



Food
Consumer Observatory



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UNCOVERING CONSUMER PERCEPTIONS OF THE UPCOMING BIOTECH ACT

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Introduction



Introduction: the challenge

The global food system faces challenges such as climate change, rising food demand and resource competition. Food production must grow, which increases pressure on land and water resources. To ensure food security and safety at affordable prices, the sector needs to build climate resilience and reduce dependence on seasonal and geopolitical supply chains.

Biotechnology as a solution

Producing food through advanced biotechnology is one solution that focuses on innovations in the production of consumable and nutritional products. This includes alternative proteins to replace or complement animal-based proteins, which may be cell-based (e.g., cellular agriculture) or fermentation-derived (e.g., biomass or precision fermentation). Additionally, other biobased molecules used as food ingredients, supplements or animal feed additives are considered.

Potential biotechnology benefits for food supply are:

- Higher food security and a more resilient food source
- Healthier and more sustainable food
- Increased competitiveness and resilience of agri-food sector

However, current European legislation is currently not supportive of a competitive and innovative biotech sector.¹ Hence the Biotech Act aims to bridge some of these gaps.

Introduction: the upcoming Biotech Act

While European citizens will not be directly affected by the Biotech Act, their food environment - and the purchasing choices available to them - will be shaped by it. It is therefore essential that policymakers understand how the Act will be received by citizens.

What is the Biotech Act?

The European Union Biotech Act legislative initiative,* announced in 2024 with the aim of strengthening the biotechnology sector, has three key objectives:

- The introduction of a streamlined regulatory environment to shorten the time to market for biotech products, all while maintaining high safety standards
- Developing measures that improve access to financing for start-ups, scale-ups and SMEs under the Biotech for Europe banner, including new public and private funding mechanisms
- Strengthening the biotech value chain by increasing R&D investment, supporting research infrastructure and enhancing workforce skills development across EU member states

Why is understanding consumer acceptance key?

Although consumers are not directly affected by the Act, it is important to understand whether citizens** support or reject it. This is because ultimately they make the decision whether or not to purchase the products being developed under the possibilities the new Act offers. The level of acceptance of the Act also influences future voting behaviour.

Through qualitative and quantitative analysis, this study by the EIT Food Consumer Observatory uses an innovative policy acceptance model to explore consumer attitudes towards the Biotech Act, and the implications of these findings for EU policymakers, national governments and the food industry.

*Note that details of the Act are not determined at this stage

**The words 'consumer(s)' and 'citizen(s)' are used as synonyms throughout this report

Aim and purpose of the study

The aim of this study is twofold:

1. Measure the acceptance of European consumers of the Biotech Act and what elements contribute to acceptance (or rejection).
 2. Create a proof of concept for involving consumers in policymaking through the methodology developed by the EIT Food Consumer Observatory.
- Based on Grelle and Hofmann's [policy acceptance model](#)³ we have [developed a model](#)⁴ that helps us understand what elements determine whether citizens will accept or reject new legislation. With this study we put the model to the test so we can refine it further.
 - Using the model, we aim to deliver actionable insights that will help shape the Act and the communication surrounding it, which can lead to a quicker and more effective implementation.

Who needs these insights?

- Policymakers involved in drafting the Act, who want to understand how to shape it in such a way that it reflects the interests of the European citizens affected by it.
- National governments involved in implementing the Act and communicating about it to the general public. These stakeholders want to understand how to communicate about the Act and its purpose in order to optimise public support.
- Industry representatives directly impacted by the Act who want to understand how consumers think and feel about foods produced through advanced biotechnology.

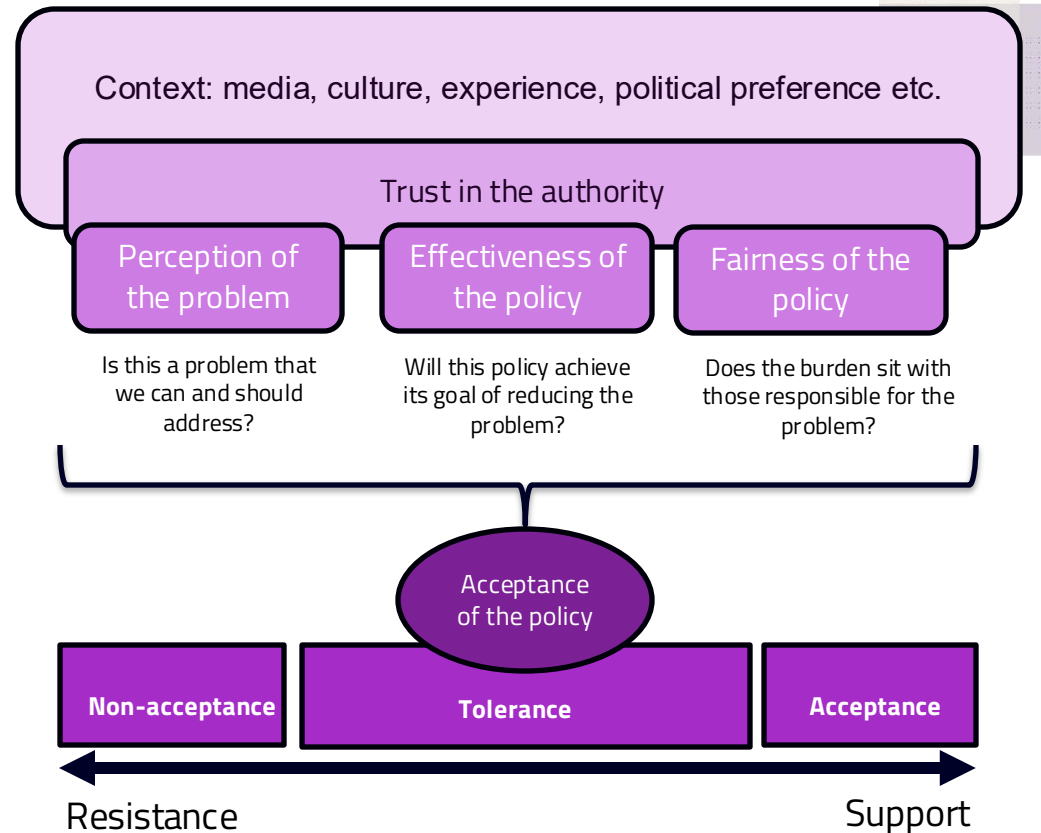
Policy acceptance model

In autumn 2024 EIT Food's Consumer Observatory conducted an elaborate study³ to test and further develop the policy acceptance model by Grelle and Hofmann.

The aim was to develop a practical and rigorous tool to measure the acceptance of new policies by citizens.

The conclusion of our study is that we have a useful model for measuring policy acceptance that not only measures whether a specific policy is likely to be accepted by the citizens involved but also explains why. These insights can be used to optimise acceptance, leading to a higher level of compliance. This can be done by adjusting the policy to make it more fair or more effective, or by communicating about the policy and the problem it intends to solve.

The model on the right, an adaption of the original model by Grelle and Hofman³ summarises the elements of the model. In short, it means that whether someone supports or rejects a specific new law depends on whether 1) they recognise there is a problem that needs to be solved, 2) that the policy proposed will be effective in solving this problem and 3) that the policy is treating everyone involved fairly. These aspects are in turn influenced by trust in the authority that issues the legislation and the broader (cultural) context.



About this report

This report contains insights from several sources (desk research, qualitative research, quantitative research). To optimise readability, we have blended them in to represent the full picture of the insights we have available. The report loosely follows the elements of the policy acceptance model.

Problem perception

This chapter investigates how citizens perceive the problems the Biotech Act is intended to address. It looks at issues such as urgency, food security, health, sustainability, competitiveness, and responsibility.

Consumer perceptions of biotech

This section focuses on how consumers view biotechnology in food production. It explores associations, levels of knowledge, trust, cultural attitudes, and willingness to try biotech foods.

Policy perception: effectiveness

This section addresses how citizens evaluate the expected effectiveness of the Biotech Act. It considers anticipated impacts on food security, sustainability, competitiveness, safety, and innovation.

Policy perception: fairness

This chapter analyses how fair consumers believe the Biotech Act to be. It covers perceptions of who will benefit, who may carry the costs, and how fairness influences acceptance.

Perception of authority: EU as a regulator

This chapter examines how citizens perceive the EU as the authority responsible for regulating biotechnology. It discusses views on competence, caring, transparency, and the appropriate role of the EU versus member states or third-party regulators.

Policy acceptance

This section brings together the previous dimensions to assess the overall level of acceptance of the Biotech Act. It also compares differences across countries and demographic groups.

Evaluation of the model

The final chapter explains the predictive value of the policy acceptance model. It evaluates whether the model accurately explains acceptance and whether it is useful for future policymaking and communication.

Key findings and recommendations

Executive summary

Citizens' views on the Biotech Act objectives

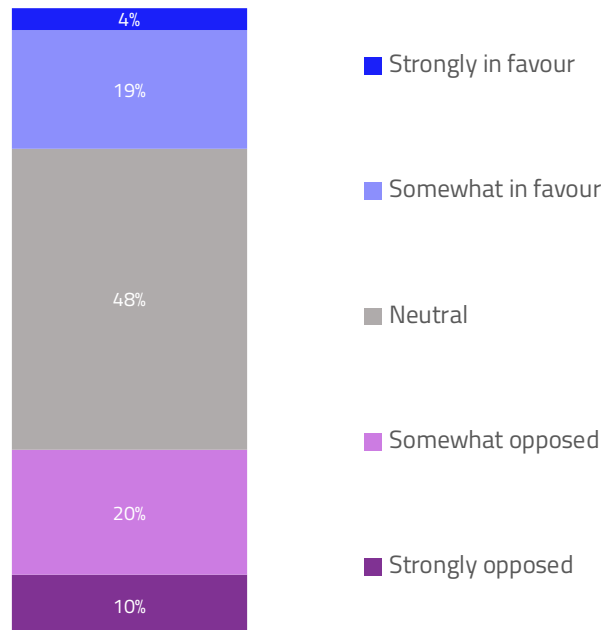
This study evaluated the acceptance of the Biotech Act among European consumers using both quantitative and qualitative data. These are the main findings:

- The Biotech Act marks an important step in Europe's transition toward a more sustainable and resilient food system. To understand how citizens perceive this change, the EIT Food Consumer Observatory carried out a mixed-method study, combining qualitative discussions with 40 European citizens and a representative survey of 3,350 Europeans from six countries. The research applied the Grelle & Hofmann policy-acceptance model to identify what drives public support.
- Results show that Europeans are neither opposed nor fully convinced: almost half remain neutral, with smaller groups supportive or sceptical.
- Acceptance depends mainly on four factors – the perceived **effectiveness** of the Act in addressing food challenges, its **fairness** towards consumers, farmers and small businesses, the **trustworthiness** of EU institutions, and whether it feels **urgent and necessary**. Together, these factors explain nearly half of citizens' acceptance levels ($R^2 = 0.47$).
- Support is highest among younger, urban and sustainability-minded citizens, while older and rural groups remain cautious. Overall, Europeans are open but expect reassurance that biotechnology will be used responsibly and transparently.
- The Biotech Act can earn broad public backing if it demonstrates real impact, distributes benefits fairly and communicates its progress clearly – turning public neutrality into confidence in Europe's biotech-driven food future.

Will consumers support the Biotech Act? (I)

Consumers are mostly neutral towards the Biotech Act, with currently (slightly) more rejectors than acceptors. European food production challenges make the Biotech Act a promising solution, but clear, transparent communication around it is needed to increase support.

Acceptance of policy



Drivers of acceptance

Acceptance of the Biotech Act is determined most by its perceived impact, followed by fairness, trust, and finally urgency. Together, these factors explain to a large extent if European consumers will accept or reject the Act. In other words, consumers will support the Act if they see it as:

- 1) Effective in addressing food system issues,
- 2) Benefitting the right parties and not putting too much burden on others,
- 3) Backed by trustworthy institutions which are competent in carrying out and enforcing the policy,
- 4) Addressing an urgent issue that needs to be acted on.

Will consumers support the Biotech Act? (II)

Sociodemographic patterns

Acceptance is highest among younger and higher-educated citizens, as well as those living in urban areas and those who are already more open to food innovation. Citizens with consciously healthy and sustainable diets are more inclined to support both the Act and the biotechnology-based foods it will enable. By contrast, older, rural, and more conservative citizens are more sceptical and less likely to adopt. For the Act to fulfil its purpose, policy design and communication will need to broaden acceptance across less progressive consumer groups, ensuring that biotechnology contributes meaningfully to healthier and more sustainable diets at scale.

Overall recommendations

- 1) Ground the Act in familiar, proven biotech applications
 - 2) Safeguard a fair distribution of benefits and burden, especially for consumers, farmers and SMEs
 - 3) Increase trust through independent oversight and clear communication of trade-offs
 - 4) Tailor urgency messaging to regional differences
 - 5) Develop targeted communication strategies for older, rural, and more conservative consumers, making biotech foods relevant beyond early adopters
- Consumers are more likely to support biotech policies when companies are required to actively monitor the safety of their products and provide clear proof that sustainability and social impact goals are being met. Educating consumers about these products and ensuring company transparency are also essential to building trust and improving acceptance.

Perceived effectiveness of the Biotech Act

Perceived impact

Impact refers to how strongly citizens believe the Biotech Act will positively or negatively affect Europe's food system. According to our research, the expectation of the impact of the Act is the single most powerful predictor of acceptance.

Findings

- Consumers see biotechnology as having the potential to strengthen Europe's food independence, foster innovation and improve safety, sustainability, and competitiveness.
- However, many expect negative consequences: higher food prices, hardship for traditional farmers, increased power of large corporations, weak enforcement of sustainability and health claims, and persistent regulatory barriers that may hinder consumer adoption and slow progress.

Recommendations

- **Elements of the Act:** Specify measurable safeguards on affordability, transparency of sustainability claims, and long-term safety checks. Include explicit support measures for farmers and SMEs during transition.
- **Communication guidance:** Emphasise concrete examples of successful biotech applications that are familiar (e.g., fermentation-based cheese, vitamins) rather than radical or futuristic ones. Provide balanced communication, acknowledging risks and explaining how they are mitigated.

I believe that to ensure the safety of these foods, long-term studies should be conducted on animals and humans to demonstrate that they are not harmful to health.

Gemma (ES)

Perceived fairness of the Biotech Act

Perceived fairness

Fairness captures whether citizens believe the burdens and benefits of the Act are distributed equitably. In the model, fairness is the second-strongest predictor of acceptance.

Findings

- Opinions are polarised. Supporters see the Act as serving the greater good (climate, security, innovation). Critics fear benefits will flow mainly to large corporations, leaving farmers and consumers disadvantaged.
- Fairness perceptions strongly correlate with who is believed to benefit: when citizens think consumers and farmers gain, they rate the Act as fairer.

Recommendations

- **Elements of the Act:** Ensure support measures are clearly directed at farmers and SMEs. Include explicit safeguards to prevent disproportionate advantage for large corporations.
- **Communication guidance:** Be transparent about who benefits and why. Stress the “shared benefit” dimension—jobs, food security, climate resilience—while clearly explaining trade-offs. Make sure consumers understand how they will benefit directly from biotechnology. Educate consumers about biotech and its impact to our food system, so that they understand the risks and benefits and can make informed food decisions.

If any money is funded by the EU to promote biotechnologies, it is essential that none of the funding goes to any of the big food concerns. This would only increase their power and grip on the market to the disadvantage of all customers.

Arthur (DE)

Perceived trust in authorities

Current trust in EU

Trust refers to the credibility of the EU as the legislative body behind the Act. According to our study, trust in authority is the third most influential factor, and contrary to expectations, it acts as a direct driver of acceptance, not merely an indirect one.

Findings

- Citizens are divided: some see the EU as the only viable authority for harmonised rules, while others view it as bureaucratic or influenced by corporate interests, leaving consumer protection as a lesser priority.
- There is demand for transparency, independent oversight, and limits to lobbying influence.
- Some argue for involving independent third-party regulators, while others stress that member states should retain more decision-making freedom.

Recommendations

- **Elements of the Act:** Build independent monitoring mechanisms and transparent reporting into the Act. Allow member states some flexibility to adapt measures to their local context.
- **Communication guidance:** Position the EU as a protector of consumers, while using independent validators (scientists, NGOs) to strengthen credibility. Highlight steps taken to reduce undue corporate influence.

All of this should be done under the guidance of credible, verifiable, competent professionals, not corrupt and incompetent politicians.

