

# Public opinion on new technologies in the European Union

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# Consumer attitude towards food contaminants

- **Organic microcontaminants – ecological agriculture**
- **Transgenic contaminants – „GM food”**
  - food safety vs. sustainable agriculture
  - pesticides in cotton cultivation
  - GM energy crops



# The weight of public opinion

- **Safety is to be determined through evidence-based, scientifically sound risk assessment**
  - consensus / no consensus in scientific circles
  - case-by-case evaluation by authorities
- **Public opinion reflects current public knowledge (+/-)**
  - uncertainties in opinion surveys  
in interpretation of the results
  - public trust is a key element in risk management and communication



*Nicolia, A. et al. (2014): An overview of the last 10 years of genetically engineered crop safety research. Crit. Rev. Biotechnol., 34 (1): 77-88. doi:10.3109/07388551.2013.823595*

*Hilbeck, A. et al. (2015): No scientific consensus on GMO safety. Envir. Sci. Eur., 27:4, 1-6. doi :10.1186/s12302-014-0034-1*

# Surveys

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EC survey on organic agriculture	2013
Eurobarometer surveys	
– Biotechnology	2006, 2010
– Environment	2008
– Food-related risks	2005, 2010
– Science, research, innovation	2014

divergent appearance of opinion on GMOs / new technologies

# Organic microcontaminants – ecological agriculture

cultivated area: +500 th ha /yr

Eurostat (EU27)

9.6 million ha in 2011 (EU27)

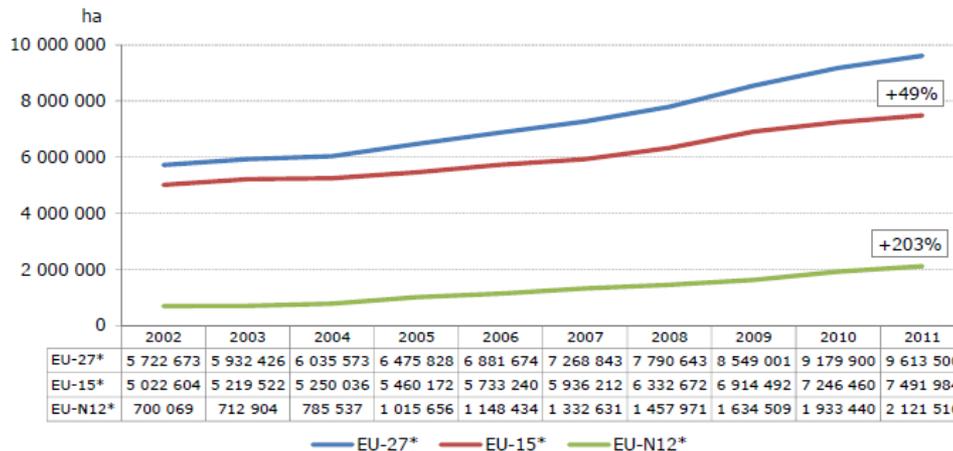
5.7 million ha in 2002

> 270 th registered member (2011)

(producer, processor, supplier)



Graph 1. Area under organic cultivation in the EU



**Facts and figures on organic agriculture in the European Union**

Agriculture and Rural Development

# Biotechnology, gene technology

Eurobarometer (EB)  
surveys: 2006, 2010  
(previously:  
1991, 1993, 1996,  
1999, 2002)

general averseness  
from GM food



*Gaskell, G. et al. (2006): Europeans and Biotechnology in 2005: Patterns and trends. Special Eurobarometer 244b. European Commission, Brussels, Belgium.*

*European Commission, DG RES (2010): Biotechnology. Special Eurobarometer 419. European Commission, Brussels, Belgium.*

# Environment

Eurobarometer (EB)

survey: 2008

chemical residue contamination  
is an environmental  
concern

biotechnology/gene technology  
do not occur  
as a concern



Special Eurobarometer



## Attitudes of European citizens towards the environment

Fieldwork: November – December 2007

Publication: March 2008

### Report

Special Eurobarometer 295, Wave 68.2 – TNS Opinion & Social

This survey was requested by Directorate General Environment and coordinated by Directorate General Communication.

This document does not represent the point of view of the European Commission. The interpretations and opinions contained in it are solely those of the authors.

