

WHERE SCIENCE MEETS PERCEPTION

FROM THEORY TO PRACTICE: RISK COMMUNICATION FOR SAFE FOOD AND SUSTAINABLE DIETS IN THE REGION

Barbara Gallani, EFSA

FAO/WHO Coordinating Committee for Europe · Berlin, 21 September

EUROPEAN FOOD SAFETY AUTHORITY

THE PERCEPTION EQUATION THAT STARTED IT ALL

TYPE OF
HAZARD

- natural or man-made
- known or unknown
- avoidable or unavoidable
- children or adults

×

MEDIA
EXPOSURE

- messages from authorities
- news media
- social media
- influencers
- AI-generated answers

=

PERCEIVED
RISK

- what people believe
- what they feel able to do
- measured by social science

Perception is real.
It can be measured.
Social science research can help us understand where the gap is.



Trusted science, safe food

efsa
AUTORIDADE EUROPEIA PARA A SEGURANÇA DOS ALIMENTOS

WHY WE COMMUNICATE — AND HOW

WHY

we communicate

Protect public health

Support informed choices and proportionate action

Maintain confidence in the food system and in institutions

HOW

we communicate

1. Listening first
2. Clearly
3. Transparently
4. Providing context
5. In a coordinated way

WHO



RISK MANAGERS



POLICY MAKERS



RISK ASSESSORS



SCIENTIFIC COMMUNITY



PARTNERS



CITIZENS



MEDIA



STAKEHOLDERS

RISK COMMUNICATION AS AN EXCHANGE, NOT A BROADCAST

> Risk communication is the timely, transparent, evidence-based exchange of information about risk, uncertainty and action.

BROADCAST

Information is pushed out. We assume the gap is knowledge.

Authority **Public**



Trust is assumed

EXCHANGE

We listen first, then explain — and we keep listening.

Authority **Public**



Trust is earned

HOW WE GOT HERE

1970s–80s

Estimate the risk

Technical and expert-led. Communication treated as optional — the science was expected to speak for itself.

Adapted from Kasza, G. et al. (2022). The evolution of food safety risk communications: models and trends in the past and future.

HOW WE GOT HERE



Estimate the risk

Technical and expert-led. Communication treated as optional — the science was expected to speak for itself.

Inform the public

One-way transfer of facts: the information deficit model. If they knew what we know, they would agree.

Adapted from Kasza, G. et al. (2022). The evolution of food safety risk communications: models and trends in the past and future.

HAZARD
Something that has the potential to harm you

RISK
The likelihood of a hazard causing harm

A shark in the sea is a hazard

Swimming with a shark is a risk

Source: EFSA (2016), Hazard vs risk — efsa.europa.eu



Source: EFSA (2016), Hazard vs risk — efsa.europa.eu

HOW WE GOT HERE



Estimate the risk

Technical and expert-led. Communication treated as optional — the science was expected to speak for itself.

Inform the public

One-way transfer of facts: the information deficit model. If they knew what we know, they would agree.

Build trust

Two-way dialogue. Transparency, uncertainty and institutional trust become central concerns.

Adapted from Kasza, G. et al. (2022). The evolution of food safety risk communications: models and trends in the past and future.

Journal Article | 10.1177/107554704273091

Report: UK GM Dialogue Separating Social and Scientific Issues

Fiona Barbagallo, +1 more - 01 Mar 2005 - Science Communication - Vol.

Get PDF 66 17 Save Cite

TL;DR: The initiative, said to be the largest public consultation to date in the UK on a science issue, is described as a broad national dialogue to help determine whether GM crops should be commercially grown in theUK.

Abstract: Responding to growing concerns about genetically modified (GM) foods, the United Kingdom (UK) government launched a broad national dialogue to help determine whether GM crops should be commercially grown in the UK. This report describes the initiative, said to be the largest public consultation to date in the UK on a science issue.

