Cultivation Directive 2015/412, adopted in March 2015, allows Member States to ban the cultivation of GE crops in their territories for non-scientific reasons. Although the so-called EU “Opt-Out” Directive (2015/412) has not been transposed into national law,<sup>9</sup> Germany obtained (among others) a ban on the cultivation of the maize variant MON810 for the entire German territory on the grounds of this directive in 2015.<sup>10</sup> Furthermore, the federal states (Länder) of Bavaria in 2019 (BayNatSchG, Art. 11b) and Hesse in 2023 (HeNatG, § 18) banned the cultivation of GE plants. The ban only affects cultivation and not U.S. exports to Germany.

### ix. Timeline followed for approvals

This is regulated at the EU level, please refer to the respective section in the EU report.

b. APPROVALS/AUTHORIZATIONS: There is neither GE cultivation nor open field trials in Germany. Germany has restricted GE authorizations for several crops ([Overview GE Authorizations in EU](#)).

c. STACKED OR PYRAMIDED EVENT APPROVALS: Stacked events are subject to risk assessment at the EU-level. The approval process is the same as for single events. Risk assessment of stacked events follows the principles provided in EFSA’s *Guidance Document*, which stipulates that where all single events have been assessed, the risk assessment of stacked events should focus mainly on issues related to stability, expression of the events, and potential interactions between the events. Please refer to the EU Agricultural Biotech Report for more details.

d. FIELD TESTING: Basic plant science research is very strong at German universities, where biotech plants are routinely created to test gene function and answer other biological questions. However, scientists face a strong incentive to work outside of Germany if they wish to develop new crop varieties using biotechnology. In the past, German companies and universities conducted small field trials of biotech plants, but the number has decreased dramatically over the last years. In 2007, experimental releases totaled nearly 70 hectares. Today there are no field trials.

e. INNOVATIVE BIOTECHNOLOGIES: As previously mentioned, Germany is governed by a coalition government composed of the Social Democratic Party (SPD) and the Christian Democratic Union (CDU). Soon after the formation of the government in 2025, the coalition partners (SPD and CDU) developed and published a policy program outlining their objectives for the four years of their tenure. While this document is not legally binding, it provides a good indication of the position of the two-party coalition on a variety of topics. NGTs are not

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<sup>9</sup> <https://www.bmuv.de/FA2027>.

<sup>10</sup> [https://food.ec.europa.eu/system/files/2016-10/gmo\\_auth\\_cult\\_de\\_mon810.pdf](https://food.ec.europa.eu/system/files/2016-10/gmo_auth_cult_de_mon810.pdf).

mentioned in the agricultural chapter of the current coalition agreement, most likely due to diverging views among coalition members. Biotechnology is mentioned in the chapter "strengthening Germany as an industrial location", but there is no explicit reference to agriculture and it remains unclear if this can be transferred to agriculture/plant breeding. Biotechnology pertaining to agriculture is included in the chapter "Effective relief measures, stable finances, an efficient government" where "Biotechnology: We promote the development of new active substances and therapies through life science, molecular biology, and pharmaceutical research, as well as agricultural/food sciences and biodiversity research" (lines 2519-2521) is mentioned. The liberalization of NGTs is not explicitly mentioned. Minister of Agriculture, Food and Regional Identity Alois Rainer has not explicitly addressed his views on the liberalization of NGTs. Local sources indicate he may be less opposed to the liberalization than his predecessor Cem Özdemir (Greens) due to his party affiliation. In the past, Germany abstained from voting at the EU-level due to contentious views between the previous three coalition members. It is currently unclear if Germany will vote or abstain during the ongoing EU-level trilogues. Federal Minister of the Environment, Climate Action, Nature Conservation and Nuclear Safety Carsten Schneider's stance on NGTs and biotechnology generally are also still unclear, as he has not publicly positioned himself. He is a member of the center-left SPD. According to media reports, the SPD is still internally split on the subject of biotechnology.