Csaba (HU)

I would like the Biotech Act to include clear mechanisms for transparency and public education. It's important that citizens understand how these products are developed, how they are assessed, and what the potential benefits and risks are. I would also propose clear and mandatory labelling for all biotech products, so consumers can make informed choices.

Hanan (ES)

Perceived urgency of the issues the Biotech Act addresses

Perceived urgency

Urgency refers to whether citizens believe the problems the Biotech Act aims to address require immediate action. According to our study, urgency has a positive but modest effect on acceptance.

Findings

- Most citizens recognise urgency around climate change, food safety, and dependence on imports.
- Consumers believe Europe needs more climate-friendly and independent food production to ensure food security, with current animal-based production seen as problematic.
- They are most concerned about food safety and feel that Europe is not globally competitive, partly due to insufficient action from the EU and local governments.
- However, urgency perceptions vary: they are stronger in southern Europe than in northern/central Europe, and weaker among younger consumers.

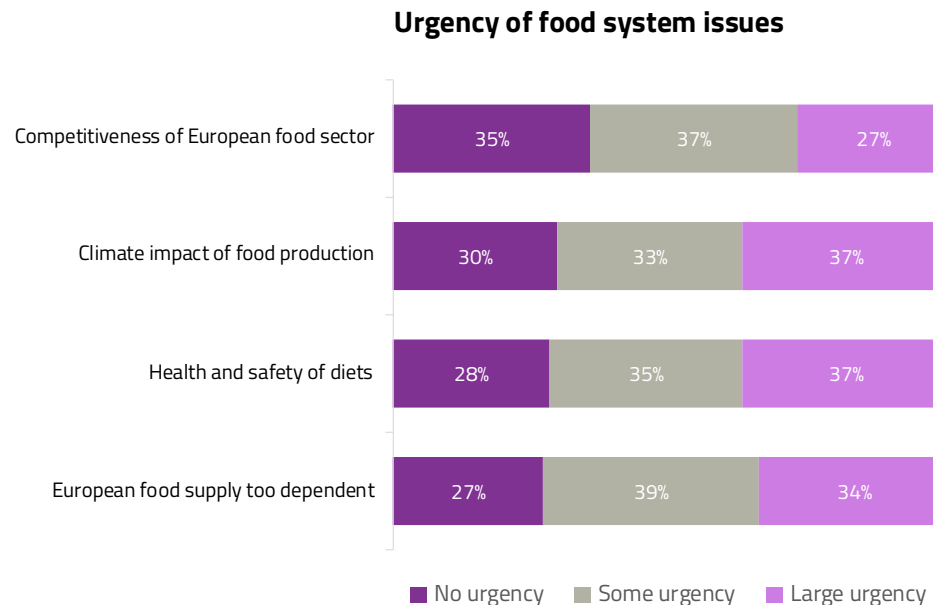
Recommendations

- **Elements of the Act:** Clearly position the Act as a solution to specific urgent problems (climate resilience, geopolitical independence, food safety).
- **Communication guidance:** Frame the Act as a timely intervention responding to visible crises (COVID-19, Ukraine war). Tailor regional communication: stress climate adaptation in southern Europe, competitiveness in the North, and safety across all markets.

Problem perception: issues with the European food system

Perception of the problem: urgency

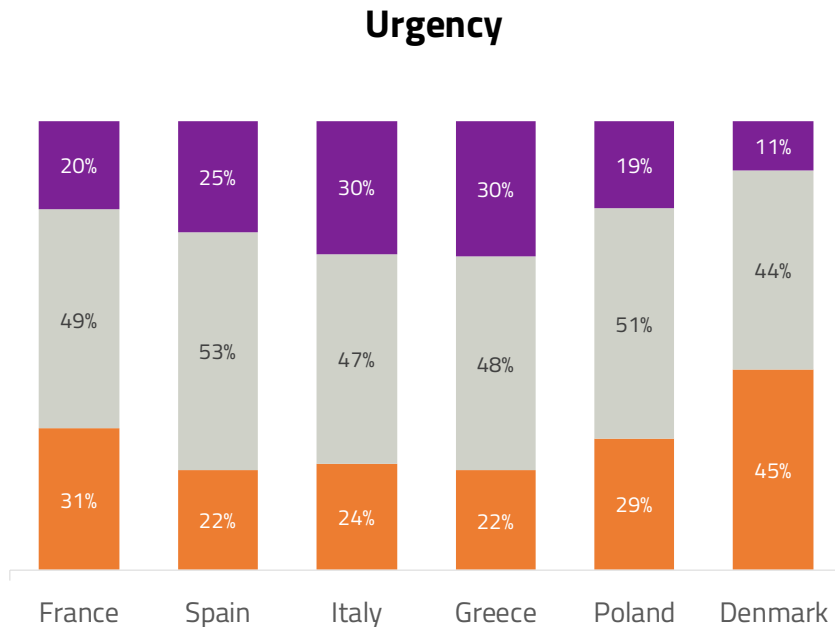
Most European consumers recognise that there is at least some urgency when it comes to dealing with food system issues, indicating that the upcoming Biotech Act is timely.



- Young Europeans are less worried about issues related to the food system. All four issues are considered far less urgent by them.
- Consumers with a higher level of education and those residing in cities are more concerned about these issues compared with consumers with a lower-level education and those living in more rural areas.
- Consumers with healthier and/or more sustainable diet are more concerned.

Perception of the problem: urgency per country

Urgency differs substantially between countries. Consumers in the most southern countries, Italy, Greece and Spain, feel the most urgency to solve issues in food system, whereas in Poland, France and particularly Denmark, less urgency is felt.



- The perception of urgency needed to address the European food system's vulnerability to external factors, including climate impact, is especially pronounced between southern vs. central/northern European countries.
- Spain, Greece and Italy experience these impacts stronger due to their economies being more reliant on agriculture and changing weather conditions.

Perception of the problem: urgency per country

Urgency differs substantially between countries. Consumers in Italy, Greece and Spain feel the most urgency to solve issues in food system, whereas in Denmark, Poland and France there is less urgency felt.

- Addressing health and safety of food is considered more urgent in Greece (50%) while in Denmark less so (20%).
- Competitiveness of the European food economy holds lowest urgency in Denmark (16%).

When Covid happened, there were already shortages of products. That's when we learned that we need to produce absolutely everything, and I think similar situations will happen again.

Eduardo (ES)

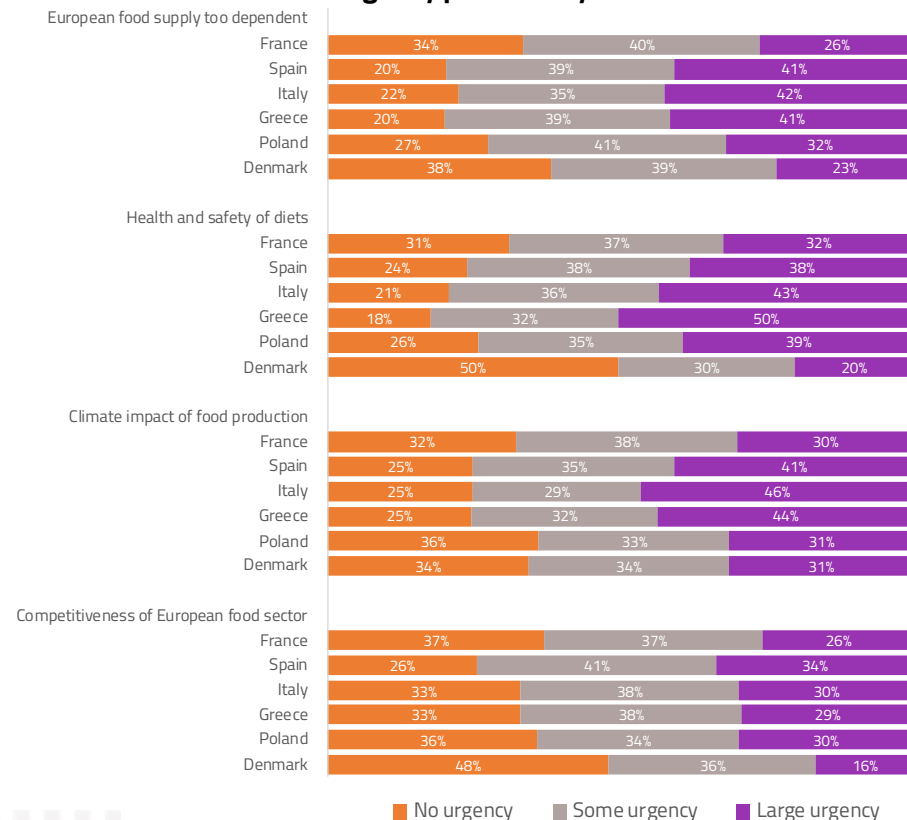
We cannot continue to feed an exponentially growing world population. Our agricultural model is no longer working. Our survival (and that of the planet) depends on research.

David (FR)

I am very hopeful that the future will bring us sustainable produce that can feed the world and make it easier to have a balanced diet to avoid diabetes and other food related illness.

Benny (DK)

Urgency per country



Perception of the problem: health and sustainability

Consumers are especially concerned about sustainability of animal-based food production, while health concerns tend to focus on use of pesticides and GMO in crop cultivation.

- Many consumers are hoping to see improvements, especially with meat and dairy production in the future. The current methods of farming are considered unethical and causing unnecessary animal suffering. Consumers also believe they contribute to environmental issues like biodiversity loss, pollution and greenhouse gas emissions.
- Although plant-based diets are expected to gain traction, shifting animal-based food production in a more sustainable direction is considered important.
- The health aspect in food production is emphasised especially in terms of food safety. Lax regulation regarding food safety, e.g., use of pesticides, chemicals, and GMO in crop cultivation, is seen as a common problem.
- Food safety stands out as a more important point to address than improving healthiness of food. In general, natural food is still associated with being healthy, while GMOs continue to carry a negative reputation.



Perception of the problem: competitiveness of the European food sector

Consumers recognise that Europe's food production is not competitive globally, and that the EU and local governments have not taken sufficient measures to improve it.

Consumers perceive that the European food sector is facing a variety of challenges that require attention:

- The European economy has gradually shifted from agriculture towards services and technology, resulting in a significant reliance on food imports from outside the EU.
- At the same time, consumers recognise that fewer people are choosing careers in agriculture, creating workforce shortages.
- Additionally, EU regulations, such as strict CO₂ emission limits, are often seen as complicating agricultural development, adding further pressures to the sector.



Perception of the problem: dependence of the European food sector on external factors

Consumers are familiar with urgent environmental challenges facing food production and the risks associated with climate change. They are also concerned about food shortages due to political instabilities and health crises.

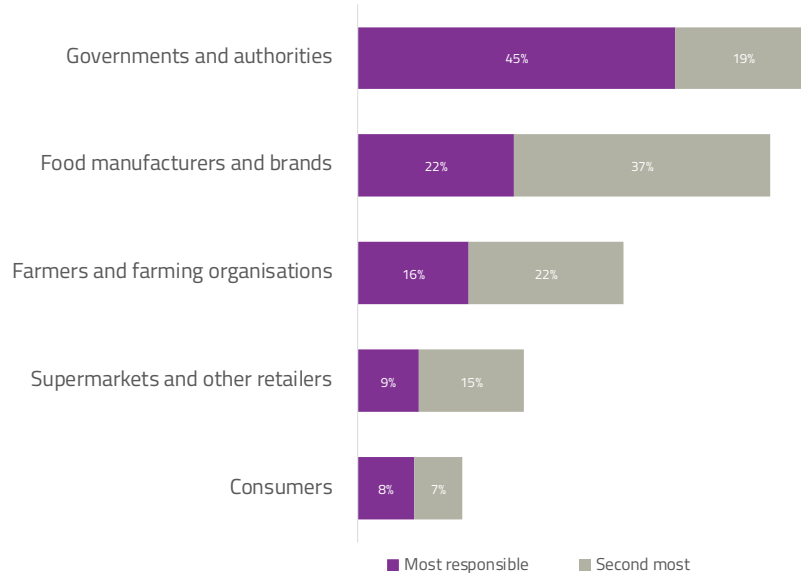
- The war in Ukraine and the Covid19 pandemic made many consumers realise how dependent Europe's food supply system is on major global events. Price hikes and scarcity of certain products in stores provided tangible evidence that many European countries have let the independence of their own food supply slip over the past few decades.
- Therefore, many consumers have become more aware of the importance of supporting local food production, particularly when it comes to basic foods important for survival, such as grains, vegetables and legumes.
- Awareness has also grown about the scale of supply lines needed for certain foods, such as kiwis and avocados, and how the transportation of these products from the other side of the world is not sustainable in the long run.
- Yet, consumers also understand that being fully independent of food supply is not feasible in the modern day as available farming land and climate set restrictions on what it is possible to produce within Europe.



Perception of the problem: responsibility

Consumers place the greatest responsibility for solving food system challenges on governments and public authorities, indicating a clear expectation for action at the EU level.

Responsibility for solving food system issues



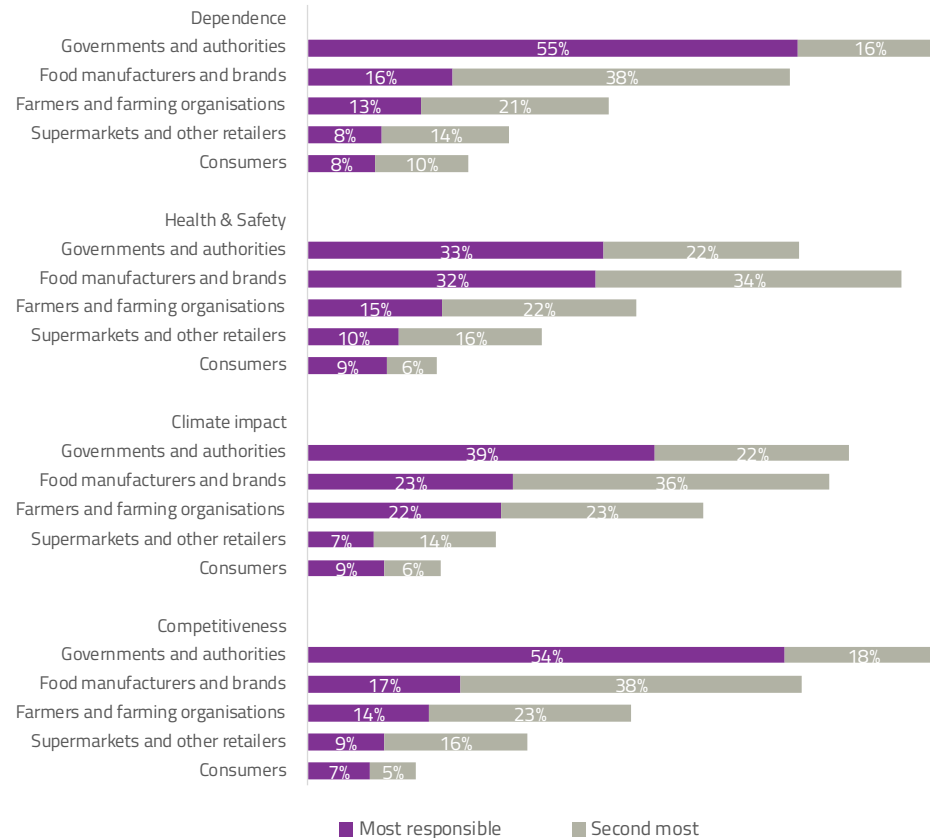
- Food manufacturers and brands are considered the second most responsible group, suggesting that consumers expect that new food policies from authorities alone are not going to solve the issues in the food system, but require action from the production side as well.
- Supermarkets and retailers are only seen as responsible by a small share of the consumers.
- Most consumers do not consider themselves responsible for solving food system issues.

Perception of the problem: responsibility per issue

Governments and authorities are mostly seen as primarily responsible for ensuring the competitiveness of the European food sector and reducing reliance on external factors, while safeguarding food health and safety is viewed as a shared responsibility with producers.

- With issues related to climate impact of food production, governments and authorities are expected to pull most weight, but some of the responsibility is also considered to fall on farmers and food producers.