GeneWatch PR: New GM dialogue resignation welcomed

GeneWatch UK today welcomed the resignation of Professor Brian Wynne from the Steering Group of the Food Standards Agency's public dialogue 'Food: the use of GM' (1,2). In his resignation letter, Professor Wynne expresses serious concerns about the role of the Food Standards Agency (FSA) and its Director, former agriculture minister Lord Rooker, in running the public dialogue.

Professor Wynne's resignation follows the resignation of GeneWatch's Director, Dr Helen Wallace last week, when she revealed that one of the short-listed contractors is also engaged in 'reputation management' for the GM industry (3).

"*A process that was barely credible has become a farce*", said Dr Wallace, "'*Taxpayers' money should not be wasted on a PR exercise for the GM industry.*"

The US company Monsanto controls 95% of the market for GM seeds. Dow (US), DuPont (US), Syngenta (Switzerland), BASF (Germany) and Bayer (Germany) are the other companies involved.

Notes for Editors

(1) Professor Wynne's resignation letter is available on: http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/Resignationletter31May10.doc
His resignation is reported in the Telegraph: http://www.telegraph.co.uk/earth/earthnews/7794313/Academic-resigns-from-FSA-group-over-GM.html
Brian Wynne was Vice Chair of the Steering Group and is a leading expert on public understanding of science. He is Professor of Science Studies at Lancaster University, and Associate Director of the ESRC Centre for Economic and Social Aspects of Genomics (Cesagen).

(2) The FSA's description of the GM dialogue is on: http://www.food.gov.uk/gmfoods/gm/gmdialogue/

(3) Dr Wallace's resignation letter is available on: http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/resignation.doc

HOW WE GOT HERE



Estimate the risk

Technical and expert-led. Communication treated as optional — the science was expected to speak for itself.

Inform the public

One-way transfer of facts: the information deficit model. If they knew what we know, they would agree.

Build trust

Two-way dialogue. Transparency, uncertainty and institutional trust become central concerns.

Engage and co-create

Audience segmentation, social science evidence, community engagement and AI-mediated reach.

Adapted from Kasza, G. et al. (2022). The evolution of food safety risk communications: models and trends in the past and future.

the crunch

our food
our health
our planet



Training Handbook: Families Programme

FIRST STEP TO ENGAGING AND CO-CREATING IS : LISTENING

These are not crises. These are opportunities for routine, repeated comms — this is where credibility is built or lost.



Pesticide residues

"Residues on my fruit." MRLs, cumulative exposure, cocktail effects.

Antibiotic & hormone residues

"Is meat full of drugs?" AMR, import standards.

Additives

"What is this E-number?" Re-evaluations, ultra-processed food framing.

Source: 2025 Eurobarometer on Food Safety (EFSA)



#PlantHealth4Life

EU plant health campaign

TO COMMUNICATE, OR NOT TO COMMUNICATE



1. **Is there a public health concern?**
   Severity, scale, and who is affected.
2. **Is there uncertainty?**
   Say what we know, what we do not, and when we will know more.
3. **Is there public interest?**
   Is the question already circulating without us?
4. **Is action needed?**
   Is there something people or operators can actually do?

Transparency is how we earn trust

and trust is what makes the next message resonate

Choosing not to communicate may also be a valid decision — record why, and revisit it as the evidence changes.

FIVE EXAMPLES, FIVE COMMUNICATION CHALLENGES

Cereulide

Nanoparticles

Insects

Food hygiene

Sustainable diets

— **Choose one, we will work through it**

IN DEPTH: CEREULIDE

What's "the question"?	Is my baby safe?
The evidence	Cereulide is a heat-stable toxin from *Bacillus cereus*. After multi-country recalls, the Commission asked EFSA for urgent advice; we set an acute reference dose of 0.014 µg/kg body weight for infants.
The uncertainty	Low uncertainty on hazard: vomiting is the critical effect, with an extra safety factor for infants under 16 weeks. Higher uncertainty on how much toxin any individual batch contains.
"What can I do about this?"	Do not give recalled products to infants; follow national authority instructions. Seek medical advice if an infant vomits or has diarrhoea after a feed.
Coordination	Rapid advice under time pressure to inform risk managers. Work with ECDC on clinical advice and with Member States on recalls.