In the past coalition, the reactions to the European Commission's "New Genomics Techniques" proposal were mixed,<sup>11</sup> demonstrating a continued lack of consensus within the previous coalition. In addition to patent law, a concern repeatedly addressed by politicians and NGOs rejecting the European Commission's proposal is freedom of consumer choice. They claim that consumers would not be able to decide whether they want to consume NGT products or not if the new law was adopted. On the other hand, local industry stakeholders note that current legislation does not allow consumer choice, as they cannot choose to purchase food containing NGTs. Critics also highlight a conflict between the new regulation and the precautionary principle, set out in Article [191](#) of the Treaty on the Functioning of the European Union.<sup>12</sup> In 2024, Germany abstained from voting in an informal enquiry by the Hungarian Council Presidency regarding the liberalization of NGTs.<sup>13</sup>

Renowned scientific institutions have become very vocal as proponents of the liberalization of NGTs in the EU. In the Commission of Experts for Research and Innovation's (EFI)<sup>14</sup> annual report 2023, which was presented to former German Chancellor Olaf Scholz, genetic engineering was considered as part of the solution to many problems currently surrounding agriculture. GE plants are perceived as an opportunity for climate change adaptation and nutritious crops that

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<sup>11</sup> Source: Range of media outlets including: Frankfurter Allgemeine: Ein Meilenstein für die Gentechnik in der Pflanzenzucht - F.A.Z. (faz.net); POLITICO Pro Morning Agri & Food Europe, July 6, 2023.

<sup>12</sup> <https://www.bmu.de/meldung/bundesumweltministerin-steffi-lemke-zu-den-plaenen-der-eu-kommission-zur-neuen-gentechnik>

<sup>13</sup> [ohnegentechnik.org/artikel/eu-mitgliedsstaaten-positionieren-sich-zu-ungarischem-ngt-papier](https://www.ohnegentechnik.org/artikel/eu-mitgliedsstaaten-positionieren-sich-zu-ungarischem-ngt-papier)

<sup>14</sup> <https://www.e-fi.de/en/>

require less inputs. The experts also believe that not using GE plants makes German farmers less competitive. However, one of the main hinderances of planting and marketing GE crops is the low acceptance of consumers.<sup>15</sup> The German scientific organizations Leopoldina and the German Research Foundation (Deutsche Forschungsgemeinschaft; DFG) also published a joint statement addressing controversial debates around NGTs. They see no scientifically justified cause for concern regarding NGTs. They also clarify that the laws regarding GE are not directly related to intellectual property law. The authors of the study welcome potential future EU regulations permitting NGT-1<sup>16</sup> plants for organic farming systems.

f. **COEXISTENCE:** Germany's policy of “coexistence” between GE, conventionally grown, and organic crops is biased against the use of GE crops. Since there is no GE cultivation in Germany, coexistence regulations are currently theoretical. In the past, German federal and local governments put into place an assortment of planting bans, buffer zones, and other requirements. For instance, Germany requires a minimum distance of 150 meters – one and a half U.S. football fields – between biotech and conventional fields, and a minimum distance of 300 meters between biotech and organic fields. Coexistence, patentability and traceability are the most contentious topics in German politics.

g. **LABELING AND TRACEABILITY:** Germany applies EU regulations for labeling GE food (Regulations EC 1829/2003 and 1830/2003). No food labeled as “containing genetically modified organisms” is sold in Germany. Under EU rules, a food item requires a GE-label only if it contains GE-ingredients. There is no required labeling for meat or dairy products coming from animals fed with GE feed. In May 2008, the German government initiated a voluntary “Ohne Gentechnik” (GE-free) labeling program to help consumers better identify products and to standardize the information consumers receive. The current national label was introduced by BMLEH’s non-immediate predecessor, the Ministry for Food, Agriculture and Consumer Protection (BMELV) in August 2009. Trademark rights to the seal have been transferred to the Association for Food without Genetic Engineering (VLOG) who now awards exclusive licenses for use. Sales under the label remained high and generated about \$ 20 billion (EUR 17.1 billion) in Germany in 2024 (1.6 percent lower than in 2023, a record year).<sup>17</sup> The vast majority (67 percent) thereof are attributed to dairy products, followed by poultry products (21 percent) and eggs (10 percent). Sales under the GE-free label for eggs doubled within the past 5 years. In general, labelling was an important topic in the past years, most likely due to the ongoing debates regarding NGTs at EU-level.