*European Commission, DG ENVI (2008): Attitudes of European citizens towards the environment. Special Eurobarometer 295. European Commission, Brussels, Belgium.*

# Biotechnology, gene technology

Eurobarometer (EB)  
surveys: 2006, 2010

requested by EFSA



*TNS Opinion & Social (2006): Risk issues. Special Eurobarometer 238. European Commission, Brussels, Belgium.*

*TNS Opinion & Social (2010): Food-related risks. Special Eurobarometer 354. European Commission, Brussels, Belgium..*

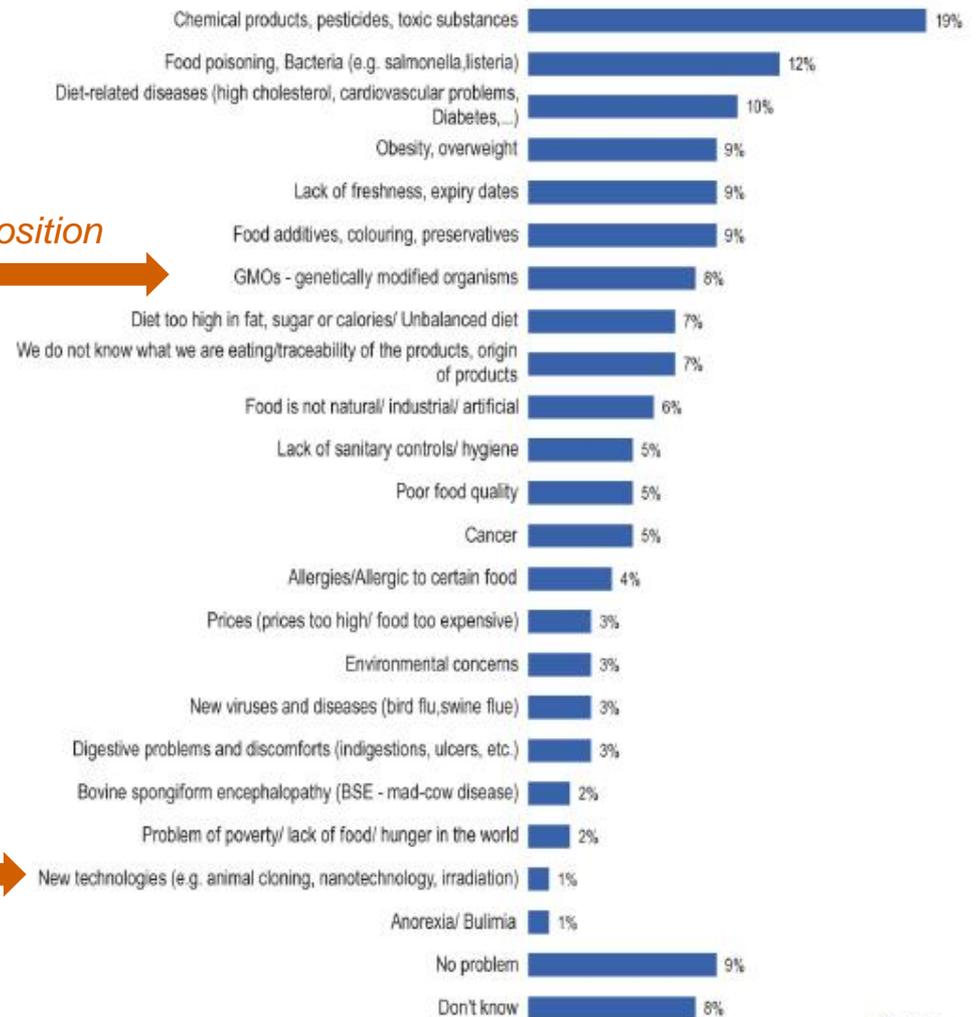
QF3. Could you tell me in your own words, what are all the things that come to your mind when thinking about possible problems or risks associated with food and eating? Just say out loud whatever comes to mind and I will write it down. Anything else?