Responsibility for solving food system issues

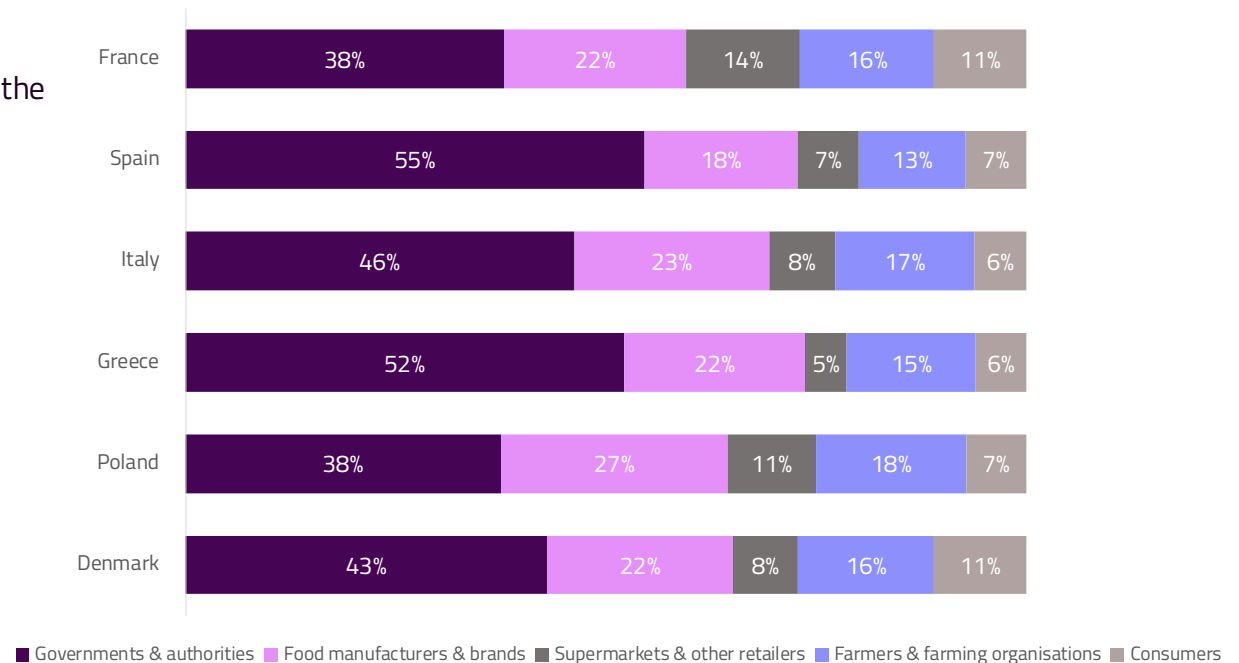


Perception of the problem: responsibility per country

In all countries included in this study, the authorities are seen as the body that is most responsible for taking action for solving the food system issues.

- In the most southern countries in the sample, the biggest share of consumers consider the authorities to be most responsible.
- Everywhere consumers and retailers are considered least responsible.

Responsibility for solving food system issues



Consumer perceptions of biotech

Existing knowledge: perception of biotech foods

European consumers exhibit a complex relationship with food produced by biotechnology. They acknowledge potential benefits, such as improved yields and sustainability, yet scepticism and distrust remain. This ambivalence is influenced by various factors, including perceived risks, knowledge level, and trust in the food system.

Trust and acceptance

- **Trust Levels:** Trust plays a crucial role in consumer acceptance of biotechnological innovations. Only 40% of Europeans consider general food information reliable, and trust in food chain actors is notably low, with farmers being the most trusted source, yet only about 50% trust them for health-related information.⁵ This lack of trust significantly impacts openness to new food technologies, as only 16% of consumers with low trust are open to trying new products, compared to 38% among those with high trust.⁵
- **Openness to innovation:** The openness of Europeans to innovative foods has decreased from 34% to 28% over the past year, indicating a growing reluctance to embrace biotechnological advancements in food.⁵ Consumers tend to be more receptive to familiar innovations that support emotional wellbeing or personalised nutrition, while radical technologies, such as cultivated meat, face higher resistance.⁵

Knowledge and perception of biotechnology

- **Knowledge gaps:** A significant portion of the European population feels uninformed about food sustainability and biotechnology. Only 46% feel knowledgeable about food sustainability, and this lack of knowledge correlates with less healthy and sustainable dietary choices.⁵ Furthermore, many consumers struggle to assess the healthiness and sustainability of food products, relying heavily on external information sources, which they often distrust.⁶
- **Cultural preferences:** There is a strong preference for traditional, locally sourced, and 'natural' foods among European consumers, which often overshadows the acceptance of biotechnologically produced foods.⁷ This trend is driven by a desire for authenticity and ethical consumption, leading to resistance against what is perceived as "industrial" or "unnatural" food production methods.⁸

Consumer associations with biotechnology

Consumers associations with biotechnology are fairly positive in the context of food. They often focus on technology as a solution to food production challenges. Negative associations mainly centre around health concerns and power dynamics in the food industry that could become vulnerable to misuse.

Consumers mention the following associations...

- **Food developed and produced in labs**, in sterile environment by scientists and technicians. Far away from the idea of traditional methods and farmers.
- **Improving food productions through science**, referring to how biotechnology can help to improve food production by making it healthier, more sustainable and more nutritious as well as solve problems related to disease and changing climate conditions.
- **Food security**, in which biotechnology plays a role in that it can help to overcome food shortages due to climate change.
- **Food waste** which biotech solutions can help to reduce.
- **Ancient technologies** like fermentation that are used to make, for example, sauerkraut and cheese. Biotechnology is linked to food processing and production, some forms of which have existed for centuries.
- **Uncertainty and worry** about whether biotechnology will be beneficial to our food production system and the effects on health and power dynamics within food production system.

When asked about which specific *products* consumers associate with biotech, consumers mention cultivated meat, genetically modified fruits, vegetables, and crops, and plant-based products. These are also product categories in which consumers see the potential of biotechnology.

- **GMO crops** which can help plants to not only become more resilient towards changing climate conditions and disease, but also to improve plants' productivity. GMO crops have the potential for reducing pesticide usage.
- **Plant-based products** that are created through technology to mimic animal-based products, including plant-based meat alternatives but also soy milk. Consumers see the potential of improvements in taste, for example in plant-based cheese.
- **Cultivated meat** that is produced without harming animals, to reduce animal suffering and lighten the environmental burden of eating meat.
- **Other cultivated animal products** like milk or eggs, similarly, to reduce animal suffering and environmental degradation.
- **Conventional meat, improved**, for example products like cold cuts that currently contain a lot of salt or preservatives.
- **Healthy indulgent products** that are just as satisfying and flavourful, while being lower in sugar or fat content.

Consumer associations with biotechnology

Products that consumers connect with biotechnology include cultivated meat, genetically modified fruits, vegetables and crops and plant-based products. Some older innovations are also mentioned like cheese and sauerkraut.

Cheesemaking is a good example of the fact that not all technologies are something new.

Jaakko (FI)

What comes to my mind is a laboratory. I imagine how food is grown in big labs controlled in every way, making it secure to eat but also extremely sterile.

Connie (DK)

I'm thinking of scientists working on methods to grow vegetables in vitro using less water and without chemical fertilisers. These vegetables would be supplied with essential nutrients and would not be polluted by anything unfortunately currently found in the soil and ambient air.

David (FR)

It reminds me when GMO were presented as the solution to world hunger.. If I put biotechnology and food together... I think that a few very good solutions will emerge... in an ocean of agro industrial B.S. that will in the end be found to be hazardous health-wise...."

Jean-Jacques (BE)

I picture a greenhouse where plants are grown in a smart and efficient way. It feels a bit futuristic but still connected to nature, using technology to grow and create food in new ways.

Debby (NL)



*AI generated images based on input from participants of this study

Benefits and risks of biotechnology

Consumers are well aware of the possible risks and benefits of biotech. While technology-driven food production can improve food safety and sustainability, it can also alienate us from long-standing traditions of food consumption and production. Food safety of biotech products is seen as a hit or miss, with possible impacts to health.

Benefits of biotechnology

- Healthier and more nutritious food
- High food safety standards due to controlled production environment
- More ethical production of animal products
- Reduction of environmental impact of food production: less intensive land usage which can improve biodiversity in the long run, less pollution and water usage, fewer greenhouse gas emissions,
- Improves food security by making food production less dependent on political and environmental issues

Risks of biotechnology

- Unforeseen long-term consequences on health due to food safety issues
- Loss of traditional agricultural practices; farmers losing their jobs
- Loss of traditional cuisines and cultural variation
- Consumers become alienated from food production due to strong reliance on technology and can lose basic knowledge about food and (traditional) food production.
- Biotech products still have a stigma of being unnatural and artificial with a link to GMO, which forms a barrier to successfully enter the market

Messaging about biotechnology in the media

Biotechnology is not a hot topic in popular traditional media (TV, newspapers, radio) currently. However when it is covered, media attention tends towards neutrality and even positivity.

- Mostly consumers say they find information on this issue on online publications and social media, including forums and other chat groups. It seems that people who are interested in the topic will seek out information, but generally it is not something they see in media. Exceptions to this include Italy, where media covered the passing of legislation in 2023 banning the sale and production of cultivated meat.
- Consumers say that they remember more critical media in the past, whereas now when biotechnology does come up in the news, the tone is more positive. Aspects like food security and sustainability are emphasised.

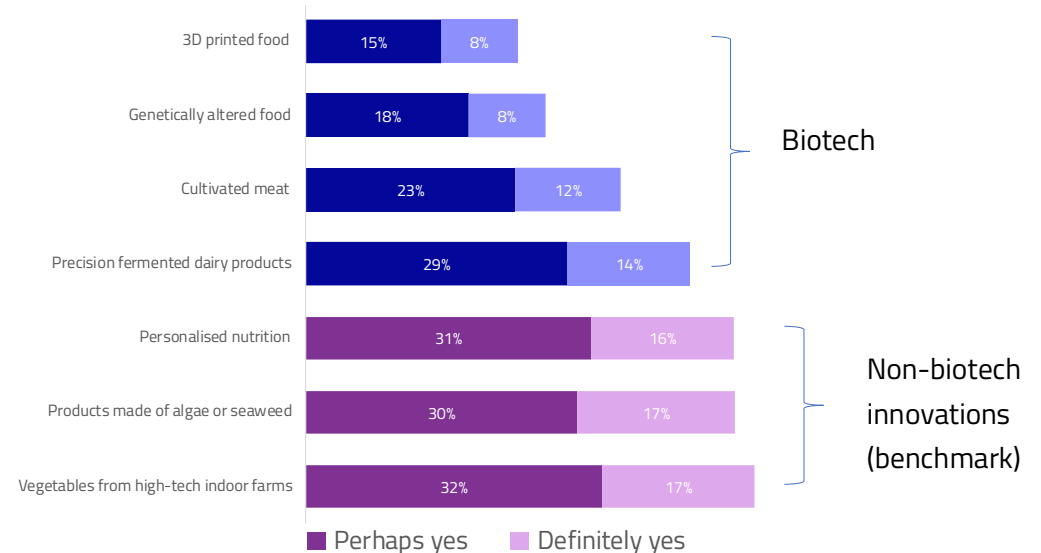


Willingness to try biotech foods

Consumers are least open to trying radically innovative food - like that produced by 3D printing or genetically altered food

- However, less radical innovations meet less concern: only 13% of consumers are unwilling to try vegetables from high-tech indoor farms.
- Men (28%) are somewhat more open to trying biotech-produced food than women (23%).
- Consumers in France (52%) and Greece (56%) show the highest unwillingness to try foods produced by biotech.
- Younger and higher-educated consumers are significantly more willing to try biotech food: 34% of 18–34-year-olds are willing to try compared with 17% of those aged 55+.

Willingness to try innovative foods

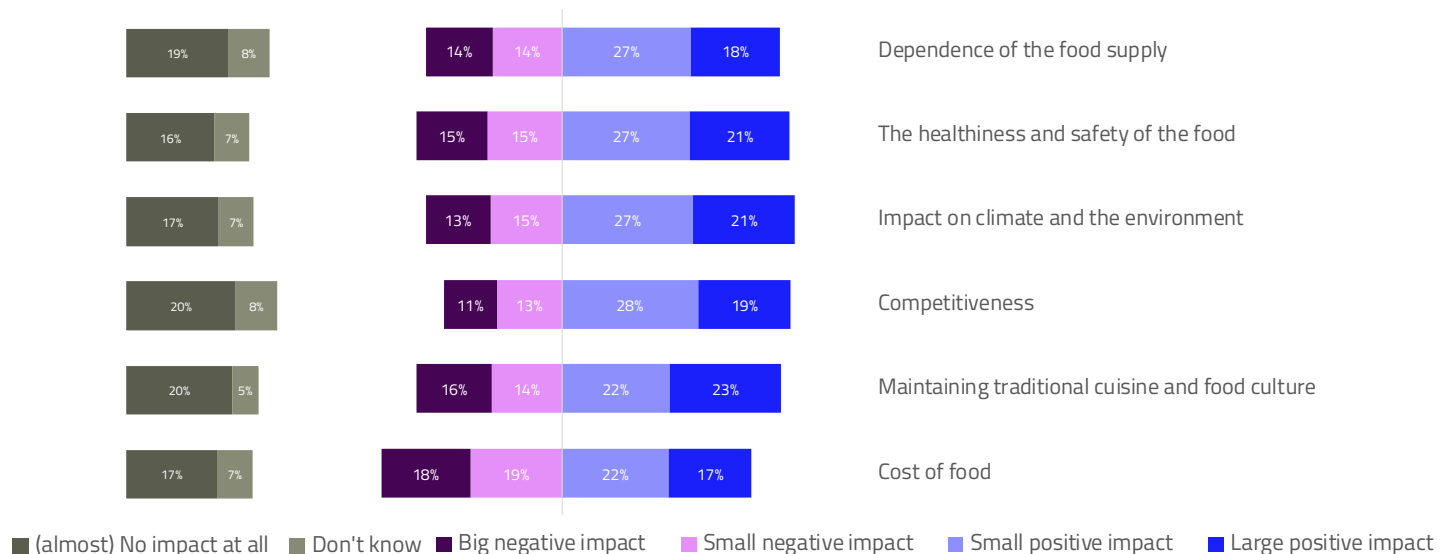


Expected impact of biotech on food system

The anticipated impact of biotechnology on food system is divided, with somewhat more positive than negative impact expected. A large share of consumers (23%-28%) expect no impact or don't know what to expect, pointing out the need to educate consumers about biotechnology's (positive) effects.

- Consumers expect biotechnology to have **most negative impact on cost of food (37%)**, highlighting the need to keep biotech food affordable to consumers.
- Consumers with higher willingness to try biotech foods seem to expect a more positive impact of biotechnology on the food system.

Expected impact of biotech on food system



Regulation of biotech in Europe

Consumers see that there is a need for the EU to get involved in the biotech industry's challenges. How and at what level the EU should do this divides opinions.

- Those who believe that the EU should regulate the biotech industry believe that there is a need for an overseeing party to monitor that fair market principles are followed within the industry and that biotech products will be healthy and safe to consume. The EU is also expected to provide guidelines and expert knowledge that can help the industry thrive in the long-term.
- Those who believe that the EU should not get involved in the regulation of the biotech industry believe that companies should carry the responsibility of their success alone and that the industry should operate based on free market principles. The EU should not give unfair advantage to one industry over another.
- Some also believe that the EU should focus on other food production problems first, such as promoting polyculture and supporting smaller farms.



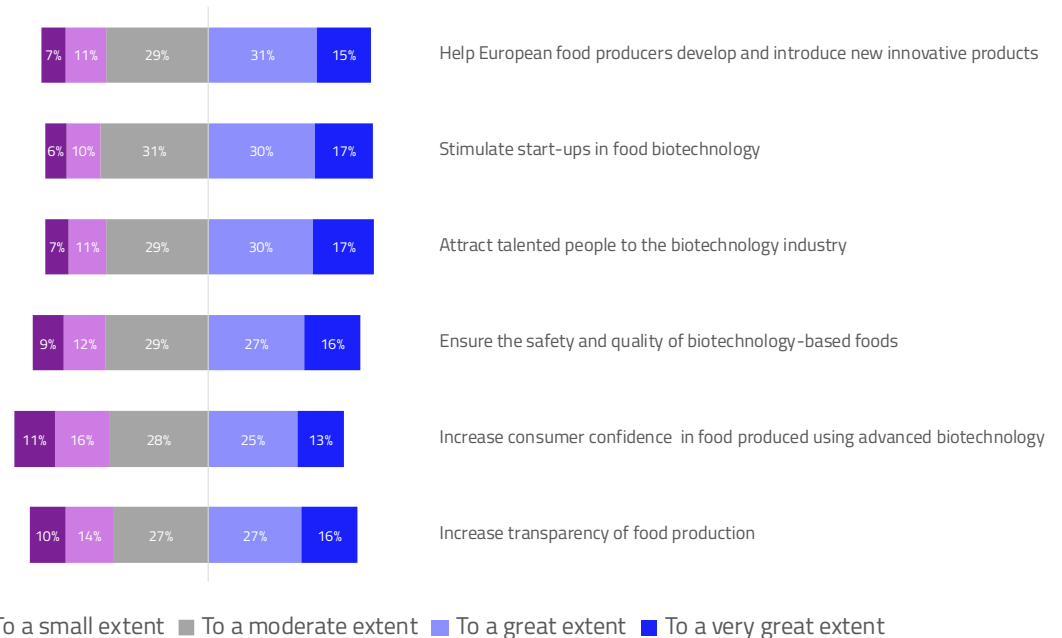
Policy perception: effectiveness

Expected positive effects of the Biotech Act

Despite mixed feelings about the impact of biotechnology as a development, the vast majority of respondents see at least a “moderate” positive impact of the Act on the European food system.