In general, surveys conducted by anti-GE NGOs and “GMO-Free” labeling providers show higher consumer demand for labelling of NGT products than surveys issued by the German government. In a survey commissioned by VLOG in June 2025, 5,000 consumers were asked if

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<sup>15</sup> <https://www.agrarheute.com/management/forscher-landwirtschaft-smart-farming-gentechnik-mehr-nutzen-617116>

<sup>16</sup> NGT-1 plants include only their own gene material and could also be conventionally bred or occur through mutations also found in nature. The discussions around the liberalization of NGTs at EU-level refer to this type of NGT.

<sup>17</sup> <https://www.ohnegentechnik.org/artikel/ohne-gentechnik-produkte-fuer-ueber-17-milliarden-euro-verkauft>

they believe that German Minister for Agriculture, Nutrition and Regional Identity Alois Rainer should or should not support the labelling of products that include NGTs. The survey claimed 79 percent were in favor of labelling NGTs. The survey also stated that 75 percent of self-proclaimed CDU/CSU voters included in the study are in favor of Minister Rainer advocating for labelling requirements.<sup>18</sup> The BMLEH's annual Nutrition Report from 2025 presented a slightly lower number. Sixty-six percent answered that an indication of GMO-free production on packaging is important. This is two percent more than the previous year.<sup>19</sup>

Large dairy processors began to forego the GE-free label awarded by VLOG in 2024. They argued that the label is often unnecessary for consumers abroad and heightened economic pressure had incentivized processors to cut costs. Other reasons for forgoing the label included scarce non-GE feed at times, high prices of non-GE soy and the difficulty to implement an entirely GE-free value chain. However, it has also been reported that due to consumer demand, GE-free milk dominated 75 percent of market shares in Germany in 2023.<sup>20</sup>

h. **MONITORING AND TESTING:** Germany fully enforces EU rules relating to GE crops. The Rapid Alert System for Food and Feed (RASFF) is used to report food safety issues to consumers, industry stakeholders, and other Member States. In the case of biotech crops, Germany's 16 states test for unauthorized GE products and report violations via the RASFF. Germany has a decentralized system for testing and controlling the illegal entry of GE products into Germany. Each German federal state (*Länder*) has a competent authority that ensures that no unauthorized biotech product enters the German retail market. Each state has its own monitoring and sampling plan. Inspectors largely sample from products known to often contain GE events. Sampling is primarily done at the wholesale and the processing level. In the analysis year 2024 (October 1, 2023 to September 9, 2024), low amounts of GE were found in four corn samples. 60 percent of all testing was conducted on corn.<sup>21</sup>

i. **LOW-LEVEL PRESENCE (LLP) POLICY:** Germany does not have its own LLP policy. Rather, it fully implements EU Regulation 619/2011, which details official sampling methods and analysis. The regulation threshold is 0.1 percent, which defines zero (as in zero tolerance).

j. **ADDITIONAL REGULATORY REQUIREMENTS:** German farmers producing GE crops must register their fields with the Federal Office of Consumer Protection and Food Safety (BVL) three months before planting. However, GE cultivation is de-facto banned in Germany as the country is using the EU's opt-out option (Directive 2015/412). There is only one GE variety approved for commercial cultivation in the EU.