## Eurobarometer (EB)

survey: 2010

food-related risks:

- chemical contaminants
- microbial contaminants
- diet-related diseases
- obesity
- food spoilage
- food additives
- GM components



7th position



21st position



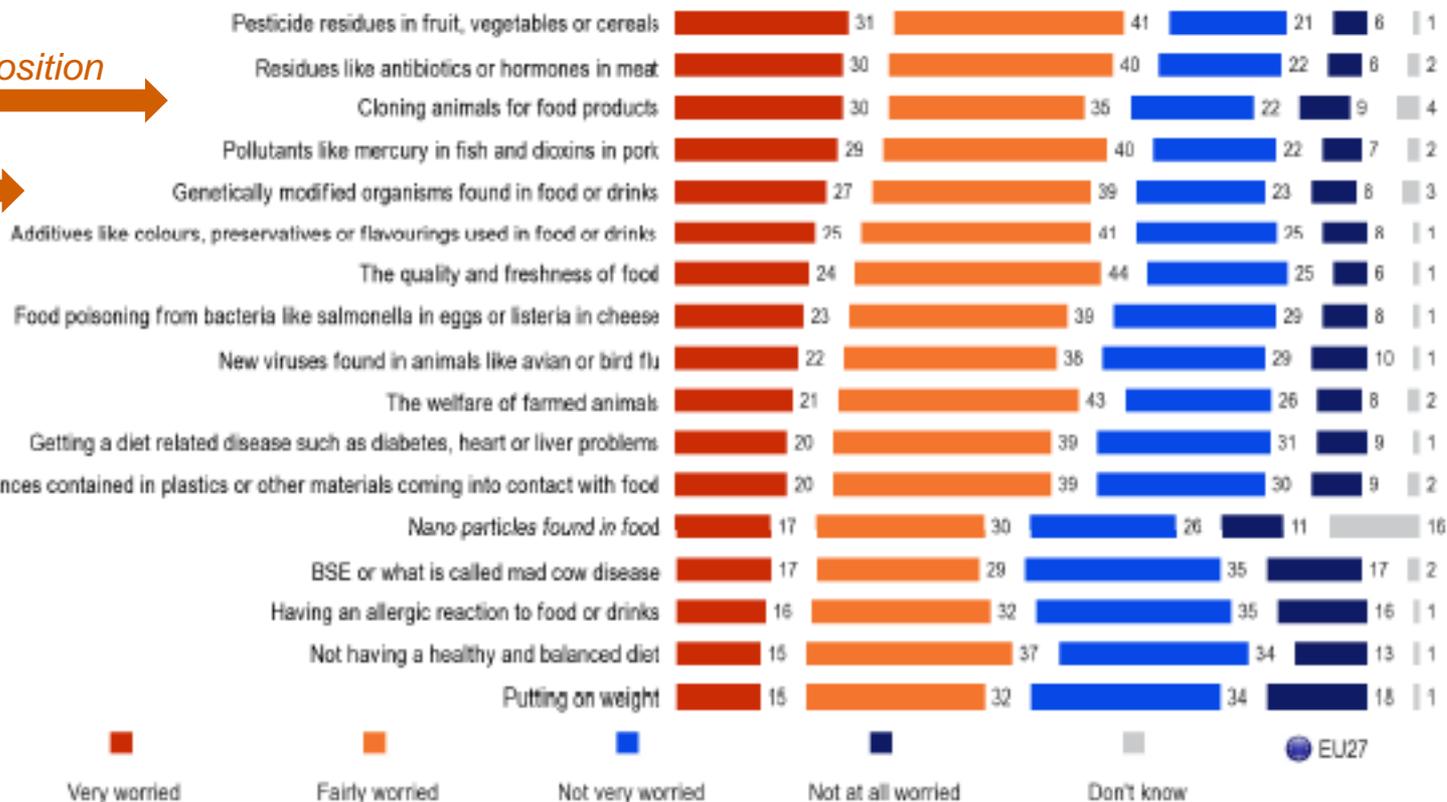
# Food

QF4. Please tell me to what extent you are worried or not about the following issues.

3rd position

5th position

13th position



# Science, research, innovation

Eurobarometer (EB)

survey: 2014

development of science and technology  
will positively affect  
several societal segments  
in the next 15 years



Special Eurobarometer 419

**PUBLIC PERCEPTIONS OF SCIENCE,  
RESEARCH AND INNOVATION**

REPORT

Fieldwork: June 2014

Publication: October 2014

This survey has been requested by the European Commission, Directorate-General for Research & Innovation (DG RTD) and co-ordinated by the Directorate-General for Communication.