Food Standards Agency
food.gov.uk

Update 1 - Nestlé recalls several SMA Infant Formula and Follow-On Formula as a precaution because of the possible presence of cereulide (toxin)

Nestlé has updated the precautionary recall of several SMA Infant Formula and Follow-On Formula because they may contain cereulide toxin. The update contains amendments to the expiry dates of affected batches of SMA Advanced Follow-On Milk and SMA ALFAMINO. Updates are marked with an asterisk(*).

*This page has been updated since original publication to link to NHS advice.

Product details

SMA Advanced First Infant Milk

Pack size	800g
Batch code	51450742F1 52319722BA 52819722AA
Best before	May 2027

SMA Advanced Follow-On Milk

Pack size	800g
Batch code	51240742F2
Best before	May 2027
Batch code	51890742F2, 52879722AA
Best before	*Updated July 2027

IN DEPTH: NANOPARTICLES

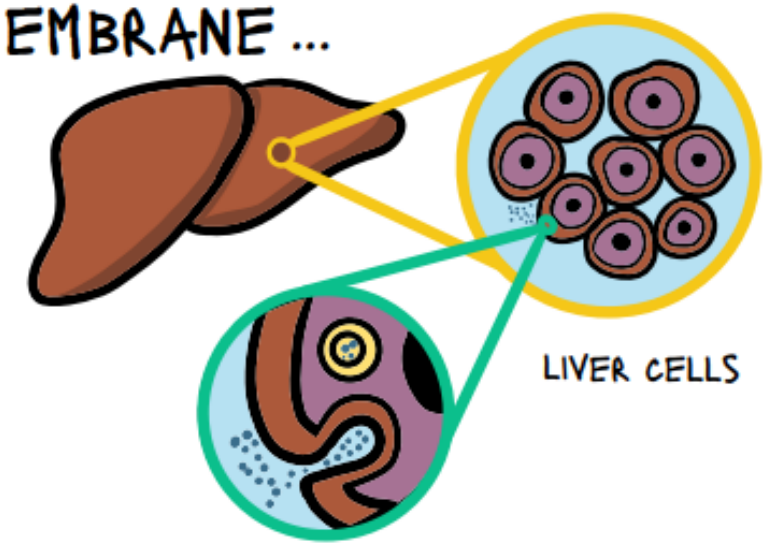
What's "the question"?	Are there nanoparticles in water and food; are they making me ill; and can I avoid them?
The evidence	EFSA has followed nanotechnology since 2006 and assesses each use case by case (ingredients and food packaging).
The uncertainty	High, but narrowing. Detection, characterisation and toxicological methods for very small particles are still maturing; EFSA's nano guidance is being updated through to 2029.
"What can I do about this?"	Nothing for consumers to change today. The burden sits with applicants to provide the data, and with assessors to insist on it — no data, no authorisation.
Coordination	Build understanding over time, update frequently, and address concerns as they arise.

INTESTINAL CELLS ARE NOT DAMAGED BY NANOPLASTICS.

AHA?!

THE BFR HAS INVESTIGATED 'IN VITRO' HOW NANOPLASTICS AFFECT CELLS. THIS WAS A LABORATORY-BASED STUDY, WE CANNOT YET SAY HOW AN ACTUAL BODY WOULD REACT.

IN THE **LIVER**, THE PARTICLES CAN BE ENGULFED BY BEING ENCIRCLED BY THE **CELL MEMBRANE** ...



+++ WE CALL THIS ENDOCYTOSIS +++

HOWEVER, **NO DAMAGING EFFECTS** WERE OBSERVED HERE EITHER.