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<sup>18</sup> <https://www.ohnegentechnik.org/artikel/umfrage-agrarminister-rainer-soll-sich-fuer-gentechnik-kennzeichnung-einsetzen>

<sup>19</sup> <https://www.bmleh.de/SharedDocs/Downloads/DE/Broschueren/ernaehrungsreport-2025.html>

<sup>20</sup> AGRA Europe, Nr. 38, September 20, 2024

<sup>21</sup> [https://www.bvl.bund.de/SharedDocs/Fachmeldungen/06\\_gentechnik/2024/2024\\_11\\_26\\_Gentechnik\\_und\\_Saatgut-2024.html](https://www.bvl.bund.de/SharedDocs/Fachmeldungen/06_gentechnik/2024/2024_11_26_Gentechnik_und_Saatgut-2024.html)

k. **INTELLECTUAL PROPERTY RIGHTS:** German intellectual property law mainly consists of the Copyright Act (UrhG), Patent Act (PatG), Trademark Act (MarkenG), Utility Model Act (GebrMG) and Design Rights Act (GeschMG), flanked by some provisions of the Civil Code (BGB) and the Act Against Unfair Competition (UWG). All these bodies of law have histories dating back to before German membership in the EU but have since been revised and amended several times to implement European Directives and Guidelines or treaties. However, in Germany, the Plant Variety Protection Act protects the intellectual property of new varieties of plants. A breeder can apply for plant variety protection for a new variety at the Federal Office of Plant Varieties (*Bundessortenamt*, BSA). In Germany, plant variety protection is an intellectual property right separate from a patent.

l. **CARTAGENA PROTOCOL RATIFICATION:** Germany signed the Cartagena Protocol on Biosafety on May 24, 2000. It was ratified in November 2003 and entered into force in February 2004. The contents of the Protocol are governed by Regulation (EC) No. 1946/2003 in the European Union. This regulation is directly applicable in the EU Member States, i.e., it does not require transposition into national legislation. As the national competent authority, the BMLEH carries out political tasks and is the national focal point for Germany. BMLEH represents Germany at the regular Conference of the Parties.

m. **INTERNATIONAL TREATIES/FORUMS:** Germany is a member of several international organizations dealing with plant protection and plant health. This includes the European and Mediterranean Plant Protection Organization, the Organization for Economic Co-operation and Development (OECD), The Food and Agriculture Organization of the United Nations (FAO), and Codex. The Federal Republic of Germany is the host country for a subsidiary body of the Codex Alimentarius Commission, the Codex Committee on Nutrition and Foods for Special Dietary Uses. Germany does not actively participate in discussions related to GE plants.

n. **RELATED ISSUES:** The German Green Party generally takes an anti-GE stance. In the past it has introduced policy proposals to end the import of GE-soybeans to Germany, that were supported by a range of non-governmental organizations (NGOs). Several proposals sought to replace soy imports with domestically produced pulses and other protein crops. During the time of the three-party coalition, the Greens did not put forth such a proposal. The new government coalition has also not addressed or put forth such a proposal. However, based on European growing conditions and competing land use for other crops, a full replacement of imported protein feeds does not appear to be a realistic option in the near term.

## PART C: MARKETING

a. **PUBLIC/PRIVATE OPINIONS:** Years of controversy have produced many polling studies on German and European attitudes toward GE crops. These studies generally find that though opposition to GE foods might vary from poll to poll, opposition in general remains high and steady over time. For consumers, maintaining the precautionary principle is very important as is labelling GE foods. Patent rules are less of a topic among end consumers. In general, the public demands that societal concerns take precedence over economic interests and scientific assessments on this topic. However, with growing awareness for global challenges (responding to climate change, mitigating biodiversity loss and ensuring food security) possible advantages of NGTs (e.g., their potential for developing more climate-resistant crop varieties) seem to result in a reconsideration of GE foods in parts of society. Also, the potential liberalization of NGTs in the EU has ensured that this topic continues to get noticed publicly. Most likely due to the commencement of trilogue talks between the European Commission, the European Parliament, and the Council of the EU, public discussion has begun to tilt towards how liberalization of NGTs could be acceptably implemented if approved.