[http://ec.europa.eu/public\\_opinion/index\\_en.htm](http://ec.europa.eu/public_opinion/index_en.htm)

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The interpretations and opinions contained in it are solely those of the authors

Special Eurobarometer 419 / Wave EB81.5 – TNS Opinion & Social



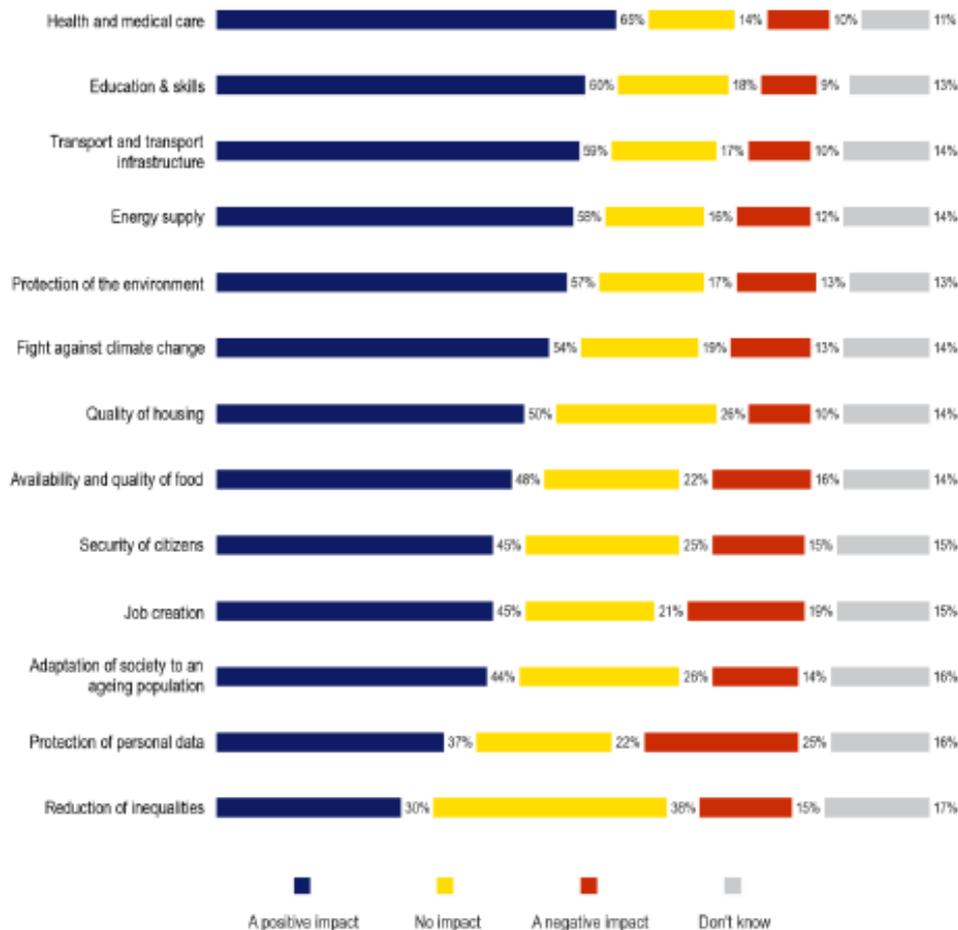
*European Commission, DG COMM (2014): Public perceptions of science, research and innovation.  
Special Eurobarometer 419. European Commission, Brussels, Belgium.*

# Science, research, innovation

science vs. technology  
 what the EU citizens hope  
 from science

*8th position*  
 →

QB2. 15 years from now, what impact do you think science and technological innovation will have on the following areas ...?