- Almost half of respondents expect that the Act will stimulate start-ups in food biotechnology, attract talented people to the biotechnology industry and help European food producers develop and introduce new innovative products.
- Other expected positive outcomes are 'measures to ensure the safety and quality of biotechnology-based foods' and 'increase transparency of food production' (both 43%), underscoring their importance as foundational prerequisites for public acceptance.

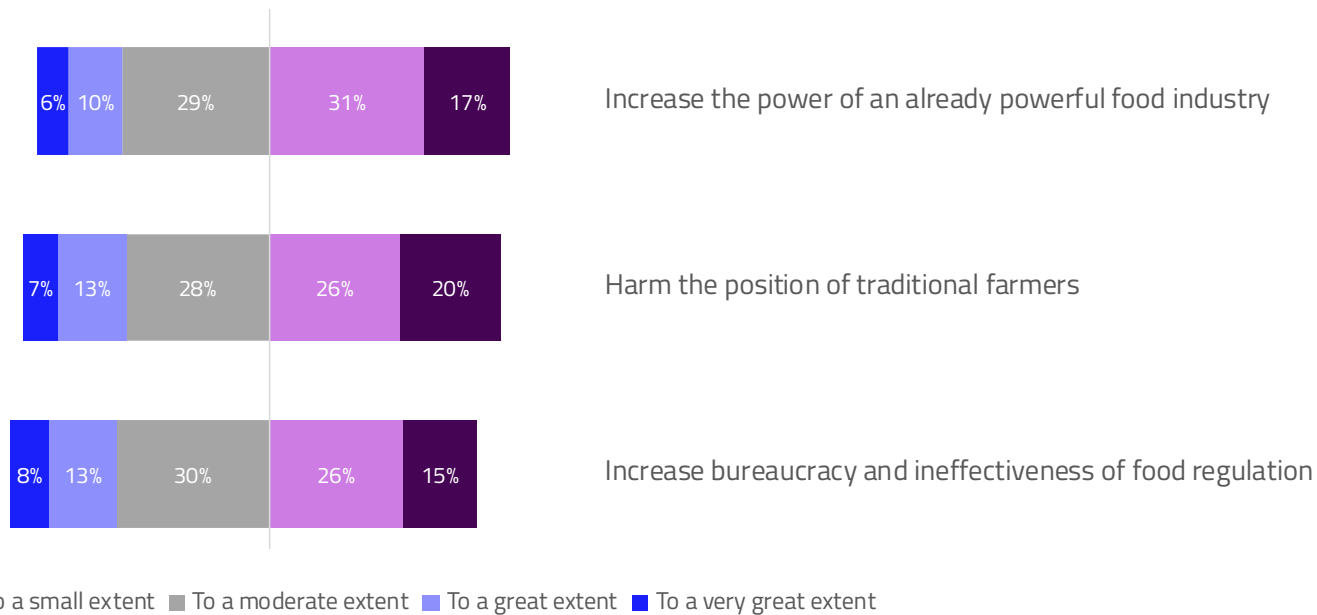
Expected positive impact of Biotech Act on food system



Expected negative effects of the Biotech Act

The perceived effectiveness of the Act is adversely influenced by the expected negative effects. And a large share of consumers expect at least some negative effects. Almost half of consumers think that the policy will increase the power of the food industry (48%) and will bring hardship to traditional farmers in Europe (46%). The policy is also expected to add to the bureaucratic workload and ineffectiveness of food regulation (41%).

Expected negative impact of Biotech Act on food system



Policy effectiveness: food security

Consumers recognise the Biotech Act's effectiveness in supporting more independent food production in Europe, encouraging food innovation and reducing risks related to climate change. However, consumers also point out that it can lead to less affordable food through profit mongering. Ineffective governance in the transition is also a concern.

According to consumers, the Biotech Act...

- **Encourages independent food production in Europe** → Food production will be better protected from geopolitical conflicts happening in agricultural areas. Food supply will be less dependent on climate and political situations of countries outside the EU.
- **Encourages food innovation** → More innovation can result in more resilient and productive crops, fruits and vegetables and animal produce.
- **Reduces risks associated with climate change** → EU countries will be better prepared to tackle changing weather conditions because food will be produced in a controlled environment.
- **Can lead to more expensive food** → Consumers worry that biotech products won't be affordable to all citizens due to price strategies.
- **Can be misused by companies to prioritise profit** → Some consumers believe that the interest of biotech companies is merely selling these products and to control the food production to gain profit, not to guarantee food safety.
- **Ignores the transition from current food production methods** → Large investments will be required to make biotech a functioning food production system alongside or as a replacement of traditional farming.

Policy effectiveness: healthy and sustainable food

Consumers believe that the Biotech Act can be effective in holding strict safety measures in food production and improving food quality, as well as meeting goals to reduce greenhouse gas emissions and damage to nature. Yet, consumers worry about the Act's effectiveness in enforcing companies to honour their sustainability and health claims.

According to consumers, the Biotech Act...

- **Supports food production under strict food safety measures** → This is believed to ensure that food will be of high quality, safe to eat and adheres to current health standards.
- **Promotes food production that aims to optimise nutritional value of food** → Consumers believe that biotech can make food more nutritious than food produced with traditional techniques. Food can even be optimised to fit the personal nutrition needs of individuals.
- **Supports market for food production that does not damage nature** → Biotech is believed to reduce pesticide use, create less waste and pollution and lessen the destruction of nature for agriculture.
- **Promotes innovation in technologies that reduce greenhouse gas emission** → One of biotech's promises is reduced greenhouse gas emissions, resulting from the fact that no animals need to be farmed to create e.g., dairy or meat.
- **Does not guarantee that biotech products will actually be more sustainable or healthier than regular food products** → Consumers are lacking proof of the claims that biotech companies make in this regard.
- **Does not guarantee that companies follow food safety measures for biotech products** → Consumers worry that profits will be more important to biotech shareholders than safety measures, leading to corners being cut.

Policy effectiveness: competitiveness of European food sector

Consumers agree that the Biotech Act can improve competitive advantage of European biotech companies, because it promotes research, innovation and business in this field. However, the Act does not seem to guarantee consumer adoption of these goods, nor does it solve other food regulation issues within the EU that slow down progress.

According to consumers, the Biotech Act...

- **Promotes biotech research within the EU** → This in turn promotes competitive advantage of European biotech companies against outside competition, so that they won't fall behind of rapid developments in this field.
- **Promotes food production within the EU** → Meaning that certain products do not need to be imported anymore from other market areas.
- **Removes obstacles that inhibit innovation and business** → With accelerated approval processes and easier access to funding, more biotech businesses, including small ones, can thrive and develop new products quicker.
- **Does not guarantee the adoption of biotech production methods among European consumers** → Consumers will need time to adjust and get used to the idea of a new way of producing food.
- **Does not solve other regulatory and market-bound issues related to food production that are currently restricting the EU's competitiveness** → For example, food production will still be more expensive than outside of Europe due to reasons such as labour costs, taxation and land use.

Perceived *positive* side effects of the Biotech Act

Consumers predict a wide range of positive side effects of the policy in the long-term, showing that it is not evaluated in isolation.

The job market

- New jobs in science and tech; shift from rural agricultural jobs to urban lab and tech careers.

Environment & ecosystem

- Recovery of ecosystem from reduced land and water use in farming.

Food production

- New types of food becoming available to consumers, opening up new avenues for food culture.
- More nutritious food becoming available, resulting in better health outcomes



I think this law will change our shopping habits. There will be new and innovative products at the supermarket (at least I hope so). It will improve our health and the environment thanks to the fact that production will be more climate-friendly, with less waste and food more healthy.

Francesco (IT)

Food became better, stronger and crops became more resilient to climate change.

Eleonora (IE)

Thus, in 100 years, the dazzling progress will likely have led to hyper-personalisation of the nutritional profiles of foods... for those who can afford it.

David (FR)

I do think it could create new jobs and opportunities, especially in science and tech.

Debby (NL)

The biotech area has spread rapidly so there is a high demand for educated employees on every level in this sector.

Benny (DK)

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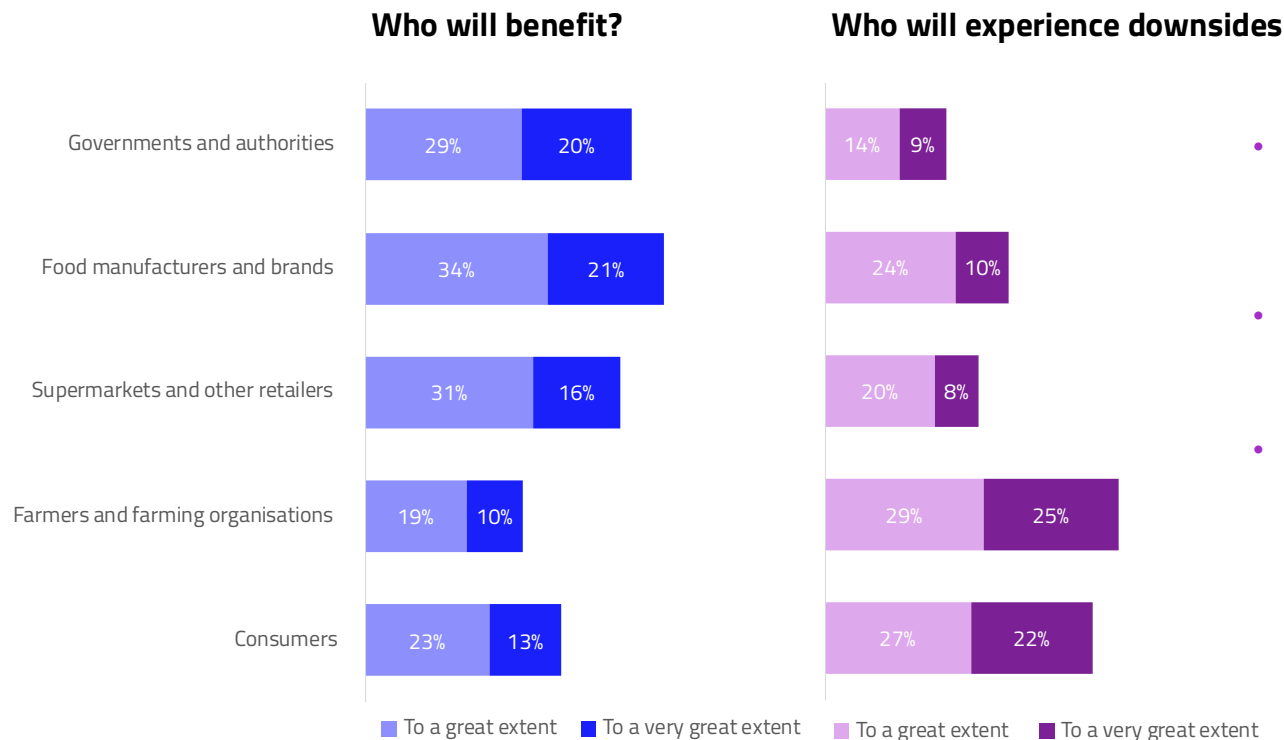
Benny (DK)



Policy perception: fairness

Who benefits from the Biotech Act?

Consumers expect food manufacturers and authorities to benefit most from the Act, with retailers following closely behind. Consumers and farmers are expected to benefit least, suggesting that consumers don't believe the Act has their interests in mind. Instead, consumers anticipate that they, alongside farmers, will experience the most downsides.



- Consumers in Spain strongly believe (63%) that governments and authorities benefit from the Act, whereas in France (39%) and Denmark (41%) they are seen to benefit less.
- Food manufacturers and brands are seen to benefit from the policy especially in Spain (61%) and Greece (63%), while in Denmark less so (47%).
- Farmers are expected to experience the downsides of the Act, particularly in Spain (65%). In comparison, Danish consumers see fewer downsides for this group (47%).

Policy fairness: Who benefits and who pays the price?

Opinions are polarised when it comes to judging fairness of the policy. Those who find the policy fair believe it is a worthy cause for 'greater good':

- The Act supports the development of the biotechnology industry which can have a positive influence on a wide range of societal and environmental issues, such as promoting alternative protein development, protecting food production from climate change and improving food security.
- In this way, it is believed that the Act touches everyone's life and it is therefore a joint effort to fast-track the development of the biotech industry. Consequently, if nothing is done to tackle the issues in food production, everyone will suffer.

Innovation needs support to grow, and faster approvals can bring safe, better food options to consumers sooner.

Anka (RO)

We need all kinds of ideas to get a chance if we are going to succeed in the green change. Green change is a must if we want to save ourselves from the devastating consequences of climate change.

Benny (DK)



Policy fairness: Who benefits and who pays the price?

Those who find the policy unfair see large profit-driven biotech corporations as the main benefactor while small businesses and farmers suffer the consequences.

- The EU providing funding to private companies is seen as giving unfair advantage which can distort the market. Large biotech companies and their shareholders are expected to profit most out of this policy. Some consumers strongly believe that the market should rather regulate itself. For this reason, some consumers believe that it would be fairer if the funding came from private investors and not the EU.
- By allocating funds to support biotech companies, the EU will likely cut funding elsewhere, and consumers speculate that farmers and small companies might be the ones paying the price. There is a concern that farmers will possibly receive fewer subsidies and support, due to the increase of support for high-tech food production.

It might mainly benefit large companies with more resources, leaving small producers and those with less access to technology at a disadvantage.

Hanan (ES)

Because the 1% who rule the world have already bought shares in this rubbish.

Elisabete (PT)

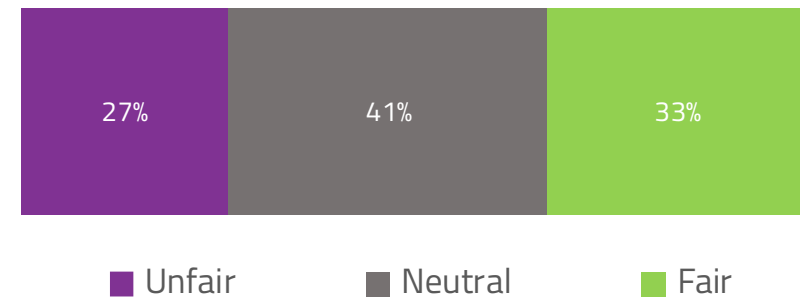


Policy fairness

40% of consumers have a neutral perception of the policy's fairness. More people find it fair than unfair.

- This is surprising given the general belief that this policy will benefit authorities and good companies, while resulting in disadvantages for consumers.
- Denmark stands out as having the lowest proportion of citizens who find the Biotech Act an unfair policy (16%). Meanwhile, the French population is most likely to find the policy unfair (35%).
- Higher-educated Europeans are more likely to find the Biotech Act a fair policy.
- Similarly, people living in more urban areas are more likely to find the policy fair.