IN DEPTH: INSECTS AS FOOD

What's "the question"?	Is eating insects safe — and why would anyone want to?
The evidence	EFSA completed the first insect novel food evaluation in 2021; several products are now authorised. The main hazard is allergenicity — insect proteins, cross-reactivity with crustaceans and dust mites, and feed-borne allergens such as gluten.
The uncertainty	Moderate. Data quality varies by applicant and species, and the whole insect is eaten — so microbiology and composition matter.
"What can I do about this?"	Check the label if you have a shellfish or dust-mite allergy or if you simply do not want to eat insects. Freedom of choice.
Coordination	Keep the safety message separate from the acceptability debate — the 'yuck factor' is cultural, and attitudes shift with exposure. EFSA assesses; authorisation and labelling are for the Commission and Member States.



Episode 3 – Crunch time for insects

IN DEPTH: FOOD HYGIENE

What's "the question"?	Is the food I am about to eat going to make me sick or worse ?
The evidence	Foodborne incidents in Europe
The uncertainty	We have a pretty good idea of microbiological safety risks and how to control them, at the various different points in the supply network, from production to storage and transport (temperatures), to manufacturing and catering (HACCP) and in the home.
"What can I do about this?"	A lot !
Coordination	Traceability requirements. Monitoring of foodborne outbreaks by Member States. New legislation on Whole Genome Sequencing data. Annual reports.


World Food Safety Day
Preventing **foodborne diseases** with science-based food safety practices
Trusted science, safe food
efsa
EUROPEAN FOOD SAFETY AUTHORITY

IN DEPTH: SUSTAINABLE DIETS

What's "the question"?	What should I eat and what should I avoid to take good care of my family's health and the planet ?
The evidence	Nutrition advice and sustainability advice overlap substantially — more plants, less waste, less over-consumption — but they are not identical, and trade-offs exist.
The uncertainty	Hard-to-implement advice due to social norms, economic drivers and force of habit. The evidence base is fragmented across disciplines.
"What can I do about this?"	Follow national dietary advice. Change shopping and eating choices and behaviours,where evidence is clear.
Coordination	Be explicit about mandate boundaries: say which part is food safety, which is nutrition, and which is personal and political choice.

AT A GLANCE

VEGETABLES

At least **3 servings per day of 150 to 200 g**. For example, a plate of salad, cooked vegetables or a cream. And better if the purchases are fresh and local!

FRUITS

At least **2-3 servings per day from 120 to 200 g**. If the fruit is local, even better. And remember, even if they have aesthetic defects they are just as good. Eat them!

CEREALS

Between **3 and 6 servings a day and better if they are whole grain**, depending on whether you lead a more or less active life. Consume different types of cereals to promote crop diversity. Long live diversity!

PROTEINS

Take at least **4 servings of legumes, 3 of nuts** without salt or added fats, **3 of fish** and **up to 4 eggs** per weak. Plus **no more than 3 dairy a day** with no added sugars. As for **meat, reduce its consumption**, for your health and that of the planet!

OLIVE OIL

Use it in all meals, as a dressing, and in the preparation of food. The consumption of olive oil favours the conservation of olive trees. Olive tree growing can contribute to the conservation of natural resources and the landscape value of the Mediterranean area, as well as to enhance biodiversity.

PHYSICAL ACTIVITY AND SEDENTARY LIFESTYLE

Walk at least 7,000 to 8,000 steps a day. WHO recommends 75-150 minutes of intense physical activity per week. Your body and mind will thank you.

Don't stop! Every Movement Counts!

WATER

Water is the drink of choice in a healthy diet. **Drink water whenever you are thirsty**. Needs may increase in high temperature situations or during physical exercise.

The Danish Official Dietary Guidelines



For the first time ever Denmark's Official Dietary Guidelines, published in January 2021, do not only guide Danes on how to eat healthier, but also on how to eat more climate-friendly.