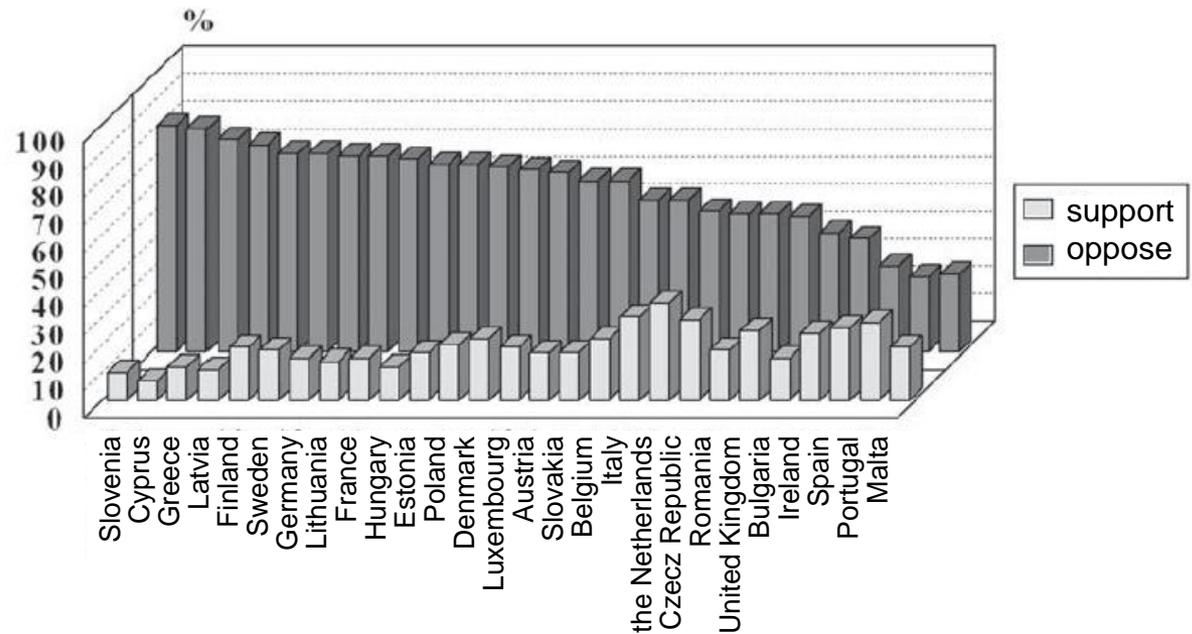


# Biotechnology, gene technology

EB 2006

biotechnology  
as a single entity

general averseness  
from GM food

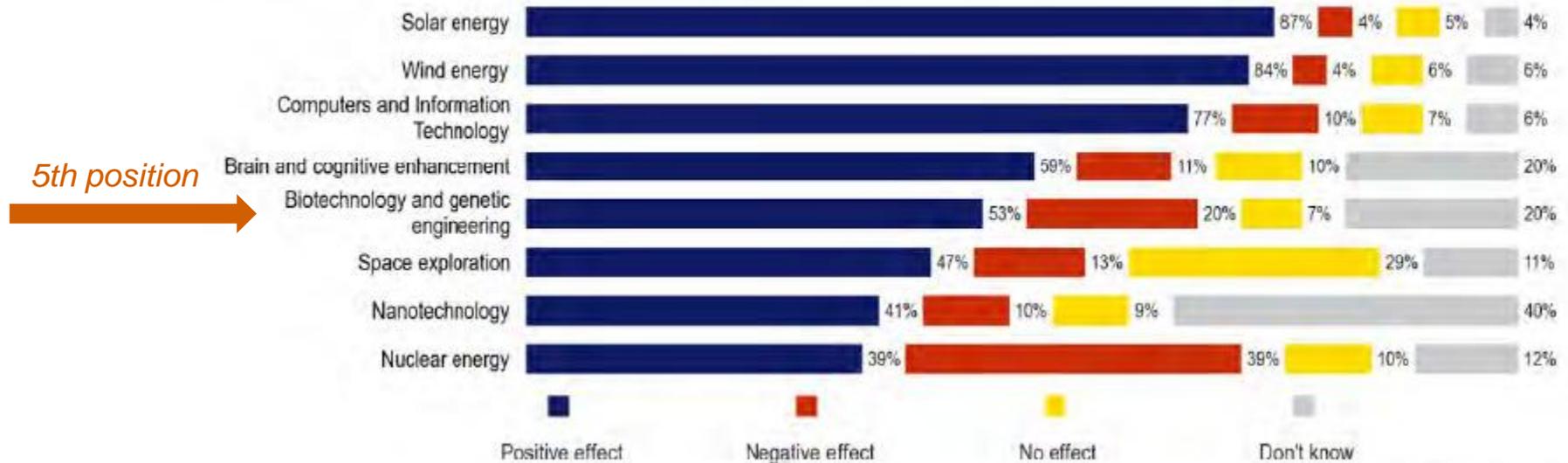


# Biotechnology, gene technology

EB 2010

new technologies

QB1. I am going to read out a list of areas where new technologies are currently developing. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