Fairness of policy

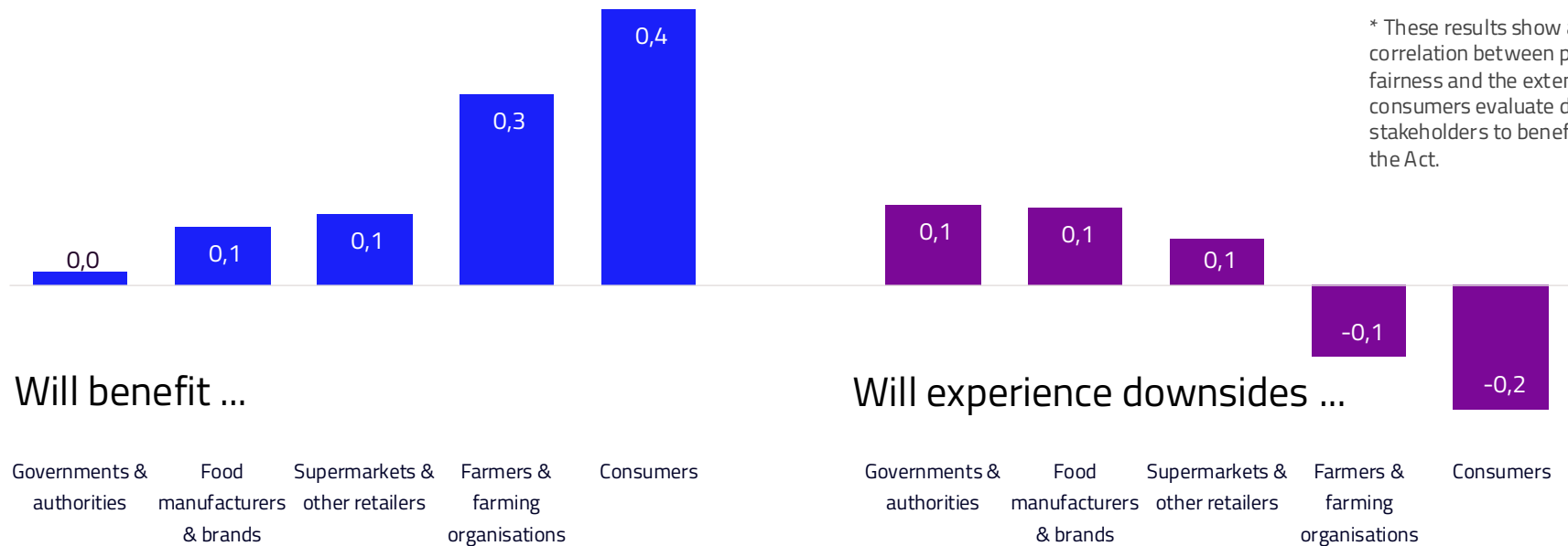


Fairness vs who benefits

Perceived fairness of the Act is directly related to the perception of how consumers and farmers benefit or suffer from it.

- Those who think consumers and farmers will benefit from the Act tend to have a more positive opinion on the fairness of the Act.
- Those who think consumers and farmers will experience the downsides of the Act tend to have a more negative opinion of the fairness of the Act.
- But those who think authorities and food manufacturers will experience the downsides have a more positive opinion on the fairness of the Act.

Relationship between perceived policy fairness and subject of benefits/downsides of the policy *



Perceived *negative* side effects of the Biotech Act

Consumers also anticipate a wide range of negative side effects of the policy in the long-term, showing that negative evaluation of the policy may not be based on surface-level effects alone. These negative side effects contribute to a sense of unfairness.

Environment

- Risk of disruption to ecosystems due to changing food production systems.

Food production

- Loss of traditional agricultural practices; farmers facing hardship in earning a livelihood.
- Engineered food / monoculture vulnerable to pest and disease, risking food safety.
- Lax regulation enabling companies to bring biotech products to the market that have not been tested properly, which could lead to unexpected health hazards among those who consume these products.

Social and political impact

- Immense political power within the biotech industry due to control over food supply. Large biotech companies will control the market.
- Biotech will enable hyperpersonalisation of nutritional profiles for those who can afford it, creating inequality in health outcomes and life expectancy.
- On the contrary, low quality biotech food may also become the norm while traditionally produced healthy food may become too expensive for most consumers.

Food culture

- Loss of traditional cuisine and food culture tied to community; alienation from the origins of food.

The main consequence I think will occur is that lab-grown food will be cheaper and poorer people will eat it. People with high incomes will continue to eat naturally sourced food. It won't have any consequences for the environment. It's possible that people who eat lab-grown food will have worse health.

Gemma (ES)

We will likely have a new source of social division and tension within society, between those who will have access to foods optimised to provide them with good living conditions and a longer, healthier lifespan, and the others who cannot afford it.

David (FR)

Rural employment: fewer farming jobs but more roles in labs and tech-related sectors. This would benefit some, but rural communities without access to tech education might be left behind.

Hanan (ES)

Small farmers will be hit of course leading to even more industrial farming, itself leading to more industrial food with all its consequences on public health.

Jean Jacques (BE)

Perception of authority

Existing knowledge: Perceptions of the EU as a legislative body in food

European consumers exhibit a complex relationship with the EU as a legislative body concerning food safety and sustainability. The following key themes emerge from the analysis of consumer perceptions:

1. Trust in EU authorities

Trust in EU authorities has been declining, with overall trust levels dropping from 48% in 2021 to 45% in 2023.⁶ Consumers express significant scepticism regarding the competence of these authorities, with only 42% considering them competent in managing food safety and sustainability standards.⁶

2. Perceptions of being influenced by financial interests

A major concern among consumers is the perception that decisions are influenced more by financial interests than by public health or welfare. This sentiment is reflected in statements from consumers who feel that EU regulations do not adequately serve the population's health and wellbeing.⁶ Such perceptions contribute to a broader distrust of the EU as a regulatory body.

Existing knowledge: Perceptions of the EU as a legislative body in food II

3. Demand for transparency and accountability

There is a strong demand for increased transparency in how the EU regulates food safety and sustainability. Approximately 63% of consumers want more transparency in product certifications, indicating a desire for clearer information regarding the environmental and health impacts of food products.⁶ This call for transparency is coupled with a belief that the EU should be more responsive to public concerns regarding sustainability regulations.⁷

4. Competence and effectiveness of regulations

While consumers recognise the importance of EU regulations in maintaining high food quality standards, there is a prevailing sentiment that these regulations are not sufficiently effective. Many consumers feel that authorities are not doing enough to promote health and sustainable food options, which further erodes trust in their competence.⁶ Additionally, there is a perception that regulations can be overly stringent, potentially stifling local, sustainable farming practices.⁴

5. Support for policy actions

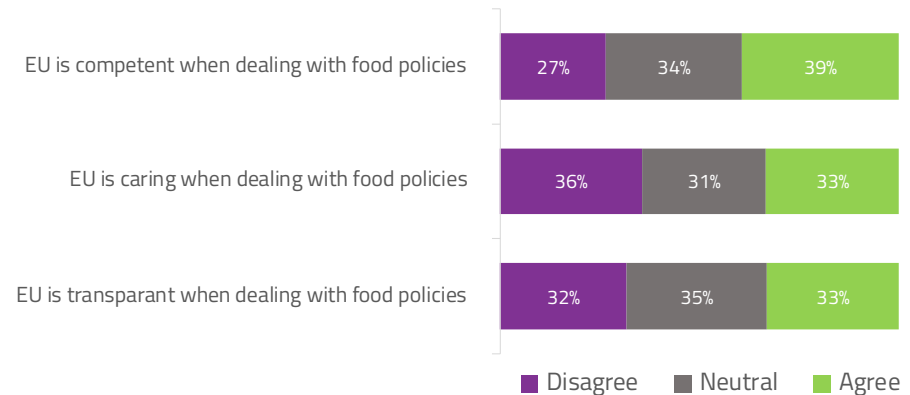
Despite the scepticism, there is a notable level of support for specific policy actions aimed at enhancing food sustainability. For instance, 62% of consumers support removing taxes on food products that align with environmental and health values, and 59% favour supporting farmers transitioning to plant-based agriculture.⁹ This indicates that while trust in the EU may be low, there is still a desire for proactive measures that promote healthier and more sustainable food systems.

Perception of the EU

Citizens are divided as to whether the EU is competent, caring and transparent when it comes dealing with food policies

- Only about a third of citizens assess the EU as caring and transparent when it comes to dealing with food policies., while a similar share believe the EU is competent at dealing with these issues.
- Older citizens have a more negative perception of the EU. For example, 28% of 55+ year-old believe the EU is caring when dealing with food policies compared to 39% of young citizens.
- Higher educated citizens are more likely to see the EU as competent, caring and transparent when it comes to food policy.
- Citizens living in rural areas have a more negative perception of the EU. For example, 28% believe the EU is caring compared to 36% of citizens in urban areas.

Perception of EU

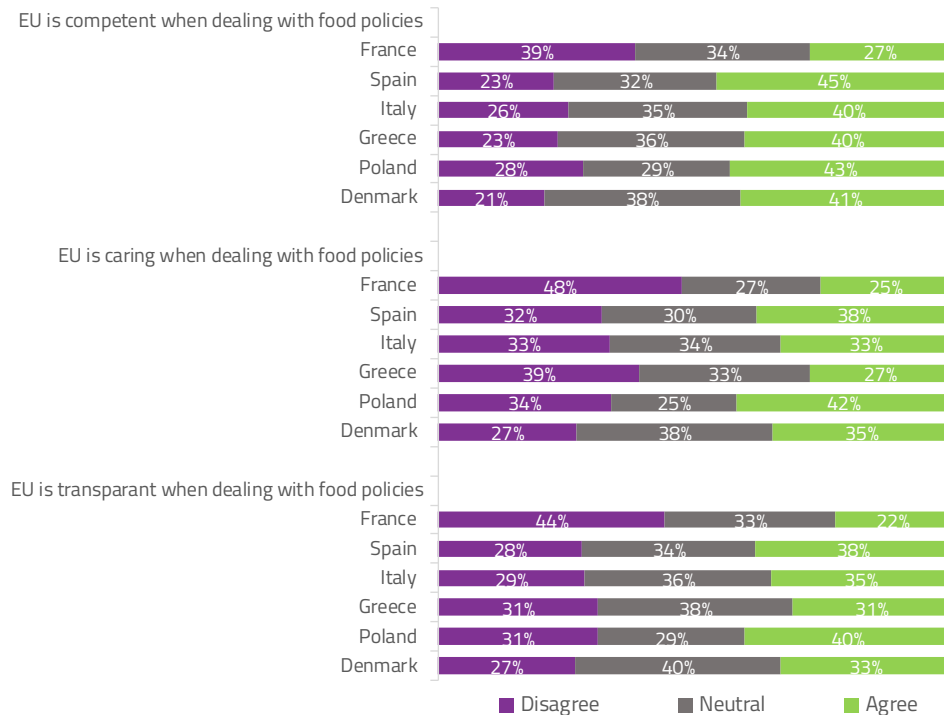


Perception of EU in different countries

French consumers have a more negative perception of the EU's competence, care and transparency compared to other European countries.

- Citizens from France stand out with the smallest proportion finding the EU competent (27%), caring (25%) and transparent (22%) compared with citizens from other countries. More than 40% of the French population find the EU lacking in these qualities.
- Poland generally has a more positive perception of the EU's approach to food policies. Compared with other countries in this study, Polish citizens tend to find the EU more caring and transparent on this issue.
- In Spain, the EU is perceived as more competent than caring and transparent when dealing with food policies.

Perception of EU



Perception of the authority: the EU as a regulator

Many consumers think unified biotech regulation across the EU makes most sense, with the EU seen as a neutral, capable authority to draft and propose it.

- Central regulation is considered more sensible than each member state creating their own regulations, especially because the EU is an open market. This would enable, for instance, harmonised safety standards on biotech products within EU.
- Though the perception of the EU as a regulatory body is not very positive, it is generally seen as a neutral, competent enough body to develop such policy due to its experience in the regulatory process and easy access to experts and other resources within the biotech industry. Particularly when compared to individual states that may lack these aspects, the EU is seen as more capable.

By centralising regulations, we prevent each member state from establishing its own rules, and we harmonise safety standards across all European Union countries.

David (FR)

The EU developed the Biotech Act and is primarily responsible. It must ensure that the food produced is of high quality and that the environment is safe.

Marco (IT)



Perception of the authority: the EU as a regulator

While consumers want the EU to keep the biotech industry safe from corruption and abuse, many worry the system is too bureaucratic and profit-driven, suggesting that third-party regulators should be involved. Some also strongly believe that member states should have more freedom in decision-making.

- Consumers expect the EU to take responsibility for the safety of biotech products in the market, make sure that the policy won't be abused for financial gain, and ensure that the industry's sustainability goals are met. To achieve this, some point out that additional regulators outside the EU body should be involved to minimise the risk of market manipulation and corruption.
- However, some consumers raise a concern that the EU and its member states are too bureaucratic and that there is too much corruption. Furthermore, that the focus of the policy is too business-oriented, disregarding the actual needs of the agricultural sector.
- Those more in favour of self-determination of the member states still see the EU playing a role in the regulatory process, but more as an overseeing body that sets the framework from which the states can operate from.

The EU would be the appropriate authority to regulate biotechnology in food production, if it only was free and transparent about inappropriate influence of lobbyists pursuing merely the monetary interests of their wealthy clients. Hence, it might be helpful to engage national and regional regulators as well, just to minimise the risk of manipulation and/or corruption.

Arthur (DE)

I don't trust those in government, especially those in Brussels, and I don't think they'll be able to do it. Politicians who aren't lining their own pockets need to step in, and then it would be possible.

Wolfram (CH)

I fully acknowledge that there may be advantages to letting the EU regulate the market, conditions and regulations within the biotechnology sector, not least in an attempt to give companies in the EU countries good terms, conditions and competitive conditions. But that does not change my fundamental position that I personally think that more should be left to the individual member states, of course within the framework of the law.

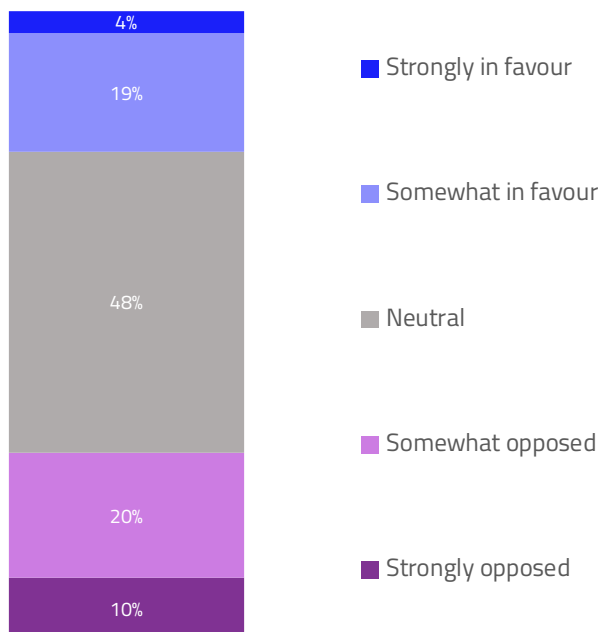
Nils (DK)

Policy acceptance

Policy acceptance – overall

The biggest group of citizens (48%) have a neutral stance towards the Act, with slightly more people (30%) opposing than favouring (23%) the Act.

Acceptance of policy



By promoting biotechnology, the EU could ensure a stable and sufficient food supply for its population, reducing reliance on volatile global supply chains. In addition, the policy would support innovative food production methods like alternative proteins and new ingredients that could be healthier and more climate friendly. Speeding up the approval process for new products and investing in research and skills could foster a thriving biotech industry within the EU.

Ludwig (DE)

This is a necessary policy with clear goals. The implementation needs to be done carefully to avoid any potential dangers (like relaxing safety standards to a dangerous level).

Jaakko (FI)

I disagree with the implementation of the Biotech Act. Deregulation could open the door to possible health risks, and I'm worried some companies will just use the grants without actually making food more affordable or accessible. It feels like the policy puts too much trust in the industry without enough guarantees for the public. I'm also still sceptical about genetic modification, we don't fully understand all potential long-term effects, and many companies could easily take advantage of that.

Kristyna (CZ)

Policy acceptance – per country

Zooming in on individual countries, consumers in France are least likely to favour the Act, while in other countries supporters and rejectors balance each other out.

Everything must be regulated so that there is no overflow, but food must remain healthy and not harmful, and we must also think about farmers who risk losing their jobs.

Marina (FR)

I agree with the implementation of the Biotech Act in the EU because I believe it is a necessary tool to adapt to future challenges like climate change, resource scarcity, and the need to ensure food security. Biotechnology can offer innovative solutions to make food more sustainable, healthier, and more accessible.