b. **MARKET ACCEPTANCE/STUDIES:** For a generation, German consumers have been exposed to consistent messaging from NGOs that biotech crops are dangerous, a product of exploitive capitalism, and even immoral. As a result, the use of biotech crops in foods is a highly contentious and politicized issue. Since biotech crops were first introduced in the mid-1990s, attempts to educate consumers and opponents about the benefits of biotech crops and about the science behind them have proven ineffective. German public opposition to GE foods has run steadily in the 80 percent range. This widespread opposition has begun to change in recent years. In a consumer survey commissioned by a group of industry stakeholders, 43.3 percent of participants agreed that precisely optimized plants from new breeding methods should not be regulated more strictly than plants whose genetic material has been altered by random mutation. Especially participants age 65 and older agreed with this sentiment, as every second respondent in this age group agreed. According to this survey, most participants consider less necessary plant protection applications (42 percent) the top benefit of NGTs.<sup>22</sup> These results show increased acceptance in comparison to surveys from 2023. In a representative study commissioned in 2023, 58 percent of Germans opposed the EU Commissions proposal to deregulate “NGTs”, more than 25 percent were in favor and around 17 percent were indecisive.<sup>23</sup> Another representative study published in 2023 showed more than 45 percent of respondents in favor of deregulating laws for new breeding techniques, provided that only the plant's own genes are modified or inserted and controls by government officials are in place.<sup>24</sup> In another study, 96

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<sup>22</sup> [https://grain-club.de/fileadmin/user\\_upload/Dokumente/Civey-Verbraucherumfrage\\_neue\\_genomische\\_Techniken\\_8.07.2025\\_final.pdf](https://grain-club.de/fileadmin/user_upload/Dokumente/Civey-Verbraucherumfrage_neue_genomische_Techniken_8.07.2025_final.pdf)

<sup>23</sup> <https://www.topagrar.com/acker/news/eine-umfrage-zwei-meinungsbilder-zur-gentechnik-1-13286940.html>

<sup>24</sup> <https://www.presseportal.de/pm/105718/5418331>

percent of those surveyed agreed that NGTs should always be investigated for possible risks.<sup>25</sup> According to a 2025 study from the project GeneBEcon, 59.9 percent surveyed consumers in Germany were aware of NGTs. In general, the project found that consumers in the EU are more aware of “GMOs” than of NGTs.<sup>26</sup>

Kossmann et al. (2025)<sup>27</sup> analyzed the portrayal of NGTs in German media from 2012 to 2023 and conclude that positive framing, especially those pertaining to agricultural productivity and progress, were predominant in the German media outlets included in the study. The authors conclude that there has been a shift away from predominantly negative coverage of NGTs towards a “more favorable portrayal,” which holds especially true for agriculture.

According to the German Food Federation, an estimated 60-80 percent of all food in German supermarkets has been exposed to biotechnology in some form. GE-microorganisms such as bacteria and fungi are increasingly used for the commercial production of a diversity of enzymes that are tailored to specific food processing conditions, such as the production of calf chymosin for cheese production with GE microorganisms. The Union of German Academies of Science has concluded that objections to biotech in agriculture lack any scientific basis, and agricultural biotechnology tends to find stronger support among consumers with postgraduate degrees.

Although the EU has approved numerous biotech plants that would theoretically be legal to sell in Germany, practically no labeled biotech foods are on the market. One contributing factor is the concentration of the food retail sector and its vulnerability to narrowly focused consumer activists. The German retail food sector is dominated by four large retail groups. Germany also has the highest market share of the world’s discount retail food stores. Within this low-margin and concentrated industry, anti-biotech NGOs would likely target any retailer offering GE-labeled products. This presents an unacceptable brand risk that hinders the introduction of GE-labeled foods.