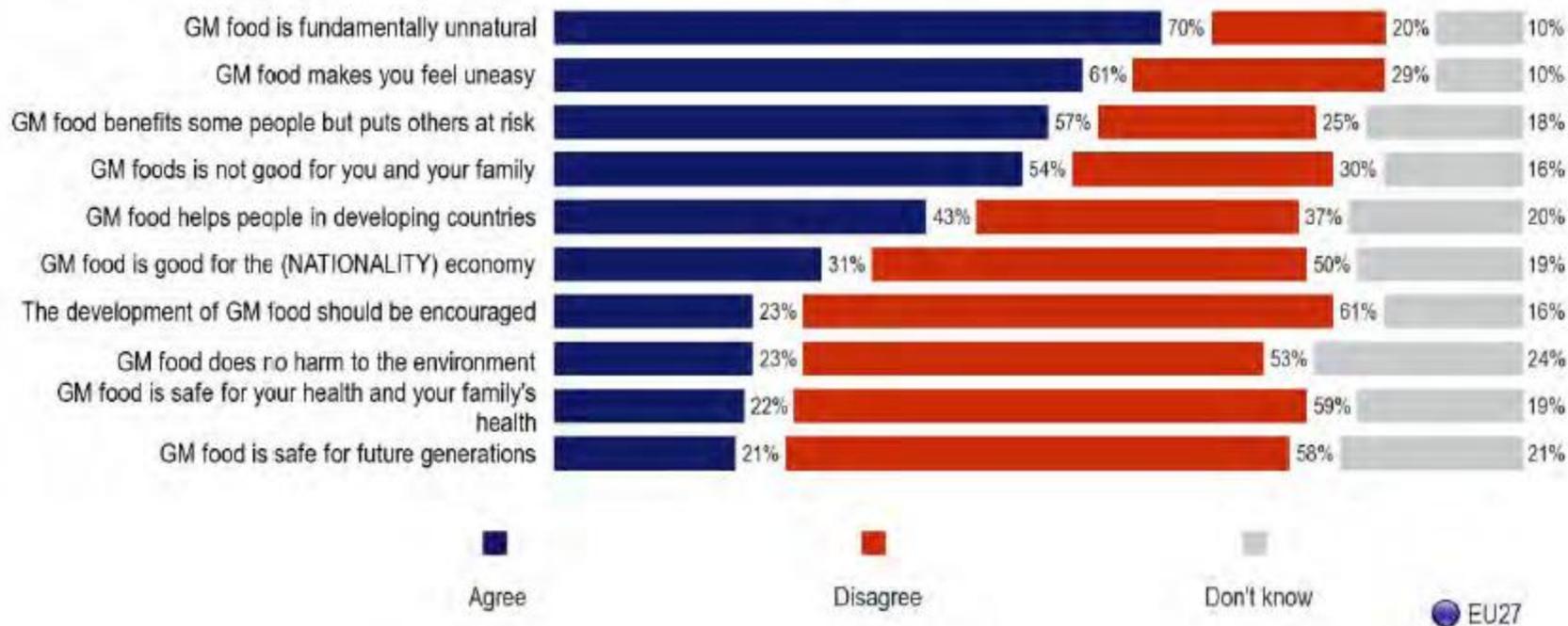
EU27

# Biotechnology, gene technology

EB 2010

## GM food – general awareness

QB4a. For each of the following issues regarding GM food please tell me if you agree or disagree with it.



# Biotechnology, gene technology

EB 2010

GM food – general awareness

Less than one-third of the poll subjects considers GM food economically advantageous.

The majority considers GM food unfavourable for her/him.

Every 2 out of 5 persons believes that GM food helps those living in developing countries.

The majority considers GM food unfavourable for future generations.

The majority believes GM food produces profit to some, while putting others at risk.

There is a strong consensus that GM foods are fundamentally unnatural.

The term GM food awakes negative feeling in the majority of poll subjects.

The majority does not consider GM food safe for health.

Less than one-quarter of the poll subjects consider GM food safe for the environment.

All in all, development of GM foods should not be promoted.