Hanan (ES)

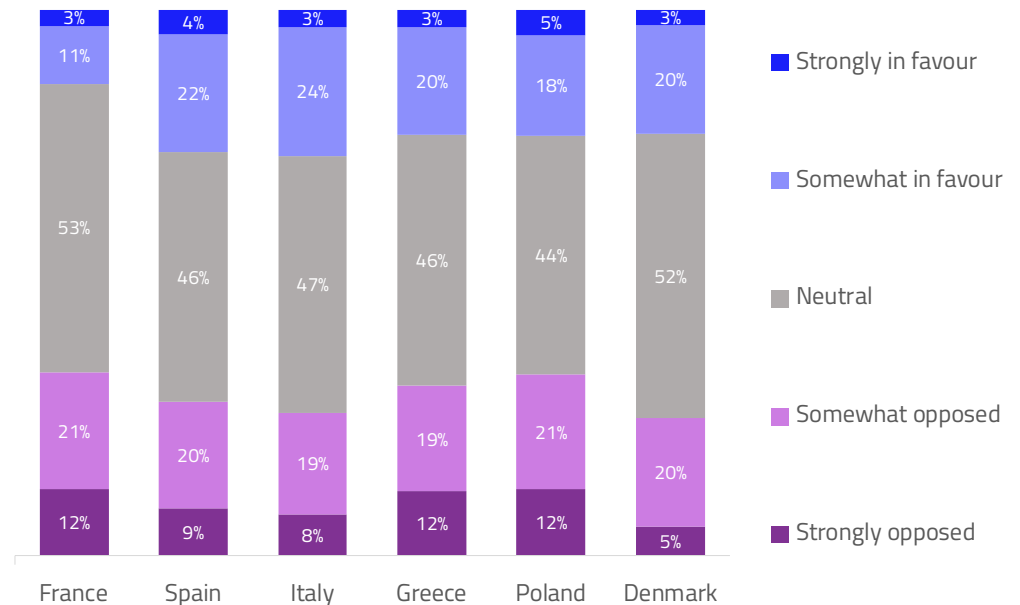
I generally agree that it makes sense to implement the policy. It will make processes faster and more flexible and I believe it will benefit companies and the research and competitiveness of EU countries.

Nils (DK)

I still don't agree with this, despite knowing that the implementation is already there. I continue to think that it is unnatural, that they should spend the money in another way, that none of this brings anything good to human beings. I only see control and control.

Elisabete (PT)

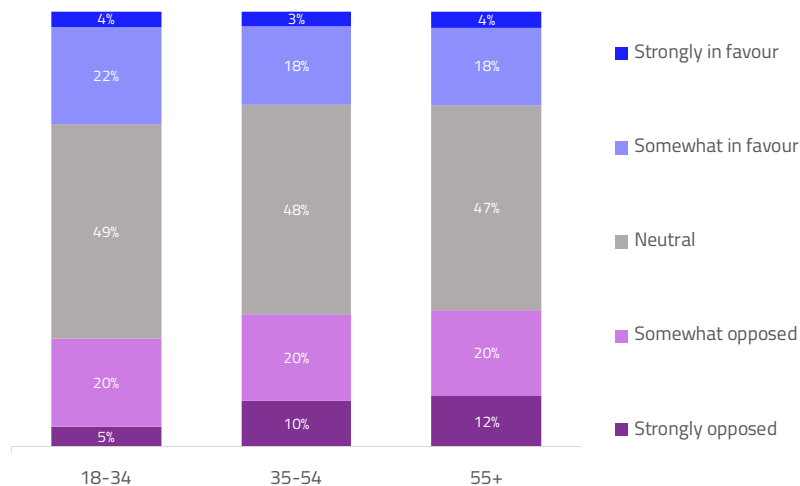
Country x Acceptance of policy



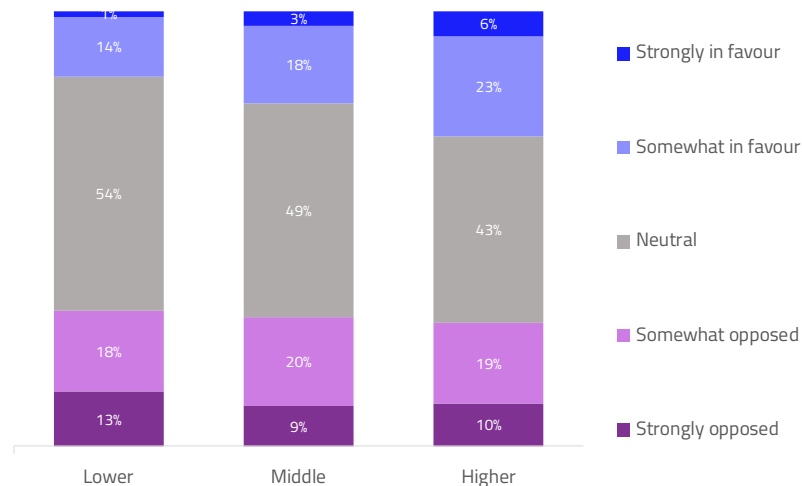
Policy acceptance – age and education

Younger consumers are more likely to be in favour of the Act, as are consumers with a higher level of education. These outcomes are likely related to openness to innovation, which is higher among younger and higher educated audiences.

Age x Acceptance of policy



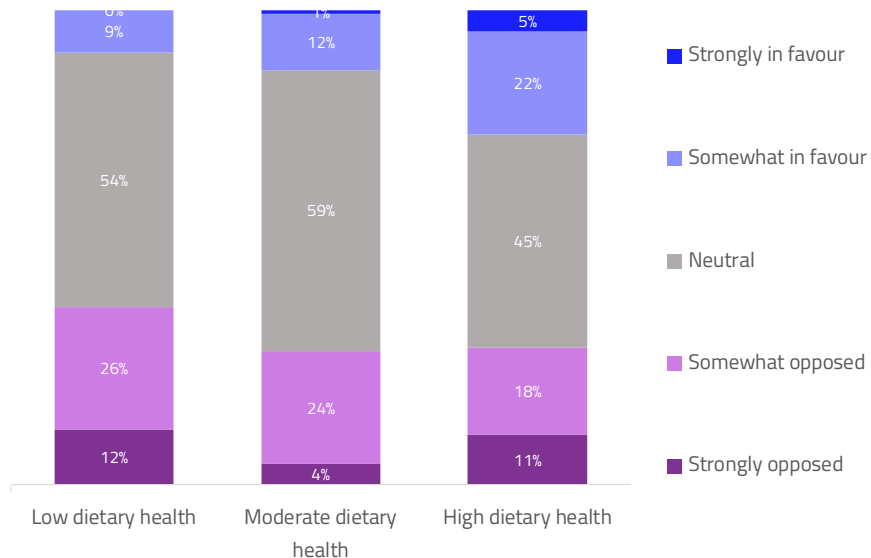
Education x Acceptance of policy



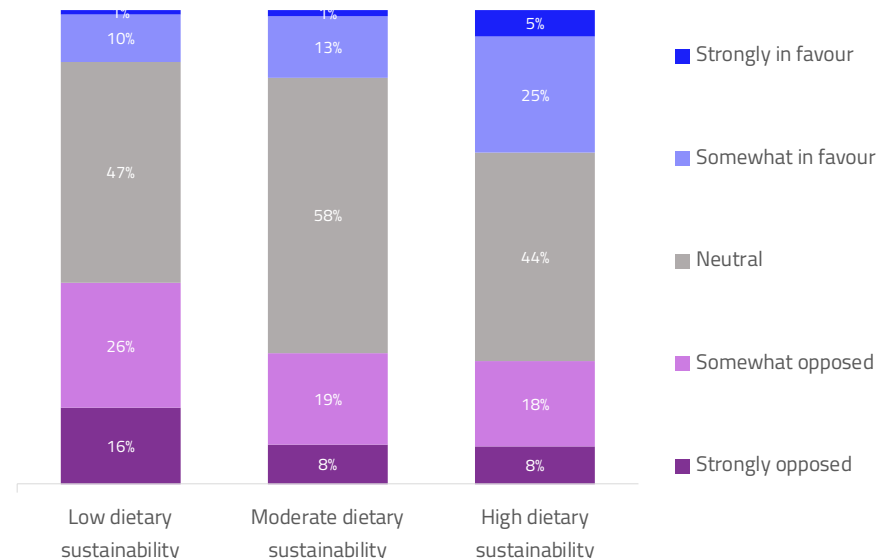
Policy acceptance – healthiness and sustainability of diet

Consumers who follow healthier and more sustainable diets are generally more likely to support the Biotech Act, showing that personal diet preferences aligning with the aim of the policy positively impact perception. Among consumers that pay above average attention to the healthiness of their diet, there is more resistance to the Act than among those that follow an averagely healthy diet. This indicates that there is a group of consumers that strongly rejects biotechnology for health reasons.

Healthiness of diet x Acceptance of policy



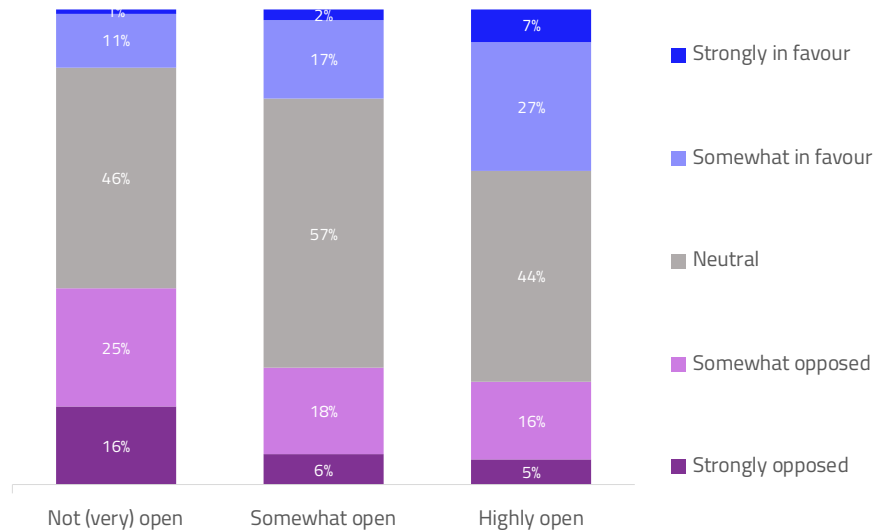
Sustainability of diet x Acceptance of policy



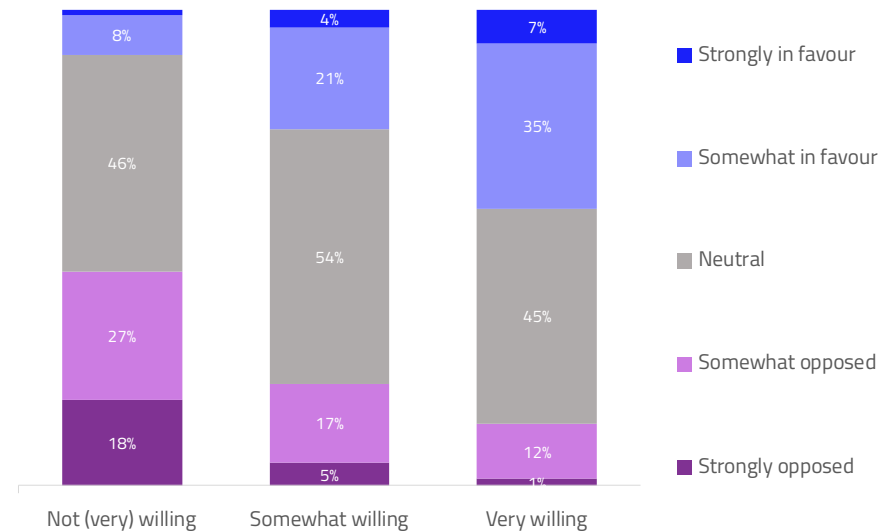
Policy acceptance – openness to innovation and biotech foods

Those more open to new technologies and innovations, as well as willing to try biotech foods are more likely to accept the policy, showing that progressive and novelty-seeking consumers are most open towards the Act.

Openness to innovation x Acceptance of policy



Willingness to try Biotech Foods x Acceptance of policy



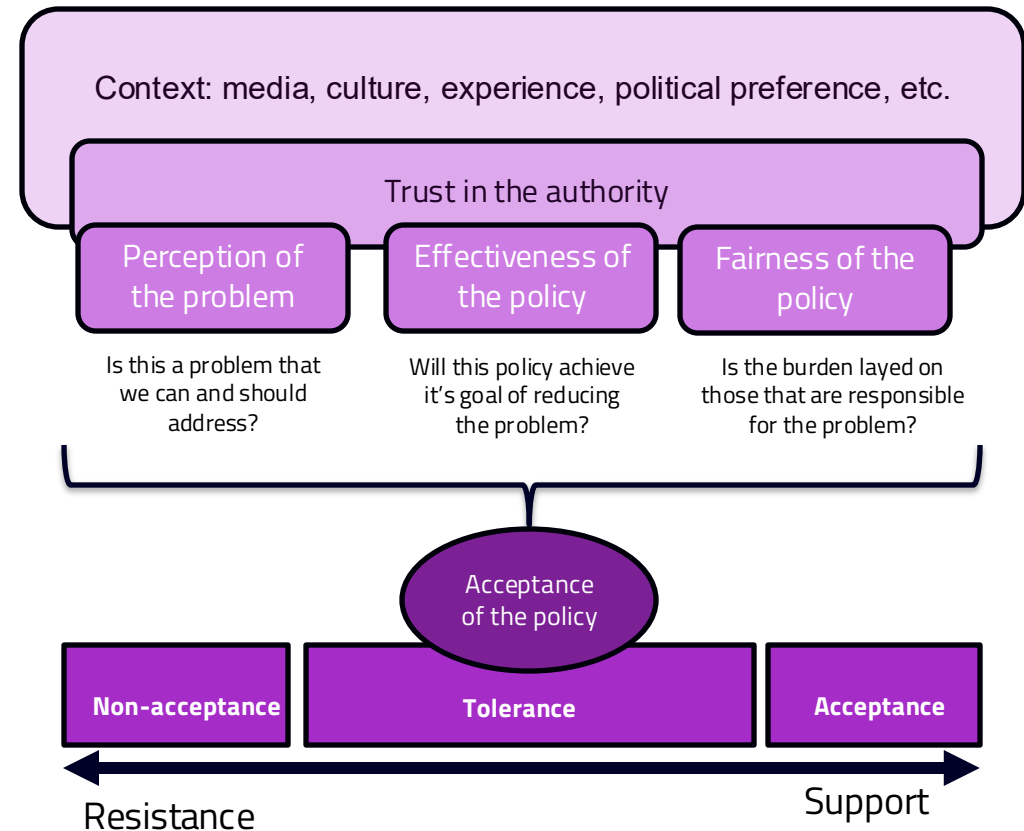
What drives acceptance (and how can it be improved)

Evaluation of the Policy Acceptance Model

The predictive power of the model

Based on the results of this study, the adapted model developed by Grelle and Hofmann² proves to be a valuable tool for measuring policy acceptance. In this chapter, we will examine the various components of the model and provide further explanation of the factors influencing acceptance.

- To see how well our model can predict people's acceptance, we ran a statistical test (multiple regression) that looks at how different factors together influence acceptance. The results show that the regression model explains 47% of the variance in citizens' acceptance of the Biotech Act ($R^2 = .47$).
- This is a strong outcome in social research, showing that nearly half of people's acceptance can be explained by the factors included.
- For each main predictor, we provide additional explanations of the outcome in this chapter, using qualitative insights.



The predictive power of the model

Our regression models help us understand which factors contribute most to acceptance of the Biotech Act.

Perceptions of the **impact** of the Act and biotechnology as a whole weigh heavily. Taken together, the three impact-related measures – positive impact of the act ($\beta^* = .20$), negative impact of the act ($\beta = -.16$) and overall impact of biotechnology on the European food system ($\beta = .11$) – form a substantial block of explanatory power. This shows that citizens carefully balance perceived benefits and risks, and that broader narratives about biotechnology in the food system influence acceptance of this specific Act.

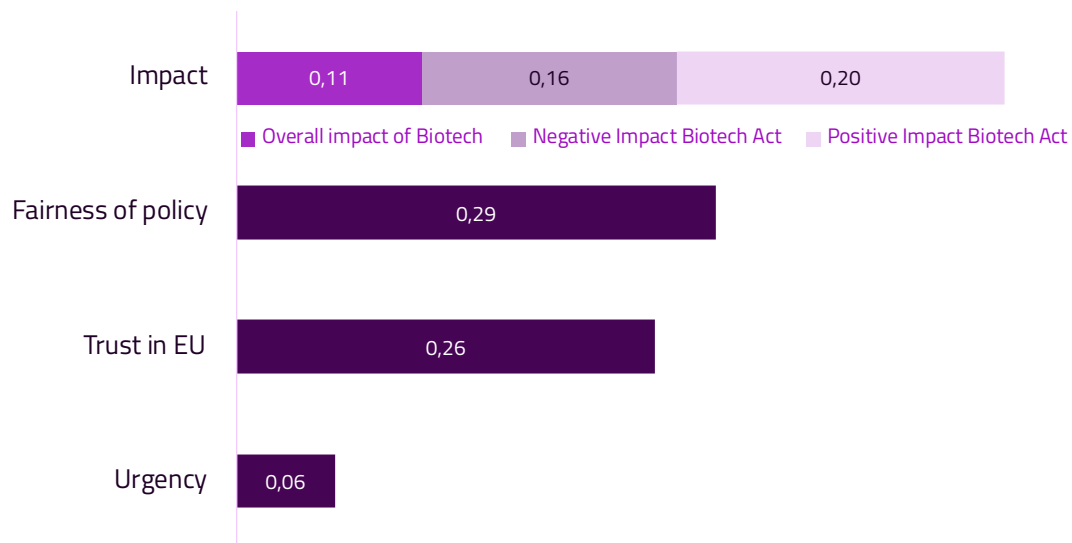
The second most important driver is the perceived **fairness** of the policy ($\beta = .29$).