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<sup>25</sup> <https://www.foodwatch.org/de/repraesentative-umfrage-deutliche-mehrheit-befuerwortet-kennzeichnung-und-risikopruefung-von-neuer-gentechnik>

<sup>26</sup> <https://genebecon.eu/2025/03/11/promoting-consumer-acceptance-of-new-genomic-techniques-ngts/>

<sup>27</sup> <https://link.springer.com/article/10.1007/s41055-025-00175-z>

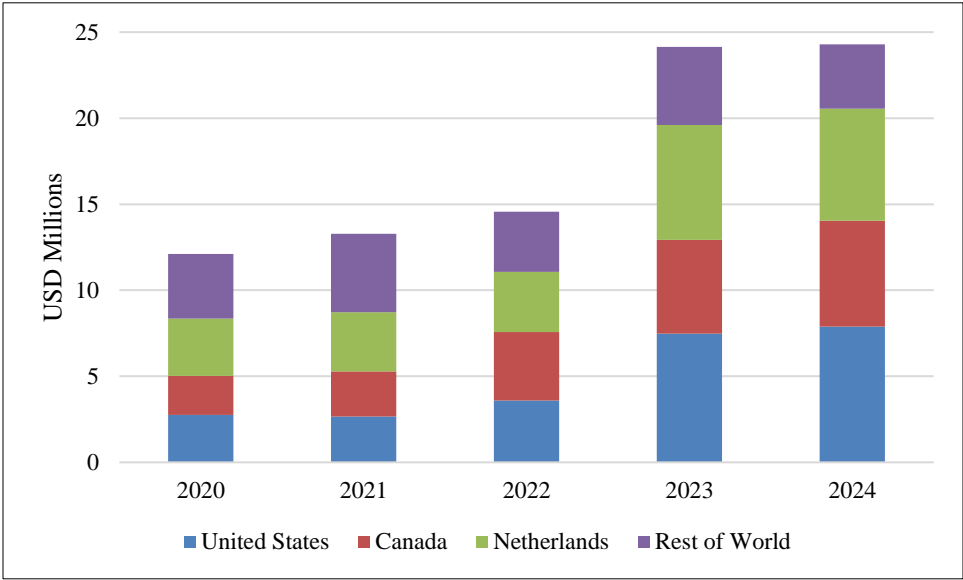
## CHAPTER 2: ANIMAL BIOTECHNOLOGY

### PART D: PRODUCTION AND TRADE

- a. **RESEARCH AND PRODUCT DEVELOPMENT:** In Germany, research into GE animal biotechnology and cloning is mainly located at the Friedrich Loeffler Institute (FLI) in its Animal Genetics unit. This research is conducted in “closed system” laboratories. There is no production of cloned animals in Germany. The cloning of animals is not directly prohibited in Germany, but indirectly regulated by animal protection laws, which results in a de-facto ban.
- b. **COMMERCIAL PRODUCTION:** There is no commercial production of GE animals and cloning in Germany.
- c. **EXPORTS:** As there is no commercial production, Germany has no exports.
- d. **IMPORTS:** This is regulated at the EU level, please refer to the respective section in the EU report. There are no known imports of GE animals or cloned animals for agricultural purposes into Germany. However, Germany has most likely imported semen and embryos from cloned animals as well as from offspring from clones as part of normal herd improvement programs, particularly in the dairy sector. The specific quantity of these imports is not available.

Over the past few years, the US has (on average) been the largest exporter of bovine semen to Germany, followed by the Netherlands and Canada. According to German import data, bovine semen imports increased from \$7.5 million in 2023 to \$7.8 million in 2024. According to a local expert, some of the increase in bovine semen imports may be attributed to an increase in online trade, which gained popularity during the COVID-19 pandemic.

**Chart: German Imports of Bovine Semen in Millions USD**



Source: Trade Data Monitor, LLC

e. **TRADE BARRIERS:** Most GE-related trade barriers in Germany have their origins in EU regulation. Public and political opposition are also prevalent due to ethical and animal welfare concerns.

## PART E: POLICY

a. REGULATORY FRAMEWORK: Germany implements EU Regulation on animal biotechnology. Please see the EFSA GE animal website:  
<https://www.efsa.europa.eu/en/topics/topic/ganimals>.