# Biotechnology, gene technology

EB 2010

new technologies

animal cloning

gene transfer technologies

regenerative medicine

stem cell research

use of transgenic animals

human gene therapy

synthetic biology

biofuels

biobanks

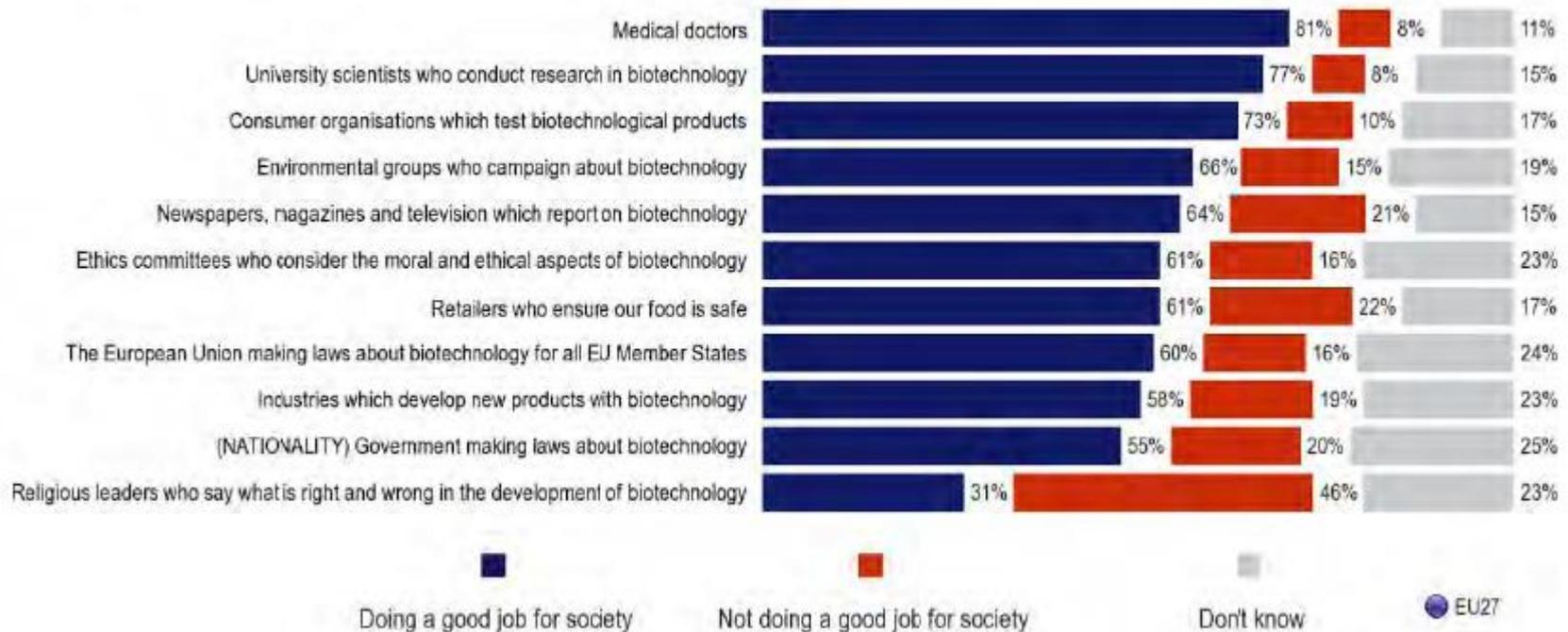
nanotechnology

# Biotechnology, gene technology

EB 2010

responsible representatives of biotechnology

QB19. For each of the following people and groups, do you think they are doing a good job for society or not doing a good job for society?



# Biotechnology, gene technology

EB 2010

new technologies – regulation, advantages, opinions

The governments should take responsibility.

New technologies do not solve problems of climate change and global warming.

Protection of human rights has priority over anti-crime and anti-terrorism activities.

Reduction of economic inequalities has priority over world market competitiveness of European companies.

Personal attitudes:

Nearly one-third of the poll subjects foster (very) strong emotions regarding biotechnology. (+ / -)

Over half of the poll subjects has science education.

One out of two Europeans believes in God.

# The weight of public opinion

- **„The public is uninformed and is averse to new technologies”**
  - over half of the poll subjects has science education
  - science is also polarised
  - proper sense of hazards (biotech vs. nanotech)
- **Uncertainties in opinion surveys**
  - the answer depends on how the question is formulated
  - price sensitivity
- **Interpretation of opinion poll results**
  - biased/arbitrary acceptance of conclusions
  - seeming contradictions (environmental vs. health concerns)