Trust in the EU is the next most influential predictor ($\beta = .26$), underscoring how institutional credibility is crucial for policy acceptance.

Finally, perceived **urgency** contributes positively, though only modestly ($\beta = .06$). This suggests that framing the Act as a timely and necessary intervention supports acceptance, but it is not as decisive as fairness, trust and impact considerations.

In summary, acceptance of the Biotech Act is shaped above all by whether the policy is seen as beneficial and fair and the EU is seen as a trustworthy legislative body, with nearly half of acceptance explained by these factors. The rest of the acceptance is explained by other contextual factors.

Importance in determining acceptance



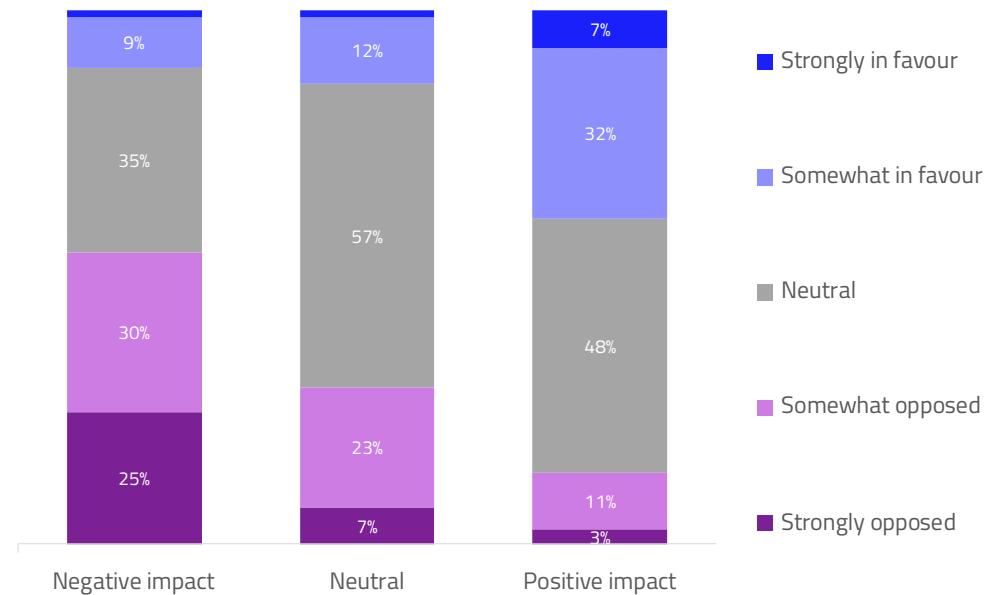
* A standardised beta or β shows how important each factor is compared with the others in the model. A higher beta means that factor has a stronger influence on acceptance.

Role of perceived policy effectiveness (I)

Together, the perceived impact that biotechnology and the Biotech Act can have on the European food system has the strongest influence on the acceptance of the Act. Expected positive and negative impacts both weigh on the decision.

- The findings of this study indicate that consumers do not evaluate the policy in isolation but also consider the effectiveness of the technology or method that the policy seeks to influence. In the case of the Biotech Act, consumers assess the effectiveness of biotechnology as a potential solution to issues within the food system. Consequently, when consumers perceive biotechnology as a viable solution, this perception supports acceptance of the Act. When biotechnology is viewed as a threat to the existing food production system, acceptance of the Act decreases.
- Whether biotechnology is seen as an opportunity or threat depends on the context from which consumers perceive it, such as prior knowledge and experiences with biotech foods, but also cultural background that may for example enforce preference for more traditional foods.

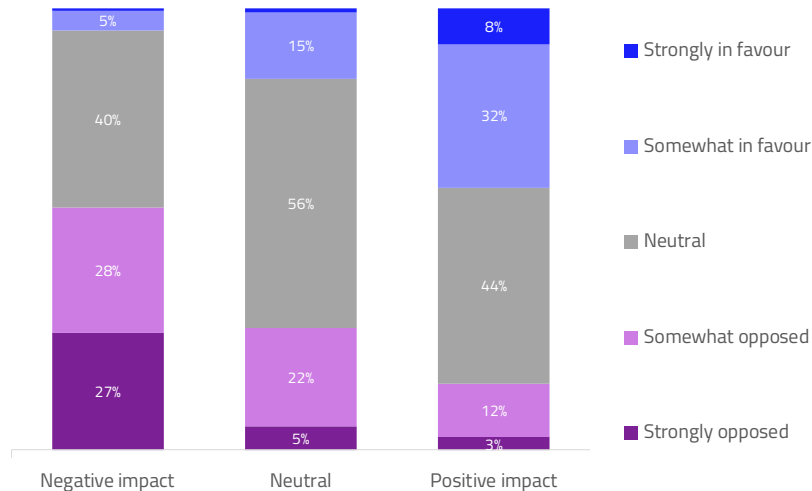
**Overall impact of Biotech on European food system
x Acceptance of policy**



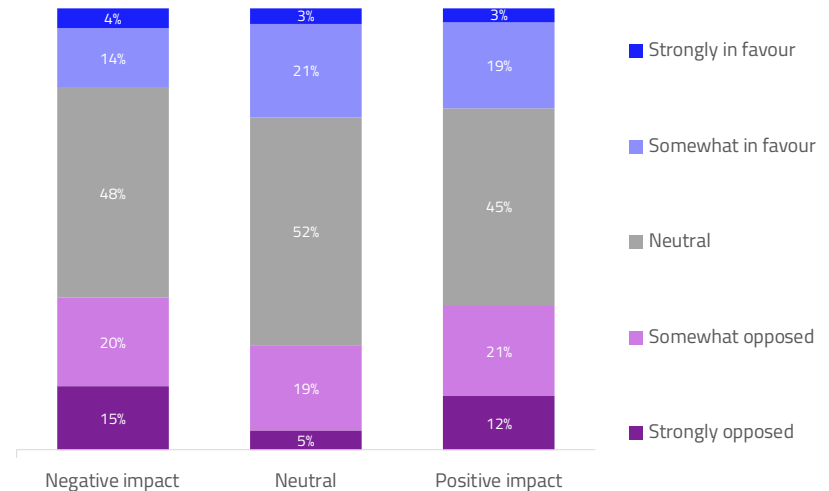
Role of perceived policy effectiveness (II)

- European consumers who support biotechnology also see the Biotech Act itself as an effective measure in strengthening Europe's food independence, fostering innovation and improving safety and sustainability of food, while also boosting competitiveness of European biotech companies.
- However, consumers worry about the impact that supporting biotech can have on the affordability of food, the weak enforcement of sustainability and health claims, and persistent regulatory barriers that may hinder consumer adoption and slow progress.
- It is also important to note that consumers do not evaluate the impact of the Act in isolation and only focus on immediate effects, but they also look at unexpected long-term consequences, such as biotechnology companies yielding too much power in the future.

Positive impact of Biotech Act x Acceptance of policy



Negative impact of Biotech Act x Acceptance of policy

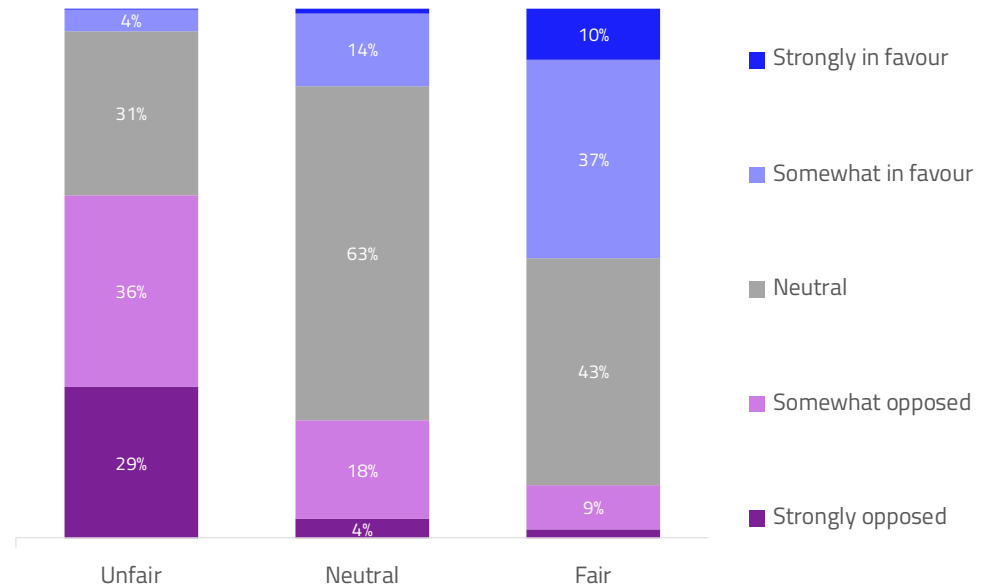


Role of perceived policy fairness

As the model suggests, perceptions of a policy's fairness strongly predicts its acceptance. The perception of fairness is defined by evaluations of who benefits, who bears the downsides of the Act, and whether these outcomes are distributed among the appropriate parties.

- As the graph on the right shows, those who believe the policy is not fair, are more likely not to accept the Act.
- Opinions on the policy's fairness are divided: supporters of the policy see it serving the greater good, while critics believe it mainly benefits large biotech corporations. Small businesses and farmers are perceived to carry the biggest burden of the policy, which negatively weighs on the evaluation of fairness, especially because consumers often want to support them over large corporations with their shopping habits.
- The findings also show that consumers often judge fairness based on how much they trust the parties involved with the policy, namely the authorities and the food industry. For example, in high trust societies such as Denmark, the policy in general is judged as fairer compared to lower trust society France.

Fairness of policy x Acceptance of policy

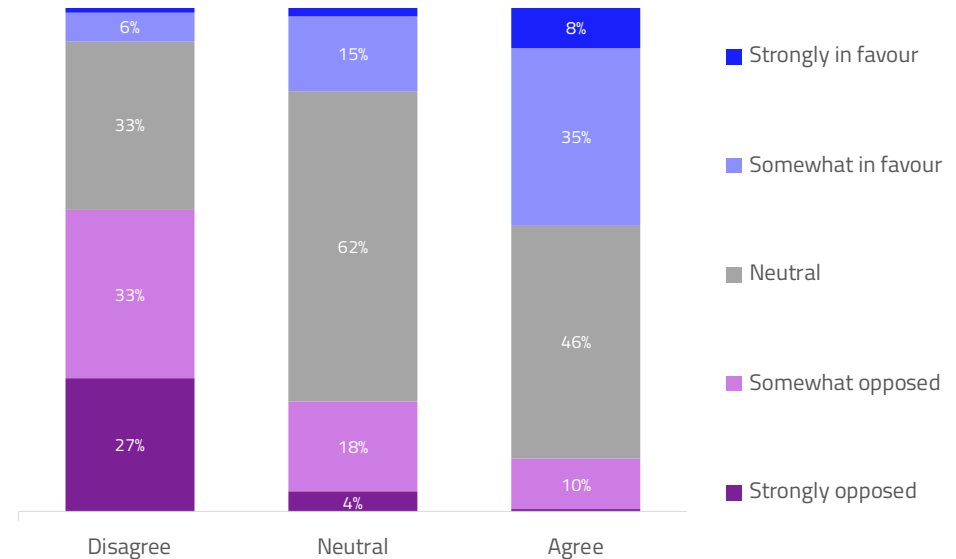


Role of authority perception

In this study, trust in authority turned out to be an independent predictor of policy acceptance, rather than just a moderator influencing policy fairness, effectiveness and problem perception. This provides support for the original model proposed by Grelle and Hofmann² as opposed to the adapted model from the 2024 EIT Food policy acceptance study.³

- As shown in the graph on the right, those who do not trust the EU as a regulatory body with food policies, are especially highly unlikely to accept the Biotech Act.
- Consumers are divided on the EU's role as a biotech regulator: while many see it as the most suitable authority for unified rules and protection against corruption, others worry it is too bureaucratic to take any tangible action to improve the food system issues, or too industry-driven, leading to policymaking that only profits businesses at the expense of consumers. Consequently, some consumers argue for involving independent third-party regulators, while others stress that member states should retain more decision-making freedom in their food policies.

Trust in EU x Acceptance of policy

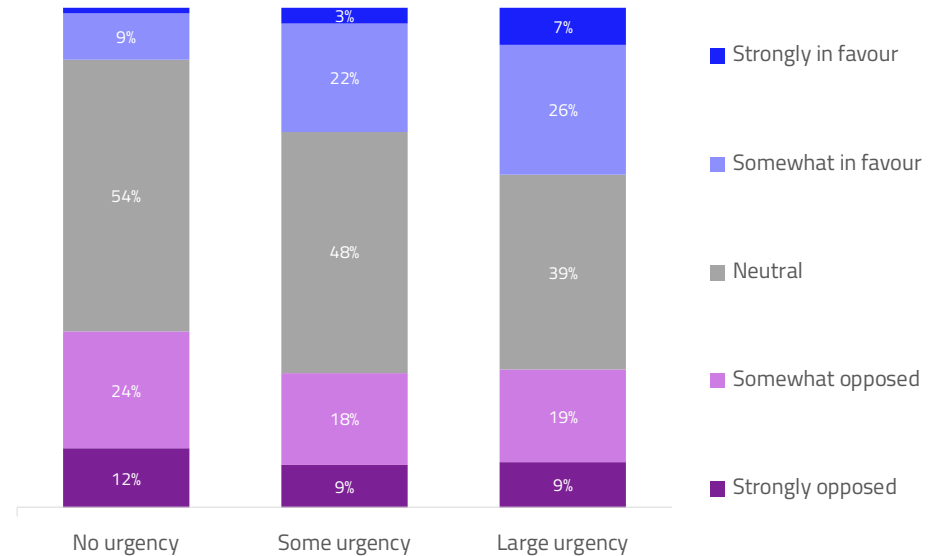


Role of problem perception

The perceived urgency of the food system issues that the Biotech Act is aiming to solve, plays a modest role in predicting acceptance. Particularly those who feel a high sense of urgency are in favour of the Act.

- The problems that the policy is aiming to address are often reflected upon through personal experiences, and somewhat less through a societal lens. Therefore, if the policy only focuses on societal benefits, this may fail to reach the support of consumers.
- With regards to biotech, personal ethics about animal farming and worries about food safety are particularly strong drivers to support biotech-produced food, however this entails a progressive mindset.
- While competitiveness of the European food market is recognised as an issue to address, it is considered somewhat less urgent than issues touching everyday life, such as health and safety of food. In addition, the impact of external factors on the food system is strongly evaluated from a local perspective; Southern European countries are more worried about the climate and political turmoil than northern European countries, because their food system and economies are more affected by these factors.
- Responsibility of addressing the food system issues is mainly seen to fall on governments and authorities, meaning that consumers are also likely to expect action from the EU. Yet safety and health of the food is equally seen to fall on food producers, meaning that policies implemented by the EU on biotech products do not fully cover this issue.