The cloning of animals is not directly prohibited in Germany, but indirectly regulated by animal protection laws, which results in a de-facto ban. Chapter 7 of the Animal Protection Act defines the rules around animal testing and experiments. The strictness of the law quite often hinders experiments with or including animals. Please follow link for more information: [Administrative regulation for application of Animal Protection Act](#).

i. Table of legal terms

Legal Term (in official language)	Legal Term (in English)	Laws and Regulations where term is used	Legal Definition (in English)
Embryonen- teilung	Embryo splitting	Allgemeine Verwaltungsvorschrift zur Durchführung des Tierschutzgesetzes	Embryo splitting has already been used for a long time in farm animals and laboratory animals, so that corresponding interventions and treatments are in principle not covered by the Animal Protection Act. This is only the case if the procedure is carried out with deviations from the already proven technique, which may lead to increased pain, suffering or damage in the animals, or within the framework of a superordinate animal experimental approach - for example to answer certain scientific questions.
Adultes Klonen auf entkernte tierische Eizellen	Adult cloning on enucleated animal oocytes	Allgemeine Verwaltungsvorschrift zur Durchführung des Tierschutzgesetzes	The transfer of cell nuclei from somatic cells on enucleated animal oocytes
Embryonales Klonen auf entkernte tierische Eizellen	Embryonic cloning on enucleated animal oocytes	Allgemeine Verwaltungsvorschrift zur Durchführung des Tierschutzgesetzes	The transfer of cell nuclei from embryonic cells on enucleated animal oocytes

ii. There is no commercial GE animal production in Germany. Only closed laboratory research is permitted. Responsible authorities and roles within regulation are not defined.

- b. APPROVALS/AUTHORISATIONS: There are no GE animals approved or registered in Germany for use.
- c. INNOVATIVE BIOTECHNOLOGIES: There are no known current or pending German regulations of these technologies in animals. EFSA has developed two guidance documents upon request of the European Commission regarding the risk assessment of GE animals. These were published in 2012 and 2013. Please see (<https://www.efsa.europa.eu/en/efsajournal/pub/2501>) (<https://www.efsa.europa.eu/en/efsajournal/pub/3200>)
- d. LABELING AND TRACEABILITY: No policy in place.
- e. ADDITIONAL REGULATORY REQUIREMENTS: No additional regulatory requirements.
- f. INTELLECTUAL PROPERTY RIGHTS (IPR): German intellectual property law mainly consists of the Copyright Act (UrhG), Patent Act (PatG), Trademark Act (MarkenG), Utility Model Act (GebrMG) and Design Rights Act (GeschMG), flanked by some provisions of the Civil Code (BGB) and the Act Against Unfair Competition (UWG). All these bodies of law have histories dating back to before German membership in the European Union (EU) but have since been revised and amended several times to implement European Directives and Guidelines or treaties. Animal biotechnology has not been part of any of these IPR's.
- g. INTERNATIONAL TREATIES/FORUMS: As a member of the EU, Germany is a member of Codex Alimentarius. Germany is also a member of the World Organization for Animal Health (WOAH). Germany does not actively participate in bilateral discussions related to GE plants or animals and is represented by the EU for treaties as well as forums.
- h. RELATED ISSUES: The current governing coalition does not mention animal biotechnology in its coalition agreement. It is likely that this government rejects animal biotechnology and the use of cloning, like previous governments. This dates to May 8, 2015, when the German Parliament unanimously voted against the cloning of animals. The motion included cloning of animals for food production and labeling of cloned animals, their offspring, and products derived therefrom.

## PART F: MARKETING

- a. PUBLIC/PRIVATE OPINIONS: Animal biotechnology is currently not high on the political agenda, and there is currently no high-profile lobbying for or against the use of livestock cloning or GE animals. However, public views on cloning are widely believed to be similar to those held for GE crops. Past EU-level debates on the regulation of cloning have not received positive media coverage. There has been limited media coverage of cloning in the context of endangered or extinct species. That coverage was fairly balanced.

b. **MARKET ACCEPTANCE/STUDIES:** There is little awareness of GE animals or cloning among the German public. Post is not aware of studies specific to Germany on the marketing GE animals or clones.

## CHAPTER 3: MICROBIAL BIOTECHNOLOGY

### PART G: PRODUCTION AND TRADE

a. **COMMERCIAL PRODUCTION:** German companies commercially produce food ingredients derived from microbial biotechnology. Among them are around 20 companies in Germany producing enzymes, including larger corporations but also small and medium-sized enterprises.