The Official Dietary Guidelines - good for health and climate are:

- Eat plant-rich, varied and not too much
- Eat more vegetables and fruit
- Eat less meat – choose legumes and fish
- Eat wholegrain foods
- Choose vegetable oils and low-fat dairy products
- Eat less sweet, salty and fatty food
- Thirsty? Drink water

Ministry of Food, Agriculture and Fisheries of Denmark

European Commission

HOW TO REDUCE FOOD WASTE IN YOUR DAILY LIFE

AT HOME

- Plan your meals
- Use your leftovers
- Know your dates ('use by' informs about food safety and 'best before' informs about food quality)
- Grab a smaller plate and refill as needed
- Freeze! (ready-made portions)
- Store food properly (check the labels for storage instructions, make sure your fridge is between 1° and 5°C)
- Know what is in your pantry and fridge
- Rotate food stored at home– 'first in, first out'!



TIME'S UP FOR FOOD WASTE!

Health and Food Safety

AT THE SHOPS OR MARKET

- Write a shopping list
- Don't shop when hungry
- Buy only the quantity you need (the right packaging size or loose foods)
- Choose imperfect fruit and vegs (often on discount)

AT WORK/SCHOOL/UNIVERSITY

- Ask to be served the right portion for you (at the canteen)
- Keep an eye on the office fridge/fruit basket
- Spread the word – share your tips to prevent food waste with colleagues

IN CAFÉS, RESTAURANTS AND HOTELS

- Grab a smaller plate and refill as needed
- Take away your leftovers
- Manage your expectations concerning availability of food, depending on the time of the day

This leaflet has been prepared based on the recommendations for action in food waste prevention for consumers, developed by the EU Platform on Food Losses and Food Waste (2019).
For the full set of recommendations for action, please visit the European Commission' Food waste website: https://ec.europa.eu/food/safety/food_waste_en

FACT: THE FUTURE OF RISK COMMUNICATION

1 Findable

- Open-access mindset
- Clear sources and provenance
- Structured so AI tools can find, cite and attribute it

2 Accessible

- Plain language
- Multilingual reach through AI
- Layered formats: posts, infographics, summaries, full opinions

3 Coordinated

- Monitor misinformation and narratives
- Explore pre-bunking; community engagement
- Regional co-development: International Social Sciences Liaison Group (ISSLG), International Risk Communication Liaison Group (IRCLG)

4 Tailored

- Audience segmentation
- Personalised content
- Pre-testing and iteration — cautious use of synthetic personas

REFERENCES

- Bradbury, J., et al. (2024). Measuring institutional trust. *EFSA Supporting Publications. doi:10.2903/sp.efsa.2024.e220301*
- EFSA (2026). Scientific opinion on seafood consumption, awareness of health risks and benefits, and knowledge of national dietary advice. *EFSA Journal. doi:10.2903/j.efsa.2026.9865*
- EFSA, et al. (2026). Social science and strategic communication work underpinning EFSA's campaign on avian flu biosecurity. *EFSA Supporting Publications. doi:10.2903/sp.efsa.2026.EN-10003*
- Kasza, G., et al. (2022). The evolution of food safety risk communications: models and trends in the past and future.
- Laganaro, C., et al. (2025). EFSA's work on novel foods. *International Journal of Sustainable Agricultural and Food.*
- Lourenco, J., et al. (2023). PlantHealth4Life's audience segmentation. *EFSA Supporting Publications. doi:10.2903/sp.efsa.2023.EN-8023*
- EFSA (n.d.). Plant health for life: reinforcing simple actions to protect plants. *efsa.europa.eu/en/plh4l*


Something is
about to hatch..

#NOBIRDFLU- PRODUCTS TRANSLATED IN 24 LANGUAGES





STAY CONNECTED

SUBSCRIBE TO
efsa.europa.eu/en/news/newsletters
efsa.europa.eu/en/rss
Careers.efsa.europa.eu – job alerts

LISTEN TO OUR PODCAST
Science on the Menu –Spotify, Apple Podcast and YouTube

FOLLOW US ON BLUESKY
@efsa.bsky.social
@efsa-animals.bsky.social @efsa-plants.bsky.social

FOLLOW US ON LINKEDIN
Linkedin.com/company/efsa

FOLLOW US ON INSTAGRAM
@one_healthenv_eu

CONTACT US
efsa.europa.eu/en/contact/askefsa

EUROPEAN FOOD SAFETY AUTHORITY