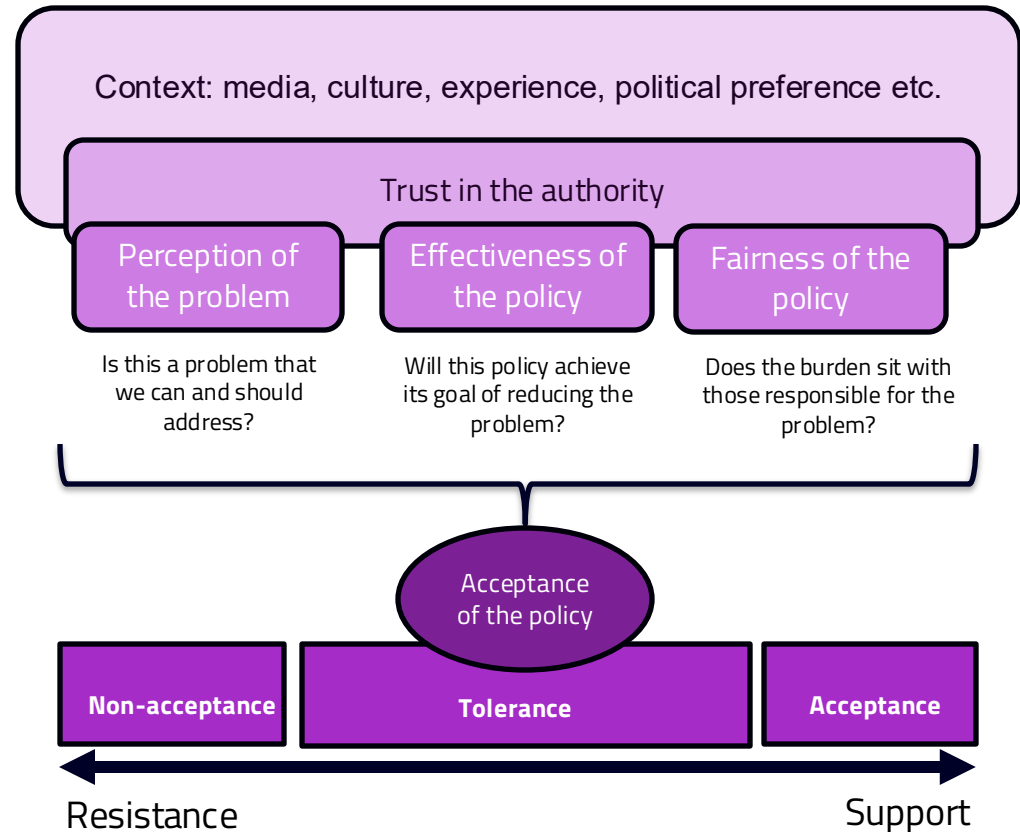
Urgency x Acceptance of policy



Role of context in policy acceptance

Although not a main predictor of the model, context plays an important role in policy acceptance by providing the baseline from which consumers perceive and evaluate the policy.

- Biotechnology as a method to produce food is generally viewed in a positive light amongst European consumers, at least when it's presented as something familiar and not too futuristic. Consumers are generally worried about safety risks when it comes to food, and this also reflects in the evaluation of biotech-produced food.
- On the cultural level, traditions impact how consumers perceive the policy; those with strongly rooted traditional food cultures are more hesitant about biotech-produced food (and may even see it as a threat), whereas more open-minded consumers see it as an interesting opportunity for new types of food products.
- When it comes to political preference, more left-leaning, progressive consumers are more open towards biotech while more right-leaning, conservative individuals are more likely to approach the policy with doubt.



Appendix

About the study

Research questions: perception of biotech and perception of the problem

General (context)

- What do consumers associate with biotechnology in the context of food? Which products do they know?
- Have they heard about developments in this area? If so, what was the main message?
- What are the risks/benefits related to biotechnology?

Problem perception

- Do consumers acknowledge the problems the Biotech Act is aiming to address?

Risks and opportunities of regulation

- Does the use of biotechnology in food production need to be regulated with regards to how products are produced, brought to the market and how information is provided about these product?

Perception of authority

- Who should regulate biotechnology in food production? Is the EU regarded as competent regarding this topic and does it take care of consumer interests when regulating biotechnology?

Perceived effectiveness of proposed legislation

- Will such an act ensure/increase the safety, quality and sustainability of biotechnology-based products in the food sector?
- Will it help European food manufacturers to stay competitive and develop new products?

Perceived fairness of the policy

- Does the burden of this policy sit with those who are responsible for the problem?
- Are the possible negative side effects acceptable?

Acceptance

- To what extent do European consumers accept, support or reject the upcoming Act?

Framework evaluation

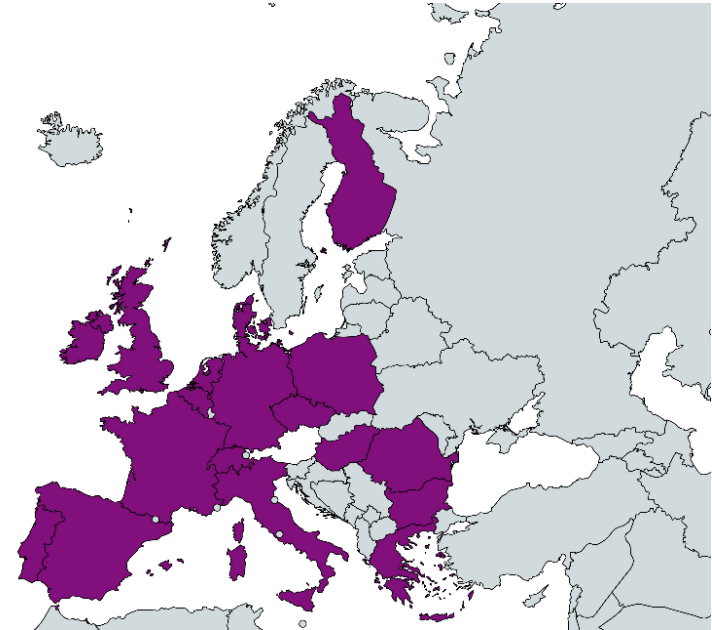
- Does the framework predict policy acceptance?
- Is the framework complete? Are there aspects that are redundant?
- Is the wording of the framework appropriate for consumers?
- What is the predictive power of the elements of the model (trust in the authority, perception of the problem, perception of the fairness and effectiveness of the policy) on policy acceptance?
- Is the framework useful? Does it deliver valuable insights for the stakeholders intended?

Qualitative online community research using our Citizen Participation Forum

In the first step data was collected using our Citizen Participation Forum (CPF). This online community consists of around 300 members from 17 countries. Members are interested in talking about food and are generally well-informed.

Participants take part in activities ranging from discussions, polls and questionnaires to photo-challenges and journal entries. Participants engage with one another and with the moderators and researchers. Moderators are responsible for probing participants, leading to in-depth and relevant data.

During the main part of this study, a series of 15 tasks was assigned to a group of 40 people. This included community members from a wide range of demographics and countries.

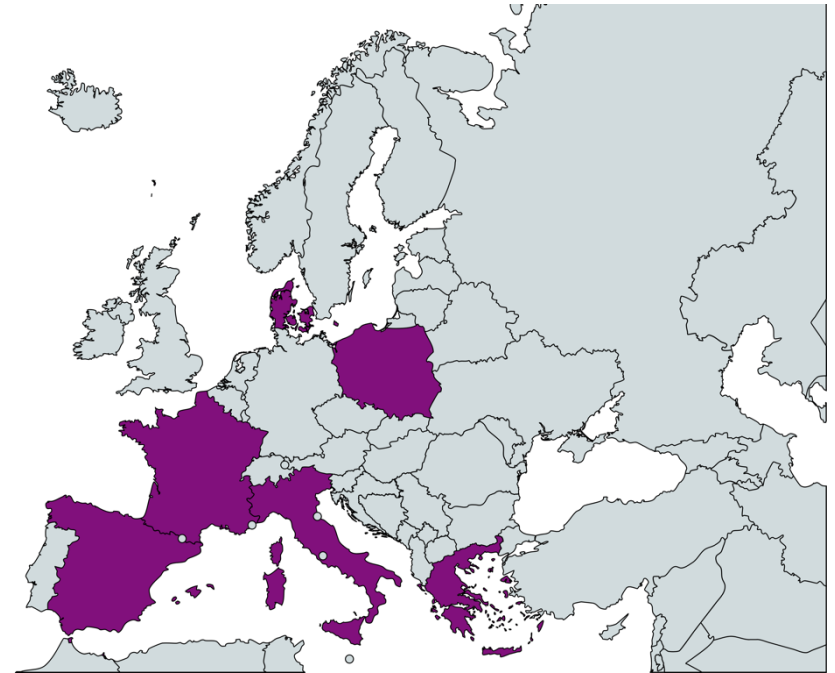


Quantitative online research

In the second step of this research, the qualitative findings were used as input for quantitative measurement. A nationally representative sample from six countries with different levels of expected acceptance (France, Spain, Italy, Greece, Poland and Denmark, in total n=3350 participants) completed the survey. These countries were chosen to represent different sizes, different levels of trust in authorities and different levels of acceptance of food produced through biotechnology.

In this survey, participants answered a series of quantitative questions relating to the different components of the policy acceptance model: 1) to what extent do they recognise the problems in the food system the policy is trying to address, 2) who is responsible for addressing these problems, 3) how well does the policy address these problems, 3) is the policy considered fair, 4) what is the level of trust in the EU in driving such food policies and 5) will the policy be ultimately accepted?

The results of this survey were then used to evaluate the predictive power of the policy acceptance model.



The Biotech Act

The following description of the Act was shared with the participants. It remained available for the rest of the study so that participants could see it again when needed. The opinions of the participants presented in this report are therefore based on this description.

Our food system is under pressure. Climate change, growing populations and limited natural resources (like land and water) mean we need to find smarter, more sustainable ways to produce food. At the same time, global events, from wars to weather, can disrupt food supply chains, leading to price spikes or empty shelves.

One possible solution is **biotechnology**. This includes innovative ways of producing food such as:

- Alternative proteins (such as lab-grown meat or products made using fermentation instead of animals)
- New food ingredients made with the help of science (for example, vitamins, enzymes or sustainable animal feed)

Many of these technologies are grounded in ancient techniques, like making cheese or brewing beer.

These technologies could help:

- Ensure there's enough food for everyone in Europe, regardless of political developments and climate change
- Make food production healthier and more climate friendly
- Keep Europe's food sector strong and competitive

However, **current EU rules make it hard for these innovations to reach the market**, even if they're safe. That's why the European Union is now preparing new legislation – **the Biotech Act**.

What will the Biotech Act change?

The new rules aim to:

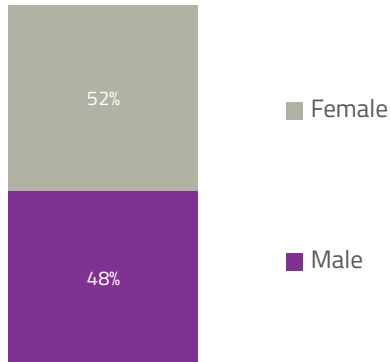
- Speed up approval of new biotech food products while keeping them safe
- Make it easier for start-ups and small businesses to get funding
- Invest in research, jobs and skills in the biotech sector across Europe

Appendix

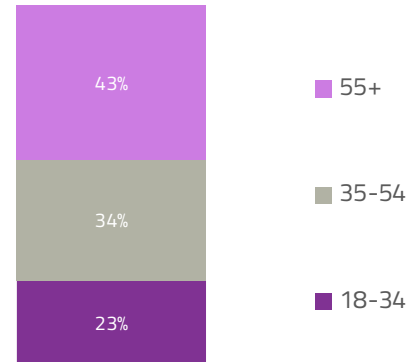
Sample quantitative research

Quantitative research: sample

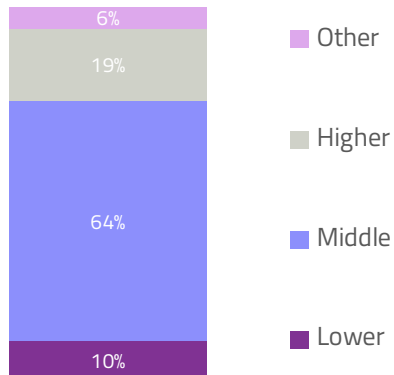
Gender



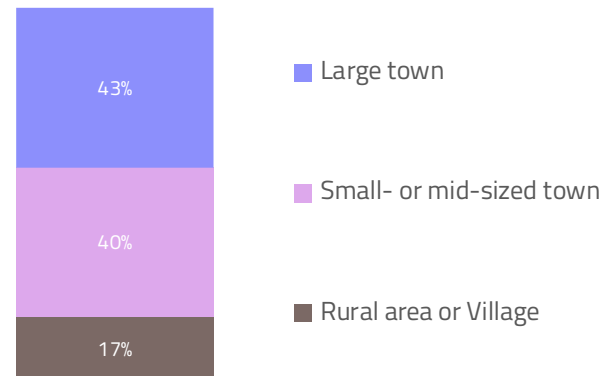
Age



Education

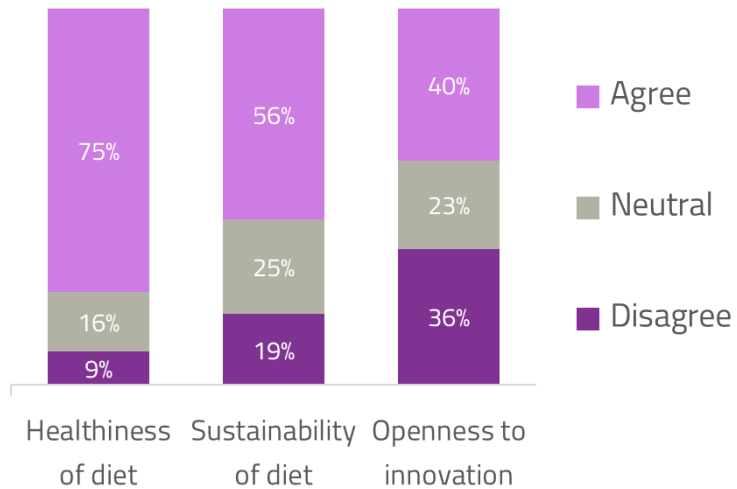


Urbanisation

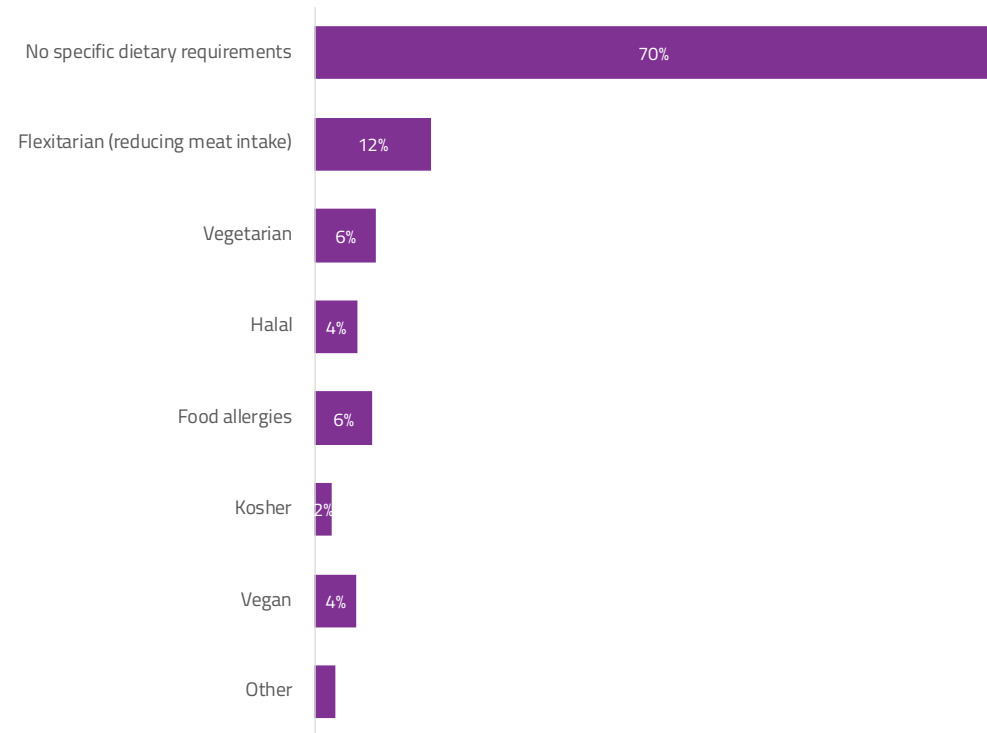


Quantitative research: sample

Current diets (self-reported)



Dietary Requirements



Appendix

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About the EIT Food Consumer Observatory

Powered by EIT Food, the Consumer Observatory brings together experts and consumer insight organisations from across the food system to curate and produce consumer insights, trend analysis and research tools.

By combining research expertise, sector knowledge and the green transition behaviour change perspective, the Consumer Observatory aims to maximise the availability of consumer insights on agrifood topics, delivering greater knowledge, strategy and guidance to agrifood stakeholders – helping to bring about positive change in the food system.

This platform puts consumer knowledge and behaviour at the heart of the conversation on food sector trends, driving forward innovative solutions that will help to achieve EIT Food's three missions:

- A net zero food system
- Healthier lives through food
- Reducing risk for a fair and resilient food system

To access the latest insights or to discuss your specific insight needs, visit eitfood.eu/projects/consumerobservatory

or get in touch via

co@eitfood.eu

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