Developments in industrial biotechnology in Germany have gone hand in hand with steadily growing demand for sustainable solutions in the food sector. A new start-up scene focusing on the production of alternative proteins using precision fermentation and industrial cell technology, as well as the production of agricultural products in bioreactors, is currently emerging in Germany.

In Germany, microbial biotechnology falls under the superordinate term “industrial biotechnology”. It is difficult to estimate the share of microbial biotechnology within the sector. This is because the amount of biotechnology in large groups of the food, nutrition, chemical, and pharmaceutical industries is not specifically listed and is therefore not recorded statistically.

b. **EXPORTS:** There are no official statistics or estimates on exports of microbial biotechnology products. The only microbial biotech-derived food ingredients exported by Germany are those traditionally used in the production of alcoholic beverages, dairy products, and processed products. Likewise, Germany exports alcoholic beverages, dairy products, and processed products, which may contain microbial biotech-derived food ingredients.

c. **IMPORTS:** There are no official statistics nor estimates on imports of microbial biotechnology products. The only microbial biotech-derived food ingredients imported by Germany are those traditionally used in the production of alcoholic beverages, dairy products, and processed products. Likewise, Germany imports alcoholic beverages, dairy products, and processed products, which may contain microbial biotech-derived food ingredients.

d. **TRADE BARRIERS:** In general, most biotechnology related trade barriers in Germany have their origins in EU regulation. There is no information on any additional biotechnology-related trade barriers that negatively affect U.S. exports of microbial biotech-derived food ingredients or processed food products containing microbial biotech-derived food ingredients.

## PART H: POLICY

- a. **REGULATORY FRAMEWORK:** The Federal Office for Consumer Protection and Food Safety (BVL) is the national competent authority. According to EU Directive 2001/18/EC, the BVL coordinates the exchange of information between consent holder, the public, and the authorities involved in the approval procedure. The BVL is also involved in developing policies and organizational structures for monitoring products of genetic engineering. Holders of authorization to use specified GE products (i.e., placing on the market) are under the obligation to monitor these products. This obligation is based on EU Directive 2001/18/EC on the release of “GMOs” into the environment, and EU regulation 1829/2003/EC on GE food and feed, both of which are transposed into German law in § 16c of the Genetic Engineering Act (GenTG).
- b. **APPROVALS/AUTHORIZATIONS:** No national policy specific to microbial biotechnology.
- c. **LABELING AND TRACEABILITY:** No national policy specific to microbial biotechnology.
- d. **MONITORING AND TESTING:** No national policy specific to microbial biotechnology.
- e. **ADDITIONAL REGULATORY REQUIREMENTS:** In general, most biotechnology related trade barriers in Germany have their origins in EU regulation. There is no information on any additional biotechnology-related regulatory requirements that negatively impact U.S. exports of microbial biotech-derived food ingredients.
- f. **INTELLECTUAL PROPERTY RIGHTS (IPR):** German intellectual property law mainly consists of the Copyright Act (UrhG), Patent Act (PatG), Trademark Act (MarkenG), Utility Model Act (GebrMG) and Design Rights Act (GeschMG), flanked by some provisions of the Civil Code (BGB) and the Act Against Unfair Competition (UWG). All these bodies of law have histories dating back to before German membership in the European Union (EU) but have since been revised and amended several times to implement European Directives and Guidelines or treaties. Microbial biotechnology has not been part of any of these IPR’s.

## PART I: MARKETING

- a. **PUBLIC/PRIVATE OPINIONS:** Microbial biotechnology has never been high on the political agenda, and there is currently no high-profile lobbying for or against its use in food. In general, the public is not aware that microbial biotechnology is an essential part of today’s food production. Media coverage of the issue is limited.
- b. **MARKET ACCEPTANCE/STUDIES:** There is little awareness of microbial biotechnology in food production within the German public.

**Attachments:**

No Attachments